Draft

National Education Policy 2019

सत्यमेव जयते

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National Education Policy 2019

प्रकाश जावडेकर
Prakash Javadekar

सत्यमेव जयते

मंत्री
मानव संसाधन विकास
भारत सरकार
MINISTER
HUMAN RESOURCE DEVELOPMENT
GOVERNMENT OF INDIA

MESSAGE

Education is a national agenda and is the catalytic tool that can transform the future of our children and youth. Approximately half of India's 1.2 billion people are under the age of 26, and by 2020, it is forecast to be the youngest country in the world, with a median age of 29. To reap the benefits of this demographics, our Government under the stewardship of our able Prime Minister had promised that it will implement a National Education Policy to meet the changing dynamics of the population's requirement with regards to quality education, innovation and research, aiming to make India a knowledge superpower by equipping its students with the necessary skills and knowledge and to eliminate the shortage of manpower in science, technology, academics and industry.

HRD Ministry initiated an unprecedented collaborative, multi-stakeholder, multi-pronged, bottom-up people-centric, inclusive, participatory consultation process from January 2015. The humungous consultations undertaken across multiple levels of online, expert and thematic, and from the grassroots ranging from Village, Block, Urban Local bodies, District, State, Zonal and the National level, provided an opportunity to every citizen to engage in this massive exercise. Several in-person and in-depth deliberations across a wide spectrum of stakeholders were held. Subsequently, we constituted a *'Committee for Evolution of the New Education Policy'* under the Chairmanship of Late Shri T.S.R. Subramanian, Former Cabinet Secretary, which submitted its report in May, 2016. Based on this report, the Ministry prepared *'Some Inputs for the Draft National Education Policy, 2016'*.

I was privileged to constitute a *'Committee to Draft National Education Policy'* under the Chairmanship of eminent scientist Padma Vibhushan, Dr. K. Kasturirangan to examine all inputs/suggestions and submit a Draft Policy by December, 2018. I am happy to note that the Committee took up this challenging and uphill task and even carried out its own consultations. I am honoured to present to the children and youth of my country, the National Education Policy, 2018 built on the foundational pillars of Access, Equity, Quality, Affordability and Accountability. The path breaking reforms recommended herein, will bring about a paradigm shift by equipping our students, teachers and educational institutions with the right competencies and capabilities and also create an enabling and reinvigorated educational eco-system for a vibrant new India. I am sure that this Policy will stand the test of time in the years to come and I urge each one of us to work together to implement the envisioned changes.

(PRAKASH JAVADEKAR)

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To,
Shri Prakash Javadekar
Honourable Minister of Human Resource Development
Government of India

December 15, 2018

Respected Shri Javadekar ji.

At the outset, I take this opportunity to thank you for being a pillar of strength in the onerous endeavour that you have entrusted to me and my team members.

We are submitting the Draft National Education Policy, 2019.

We have tried to prepare a Policy, which to the best of our wisdom, will change the educational landscape so that we prepare our youth to meet the variety of present and future challenges. It has been a journey in which each one of the team members, both individually and collectively, have strived to cover the varied aspects of our country's large education scenario. The Policy is founded on the guiding goals of Access, Equity, Quality, Affordability and Accountability. We have looked at the sector in a single organic continuum from pre-school to higher education and also touched on related sectors that form part of the larger picture.

We are indeed indebted to your unstinting support at every stage in this exercise and are confident that under your visionary leadership, your Ministry will try to reach the desired goals that this Policy has envisaged.

K. Kasturirangan
(Chairman)

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Abbreviations

AI	Accreditation Institution
AC	Advisory Council
AEC	Adult Education Centre
AESDC	Adult Education and Skill Development Centres
AICTE	All India Council for Technical Education
AIDS/STD	Acquired Immune Deficiency Syndrome/ Sexually Transmitted Diseases
AISHE	All India Survey of Higher Education
AIU	Association of Indian Universities
AU	Agriculture University
AYUSH	Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy
B.A.	Bachelor of Arts
B.Ed	Bachelor of Education
B.Sc.	Bachelor of Science
B.Voc	Bachelor of Vocation
BA	Binary Accreditation
BCI	Bar Council of India
BDS	Bachelor of Dental Surgery
BEO	Block Education Officer
BLA	Bachelor of Liberal Arts
BLE	Bachelor of Liberal Education
BoG	Board of Governors
BRC	Block Resource Centre
CAD/CAM	Computer-Aided Design/ Computer-Aided Manufacturing
CBCS	Choice Based Credit System
CDAC	Centre for Development of Advanced Computing
CEP	Continuing Education Programme
CESD	Central Educational Statistics Division
CFTI	Centrally Funded Technical Institutions
CHC	Community Health Centre
CIAE	Central Institute of Adult Education
CIET	Central Institute of Educational Technology
CNE	Continuing Nursing Education

CPD	Continuous Professional Development
CRC	Cluster Resource Centre
CSR	Corporate Social Responsibility
CSTT	Commission for Scientific and Technical Terminology
CTE	College of Teacher Education
CU	Central Universities
CWSN	Children With Special Needs
DAE	Department of Atomic Energy
DARE	Department of Agricultural Research and Education
DBT	Department of Biotechnology
DCI	Dental Council of India
DEC	District Education Council
DEO	District Education Officer
DIET	District Institute of Education and Training
DSE	Directorate of School Education
DST	Department of Science and Technology
DTE	Department of Technical Education
EC	Executive Council
ECCE	Early Childhood Care and Education
ED	Executive Director
EMT-B	Emergency Medical Technicians-Basic
FOSSEE	Free and Open Source Software in Education
GA	Graded Accreditation
GDA	General Duty Assistants
GDP	Gross Domestic Product
GEC	General Education Council
GER	Gross Enrolment Ratio
GNM	General Nursing and Midwifery
GoI	Government of India
HBCSE	Homi Bhabha Centre for Science Education
HEGC	Higher Education Grants Council
HEI	Higher Education Institutions
HRDC	Human Resource Development Centre
IAF	Institutional Accreditation Framework
IAS	Indian Academy of Sciences
IASE	Institute of Advanced Studies in Education

IB	Independent Board
ICAR	Indian Council of Agricultural Research
ICDS	Integrated Child Development Services
ICMR	Indian Council of Medical Research
ICT	Information and Communication Technology
IDP	Institutional Development Plan
IIEC	India International Education Centre
IILA	Indian Institute of Liberal Arts
IIT	Indian Institute of Technology
INAE	Indian National Academy of Engineering
INC	Indian Nursing Council
INI	Institutions of National Importance
INSA	Indian National Science Academy
InSCED	Indian Standard Classification of Education
ISCO	International Standard Classification of Occupations
ISL	Indian Sign Language
ITI	Industrial Training Institute
IUC	Inter-University Consortium
JRMB	Joint Review and Monitoring Board
KGBV	Kasturba Gandhi Balika Vidyalaya
LMIS	Labour Market Information System
LSS	Licence to Start a School
MBBS	Bachelor of Medicine and Bachelor of Surgery
MCI	Medical Council of India
MERU	Multidisciplinary Education and Research Universities
MHFW	Ministry of Health and Family Welfare
MHRD	Ministry of Human Resource Development
MN	Mission Nalanda
MoE	Ministry of Education
MOOC	Massive Open Online Course
MOU	Memorandum of Understanding
MSDE	Ministry of Skill Development and Entrepreneurship
MSME	Micro, Small and Medium Enterprises
MT	Mission Takshashila
MWCD	Ministry of Women and Child Development
NAAC	National Assessment and Accreditation Council

NAS	National Achievement Survey
NASI	National Academy of Sciences, India
NATP	National Adult Tutors Programme
NCC	National Cadet Corps
NCERT	National Council of Educational Research and Training
NCF	National Curriculum Framework
NCFAE	National Curriculum Framework for Adult Education
NCTE	National Council for Teacher Education
NCVET	National Council for Vocational Education and Training
NCVIE	National Committee for the Integration of Vocational Education
NDF	National Doctoral Fellow
NEC	National Education Commission
NEET	National Eligibility cum Entrance Test
NETF	National Educational Technology Forum
NGO	Non Governmental Organisation
NHEQF	National Higher Education Qualifications Framework
NHERA	National Higher Education Regulatory Authority
NIEPA	National Institute of Educational Planning and Administration
NIOS	National Institute of Open Schooling
NIT	National Institutes of Technology
NITI Aayog	National Institution for Transforming India
NLM	National Literacy Mission
NLP	Natural Language Processing
NMC	National Medical Commission
NMEICT	National Mission on Education through ICT
NPDF	National Post Doctoral Fellow
NPSDE	National Policy on Skills Development and Entrepreneurship
NQR	National Qualifications Register
NRED	National Repository of Educational Data
NRF	National Research Foundation
NROER	National Repository of Open Educational Resources
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSQF	National Skills Qualifications Framework

NSS	National Service Scheme
NTA	National Testing Agency
NTP	National Tutors Programme
OBC	Other Backward Classes
ODL	Open and Distance Learning
OER	Open Educational Resources
PHC	Primary Health Centre
PI	Principal Investigator
PM	Prime Minister
PSSB	Professional Standard Setting Body
PSSCIVE	Pandit Sundarlal Sharma Central Institute of Vocational Education
PSUs	Public Sector Units
PTR	Pupil Teacher Ratio
QPs-NOS	Qualification Packs - National Occupational Standards
R&I	Research and Innovation
RCI	Rehabilitation Council of India
RIAP	Remedial Instructional Aides Programme
RIE	Regional Institute of Education
RjSA	Rajya Shiksha Aayog
RMSA	Rashtriya Madhyamik Shiksha Abhiyan
ROI	Return on Investment
RPL	Recognition of Prior Learning
RSA	Rashtriya Shiksha Aayog
RSAAC	RSA Appointment Committee
RTE Act	Right of Children to Free and Compulsory Education Act, 2009
RUSA	Rashtriya Uchchtar Shiksha Abhiyan
SC	Scheduled Caste(s)
SCC	Standing Committee on Coordination
SCERT	State Council of Educational Research and Training
SCMC	School Complex Management Committee
SDG	Sustainable Development Goal
SDP	School Development Plan
SEC	State Education Commission
SEZ	Special Education Zone

SHEC	State Higher Education Council
SIOS	State Institutes of Open Schooling
SKP	Skill Knowledge Provider
SMC	School Management Committee
SQAAF	School Quality Assessment and Accreditation Framework
SQAAS	School Quality Assessment and Accreditation System
SSA	Sarva Shiksha Abhiyan
SSC	Sector Skill Council
SSDMs	State Skill Development Mission
SSRA	State School Regulatory Authority
SSS	Simple Standard Sanskrit
ST	Scheduled Tribe(s)
STEAM	Science, Technology, Engineering, Art & Design, and Mathematics
STEM	Science, Technology, Engineering, and Mathematics
STS	Sanskrit through Sanskrit
SVE	School of Vocational Education
SWAYAM	Study Webs of Active Learning for Young Aspiring Minds
TEI	Teacher Education Institution
TET	Teacher Eligibility Test
TLC	Total Literacy Campaign
U-DISE	Unified District Information System for Education
UGC	University Grants Commission
ULB	Urban Local Bodies
UME	Union Minister for Education
URG	Underrepresented Group(s)
UT	Union Territory
VCI	Veterinary Council of India
VEI	Vocational Education Institutions
VESB	Vocational Education Skills Board
WIPO	World Intellectual Property Organization

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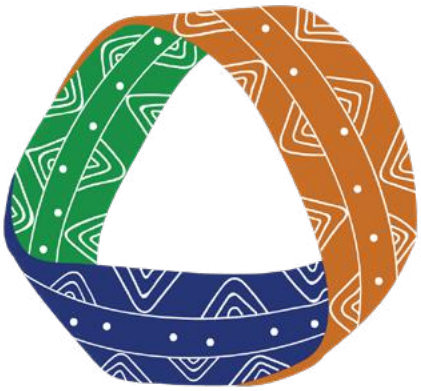

Preamble

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The Journey of the Committee

When I was asked in June 2017 by the Honourable Minister of Human Resource Development, Shri Prakash Javadekar, to Chair a Committee to draft a new National Education Policy within six months, I agreed readily. At that time, my thinking was that the Committee would build on the extensive work already done by the TSR Subramanian Committee, and the 'Some Inputs for Draft National Education Policy, 2016' brought out by the Ministry of Human Resource Development (MHRD) subsequently. We would also use the inputs that had come in from as early as 2015, when the consultations on the NEP first began. All this seemed very doable in six months. However, what followed was something entirely different.

As the members of the Committee began to share their early inputs for the Policy, and we took up the task of assessing the contents of the two earlier documents, I began to get a sense of the members. It became clear very soon that this Committee was going to be 'out-of-the-box' in its thinking. Each member displayed a distinct way of thinking, with unique inputs to offer, based on their background and expertise. The members also brought rich and unique insights about our society and their implications for education. This diverse set of ideas brought a freshness in the process of the development of the Policy. It was quite clear that this was a great asset, and as Chairman I had to utilise maximally this strength of the Committee. This was my challenge.

Almost immediately after the Committee started work, we began receiving requests for meetings from individuals, institutions, organisations, and groups of people. This included people representing different educational ideologies and ideas, different cultural and social backgrounds, and from different regions of the country, a range truly reflective of the diversity of our nation. It also included many people who were extraordinary individuals, and had delved deep into the issues of education in this country. They were passionate about education and thus wanted to share their ideas with the Committee. Many of them had provided their inputs earlier but were still keen to meet the new Committee. I made the decision that we should meet

anyone who asks for an appointment. What began as a trickle soon turned into an avalanche as the requests and inputs came pouring in!

This extraordinary response from across the length and breadth of the country made us realise the far-reaching implications of our own mandate. It dawned on us that in order to do justice to the deep, multi-dimensional, and practical knowledge and suggestions that we were receiving, we would have to do more than just tinker with the existing documents. By mid-October 2017, we had acknowledged the fact that we could not afford to be limited in our thinking, and that we must take bold decisions towards attempting to craft a completely new and far-sighted Policy. This thought was fortified by the assertion by the Honourable Minister of Human Resource Development, Shri Prakash Javadekar, that the NEP must be relevant and applicable for at least two decades, within the context of the dynamic and fast-changing nature of the education space in India and the world.

The members brought this commitment to bear in executing their task. In this, they were supported by a highly dedicated Secretariat, to which we added a Drafting Committee early in 2018. As the document came to its final stages, we sought the views of some of the leading thinkers in education in this country, who served as peer reviewers of the document. Needless to say that the Honourable Minister of Human Resource Development has been continuously engaged with us during this entire process, reviewing the progress of the work, sharing new ideas, suggesting additional topics for us to explore, and supporting us in every way.

A vision for the education system in India

The vision of India's new education system has accordingly been crafted to ensure that it touches the life of each and every citizen, consistent with their ability to contribute to many growing developmental imperatives of this country on the one hand, and towards creating a just and equitable society on the other. We have proposed the revision and revamping of all aspects of the education structure, its regulation and governance, to create a new system that is aligned with the aspirational goals of 21st century education, while remaining consistent with India's traditions and value systems.

The historic Universal Declaration of Human Rights, adopted at the UN General Assembly in 1948, declared that "everyone has the right to education". Article 26 in the Declaration stated that "education shall be free, at least in the elementary and fundamental stages" and "elementary education shall be compulsory", and that 'education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms'.

The idea that education must result in the 'full development of the human personality' continued to be reflected in influential reports such as that entitled

'Learning: The Treasure Within', which the International Commission on Education for the Twenty-first Century chaired by Jacques Delors, submitted to UNESCO in 1996. The Report argued that education throughout life was based on four pillars: i) Learning to know - acquiring a body of knowledge and learning how to learn, so as to benefit from the opportunities education provides throughout life; ii) Learning to do - acquiring not only an occupational skill but also the competence to deal with many situations and work in teams, and a package of skills that enables one to deal with the various challenges of working life; iii) Learning to live together - developing an understanding of other people and an appreciation of interdependence in a spirit of respect for the values of pluralism, mutual understanding and peace; and iv) Learning to be - developing one's personality and being able to act with autonomy, judgement and personal responsibility, while ensuring that education does not disregard any aspect of the potential of a person: memory, reasoning, aesthetic sense, physical capacities and communication skills.

Such an articulation of a broad view of education encompassing the holistic development of students with special emphasis on the development of the creative potential of each individual, in all its richness and complexity, has grown increasingly popular in recent years, and many recent reports from UNESCO, the OECD, the World Bank, the World Economic Forum, and the Brookings Institution have highlighted the broad consensus that has developed. Students must develop not only cognitive skills - both 'foundational skills' of literacy and numeracy and 'higher-order' cognitive skills such as critical thinking and problem solving skills - but also social and emotional skills, also referred to as 'soft skills', including cultural awareness and empathy, perseverance and grit, teamwork and leadership, among others. The process by which children and adults acquire these competencies is also referred to as Social and Emotional Learning (SEL). Based on the developments that have taken place in the world of cognitive science, there is now deep engagement with the idea that these social and emotional competencies must be acquired by all learners and that all learners should become more academically, socially and emotionally competent. The Policy recognises that it is important to conceive education in a more encompassing fashion, and this principle should inform and guide reforms in relation to the reorientation of the contents and processes of education.

Drawing from India's heritage

India has had a long and illustrious history of holistic education. The aim of education in ancient India was not just the acquisition of knowledge, as preparation for life in this world or for life beyond schooling, but for complete realisation and liberation of the self. According to Swami Vivekananda, "*Education is not the amount of information that we put into your brain and runs riot there, undigested, all your life. We must have life-building, man-making,*

character-making assimilation of ideas. If you have assimilated five ideas and made them your life and character, you have more education than any man who has got by heart a whole library. If education is identical with information, the libraries are the greatest sages of the world and encyclopedia are the greatest Rishis".

The Indian education system produced scholars like Charaka and Susruta, Aryabhata, Bhaskaracharya, Chanakya, Patanjali and Panini, and numerous others. They made seminal contributions to world knowledge in diverse fields such as mathematics, astronomy, metallurgy, medical science and surgery, civil engineering and architecture, shipbuilding and navigation, yoga, fine arts, chess, and more. Buddhism and its strong influence on the world, particularly in south-east Asia and especially so in China, prompted Hu Shih the former Ambassador of China to the United States of America to say "India conquered and dominated China culturally for 20 centuries without ever having to send a single soldier across her border". Education in India was only enriched through the mixing of cultures that arose from the very first invasions, till the arrival of the British. The country has absorbed many of these influences and blended them into a unique culture of its own.

Culturally, India has been, and continues to be, a cradle of great diversity in all walks of life, with its myriad languages and dialects, with as many as seven classical dance forms and two classical music forms, many well-developed traditions of folk arts and music, pottery, sculptures and bronzes, exquisite architecture, incredible cuisines, fabulous textiles of all kinds, and so much more. These rich legacies to world heritage must not only be nurtured and preserved for posterity, but also enhanced and put to new uses through our education system. For instance, they can be integrated into a Liberal Arts education to help develop the creativity and originality of students, and to encourage them to innovate. As Einstein said to a group of children "*Bear in mind that the wonderful things you learn in your schools is the work of many generations. All this is put into your hands as your inheritance in order that you may receive it, honor it, add to it, and one day faithfully hand it on to your children. Thus do we mortals achieve immortality in the permanent things that we create in common*".

Taking forward the agenda of previous education policies

In the decades since Independence, we have been preoccupied largely with issues of access and equity, and have unfortunately dropped the baton with regard to quality of education. The implementation of the two previous education policies is still incomplete. The unfinished agenda of the National Policy on Education 1986, Modified in 1992 (NPE 1986/92) is appropriately dealt with in this Policy. A major development since the formulation of the NPE 1986/92 has been the establishment of Constitutional and legal underpinnings for achieving universal elementary education. The Constitution (Eighty-sixth Amendment) Act, 2002 that inserted Article 21-A in the Constitution of India

envisages free and compulsory education for all children in the age group of six to fourteen years as a Fundamental Right. The Right of Children to Free and Compulsory Education Act, 2009 (RTE Act) which came into force in April 2010, entitles every child of the age of six to fourteen years to the right to free and compulsory education in a neighbourhood school till the completion of elementary education. However, despite progress in some aspects, a mind-numbing uniformity prevails in the education system today, one in which students are not nurtured for their individual potential, in complete antithesis to our ancient traditions.

There have been many important developments since the formulation of the NPE 1986/92 that have made it imperative to formulate a new Policy at this time. The NPE 1986/92 was formulated just before the Internet revolution and, while recognising the potential of technology, could not foresee the radical changes of the past few decades. Since then we have been almost fatally slow in the adoption of technology to improve the quality of education, as well as in using it to improve governance and planning and management of education. Young learners today belong to a generation that is born and raised in technology-rich environments. They will use technologies that haven't been invented so far and enter jobs that don't exist at present. Globalisation and the demands of a knowledge economy and a knowledge society call for emphasis on the need for acquisition of new skills by learners on a regular basis, for them to 'learn how to learn' and become lifelong learners. The narrow time lag between the generation of new knowledge and its application, especially in the fields of science and technology, necessitate the periodic renewal of school and higher education curricula to maintain their relevance to the changing societal and personal needs of learners, and the emerging national development goals. The demographic dividend that India is fortunate to have is expected to last for only a little over 20 years. Therefore, it is essential that children and youth in the country are equipped with the knowledge, skills, attitudes and values as well as employable skills that would enable them to contribute to India's social, economic, and political transformation.

Alignment with the global sustainable development goals

The direction of the global education development agenda is reflected in the sustainable development goal 4 (SDG4) of the 2030 Agenda for Sustainable Development. SDG4 seeks to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by 2030. Five of the seven targets of SDG4 focus on quality education and learning outcomes. SDG4 is, therefore, an all-encompassing goal, which is applicable to every nation attempting to bring quality of life to its citizens in a sustainable way, without degrading the environment. This is a huge challenge and the

understanding of this should begin in the early part of education. Another dimension of the future of education is the need to deal with the connected dimensions of education. Knowledge will be transformative because of the manner in which it will be connected to all domains. An overarching aspect of SDG4 is that of inclusion and fostering quality education, and in order to be a practitioner in the field of education, one needs to have some orientation to this mode of thinking.

Educational opportunity is created when students and teachers engage in purposeful learning experiences that help students develop in various ways. This requires clear goals, the skills to translate these goals into sound curriculum and pedagogy, and the leadership of teachers, and school and educational administrators to focus on supporting the creation of meaningful learning opportunities. In a nutshell, educational opportunity requires an effective system to support learning, including supportive organisations, resources, and sound policies. Such a lofty goal will require the entire education system to be reconfigured to support learning. Else none of the goals of the SDGs can be achieved. Pedagogical innovations alone will not succeed.

An integrated yet flexible approach to education

The present Policy begins with viewing early childhood care and education (ECCE) as a part of the Foundational stage of school education (three years of pre-primary education and Grades 1 and 2), a single curricular and pedagogical phase of play- and discovery-based learning for very young children, between the ages of 3-8 years. The Eighty-sixth Constitutional Amendment in 2002 extended the provision of ECCE to children from age 3 onwards and this commitment has been honoured. The Policy takes cognizance of the differences in the development of cognitive abilities in children. The flexibility in the first five years will enable equalising of the multiple cognitive abilities of children. This is followed by a Preparatory phase consisting of three years (Grades 3, 4 and 5) of basic education incorporating some textbooks as well as aspects of more formal classroom learning. The next three years of Middle school education (Grades 6, 7 and 8) would involve developing more abstract thinking and subject teaching leading up to a Secondary education phase of four years (Grades 9, 10, 11 and 12). This last phase of four years of secondary school education will facilitate multidisciplinary studies with appropriate exit options besides preparing for the next phase of undergraduate programme of study, including early introduction to Liberal Arts education.

In conceptualising and drafting an overarching Policy for education development, the Committee has kept the interconnectedness of the various phases of education in mind and how the same will enable continuity, coherence and processes to ultimately realise an end-to-end educational

roadmap for the country. We have provided for multiple exit and entry options for students starting with secondary education stage and going all the way into undergraduate and postgraduate education and research. Even though a student may discontinue his/her studies in different phases he/she will be eligible for re-entry and continuing education into the higher levels, for which adequate thought has been given in the formulation of the Policy. The Committee has not overlooked the fact that the multiple facets of the education structure should be within an overall framework of a cogent end-to-end educational progression.

The concept of interconnectedness also provides for preparation of the students for further studies at higher levels through proper orientation, coming from early efforts at broad-based liberal education that will be introduced at the Secondary stage of education. A strong base of Liberal Arts education and provision for vocational education at different levels are all part of undergraduate education. A fourth year of undergraduate education can also seamlessly integrate itself to education at the Masters and Doctoral levels. In the long run, this integrated concept should also lead to bringing professional education into mainstream undergraduate education, thereby creating an overarching integrated approach to education, embodying the spirit of the Policy in totality.

Finally, the concept of interconnectedness also applies to the location of education in a social context, which both influences and is influenced by it. The Policy sees the engagement of the community extending to ownership for the success of educational endeavours, whether through deeper ownership of school complexes through School Complex Management Committees or through volunteering to ensure the success of educational programmes. It envisages convergence of similar efforts by community-based organisation and educational institutions, and drawing from the expertise of community members, while institutions contribute towards progress of the community in multiple ways.

Liberal arts approach in higher education

Since the times of Nalanda and Takshashila or even earlier, the history of higher education in India recognised the holistic aspect of all human knowledge and enquiry as fundamentally connected. The holistic nature of knowledge as imparted through a broad and interwoven education is an important factor for the preparation of students for life, work and to be an effective member of society. In this context, several institutions of higher studies across the world have implemented what we today characterise as Liberal Education through an array of different disciplines that include the Arts, Humanities, Mathematics and Sciences suitably integrated with a deeper study of a special area of interest. The available assessments on such an approach that integrate the humanities and arts with Science,

Technology, Engineering, and Mathematics (STEM) have showed positive learning outcomes. More explicitly, the outcomes here include, among other things, increased critical thinking abilities, higher order thinking and deeper learning, mastery of content, problem solving, team work and communication skills besides general engagement and enjoyment of learning. Even though such conclusive assessments are yet to be available through studies, including systematic research in India, the available assessments elsewhere are persuasive enough to introduce Liberal Education at the undergraduate level for preparing students to navigate their way into the future with a variety of employment scenarios as well as many other roles they will play in their professions. This approach to the structure of undergraduate education envisaged in the policy is both appropriate in the present context and at the same time futuristic in recognising the many uncertainties in the evolving nature of the multiplicity of human endeavours as well as related ecosystems.

Focus on high quality research

The Masters and Doctoral levels are being strengthened with provision of at least three routes into the Masters' degree - a one-year degree, a two-year degree, and the integrated five-year degree. The Masters' degree will also have a strong research component to strengthen the appropriate professional competence in the domain area, and to prepare students for a research degree. The biggest lacuna in the present education system is the lack of a coherent direction for planning and implementation of research at the university level. We have addressed this critical lacuna in this Policy by introducing, for the very first time a new National Research Foundation (NRF) that will focus on funding research within the education system, primarily at colleges and universities. The Foundation will encompass the four broad areas of Sciences, Technology, Social Sciences, and Arts & Humanities. Besides strengthening the presently weak support that subjects such as the Social Sciences and the Humanities receive, NRF will also bring in cohesion among the various research endeavours of multidisciplinary character.

Besides providing funding, NRF will also take care of the need to seed and build research capacity in universities and colleges through a formal mechanism of mentoring that will be instituted. In enunciating the principles of the functioning of the NRF, the need to: i) bring in synergies between the stakeholders and research groups, ii) create a mechanism for monitoring and mid-course corrections, and iii) strengthen the linkages between universities and their counterparts at the global level will all be addressed. The NRF will catalyse research in universities and colleges, institutions that have hitherto not been big players in the research scene of the country, and help build the capacity to do research through an institutionalised mentoring mechanism, involving expert researchers from premier institutions in the country.

Facilitating transformation of the education system

None of this will be possible without passionate and committed school teachers and faculty in higher education institutions who will take charge of transforming the education system as envisioned in this Policy. For this, they also need to be adequately prepared. Teacher preparation, orientation and training will, therefore, move into the higher education sector, into multidisciplinary environments available at universities. The contributions of teachers to all aspects of improving the education system, through teaching, research, institution building, student empowerment and such other aspects will be recognised.

With regard to schools, the introduction of school complexes will bring about a new culture of sharing common resources in an optimal way. The idea of the school complex was proposed by the Education Commission Report (1964-66) and is also mentioned in the Programme of Action 1992 document of the NPE 1986/92, but has faltered in its implementation. An attitudinal change needs to be brought in so that the implementation effort is carefully nurtured, and best practices and processes developed at successful school complexes can be replicated at many places. The culture of openness and resource sharing this brings will contribute to a paradigm shift in attitude and mindset, that will help successfully implement this Policy. It is only when institutions, school complexes, colleges and universities are autonomous and empowered to deliver on the goals of the Policy that we will have a responsive education that is key to achieving a knowledge society.

Institutional governance of higher educational institutions enunciated in this Policy is an integrated concept in which the curricular, administrative and financial elements are brought together as a single entity with the necessary autonomy to create an independent and efficient management. Any effort to truncate this concept will be counterproductive, and we should not make any attempt to provide piecemeal autonomy. Accountability norms can and must be put in place so that the freedoms of autonomy are exercised in the spirit in which they have been given. In order to implement this Policy, there is a need for a large number of high quality professionals at the level of vice chancellors, directors of institutions, registrars, policy makers, project and programme management personnel, and so on. Their roles, as envisaged in the Policy, are very unique for the educational profession, and they need to be specially trained and oriented towards the same. The necessary institutional mechanism towards this should be created through the education system itself.

The characterisation/delineation of the university structure at different levels are based on the integration of higher education with research, keeping interdisciplinarity as a central concept. The Policy also creates a new niche for research and development as a culture in universities and colleges. It is expected that in the years to come, universities will provide opportunities for higher education and research, in a multidisciplinary environment

and suitably integrate professional education, such as agriculture, medicine, law, etc., thus making education a truly holistic exercise, with flexibility for students to make their own choices, thereby bringing in the best of creativity and originality.

With regard to regulation, we have made our recommendations based on a key principle namely, that regulation, provision of education, accreditation, funding, and standard setting, will all be done by separate entities, and that regulation will be kept to a minimum. This will eliminate conflicts of interest and the concentration of power.

Corruption remains an important element that distorts governance of education. The resolve to root out corruption from our public systems is founded on the conviction that without a foundation of integrity and rectitude, we will not achieve the greatness as a country that is our due. Corruption is not just financial or monetary in its nature. It consists of any force that undermines integrity and honesty in the operation of systems that are important for the public good. Designing systems of governance that guarantee institutional integrity through organisational revival will be pursued as a key priority. Inefficient systems will need to be rebuilt and made to work with effective leadership and new resolve. The approach should be to ensure that both political initiatives and administrative systems serve the goal of transforming the education system, and eliminating the power of vested interests, improving the transparency and efficiency of regulation, and investing public resources in areas that build the capital for effecting change.

The present Policy spans several components of the national endeavour that go well beyond the mandate of the present MHRD. The Committee recognises the importance of creating an overarching body that will synergise and integrate the multiple efforts that are in progress in widely diverse institutions and departments of the government both at the Central and State levels, through an institutional mechanism that will have the necessary authority to make it feasible. It is here that we have made another unique suggestion to create a Rashtriya Shiksha Aayog (RSA)/National Education Commission (NEC). Education must be delivered in a holistic manner and the education system must be responsive to the fast-changing environment and the needs of a knowledge society. The RSA will bring in a new approach to governance that will draw considerable expertise through educationists, researchers and professionals, and provide oversight of the educational system that is consistent with the objectives of a 21st century education system. The organisational set-up and the coordination structures for the RSA will draw their authority from the highest political levels of the country. This highest body is being placed under the responsibility of the Prime Minister himself/herself so that in his/her role as the highest functionary of the government of the country, the Prime Minister can bring his/her authority to create the necessary synergies and provide direction to this national endeavour, as a part of the country's overall vision of a knowledge society.

While crafting the Policy we had a serious problem with acquiring authentic data in both quality and quantity. Education policies are largely the outcome of analysing trends in the patterns of evolution of important parameters of

education. A major effort is called for in the country for data collection, organisation, analysis and the building capability to study trends and patterns of the various aspects of education. We have suggested that the National Institute of Educational Planning and Administration (NIEPA) be strengthened and all the data gathering, analysis and dissemination work be consolidated and expanded there, under a new Central Educational Statistics Division (CESD) as an independent autonomous entity within NIEPA.

Facilitating national development

India aspires to take its place beside the United States and China as the third largest economy by 2030-2032, the same period during which this Policy will bring about the biggest transformation. India is the sixth largest economy now and we will reach five trillion in five-seven years taking us to fourth or fifth position. By 2030-2032 we will be the third largest economy at over ten trillion. Our ten trillion economy will not be driven by natural resources, but by knowledge resources. We have not looked ahead into the implications of being the world's third largest economy. It will be a totally different environment. Ecosystems force us to think differently and achieving this milestone will have ramifications all across the country. Are we ready to take our place besides the USA and China as the top three largest economies of the world and be confident of sustaining it in the following years? To do this, we will need a knowledge society based on a robust education system, with all the requisite attributes and characteristics in the context of changes in knowledge demands, technologies, and the way in which society lives and works. In this context, the Prime Minister's recent call to leverage the Fourth Industrial Revolution to take India to new heights is particularly apt.

Even at the risk of repetition, it would be appropriate to recognise that becoming a ten trillion dollar economy will give us the money we need, but if we don't spend now then it will not be easy to achieve and sustain such a large economy. We cannot wait until we get to the ten trillion mark to prepare the human resources that we will need. Quality education will be a key part of the transition to the knowledge economy that is currently underway in parts of India but needs to encompass the entire country. We must, therefore, find the funding that education needs and find it quickly. For the sake of completeness, we have included a rough and preliminary estimation of the financing need for this Policy to be translated into reality within the next decade or so. Similarly, the broad steps we need to take to implement this Policy are also included in the Addendum. Both of these are more in the nature of guidelines for implementation and not directly part of the Policy.

Ensuring implementation in spirit and intent

Even though a lot of thought has gone into this Policy, this is not the logical end to realise our dream of a meritorious knowledge society. There are many more steps that one has to take at National and State levels before the Policy can make its impact. From this point, this will depend on careful planning and a well thought-out implementation strategy, consistent with pragmatism and ground realities. This, in turn, will be influenced by the attitude of the different segments of society, which in India's context is inherently complex, as well as how well we are willing to bring to bear the most rigorous professional, intellectual, moral and ethical principles into its implementation, keeping national interest at the centre of all planning and implementation endeavours.

Within the broad framework of the Policy objectives and initiatives, States and Union Territories will be encouraged to (i) prioritise and adapt the broader Policy objectives and targets to their contexts; (ii) formulate state-specific targets and education sector development programmes/plans within the broader scope of the national Policy objectives; (iii) establish appropriate intermediate targets (e.g. for 2025 and 2030) taking into account the past achievements in the education sector, emerging national development priorities, availability of resources, and institutional capacities. In order to ensure participation in education of marginalised and excluded groups, education systems will devise strategies and programmatic interventions to respond flexibly keeping in view the circumstances and needs of diverse groups of learners.

The challenge is, therefore, the ability to implement the Policy in the spirit in which it has been articulated. I am confident that we will be able to do so. In the past, many groups have made valuable contributions to the development of quality education in India and I believe they will continue to do so. Several philanthropic organisations and foundations as well as many other cultural, faith-based and community organisations from the Hindu, Muslim, Buddhist and Sikh communities, the Christian Missionary groups, Jain sects, and so on stand out in the large numbers of early institutions they started, many of which are still some of the leading educational institutions in the country today. These and other contributions must rise to even greater heights given the facilitation that will be provided by this Policy. Going ahead, the successful implementation of the Policy will require that every Indian must contribute his/her best. We have understood this need and have tried to create avenues to formalise the contribution of everyone through this Policy, but these contributions must be held together in a coherent whole, through the governance reforms indicated in the Policy. This will take commitment and leadership of the type we have not seen since the time of the Independence movement.

The success of the Policy is wholly dependent on the quality of its implementation. Dr Ambedkar famously said about the Constitution "...Because I feel, however good a Constitution may be, it is sure to turn out bad because those who are called to work it, happen to be a bad lot. However bad a Constitution may be, it may turn out to be good if those who are called to work it, happen to be a good

lot. The working of a Constitution does not depend wholly upon the nature of the Constitution....". Although the NEP is not to be compared with the Constitution, its impact on the lives of over 50% of the citizens of this country who are below the age of 25 years will be phenomenal, and it, therefore needs to be implemented with the utmost care and commitment. The extent to which high quality educational opportunities are made available to children and youth in the coming years will determine the direction of the future of India and its people. These thoughts have been weighing on our minds as we address the multiple dimensions of an education system for the future of this country, duly factoring in the status of where we are presently. The challenges are many but certainly well within the capability of this great nation to face squarely and make a success of.

Considering the extraordinary influence that an educational endeavour has on society and vice versa, it is important not to overlook societal response to the different aspects of building of a knowledge society for which this Policy is expected to play a central role. More explicitly, this needs to be addressed taking cognizance of several aspects such as mindset, attitudes, and culture, as well as at the individual, institutional, systemic and societal levels. Even though it may look like a challenging proposition, both financially and from the standpoint of execution, what we have so far not recognised is that there are a multiplicity of agencies and individuals in this country who will come forward willingly with their support if they are convinced that there is sincerity and honesty and an ethical approach to building a knowledge society.

The National Education Policy 2019 provides a framework for the transformation and reinvigoration of the education system in order to respond to the requirements of fast-changing, knowledge-based societies while taking into account the diversity of the Indian people, their traditions, cultures, and languages. It seeks to ensure that human capital, the most vital form of capital that would fuel the necessary transformation, is secured and strengthened. Highest priority is accorded to the task of ensuring universal access to an education of high quality and breadth that would support India's continued ascent, progress, and leadership on the global stage - in terms of economic development, social justice and equality, environmental stewardship, scientific advancement and cultural preservation, and help develop and maximise our country's rich talents and resources for the good of the individual, the country, and the world. An education system built on the premises of quality and equity is considered central to sustainable development, achieving success in the emerging knowledge economy and society, for socio-economic mobility, and for building an equitable, just and humane society.

A note of gratitude

Personally, I express my deepest gratitude to each of the Members of the National Education Policy Committee.

Prof M. K. Sridhar had an overall role to play in the organisation of the activities of the Committee that included providing multiple paths to the conduct of deliberations, including carefully reviewing the agenda for the meetings, identifying individuals/organisations/agencies with whom interactions should take place, as well as providing timely alerts on several fronts with implications to the formulations of the Policy itself. His broad knowledge and experience in the field of education proved to be a critical asset for the Committee to craft suitable strategies related to different areas.

Prof Manjul Bhargava injected several important ideas, many of them 'out-of-the-box' in their nature and several with a futuristic relevance. I am particularly touched by his exceptional sense of dedication and commitment to the cause of formulating and drafting a policy keeping in mind the highest standards of excellence and realism. He came to India on his own several times from the United States to participate in all the important meetings of the Committee. Words fail to express my feelings about him.

Prof Vasudha Kamat was a unique member of the Committee with an extraordinary perception of this country's education system. She brought to bear her highest level of knowledge and erudition in shaping and providing the right emphasis to several elements of the Policy, spanning over a wide spectrum of educational endeavours. Besides helping to formulate, she also proved to be a very valuable internal critic of our stand on several issues related to this Policy.

Shri Krishna Mohan Tripathy brought in his lifelong knowledge and experience of school education in one of the largest states of India, Uttar Pradesh. He brought to the attention of the Committee the minutest aspects of both the good and not-so-good characteristics of school education with respect to students, teachers as well as issues of infrastructure, funding, etc. His inputs had a major influence on the formulation of our Policy related to school education.

Prof T. V. Kattimani with his wide and in-depth knowledge of educational issues related to the underprivileged segment of society, with particular focus on the country's tribal population, gave the Committee a very rare insight which became the basis for us to formulate the Policy on educating the underprivileged.

Prof Mazhar Asif's scholarship of languages in general, as well as his critical knowledge of the issues of development of classical and modern languages, were central to defining a comprehensive Policy in this area.

Prof Ram Shankar Kureel provided very broad, thoughtful and appropriate commentaries on the problems of university education, with particular reference to governance and the need to bring in necessary reforms. Further, his deep understanding of the issues of agricultural education provided interesting

insights not only with respect to agriculture, but also to the broader aspects of professional education.

Even though we could have only limited association with Shri K. J. Alphonse in the early phase of the Committee's deliberations, his written inputs proved to be very insightful, and the Committee has suitably incorporated many of his useful suggestions. He showed continuing interest in the progress of the Committee even after moving to Government of India to serve as a Union Minister.

Last but not the least, Dr Shakila Shamsu as the Secretary to the Committee, played the very important role of continuously supporting the Committee's deliberations through Agenda and Minutes preparations, setting up meetings in Delhi and other places, and providing several important inputs available with the Ministry from earlier studies. Further, her vast experience and the resulting comments that she offered on various major issues of the policy were vital to giving final shape to the same. Also, Dr Shamsu's professional competence gave her the ability to articulate the Policy with clarity and focus whenever she had to brief individuals or groups on the same.

In order to give a final shape to the Policy, including editorial work as well as the style of presentation, we invited both Prof K Ramachandran and Prof Anurag Behar to join us as part of the Committee's activities.

Prof Ramachandran proved to be a walking encyclopedia on all aspects of education which was truly a great asset for ensuring appropriate coverage of key areas while formulating the Policy. He had been a part of drafting several of the earlier policies, and has been active both at the national and international levels in matters of policy and planning of education. His passion and enthusiasm coupled with his incredible energy came to our assistance in an immeasurable way during our continuing endeavours leading to the finalisation of the draft document.

Prof Anurag Behar was a unique addition to the efforts of crafting and drafting the Policy through his extensive knowledge of planning and implementing education systems, and in particular as the Vice Chancellor of the Azim Premji University. His deep insights into the subtleties of the multifaceted educational system of this country have been truly valuable for our continuing efforts to give a final shape to the document; added to this was his exceptional ability to effectively articulate complex ideas and present them in a digestible form for the general readership.

In the final stages of the preparation of the document, we decided to invite a review of our work by a peer review committee. In this role, Shri Jayaprakash Narayan, General Secretary, Foundation for Democratic Reforms, and a very well-respected social worker with deep interest in education made a critical assessment of the draft version of the Policy, particularly with respect to school education.

Prof P. Rama Rao an academician of high standing in this country and presently the Chairman of the Governing Council of the Indian Institute of Science, Bengaluru, has had a role in reviewing several research and academic

activities of this country over decades. Prof Rama Rao has meticulously gone through our draft, and has made many valuable suggestions specially focusing on higher and professional education. His observations on governance related to higher education were extremely relevant.

Shri Mohandas Pai, presently the Chairman of Manipal Global Education, provided several candid remarks and observations with regard to the document. His broad understanding of both school and higher education, and also his uncanny ability to recall numbers where appropriate to authenticate his comments was especially useful.

Dr Vijay Kelkar, a leading intellectual, with a broad-based knowledge of the country's multiple developmental issues gave us a unique perspective on the Policy. The approach he adopted to highlight specific issues of education covered a broad range of themes and disciplines.

Prof J. S. Rajput, former Director of National Council of Educational Research and Training (NCERT), was a member of the TSR Subramanian Committee, and his extensive experience on dealing with education related matters enabled him to provide extremely valuable suggestions on many aspects of the Policy.

Similarly, Prof Aniruddha Deshpande, former Principal of the Brihan Maharashtra College of Commerce, Pune, with his wide experience at the grassroot levels of education, gave very thoughtful feedback on the draft document.

Dr Leena Wadia helped in the overall efforts of the Committee, right from its formative stages to the serious phases of crafting the various aspects of the Policy, and helping to realise the final version of the draft document.

Dr Viraj Kumar played a key role in providing focused support on several aspects of formulation of the Policy, including initial trend analysis of the available data and many aspects of technology in education.

Regarding the other Members of the Technical Secretariat, Dr Vinaychandra brought to bear his work on Indian languages, Shri Chetan Singai his research work on higher education; whereas Shri Gowrisha Joshi and Smt. Soumya coordinated the Technical Secretariat and consultations.

Shri Hem Raj was the link between the Ministry and the Secretariat, which was essential for the smooth conduct of the meetings, and also provided administrative support to the Committee. Shri Shakeel Quereshi kept the Committee continuously abreast of several inputs received from various sources at the Ministry and coordinated logistical assistance for the Chairman during his visits to Delhi for meetings. Shri Ramanand Pandey also provided the relevant support from the Ministry as warranted.

Prof D. P. Singh, presently Chairman of University Grants Commission (UGC) and former Director of National Assessment and Accreditation Council (NAAC), not only facilitated the work of the Committee but also provided very useful and practical inputs. Equally supportive were Prof Rajesh Gopakumar and Prof Spenta Wadia of the International Centre for Theoretical Physics (ICTS). The overall institutional support provided by the ICTS, UGC, NAAC and the Azim Premji University were similarly valuable.

In formulating the policy aspects of professional education, I cannot forget the most crucial inputs, suggestions and guidance provided by Prof N.R. Madhava Menon (Legal Education), Dr S. Ayyappan (Agricultural Education), Dr B.N. Suresh (Engineering Education), Dr Devi Prasad Shetty and Dr Alex Thomas (Medical Education). They had also chosen very eminent experts in their respective fields to assist them to formulate the relevant Policy actions. Prof Anil Sahasrabuddhe, presently the Chairman of the All India Council for Technical Education (AICTE), played a very critical advisory role to the different deliberations of the Committee in the context of Engineering Education.

The Secretary for Higher Education, earlier Shri K. K. Sharma and currently Shri R. Subrahmanyam, took continuous interest in all matters of the drafting activity, and provided their own inputs and opinions besides keeping track of the progress of the document from time to time. I would also like to express my appreciation of the contribution of the Joint Secretary for Higher Education, earlier Shri Rakesh Ranjan and currently Dr Saravana Kumar, towards aspects related to higher education. Similarly, the Secretary for School Education and Literacy, earlier Shri Anil Swarup and currently Smt Rina Ray, played an important role on matters related to school education.

I also acknowledge the invaluable support provided by several institutions and individuals in the processes leading to the formulation of this Policy. The preparation of the Draft National Education Policy would not have been possible without the ideas and suggestions provided by a large number of individuals and organisations engaged in the task of promoting education development. The Committee would like to place on record its deep gratitude to them for their immense support and contribution to the formulation of this Draft National Education Policy.

K Kasturirangan

Bengaluru

Vision

The National Education Policy 2019 envisions an **India centred** education system that contributes directly to transforming our nation **sustainably** into an **equitable** and **vibrant** knowledge society, by providing **high quality** education to all.

Part I

School Education

Chapter 1

Early Childhood Care and Education: The Foundation of Learning

Objective: Every child in the age range of 3-6 years has access to free, safe, high quality, developmentally appropriate care and education by 2025.

The learning process for a child commences immediately at birth. Evidence from neuroscience shows that over 85% of a child's cumulative brain development occurs prior to the age of 6, indicating the critical importance of developmentally appropriate care and stimulation of the brain in a child's early years to promote sustained and healthy brain development and growth. Indeed, analysis of brain scans of children who encountered various levels of neglect or deprivation in their early years revealed unfortunate deficiencies in the development of critical areas of the brain, and corresponding adverse effects on cognitive and emotional processing. Excellent care, nurture, nutrition, physical activity, psycho-social environment, and cognitive and emotional stimulation during a child's first six years are thus considered extremely critical for ensuring proper brain development and, consequently, desired learning curves over a person's lifetime.

This evidence from cognitive science is fully borne out by numerous national and international studies on the learning outcomes of children having various levels of Early Childhood Care and Education (ECCE). A study conducted by the National Council of Educational Research and Training (NCERT) titled "The impact of pre-school education on retention in primary grades" (1992) on 30,000 children illustrated strong and direct correlations between exposure to pre-school education and retention rates, attendance

rates, and most significantly learning outcomes in primary school and beyond. Various global studies have also revealed longer-term impacts: quality pre-school education is strongly correlated with higher incomes and rates of home ownership, and lower rates of unemployment, crime, and arrest. In terms of the growth of the national economy, it has been estimated that the development of a strong ECCE programme is among the very best investments that India could make, with an expected return of ₹ 10 or more for every ₹ 1 invested. In summary, it is recognised that investment in ECCE gives the best chance for children to grow up into good, moral, thoughtful, creative, empathetic, and productive human beings.

Studies tracking student learning outcomes clearly demonstrate that children who start out behind tend to stay behind throughout their school years. At the current time, there is a severe learning crisis in India, where children are enrolled in primary school but are failing to attain even basic skills such as foundational literacy and numeracy. A major part of this crisis appears to be occurring well before children even enter Grade 1. Far too many 6+ year olds are entering Grade 1 with very limited ECCE. Furthermore, far too many children are enrolling in Grade 1 before the age of 6, due to a lack of any suitable pre-primary options; these are often the children that remain the most behind in primary school and beyond. In fact, during the academic year 2016-17, over 70 lakh children were enrolled in Grade 1 prior to the age of 6 (Unified District Information System for Education (U-DISE) 2016-17).

This tragic deficiency in grade school-preparedness is particularly marked between advantaged and disadvantaged groups. This is because students from more advantaged families have greater access to role models, print awareness, language fluency in the school language, and strong learning environments at home, in addition to better nutrition, healthcare, and of course access to pre-school education. Investment in ECCE has the potential to give all young children such access in an engaging and holistic way, thereby allowing all children to participate and flourish in the educational system throughout their lives. ECCE is perhaps the greatest and most powerful equaliser.

For all these reasons - from brain development to school-preparedness, improved learning outcomes, equality and justice, employability, and the prosperity and economic growth of the country - India absolutely must invest in accessible and quality ECCE for all children.

What does quality ECCE entail? During the ages prior to 3 years, quality ECCE includes the health and nutrition of both the mother and the child, but also crucially includes cognitive and emotional stimulation of the infant through talking, playing, moving, listening to music and sounds, and stimulating all the other senses particularly sight and touch. Exposure to languages, numbers, and simple problem-solving is also considered important during this period.

From 3 to 6 years of age, ECCE includes continued healthcare and nutrition, but also crucially self-help skills (such as "getting ready on one's own"), motor skills, cleanliness, the handling of separation anxiety, being comfortable around one's peers, moral development (such as knowing the difference between "right" and "wrong"), physical development through movement and exercise, expressing and communicating thoughts and feelings to parents and others,

sitting for longer periods of time in order to work on and complete a task, and generally forming all-round good habits.

Supervised play-based education, in groups and individually, is considered particularly important during this age range to naturally build up the child's innate abilities and all-important lifelong skills of cooperation, teamwork, social interaction, compassion, equity, inclusiveness, communication, cultural appreciation, playfulness, curiosity, *creativity*, as well as the ability to successfully and respectfully interact with teachers, fellow students, staff, and others. ECCE during these years also entails learning about alphabets, languages, numbers, counting, colours, shapes, drawing/painting, indoor and outdoor play, puzzles and logical thinking, visual art, craft, drama, puppetry, music, and movement.

> **Over 85% of cumulative brain development occurs prior to the age of six.**

How should India best deliver quality ECCE? The most current research in ECCE shows that children under the age of 8 do not tend to follow the linear, age-based educational trajectories that are prescribed to them by policy or by any preset timelines for curriculum; as a result, a large proportion of children in pre-school and Grades 1 and 2 are not receiving developmentally appropriate education suited to their needs. It is only at about the age of 8 that children adapt to more prescripted learning.

Therefore, it is important that children of ages 3-8 have access to a flexible, multifaceted, multilevel, play-based, activity-based, and discovery-based education. It also becomes natural then to view this period, from up to three years of pre-school (ages 3-6) to the end of Grade 2 (age 8), as a single pedagogical unit called the "Foundational Stage". It is necessary, therefore, to develop and establish such an integrated foundational curricular and pedagogical framework, and corresponding teacher preparation, for this critical Foundational Stage of a child's development.

At the current time, most early childhood education is delivered in the form of Anganwadis and private pre-schools, with a very small proportion coming from pre-schools run by NGOs and other organisations. Where well supported, the Anganwadi system of pre-primary education, under the aegis of the Integrated Child Development Services (ICDS), has worked with great success in many parts of India, especially with respect to healthcare for mothers and infants. These centres have truly helped support parents and build communities; they have served to provide critical nutrition and health awareness, immunisation, basic health check-ups, and referrals and connections to local public health systems, thus preparing crores of children for healthy development and therefore far more productive lives. However,

while providing some essential cognitive stimulation, play, and day care, most Anganwadis have remained relatively light on the educational aspects of ECCE. Anganwadis are currently quite deficient in supplies and infrastructure for education; as a result, they tend to contain more children in the 2-4 year age range and fewer in the educationally critical 4-6 year age range; they also have few teachers trained in or specially dedicated to early childhood education.

Meanwhile, private and other pre-schools have largely functioned as downward extensions of primary school. Though providing better infrastructure and learning supplies for children, they consist primarily of formal teaching and rote memorisation, with high Pupil Teacher Ratios (PTRs) and limited developmentally appropriate play-based and activity-based learning; they too generally contain teachers untrained in early childhood education. They generally are very limited on the health aspects, and do not usually cater to younger children in the age range of 0-4 years.

A recent "Early Childhood Education Impact" study (2017) undertaken by Ambedkar University, Delhi, showed that a significant proportion of children in India who completed pre-primary education, public or private, did not have the needed school readiness competencies when they joined primary school. Thus, in addition to problems of access, quality related deficiencies such as developementally inappropriate curriculum, the lack of qualified and trained educators, and less-than-optimal pedagogy have remained major challenges for many if not most existing early childhood learning programmes.

The Policy therefore focuses on developing an excellent curricular and pedagogical framework for early childhood education by NCERT in accordance with the above guidelines, which would be delivered through a significantly expanded and strengthened system of early childhood educational institutions, consisting of Anganwadis, pre-primary schools/sections co-located with existing primary schools, and stand-alone pre-schools, all of which will employ workers/teachers specially trained in the curriculum and pedagogy of ECCE.

The numerous rich traditions of India over millennia in ECCE, involving art, stories, poetry, songs, gatherings of relatives, and more, that exist throughout India must also be incorporated in the curricular and pedagogical framework of ECCE to impart a sense of local relevance, enjoyment, excitement, culture, and sense of identity and community. The traditional roles of families in raising, nurturing, and educating children also must be strongly supported and integrated. In particular, family leave policies that afford women and men the ability to tend to their children in their earliest years of life are critical in enabling families to fulfil these traditional roles.

To reinforce the public system's commitment to provide quality early childhood care and education to all children before the age of 6, the Policy suggests that ECCE be included as an integral part of the RTE Act. The 86th Amendment of the Constitution in 2002 in fact provided an unambiguous commitment for universalisation of ECCE by directing the "State to provi de ECCE to all children until they complete the age of six years". Section 11 of the RTE Act also already discussed the possible public provision of early childhood education: "With a view to prepare children above the age of three years for elementary education and to provide ECCE for all children until they complete the age of

six years, the appropriate Government may make necessary arrangement for providing free pre-school education for such children". For the sake of the country and her children, it is time to ensure that these critical commitments for attaining quality ECCE for all are fulfilled as early as possible.

Specific policy initiatives to attain quality early childhood education for all by 2025 will be as follows:

P1.1. Curricular and Pedagogical Framework for Early Childhood Education: The mandate of the NCERT will be expanded to include the development of a Curricular and Pedagogical Framework for Early Childhood Education, in accordance with the above principles and guidelines.

The Framework will consist of two parts:

a. The first part will be a framework of guidelines for 0-3 year olds - intended for parents as well as Anganwadi teachers/workers - for appropriate cognitive stimulation of infants and young children in this age range. The guidelines would include how to make simple low-cost learning aids (such as baby rattles using a plastic bottle and colorful hard candy; simple melodic and percussion instruments that can be hit with sticks; hats and boats made from folding newspaper; etc.); these could form craft exercises for children in Anganwadis, and also be distributed to parents in the community.

b. The second part will be an educational framework for 3-8 year olds (Foundational Stage) - intended for parents as well as for Anganwadis, pre-primary schools, and Grades 1 and 2 - consisting of a flexible, multilevel, play-based, activity-based, and discovery-based system of learning that aims to teach young children alphabets, numbers, basic communication in the local language/mother tongue and other languages, colours, shapes, sounds, movement, games, elements of drawing, painting, music, and the local arts, as well as various socio-emotional skills such as curiosity, patience, teamwork, cooperation, interaction, and empathy required for school-preparedness. The framework would also include suggestions regarding exercises, puzzles, colouring books, connect-the-dots drawings, stories, rhymes, songs, games, etc. that would help in developing children in the Foundational Stage in a holistic way.

Because children learn languages most quickly during the period of 0-3 years and during the Foundational Stage of 3-8 years - and because learning languages is an extremely important aspect of children's cognitive development-a key part of the Framework will be aimed at instilling excellent multilingual skills in children as early as is possible and developmentally appropriate.

The National Curriculum Framework (NCF), and State and local variations of the Framework, will also extensively incorporate the numerous rich traditions of India with respect to ECCE - including national as well as more localised arts, songs, stories, rhymes, puzzles, riddles, games, knowledge, customs, and innovations.

P1.2. **Significant expansion and strengthening of facilities for early childhood education:** The new Curricular and Pedagogical Framework for Early Childhood Education will be delivered to children up to the age of 6 via a four-pronged approach:

a. **Strengthening and expansion of the Anganwadi system to include a robust education component:** Anganwadi Centres will be heavily built up to deal with the educational needs of children up to the age of 6. In particular, Anganwadi workers trained in techniques of cognitive stimulation for infants and of play-based and multilevel education for 3-6 year olds will be stationed across the country, so that there is at least one such worker at every Anganwadi. Each Anganwadi will be provided with excellent educational material as per the curricular and pedagogical framework for early childhood education. Additional quality centres will also be built around the country as needed to ensure that every mother and child has free and easy access to Anganwadi Centres. Anganwadis will aim to become outstanding educational centres that also contain a strong health and nutrition component.

b. **Co-locating Angawadis with primary schools:** When possible, co-locating Anganwadis with existing primary schools will provide further benefits to parents and children, both from the comprehensive services provided by the Anganwadi and the improved opportunity for children to learn in a cohesive educational environment with their siblings and peers at primary schools. Co-location of Anganwadis and primary schools will be considered a high priority during location planning for new Anganwadis and primary schools, as this will help to build better and stronger schoolcommunities.

c. **Co-locating pre-schools with primary schools where possible:** Alternatively, up to three years of quality pre-school for ages 3-6 will be added to existing or new primary schools. Such composite schools will also be supported by a package of health, nutrition, and growth-monitoring services, especially for the pre-school students. The care and educational requirements of 0-3 year olds in the region would continue to be handled by neighborhood Anganwadis in such cases.

d. **Building stand-alone pre-schools:** High quality stand-alone pre-schools will be built in areas where existing Anganwadis and primary schools are not able to take on the educational requirements of children in the age range of 3-6 years. Such pre-schools would again be supported by the health, nutrition, and growth-monitoring services as required for children in this age range.

All four of the above approaches will be implemented in accordance with local needs and feasibility of geography and infrastructure. Overall, the goal will be to ensure that every child of 0-6 years has free and easy access to quality ECCE. This will require suitable monitoring of quality and outcomes for each of the four methods and in each State.

Due to the equalising nature of ECCE, special attention and high priority will be given to those districts or locations that are particularly socio-economically disadvantaged.

Because of the multi-level, play-based nature of the curriculum and pedagogy framework for early childhood education in the age range 3-8 years, no hard separation of ages in this range would be required for Anganwadis and pre-schools (including when they are co-located with primary schools), except as needed for social reasons or due to limitations of institutional infrastructure.

All Anganwadi Centres and pre-primary schools will be linked, if not physically then formally/pedagogically, to a primary school in the area, as the lowest rung in the School Complex (see P7.3.1).

Universal access to quality early childhood education is perhaps the best investment that India can make for our children's and our nation's future.

P1.3. **Oversight of Early Childhood Education by the Ministry of Human Resource Development:** All aspects of early childhood education will come under the purview of the Ministry of Human Resource Development (MHRD), in order to ensure continuity of curriculum and pedagogy from pre-primary school to primary school, and to ensure due attention nationwide to the foundational aspects of education.

A detailed plan outlining the operational and financial implications of the integration of early childhood education with the school education system will be developed in consultation with the Ministry of Women and Child Development (MWCD) and the Ministry of Health and Family Welfare (MHFW). This plan will be finalised by the end of 2019 by a special task force jointly constituted by the MWCD, MHFW, and MHRD.

At the current time, Anganwadis are under the purview of the MWCD. Regardless of which ministry is officially in charge of running the Anganwadis (which will be decided jointly by the ministries and the joint task force), the Policy stresses that the responsibility for planning and implementation of all ECCE curriculum and pedagogy in Anganwadis and all pre-schools lie with the MHRD - just as health services in ICDS lie with the MHFW. This transition would greatly help in optimising and smoothly integrating the delivery of quality early childhood and foundational education by the MHRD across Anganwadis, pre-schools, and primary schools.

P1.4. **Design of learning-friendly environments:** Anganwadis, pre-schools, and primary schools will all have high quality physical infrastructure that is conducive to learning. A committee of cognitive scientists, early childhood education experts, artists, and architects will be formed in each State (or locality) to design spaces, within the funding allocations, that are truly inviting and inspiring places to spend time and learn.

The physical environments for early childhood education will be welcoming and stimulating, with accessible infrastructure, drinking water, and toilets; they will be safe, clean, and brightly lit. Classrooms will allow flexible seating arrangements; learning materials will be safe, stimulating, developmentally appropriate, low cost, and preferably created using environmentally-friendly and locally-sourced materials. While the teacher/educator will be involved in the selection and development of learning materials, children could also participate. Some examples of learning materials are picture cards, puzzles, dominoes, picture story books, blocks, simple musical instruments, number towers and rods, puppets, materials for arts and crafts, and colouring books. Posters, graphics, and art containing alphabets, words, numbers, shapes, colours, etc. will be placed on walls at the eye levels of children for high quality stimulation and engagement.

P1.5. **Professionalisation of high quality educators for early childhood education:** State Governments will prepare cadres of professionally qualified educators for early childhood education, through stage-specific professional training, mentoring mechanisms, and career mapping. Necessary facilities will also be created for the initial professional preparation of these educators and their Continuous Professional Development (CPD).

Current Anganwadi workers and educators handling the pre-school education component of the ICDS will be given the opportunity to participate in a 6-month special training programme to enable them to carry out effective early childhood teaching-learning practices.

> **Access for children aged 3 - 8 years to a flexible, multifaceted, multilevel, play-based and activity-based education is of utmost importance.**

P1.6. **Instituting an effective and quality regulatory system for ECCE:** An effective quality regulation or accreditation system for ECCE will be instituted as recommended in the National ECCE Policy (2013). This regulatory system will cover all pre-school education - private, public, and philanthropic - in order to ensure compliance with essential quality standards.

P1.7. **Generating demand from stakeholders for early childhood education:** In order to generate demand for ECCE, all stakeholders, including policy makers, parents, teachers, and community members must be well-informed on how a young child's needs are so different from what formal education provides, and why fulfilling these needs is so important for a child's lifelong learning and development. Large-scale advocacy through public service messages and media campaigns, direct communication between pre-primary education programmes and parents, and wide-scale dissemination of simple methods and materials to enable parents to actively support their children's early learning needs will be prioritised and proactively supported.

> **The mandate of the NCERT will be expanded to include the development of a Curricular and Pedagogical Framework for Early Childhood Education.**

P1.8. **Extension of the RTE Act to include early childhood education:** Given the necessity and importance of developmentally-appropriate learning during a child's most critical phase of brain development, the availability of free and compulsory quality pre-primary education for all 3-6 year olds will be included as an integral part of the RTE Act (see P8.4.1). Here, by 'compulsory', it is meant that it will be obligatory for the public system to provide appropriate and quality educational infrastructure, facilities, and educators to all children in the age group 3-6 years, with a special emphasis on reaching the most socio-economically disadvantaged children through ECCE services.

Chapter 2

Foundational Literacy and Numeracy

Objective: By 2025, every student in Grade 5 and beyond has achieved foundational literacy and numeracy.

The ability to read and write, and to perform basic operations with numbers, is a necessary foundation and indispensable prerequisite for all future school and lifelong learning. However, various governmental as well as non-governmental surveys clearly indicate that, at the current time, we are in a severe learning crisis with respect to these most basic skills: a large proportion of students currently in elementary school - perhaps over 5 crore in number - have not attained foundational literacy and numeracy, i.e., the ability to read and comprehend basic text and the ability to carry out basic addition and subtraction with Indian numerals.

Numerous studies show that, in the current educational system, once students fall behind on foundational literacy and numeracy, they tend to maintain flat learning curves for years, perpetually unable to catch up. So many capable students have found themselves in this unfortunate black hole, unable to emerge. For many students, this has become a major reason for not attending school, or for dropping out altogether. At the same time, teachers have explained the extreme difficulty they currently face - due to the sheer size of the problem today - in covering the mandated curriculum while also simultaneously paying attention to the large numbers of students who have fallen vastly (often several years) behind.

It is imperative to address this crisis head on and immediately so that basic learning can be accomplished in schools, and so that all students may thereby gain the opportunity to obtain an education of quality. If action is not taken soon, over the next few years the country could lose 10 crore or

more students - the size of a large country - from the learning system and to illiteracy. The country simply cannot allow that to happen - the cost is far too great - to crores of individuals, and to the nation.

Attaining foundational literacy and numeracy for all children must become an immediate national mission. Students, along with their schools, teachers, parents, and communities, must be urgently supported and encouraged in every way possible to help carry out this all-important target and mission, which indeed forms the basis of all future learning.

What are the primary causes of the learning crisis? A large proportion of students that fall behind during their elementary school years in fact fall behind already during the first few weeks of Grade 1.

Thus a major cause of the current learning crisis is a **lack of school-preparedness,** i.e., the background early childhood care and learning (including pre-literacy and pre-numeracy) that is required for a child to engage in more formal grade school education. The problem most acutely afflicts first-generation learners, and children who have not had access to pre-primary education; it hence affects large numbers of children from disadvantaged socio-economic backgrounds.

Schooling in the early years also lays **too little curricular emphasis on foundational literacy and numeracy** and, in general, on the reading, writing, and speaking of languages and on mathematical ideas and thinking. Indeed, the curriculum in early grades moves very quickly towards rote learning and more mechanical academic skills, while not giving foundational material its proper due. The principle must be that: if students are given a solid foundation in reading, writing, speaking, counting, arithmetic, mathematical and logical thinking, problem-solving, and in being creative, then all other future lifelong learning will become that much easier, faster, more enjoyable, and more individualised; all curriculum and pedagogy in early grade school must be designed with this principle in mind.

Teacher capacity also plays a central role in the attainment of foundational skills. Currently, few teachers have had the opportunity to be trained in a multilevel, play-based, student-centred style of learning that, according to extensive ECCE research (see P1.5), is so important for students in early grade school, particularly in Grades 1 and 2. Children naturally learn at different levels and paces during their early school years; however, because the current formal system assumes from the very beginning a common level and pace for all, many students start to fall behind almost immediately.

A further factor in the crisis in many areas relates to **teacher deployment**. One aspect of teacher deployment (or lack thereof) - which sometimes forms a barrier to play-based, multilevel, and individualised learning - is the PTR, which in some disadvantaged areas, often exceeds 30:1, making learning for all much more difficult in these areas. Another aspect of deployment contributing to students falling behind involves the language barriers that often exist between teachers and students when teachers are not from the local area. When children struggle to understand the language in which they are being taught, it becomes very difficult for them to grasp concepts in that language, and their attention wanes. It is well-established that students learn best, especially in

their early years, when they are taught in the language in which they are most comfortable.

One significant further factor in the learning crisis that cannot be overlooked relates to the **health and nutrition** of children. It is well documented that nutrition plays a very significant role in learning, especially in the early years; however, too many of our children simply do not receive the nutrition (both quality and quantity) necessary to enable learning. Hunger and malnutrition indeed prevent too many children from being able to pay proper attention in school - for many students, the midday meal provided in school is the only meal that they eat.

What can be done to reverse this crisis, and urgently? ECCE - while being an extremely important stage in a child's development on its own - is also a key method to ensure grade-school-preparedness. Once access to ECCE is instituted across the country (as described in Chapter 1), the problem of school-preparedness - and of students falling behind so quickly in grade school - will be greatly mitigated for future generations of students. However, for all those students who are already in grade school, and who remain currently at the centre of this crisis, a mission-mode dedication to remediation and enabling all students who have fallen vastly behind to catch up will be required most urgently and on a national scale.

Because of the depth and severity of the problem, teachers cannot be asked to go at this alone - a large scale nationwide effort and dedication will truly be required, which will involve the community as well. Students themselves can be a first major resource in this regard. Studies around the world show one-on-one peer tutoring to be extremely effective for learning - not just for the learner, but also for the tutor. An old Indian saying incisively states that "Knowledge is the only quantity that increases for oneself when one gives it away to others"; indeed, one-on-one peer tutoring by senior students was one of the key successful hallmarks of the ancient gurukula system. Prestigious peer-tutoring positions will be instituted, not just for foundational literacy and numeracy, but across all school subjects, in order to improve learning outcomes for all.

A further help must come from the local community. Educated members of the local community who are also passionate about teaching - and aiding in this crisis - will help by holding remedial classes, with students grouped according to level, during or after school, under the guidance and advice of teachers. Such local community members would also, in particular, be able to help bridge the language divide between students and teachers when it exists. These local remedial instructors would be true local heroes; the aim would be for many if not most to be women and mothers in order to help ensure and encourage maximal girls' participation.

It will also be important to make it easier for *volunteers* - both from the local community and beyond - to participate in this large-scale mission of the schooling system. Qualified community members who wish to volunteer as remedial instructors or as one-on-one tutors - as a service to their communities and to the nation - will be welcomed to teach particular

aspects of foundational literacy and numeracy, as needed, under the guidance and coordination of teachers. *If every literate member of the community could commit to teaching one student/person how to read, it would change the country's landscape very quickly; this mission will be highly encouraged and supported.*

Teacher vacancies will be filled as soon as possible, especially in disadvantaged areas and areas with large Pupil Teacher Ratios or high rates of illiteracy, with special attention given to employing local teachers and female teachers. Current and future teachers will be trained in the relevant aspects of ECCE as is urgently required in Grades 1 and 2 - such as play-based and multilevel learning - so that students of varying levels will be able to keep learning.

On the curricular side, it will be extremely vital to introduce an increased focus on foundational literacy and numeracy - and generally on reading, writing, speaking, counting, arithmetic, and mathematical thinking - throughout the primary school curriculum. The dedication of specific hours daily, and regular events over the year, to activities involving these subjects has been found to be a successful method in exciting students to pursue these areas.

Finally, the nutrition and health (including mental health) of children will be seriously addressed, through healthy meals and the introduction of counsellors and social workers into the schooling system, as well as through various continuing measures for addressing poverty that may lie beyond the education system. Research shows that the hours of the morning after a nutritious breakfast can be particularly productive for the study of subjects that are cognitively more demanding; these hours may be leveraged by providing a simple but energising breakfast in addition to midday meals.

Specific and urgent measures for this national mission, designed to help students at all levels achieve foundational literacy and numeracy as quickly as possible, will include the following:

P2.1. **Expansion of midday meal programme:** Both a nutritious breakfast (e.g. even just some milk and a banana) and a midday meal will be served to pre-primary and primary school students. This will help make the hours between breakfast and lunch significantly more productive, especially for students from disadvantaged backgrounds. Expenditure on the morning and midday meal programmes will be linked to food costs and inflation in order to ensure the quality of food served.

We are in a severe learning crisis: a large proportion of students in elementary school has not attained foundational literacy and numeracy.

P2.2. **Increased focus in school on foundational literacy and numeracy:** The school and classroom curriculum and schedules for Grades 1-5 will be re-designed to focus on foundational literacy and numeracy, and to build a love for reading and mathematics among students. Illustratively, initiatives in this direction would include:

a. Dedicated mathematics and reading hours every day for Grades 1, 2 and 3, and an additional writing hour for Grades 4 and 5. The hours between breakfast and lunch may be the most effective time periods for these subjects.

b. Designated "language weeks" and "mathematics weeks" during the school year, where children will participate in a variety of activities and projects around languages and mathematics.

c. Regular "language melas" and "mathematics melas", where children can participate and demonstrate their abilities in both of these subjects; this could become a community event involving parents, teachers, community members, and neighbouring schools.

d. Weekly language and mathematics-focused school assemblies; celebrations of writers' and mathematicians' anniversaries through language- and mathematics-related activities.

e. Weekly activities around the library, such as story-telling, theatre, group reading, writing, and display of original writings and other art by children.

f. Weekly fun puzzle-solving sessions that naturally inculcate logical and mathematical thinking.

g. Regular activities that explore connections between "classroom mathematics" and "real-life mathematics."

If action is not taken soon, over the next few years the country could lose 10 crore or more students from the learning system and to illiteracy.

P2.3. **Workbooks on language and mathematics:** Every child in Grades 1-5 will have a workbook for languages and mathematics in addition to the school textbook. This will ensure that grade-appropriate, creative, and engaging practice opportunities are available for each child to work at his/her own pace. This would supplement the textbook, build on lessons with a variety of

exercises/examples, save teachers' time, help teachers identify what each child can do and, therefore, help individualise instruction.

> **Attaining foundational literacy and numeracy for all children must become an immediate national mission and an indispensable, non-negotiable part of the curriculum.**

P2.4. **National repository of language and mathematics resources:** The National Teacher's Portal (DIKSHA) will have a special section of high quality resources on foundational literacy and numeracy. These resources will be collated from across the country and will be used, in particular, for the two initiatives outlined below.

P2.5. **National Tutors Programme:** A National Tutors Programme (NTP) will be instituted, where the best performers in each school will be drawn in the programme for up to five hours a week as tutors during the school for fellow (generally younger) students who need help. Selecting tutors from URGs whenever possible will be particularly encouraged.

Being selected as a peer tutor will be considered a prestigious position, earning a certificate from the State each year that indicates the hours of service.

P2.6. **Remedial Instructional Aides Programme:** A Remedial Instructional Aides Programme (RIAP) will be instituted initially as a temporary 10-year project to draw instructors - especially women - from local communities to formally help students who have fallen behind and bring them back into the fold. These instructional aides would hold special remediation classes during school hours, after school hours, and during the summer for those children who have fallen so behind that they cannot catch up without an intervention; when possible, these children would be grouped by level and pace.

The instructional aides would be true local heroes - bringing back students who might otherwise drop out, not attend, or never catch up. The IAs would be drawn from among those in the local communities who have graduated from Grade 12 (or the highest grade in school that was available in their region at their time) and who have been among the good performers in their schools. Drawing

IAs from socially and economically disadvantaged groups will be particularly encouraged, to ensure a truly diverse collection of these local role models. Ensuring that most IAs are women would help empower women and allow more women to be employed and be a part of the educational systems of their local communities; it would also greatly help in the enrollment and retention of girls in the schooling system. Training for these positions would concentrate specifically on the teaching of foundational literacy and numeracy.

Should the instructional aides choose to complete a B.Ed. and become teachers, they will be given suitable credit for their years of IA service upon employment. Instructional aides will also make for excellent candidates to be trained to become early childhood education teachers in Anganwadis and pre-schools.

Two key factors that will determine the effectiveness of this initiative will be ensuring that IAs are selected on merit and without nepotism, and that they are provided the necessary workbooks and learning materials for their work with children.

P2.7. **Encouragement of large-scale community and volunteer involvement:** Qualified volunteers (such as retired teachers and army officers, excellent students from neighboring schools, and passionate socially-conscious college graduates from across the country) will also be drawn on a large scale to join the NTP and the RIAP on an unpaid basis, during the academic year as well as in the summer, as a service to their communities and to the country. Thus the NTP and RIAP programmes will each have two modes: Conventional (consisting of peer tutors, and paid IAs from the local community) and Volunteer; both modes will be highly encouraged for the benefit of these programmes. Volunteers will also be awarded certificates from the State government or Government of India (GOI), honoring their invaluable contribution to the State and to the nation, and indicating the hours served as a tutor or IA.

P2.8. **Management of the NTP and RIAP programmes:** It will be the responsibility of the teachers to assess the learning levels of each student in class, and to identify those students who would make excellent tutors, as well as those students who could benefit from NTP tutors and RIAP remedial sessions. Teachers will also work together with principals to recruit IAs, and consider interested volunteers for both the NTP and RIAP programmes.

Teachers will manage and continually work with tutors and IAs to monitor each child's progress and ensure that each child catches up with the average class level at the earliest.

P2.9. **Regular adaptive assessment:** A robust system of adaptive assessment will be developed and implemented at all levels in schools, in order to help teachers regularly evaluate each student's progress, and identify where each student is on the learning-ladder continuum, and thus provide accurate feedback

and individualised learning plans for students. Adaptive assessments will also help minimise the importance of rote memory in examinations.

Computer-based adaptive assessment may first be implemented in secondary schools and, eventually, by 2023, with computers or tablets available in all schools, extended to cover every student in every school at the basic level and beyond as needed (see P4.9.3).

P2.10. **Piloting other technological interventions as aids to teachers:** Various technological interventions will be made available to teachers, especially as computers, tablets, smartphones, and the relevant software will become widely available. Such interventions will include apps and games on smartphones and tablets in various regional languages that teach literacy, numeracy, and other foundational and curriculum material, and carry out adaptive assessments and other personalised learning. Such technological interventions will never be viewed as substitutes for teachers, but will be piloted and/or used by teachers and students as learning aids.

P2.11. **School preparation module for all Grade 1 students:** As evidence shows that a large number of students start to fall behind within the first couple of months of Grade 1, starting in 2019, all Grade 1 students will begin with a three-months-long "school preparation module", which will help ensure that students have the required learning readiness and prerequisite learning levels prior to starting the usual Grade 1 syllabus. NCERT will develop a curriculum framework, syllabus and pedagogical strategy for this school preparation module, which will be distributed to all Grade 1 teachers and will eventually be incorporated into the Grade 1 curriculum framework and in related workbooks and other learning materials. Students will help each other during this module to develop skills of empathy and helpfulness towards fellow students. This will ensure a solid foundation, and develop enthusiasm and comradery for early school learning, for all learners. The module would concentrate on play with alphabets, words, colours, shapes, and numbers, and would actively involve parents, including take-home worksheets and interactive activities to be done at home together with parents to help develop parental involvement in their child's schoolwork.

> **A prestigious National Tutors Programme will be instituted across the country to enable high-quality peer tutoring among students.**

P2.12. **The importance of parental participation:** Research evidence points to the significant impact that home environment has on children's academic learning. Collaboration with parents is an essential ingredient in optimising learning, regardless of parents' literacy, numeracy, or educational status. Parents will be asked to meet with their children's teachers *at least twice* every year, and even more often if they wish to do so, or as needed, in order to help track, encourage, and optimise their children's learning. Teachers will also regularly give take-home worksheets, activities, or assignments to be completed in collaboration with parents to further develop parental involvement in children's schoolwork, learning, and progress.

P2.13. **Redesign of teacher education for foundational literacy and numeracy:** Teacher education and development, both pre-service and in-service, will have a renewed emphasis on the teaching of foundational literacy and numeracy, including the school preparation module, ECCE, and multilevel activity-based learning; this emphasis will be particularly relevant for teachers of Grades 1 and 2.

Teacher education and development at all levels will also include strategies for: more interactive classrooms with less rote learning; adaptive and formative assessment; and how best to use tutors, remedial instructors, and technology (such as apps for smartphones or tablets) in developing optimal individualised learning plans for students.

All Grade 1 teachers will have the opportunity to go through a 5-day capacity development workshop for integrating the three-month long "school preparation module".

P2.14. **Ensuring proper teacher deployment and teacher conditions, and a Pupil Teacher Ratio under 30 : 1 at every school:** All the measures for strong foundational literacy and numeracy will require that the PTR be less than 30 : 1. Teacher vacancies will be filled urgently so that this PTR is ensured not merely at a cluster or block level but in every school; strong preference will be given to teachers from local areas to help bridge the language divide. Teacher attendance is key to ensuring proper PTR in the classroom; conditions for teachers will be such that near-100% teacher attendance is attained; in particular, teachers must be able to spend the vast majority of their working time with their students rather than on administrative or other tasks (see P5.2.3).

A Remedial Instructional Aides Programme will be instituted to recruit qualified community members to help students learn.

P2.15. **Expansion of public and school libraries and building a culture of reading and communication:** To create a culture of reading, public and school libraries will be expanded across the country, and will contain books - particularly children's books - in local and regional languages. Schools and school complexes will also have a large selection of books in local languages, and teachers will actively encourage children to take books home to read.Students will be asked to read excerpts from their favourite books/stories and present oral summaries and their own thoughts each week or month in front of their class, to encourage reading as well as develop communication skills. As students learn more languages, these readings and presentations could then be carried out in additional languages.

P2.16. **Role of social workers and counsellors:** Social workers and counsellors will be hired to school complexes (see P3.8) to work with students - and their parents, teachers, tutors, IAs, and community members - to help ensure the retention in school and the mental health of all children.

P2.17. **Mobilisation of the local community and of volunteers:** Teachers, parents, students, community members, and the public must and will be made aware of this urgent national mission to end the learning crisis, and of the resulting opportunities available for community and volunteer involvement. Large-scale public service announcements, media campaigns, and direct communications between schools and their communities in this direction will be prioritised to maximise involvement of passionate citizens across the country; this will also help recruit community members and volunteers for the NTP and RIAP programmes. Last but not least, the principle that every literate citizen commit to teaching at least one child (or adult) how to read will be highly publicised, encouraged, facilitated, and supported (see also Chapter 21).

To repeat, **our highest priority must be to achieve universal foundational literacy and numeracy** in primary school and beyond by 2025. The rest of the Policy will be largely irrelevant for such a large portion of our students if this most basic learning (reading, writing, and arithmetic at the foundational level) is not first achieved.

Chapter 3

Reintegrating Dropouts and Ensuring Universal Access to Education

Objective: Achieve access and participation in free and compulsory quality school education for all children in the age group of 3-18 years by 2030.

One of the primary goals of the schooling system must be to ensure that children are actually enrolled in and attending school. Through initiatives such as the Sarva Shiksha Abhiyan and the RTE Act, India has made remarkable strides in recent years in attaining near-universal enrollment in primary school: according to U-DISE data, the Gross Enrolment Ratio (GER) in 2016-17 for Grades 1-5 was at 95.1%. However, the data for later grades indicates some serious issues in retaining children in the schooling system. The GER for Grades 6-8 was 90.7%, while for Grades 9-10 and 11-12 it was only 79.3% and 51.3%, respectively - indicating that a significant proportion of enrolled students begin to drop out after Grade 5 and especially after Grade 8. In absolute numbers, an estimated *6.2 crore children* of school age (between 6 and 18 years) were out of school in 2015.

It must be a top priority of the country to bring these children back into the educational fold as early as possible, and to prevent further students from dropping out.

What causes such large numbers of students to drop out? One key reason has already been mentioned in Chapters 1 and 2: so many students find themselves **falling increasingly behind** in school as time passes by - many not even attaining foundational literacy and numeracy by Grade 5 or even by Grade 8 - that it becomes a waste of their time to attend school.

The problem of access to schools also remains a major concern. While the problem of access has been largely solved for primary and even upper primary schools - the vast majority of children in 2016-17 had a primary and upper primary school within close proximity - access to secondary schools and upper secondary schools remains a very serious issue. In 2016-17, for every 100 primary schools/sections in India, there were about 50 upper primary schools/sections, 20 secondary schools/sections, and only about 9 higher secondary schools/sections. For many children, this means that the closest secondary and higher secondary schools are at prohibitively large distances - too far to walk, with no safe and practical conveyances available to reach school.

> **Bringing children who have dropped out back into the educational fold as early as possible, and preventing others from dropping out is top priority.**

Socio-cultural and economic issues also play a significant role in dropout rates. For example, some children and adolescents are not sent to secondary school because of harmful practices relating to early or child marriage, perceived roles of gender or caste, or child labour and pressure on children/adolescents to work and earn. Often the need to care for siblings prevents older children from attending school. In regions with poor hygienic conditions, lack of good sanitation and unhealthy food habits unfortunately make children prone to chronic illnesses, thereby preventing them from attending classes consistently or at all.

There also remain serious issues of **inadequate infrastructure and lack of safety**. Many children, especially girls, drop out due to lack of working toilet facilities; others - particularly girls and children from various other Underrepresented Groups (URGs) - drop out due to problems with harassment and safety. Sometimes students' bicycles are stolen while at school, and they are forced to drop out.

Finally, some children and adolescents report dropping out, not because of any of the above reasons, but simply because they **do not find school interesting or useful.**

What can be done to bring children who have dropped out back to school and to prevent further children from dropping out? There are two basic initiatives that must be undertaken.

The first is to **provide effective and sufficient infrastructure so that all students have access** to safe and engaging school education at all levels from

pre-primary school through Grade 12. This will be attained by upgrading and enlarging the schools that already exist, building additional quality schools in areas where they do not exist, and providing safe and practical conveyances and/or hostels to children as needed so that all children have the opportunity to attend a quality school of the appropriate level.

The second is to **achieve universal participation in school by carefully tracking students**, as well as their learning levels in school, in order to continually work towards ensuring that they a) are enrolled in and attending school, and b) have suitable opportunities for remediation and re-entry to catch up in case they have fallen behind or dropped out. The "free and compulsory" aspect of the RTE Act must be enforced, and extended through Grade 12 and to all children up to the age of 18. Social workers and counsellors recruited to school complexes will continuously work with students, parents, teachers, and communities to ensure that all school-age children are attending and learning in school.

> **Access will be increased, especially for Grades 9-12, to achieve 100% GER across school stages.**

Once infrastructure and participation are in place, ensuring **quality** across the board is indeed key in retaining students, so that students and parents do not lose interest in attending school. This will require **a strong channel for the best teachers to be deployed** to areas where dropout rates are particularly high, as well as **an overhaul of the curriculum to make it more engaging, dynamic, and useful**; these last two points will be addressed in more detail in the next two chapters, respectively.

The current chapter will therefore focus on these two basic issues of creating effective school infrastructure and then ensuring participation.

Creating effective school infrastructure

P3.1. **Addressing access gaps in infrastructure:** The number and coverage of schools/sections will be increased at all levels, especially Grades 9-12, in order to work towards achieving 100% GER from the Foundational Stage through Grade 12 for all children by 2030.

The strategy will consist of:

a. Increasing the intake capacity of existing schools in areas where many students are out of school;

b. Building new educational facilities in under-served or un-served locations; and

c. Consolidating existing stand-alone primary, upper primary, secondary, and higher secondary schools - especially those that may have too low an attendance to be sustainable on their own - into composite schools/school complex whenever possible.

Note that composite schools/school complexes containing a wider range of grade levels have a number of advantages, including the sharing of material and human resources, a wider range of classes and opportunities for students, and the ability of siblings and neighbors of differing ages to travel together to and attend the same school.

Appropriate norms for the expansion, establishment, and consolidation of schools will be developed for each region/State/district based on the local reality, with the understanding that proximate access in the early years is critical. The current rigid norms for school access (based solely on distance from habitations of residence) will be made flexible to meet local geographic and demographic needs, without compromising on access, quality, equity, and safety.

Social workers will help track student attendance and work towards bringing dropouts back into school; programmes like the NTP and RIAP will enable this.

P3.2. **Supporting transport facilities:** School rationalisation as in P3.1 will take place alongside efforts to enhance roads and transport facilities to schools. Bicycles will be provided to older children, especially girls, as necessary in order to enable educational access (with appropriate measures for security of the bicycles at the school), with arrangements made for travel in groups to the maximal extent possible.

Other transport facilities, such as school buses, organised walking groups, paid walking escorts, or a transport allowance, will also be provided as appropriate, especially for younger children, girls, and Children With Special Needs (CWSN) to ensure safe transport; in rural areas or where the routes to school are not safely or feasibly walkable, cycle rickshaws could also be provided to local community members (such as a parent of a child in the school), who would

be hired and paid a stipend for ensuring the safe transport to school of 2-4 young children each.

P3.3. **Supporting hostel facilities:** Free room and board facilities in the form of hostels will be built - matching the standard of Navodaya Vidyalayas - in school locations where students may have to come from particularly far, and/or for students who come from disadvantaged economic backgrounds, with suitable arrangements for the safety of all children, especially girls (e.g. girls' hostels would be separate and have female wardens and security guards). In particular, the Kasturba Gandhi Balika Vidyalayas (KGBV) will be strengthened and expanded to increase the participation in quality schools (up to Grade 12) of girls from socio-economically disadvantaged backgrounds.

P3.4. **Ensuring security:** Appropriate measures will be taken at all schools at all levels to ensure the safety of students (particularly girls and other URGs) by building safe infrastructure (including roads and conveyances for transport), hiring security guards (especially female security guards) according to needs, maintaining connections with local police, and arranging credible mechanisms for students to report harassment or other transgressions, and for appropriate reviews and actions to be taken in an expedited manner. A zero-tolerance policy towards breaches of child rights will be adopted to ensure physical and emotional safety of children.

To avoid instances of girls and other children dropping out due to facing harassment on the way to, or within the school, school principals, social workers and local law enforcement will work together to identify the miscreants and discipline them, and take legal action if needed. A 24 x 7 helpline number will also be communicated among the public. The local police will work with the social workers to instruct parents and students on identifying and reporting incidences of harassment, both within and outside the school. Areas where harassment is one of the major reasons for high dropout rates will be given special attention.

Ensuring participation and learning

P3.5. **Monitoring students' attendance in school:** Transparent and reliable systems for tracking attendance of all students will be set up at the local level in collaboration with teachers and SMCs. Parents will be contacted to inquire as to the reasons for the absence of any student. Effective strategies will be put in place for boosting attendance, such as the provision of both morning and midday meals, and recognition of and awards to students having 100% or near-100% attendance.

P3.6. **Monitoring students who may be falling behind:** Teachers will consistently monitor learning outcomes of students through adaptive assessments in order to identify students who may be falling behind, and work to set up personalised learning strategies for these students in consultation with

parents to help them catch up, including connecting them to remediation programmes such as the NTP and RIAP; see P2.5 and P2.6.

P3.7. **Tracking out-of-school children:** An appropriate area-specific and locally relevant mechanism will be put in place, in collaboration with social workers, principals, community members, and SMCs, for tracking down and forming a database of all dropouts and out-of-school children. In most cases, social workers appointed to the school complex will take charge of managing the database, interfacing with the community, and ensuring that every child in the database is cared for and helped to return to school.

P3.8. **Role of social workers and counsellors:** In cases of a) enrolled students having lengthy absences beyond a few days, b) enrolled students falling vastly behind, or c) children who have never enrolled or who have dropped out, social workers appointed to the school complex will pro-actively meet with such children and their parents to understand why they are not attending or enrolled, or why they are falling behind, and will work with them (in collaboration with counsellors) to help ensure attendance/enrolment, and (in consultation with teachers) connect them to remedial programmes such as NTP and RIAP or alternative learning programmes. Social workers will also help in identifying and managing CWSN to ensure that they are fully engaged with the education system.

P3.9. **Role of schools in children's health:** In areas where poor sanitary conditions, unhygienic food practices, and lack of appropriate precautions cause diseases among school age children, subsequently causing them to drop out, schools, social workers, counsellors, and/or health workers will help instruct parents, students, and the community-at-large on good health, hygiene, cleanliness, and timely vaccination practices, and will connect them to the appropriate health services so that children may return to school as soon as possible. Hiring of health workers to school complexes will be prioritised in areas with widespread malnutrition, disease, and lack of sanitation in order to ensure the well-being of children and as a consequence their attendance and progress in school.

P3.10. **Second-chance education programmes for long-term out-of-school adolescents:** In cases of children or adolescents who have been out of school for multiple years, sustained programmatic initiatives will be undertaken to provide them meaningful education and training opportunities. Access to second-chance education programmes will be enhanced by establishing equivalency and bridging programmes, recognised and accredited by the school education system, wherever remedial programmes such NTP and RIAP are insufficient.

Strengthening of institutional capacity for expanding second-chance educational opportunities will be accorded priority, including vocational

education and skills development opportunities (e.g. market-driven courses to make them rapidly employable).

Dropouts aged 15 and above, who have fallen too far behind or are nearly illiterate, will be given the alternative option to attend adult literacy programmes (see Chapter 21) to gain foundational and functional literacy, and then, if desired, enrol in vocational training programmes conducted for adult neo-literates. Such decisions, regarding the optimal solution for each student, will be made in consultation with the students themselves, their parents, school teachers, and social workers.

P3.11. **Enabling multiple pathways to learning:** To facilitate learning for all students, including CWSN or children of migrant workers, the scope of school education will be broadened to facilitate multiple pathways to learning involving formal and non-formal education modes. One of the thrusts would be to develop and utilise innovative educational platforms involving the use of technology, including the development and sharing of e-resources and promotion of e-learning, and introduction of assessment on demand. Open and Distance Learning (ODL) Programmes offered by the National Institute of Open Schooling (NIOS) will be expanded and strengthened for meeting the learning needs of young people in India who are not able to attend a physical school. Keeping in view the diversified needs of the target groups, NIOS will continue to offer Open Basic Education for learners aged above 14 years, including adolescents and adults. In addition, the following programmes will be offered: education at A, B and C levels that are equivalent to Grades 3, 5, and 8 of the formal school system; secondary education programmes that are equivalent to Grades 10 and 12; vocational education courses/programmes; and adult literacy and life-enrichment programmes. States will be encouraged to develop State analogues of these offerings in regional languages by establishing State Institutes of Open Schooling (SIOS).

P3.12. **Allowing multiple models for schools, and loosening the input restrictions of the RTE Act:** To make it easier for both governments as well as non-governmental philanthropic organisations to build schools, to encourage local variations on account of culture, geography, and demographics, and to allow alternative models of education such as gurukulas, paathshaalas, madrasas, and home schooling, the RTE Act requirements for schools will be made substantially less restrictive. The focus will be to have less emphasis on input and greater emphasis on output potential with respect to desired learning outcomes. Regulations on inputs will be limited to ensuring safety of children (both physical and psychological), access and inclusion, the non-profit nature of schools, and minimum standards for learning outcomes. Enabling the construction of quality schools by all parties with greater flexibility will create greater educational choices for students and healthy competition among schools, leading to enhanced access to more and higher-quality schools (including higher-quality government schools). Other models for schools will also be piloted, such as philanthropic-public partnerships.

P3.13. **Extension of the RTE Act to include secondary education:** The availability of free and compulsory quality secondary education (Grades 9-12; typically ages 14-18) will be included as an integral part of the RTE Act to ensure that, by 2030, all students enrol and participate in quality school education through Grade 12 (see P8.4.1).

Chapter 4

Curriculum and Pedagogy in Schools

Objective: Curriculum and pedagogy are transformed by 2022 in order to minimise rote learning and instead encourage holistic development and 21st century skills such as critical thinking, creativity, scientific temper, communication, collaboration, multilingualism, problem solving, ethics, social responsibility, and digital literacy.

4.1. A new curricular and pedagogical structure for school education

One of the most well-known legacies of the National Policy on Education 1968 is the "10+2" structure of the school education system - an extremely important and influential recommendation for the time which helped to standardise and uniformise the structure of school education across the country. In many parts of the country, the 12 years of the 10+2 system have been referred to as Grades / Classes 1-12, with Grades 1-5 the **primary** stage, Grades 6-8 the **upper primary** stage, Grades 9-10 the **secondary** stage, and Grades 11-12 the **higher secondary**, **pre-university**, **intermediate**, or **junior college** stage.

While the 10+2 system of school education has served the country well over the past 50 years - and has been an important step forward in uniformising the school education structure in India - modern times and needs with respect to employment and beyond, together with advances and discoveries in cognitive science, have also made clear that a new structure for the

educational system is required in order to deliver the vision of education enunciated in this Policy and to prepare our students optimally in the 21st century.

The restructuring of school education mentioned in this Policy is based, in particular, on the cognitive importance of play-based ECCE starting at age 3, together with the modern necessity of providing free and compulsory education for all students through Grade 12 - as was already discussed in the first three chapters. Furthermore, within this school-age range of 3 to 18 years, there must be periodic changes in curricular and pedagogical delivery and styles, designed to be in sync with a child's natural cognitive, emotional, and physical development. For example, as already mentioned in Chapter 1, studies in cognitive science demonstrate that children prior to the age of 8 learn best through play-based, activity-based, and discovery-based multilevel flexible styles of learning and interaction, whereas around the age of 8 children naturally begin to adapt to a more prescripted style of learning, indicating that teaching-learning processes in Grade 3 may also begin to transition to a more formal style of learning, e.g. by incorporating some basic textbooks, while still maintaining a strong play- and discovery-based approach.

Meanwhile, by the age of 11, children begin to develop the capacity for abstraction. At this stage, i.e., around Grade 6, it therefore becomes beneficial for students to begin to have specialised subject teachers in the classroom, where students' discussion of higher-level concepts within each subject area becomes possible and indeed desirable. By the age of 14, i.e., Grade 9, adolescents begin to think about their life plans; schooling at this stage must therefore build on the styles of previous stages, while also incorporating preparation for university, for the world of work, and for life. Students at this stage must have flexibility of subject options for their differing talents, interests, goals, and ambitions, including access to vocational and arts courses. A semester-based system, which allows exposure to a multitude of subjects at differing levels, can be of great benefit to students at this stage.

Based on these natural cognitive and practical considerations regarding the optimal holistic development of students, the following new curricular and pedagogical structure for school education will therefore be of immense value in truly revolutionising, and thereby making more effective, our school education system (it must be noted that the physical infrastructure of schools need not necessarily be aligned with this pedagogical and curricular organisation):

A new developmentally appropriate curriculum and pedagogical structure for school education: 5 + 3 + 3 + 4 design.

P4.1.1. **Restructuring school curriculum and pedagogy in a new 5+3+3+4 design:** The curricular and pedagogical structure of school education will be reconfigured to make them responsive and relevant to the developmental needs and interests of learners at different stages of their development, corresponding to the age ranges of 3-8, 8-11, 11-14, and 14-18 years, respectively. The curricular and pedagogical structure and the curricular framework for school education will therefore be guided by a 5+3+3+4 design:

- 5 years of the **Foundational** Stage: 3 years of pre-primary school and Grades 1, 2.
- 3 years of the **Preparatory** (or **Latter Primary**) Stage: Grades 3, 4, 5.
- 3 years of the **Middle** (or **Upper Primary**) Stage: Grades 6, 7, 8.
- 4 years of the **High** (or **Secondary**) Stage: Grades 9, 10, 11, 12.

a. The Foundational Stage will comprise five years of flexible, multilevel, play-based, activity-based, and discovery-based learning, continuously incorporating the latest research in ECCE as well as the various time-tested Indian traditions for cognitive and emotional stimulation of children.

b. The Preparatory Stage will comprise three years of education, building on the play-, discovery-, and activity-based pedagogical and curricular style of the Foundational Stage, but also gradually beginning to incorporate textbooks as well as aspects of more formal classroom learning. There would mostly be generalist teachers during this stage, with the possible exception of some specialist language and art teachers (who may be shared across the school or school complex). The aim of this stage will be to lay the general groundwork across subjects, including reading, writing, speaking, physical education, art, languages, science, and mathematics, so that students are prepared to delve deeper into learning areas through specialised subjects and subject teachers in the stages that follow.

c. The Middle Stage will comprise three years of education, building on the more formal pedagogical and curricular style of the Elementary Stage, but will see the introduction of subject teachers for learning/discussion of the more abstract concepts in each subject that students will be ready for at this stage across the sciences, mathematics, arts, social sciences, and humanities. Experiential learning within each subject, and explorations of relations among different subjects, will be encouraged and emphasised despite the introduction of more specialised subjects and subject teachers.

d. The Secondary Stage will comprise four years of multidisciplinary study, and will build on the subject-oriented pedagogical and curricular style of the Middle stage, but with greater depth, greater critical thinking, greater attention to life aspirations, and greater flexibility and student choice. Each year of the Secondary Stage will be divided into 2 semesters, for a total of 8 semesters. Each student would take 5 to 6 subjects each semester. There will be some essential common subjects for all, while simultaneously there will be a great flexibility in selecting elective courses (including in the arts, vocational subjects, and physical education) so

that all students can expand their horizons as they see fit and explore their individual interests and talents. A system of modular Board Examinations - restructured to test only core concepts, principles, critical thinking, and other higher-order skills in each subject - will help to pin down the common courses, while great flexibility will be offered for remaining courses (see P4.9.5). The notions of "higher secondary" or "junior college" will be eliminated; Grades 11 and 12 will be considered an integral part of the secondary stage.

All stages will heavily incorporate Indian and local traditions, as well as ethical reasoning, socio-emotional learning, quantitative and logical reasoning, computational thinking and digital literacy, scientific temper, languages, and communication skills, in a manner that is developmentally appropriate and in the curricular/pedagogical style that is optimal for each stage.

The above-described stages are purely curricular and pedagogical, designed to optimise learning for students based on cognitive development of children; they will inform the development of National and State curricula and teaching-learning strategies at each stage, but it will not be necessary to make parallel changes to physical infrastructure.

Interactive and fun classrooms, where questions are encouraged, with creative, collaborative, and exploratory activities for deeper and more experiential learning.

4.2. Holistic development of learners

The key overall thrust of curriculum and pedagogy reform across all stages will be to move the education system towards real understanding and *learning how to learn* - and away from the culture of rote learning present today. The goal will be to create holistic and complete individuals equipped with key 21st century skills. All aspects of curriculum and pedagogy will be reoriented and revamped in order to attain these critical goals.

P4.2.1. **Reorientation of the content and process of school education:** The entire school education curriculum will be reoriented to develop holistic learners and develop in learners higher order skills of critical thinking, creativity, logical deduction, collaboration/teamwork, social responsibility, multilingualism, quantitative reasoning, and digital literacy. Learning will thus move away from rote memorisation; if and when rote learning is used, it will always be pre-

accompanied by context and motivation, and post-accompanied by analysis, discussion, and application.

The curriculum will aim at enabling learners to attain learning outcomes relating to all curricular areas, including sports, science, art, language, literature, and ethics education, thereby ensuring that all children and youth receive an education that helps realise their potential, in all realms, to the fullest.

4.3. Reduce curriculum content to enhance essential learning and critical thinking

The Policy recognises, from inputs of teachers, students, scientists, and educators, that the curriculum content is currently severely overloaded. Both the 1993 MHRD Yashpal Committee report 1993 "Learning Without Burden" and the NCF 2005 highlighted the great need for reducing our overcrowded curriculum content load in favour of a more engaging, holistic, experiential, and analysis-based form of learning. Those well-researched recommendations have never been more relevant than today. Indeed, today, the rush in classrooms to finish and rush through all the mandated curricular material via rote memorisation continues to prevent opportunities for critical thinking and discovery-based, discussion-based, and analysis-based learning - and thus true understanding - from taking place.

P4.3.1. **Reduce curriculum load in each subject to its essential core content, in order to make space for more holistic, experiential, discussion-based, and analysis-based learning:** The mandated contents in the curriculum will be reduced, in each subject area, to its core, focussing on key concepts and essential ideas. This will thereby yield more space for discussion and nuanced understanding, analysis, and application of key concepts. Teaching and learning will strive to be conducted in a more interactive manner; questions will be encouraged, and classroom sessions will regularly contain more fun, creative, collaborative, and exploratory activities for students for deeper and more experiential learning.

> **Students will be given increased flexibility and choice of subjects to study across the arts, humanities, sciences, sports, and vocational subjects.**

4.4. Empower students through flexibility in course choices

Reducing the curriculum content load - in addition to allowing greater room for nuanced understanding, analysis, and discussion in mandated curriculum - will also enable students to explore subjects beyond the current usual curriculum. Learners must be empowered to have more flexibility in the courses that they take, especially in secondary school, so that they may make the best use of their time in school; in particular, they must be given the time and the options to experiment with different subjects in a more hands-on and experiential way in order to decide what they enjoy, and so that they can gradually assess what they may want to do with their lives. Specialisation should be delayed, so that students' choices are not dictated simply by parents or society, but rather via their own experiences, interests, and self-reflections.

All fields of human endeavor, including arts, crafts, and sports, are valuable to both human and societal advancement, and so should be actively pursued by students in their curricula to achieve holistic development. In particular, there should be no extra-curricular and co-curricular activities; all such activities must also be considered curricular. A holistic approach to education must come hand-in-hand with student empowerment and choice, and all subjects should carry importance within the curriculum for each student according to his/her choices and inclinations.

P4.4.1. **Increased flexibility in choice of subjects:** Students will be given an increased flexibility and choice of subjects to study, particularly in secondary school - including subjects in physical education, the arts, and vocational crafts - so that they may be free to design their own paths of study and life plans. Continuing holistic development and a wide choice of subjects and courses year to year will be the new distinguishing feature of secondary school education.

P4.4.2. **No hard separation of content in terms of curricular, extra-curricular, or co-curricular areas:** All school subjects will be considered curricular rather than extra-curricular or co-curricular, including sports, yoga, dance, music, drawing, painting, sculpting, pottery making, woodworking, gardening, and electric work. NCERT will prepare syllabi and textbooks as per the National Curriculum Framework, to incorporate these subjects into the national curriculum, which the State Councils of Educational Research and Training (SCERTs) in States may edit, supplement, and rewrite as per States' needs. Subjects such as physical education, the arts, and vocational crafts will be seriously incorporated throughout the school curriculum, with a consideration for what is interesting and safe at each age.

P4.4.3. **No hard separation of arts and sciences:** All students will have the opportunity to engage deeply in the arts and humanities as well as in the study of the sciences and social sciences. Such a separation will be discouraged in higher education as well; see Section 11.2.

P4.4.4. **No hard separation of "vocational" and "academic" streams:** The curricula for elementary and secondary education will ensure that there will be no hard separation of "vocational" and "academic" streams as all students will have the opportunity of developing both kinds of capacities. With the rapidly changing economic scenarios, fundamental capacities have become even more important than specific skills. Pre-vocational orientation - exposure to different vocations - will begin during the elementary stage, and will be available to every child. Learning will primarily be experiential and will aim at fostering respect for a variety of professions. All students will take vocational courses which will be an integral part of the formal curriculum, and will give learners in-depth exposure to areas such as agriculture, electronics, local trades and crafts, etc. The areas of emphasis will be identified by careful planning at the district level, and schools will be provided adequate infrastructure and resources to deliver rigorous vocational education in these areas. During the school years, students will be exposed to different careers, and will be kept abreast of the ever-changing world of employment and the corresponding curricular choices available to them.

> **There will be no hard separation between 'arts' and 'science' streams, or between 'academic' and 'vocational' streams.**

4.5. Education in the local language/ mother tongue; multilingualism and the power of language

The issues regarding language are most fundamental to education. Language is a medium of expression of the individual, society and its collective continuity in culture, in addition to being a tool for communication. Language has a direct bearing as the mediator in all cognitive and social capacities, including in knowledge acquisition and production. The science of child development and language acquisition suggests that young children become literate in (as a language) and learn best through (as a medium of instruction) their "local language" i.e. the language spoken at home.

Children between the ages of 2 and 8 also have an extremely flexible capacity to learn multiple languages, which is a crucial social capacity that must be harnessed, in addition to the well-established cognitive benefits of multilingualism.

Since children learn languages most quickly between 2-8 years, and multilingualism has great cognitive benefits for students, children will be immersed in three languages early on, from the Foundational Stage.

Education in the home language/mother tongue

It is well-understood that young children learn and grasp nontrivial concepts most quickly in their home language/mother tongue. The Policy further recognises the large numbers of students going to school to classes that are being conducted in a language that they do not understand, causing them to fall behind before they even start learning. Thus there is a strong need for classes in early years to be conducted in students' local languages. On the other hand, textbooks (especially science textbooks) written in India's vernaculars at the current time are generally not nearly of the same quality as those written in English. It is important that local languages, including tribal languages, are respected and that excellent textbooks are developed in local languages, when possible, and outstanding teachers are deployed to teach in these languages.

P4.5.1. **Home language/mother tongue as medium of instruction:** When possible, the medium of instruction - at least until Grade 5 but preferably till at least Grade 8 - will be the home language/mother tongue/local language. Thereafter, the home/local language shall continue to be taught as a language wherever possible. High quality textbooks, including in science, will be made available in home languages as is needed and feasible, e.g. via the Indian Translation and Interpretation Mission (see P4.8.4) or its State counterparts. In cases where such textbook material is not available, the language of transaction between teachers and students will still remain the home language when possible, even if textbooks are, e.g. in the State/regional language.

The school education system will make its best effort to use the regionally preponderant home language as the medium of instruction. However, the system should also make full efforts to establish an adequate number of schools having medium of instruction catering to significant linguistic minorities in that region.

P4.5.2. **Bilingual approach for those whose language is different from the primary medium of instruction:** The curriculum will encourage a flexible language approach in the classroom. Teachers will be encouraged to use a bilingual approach, including bilingual teaching-learning materials, with those students whose home language may be different from the medium of instruction to ensure smoother transition from the home language to the medium of instruction.

P4.5.3. **Exposure to three or more languages in schools:** To leverage the enhanced language-learning abilities of young children, all students from pre-school and Grade 1 onwards will be exposed to three or more languages with the aim of developing speaking proficiency and interaction, and the ability to recognise scripts and read basic text, in all three languages by Grade 3. In terms of writing, students will begin writing primarily in the medium of instruction until Grade 3, after which writing with additional scripts will also be introduced gradually.

P4.5.4. **Standardising sign language:** Indian Sign Language (ISL) will be standardised across the country, and National and State curriculum materials developed, for use by students with hearing impairment. Local sign languages will be respected and taught as well where possible and relevant.

Multilingualism and the power of language

Multilinguism is a necessity of India (as of much of the developed world), and must be considered a boon and an opportunity for learning and expanding one's horizons rather than a burden. Children learn languages extremely quickly when immersed early, and multilingual children in studies around the world have also been found to learn faster and be placed better later in life than those who are unilingual. It enriches them intellectually and culturally, and allows them, throughout their lives, to think in more than one way, by being equipped with the structures of expression, vocabulary, idioms, and literature of more than one language. A multilingual India is better educated and also better nationally integrated. Moreover, India's languages are some of the richest, most scientific, and most expressive in the world, with a huge body of ancient as well as modern literature that help form India's national identity.

Despite the rich, expressive and scientific nature of Indian languages, there has been an unfortunate trend in schools and society towards English as a medium of instruction and as a medium of conversation. Logically speaking, of course, English has no advantage over other languages in expressing thoughts; on the contrary, Indian languages have been specifically developed over centuries and generations to express thoughts in the Indian scenario, climate, and culture. Moreover, Indian languages are very scientifically structured, and do not have unphonetic, complicated spellings of words and numerous grammatical exceptions; they also have a vast and highly sophisticated ancient, medieval, and modern literature in the Indian context; as a consequence, they have a certain home-feel and "apnaapan" quality in the Indian context, making them easier, more relatable, and more relevant for children and adults alike to learn and speak, and with which to learn and express deep concepts across school subjects.

What then is the reason that English is being pursued by so many in India as a medium of instruction and of conversation, when most other technologically advanced countries of the world have naturally kept their

own native languages for these purposes? The answer, of course, is that, since Independence, the economic elite of India have adopted English as their language; only about 15% of the country speaks English, and this population almost entirely coincides with the economic elite (compared with, e.g. 54% of Indians who speak Hindi). Furthermore, the elite often use English (whether deliberately or inadvertently) as a test for entry into the elite class and for the jobs that they control: English is regularly used by the elite as a criterion to determine whether someone is "educated", and perhaps most unfortunately of all, as a prerequisite for jobs - even in cases of jobs where knowledge of English is entirely irrelevant. This sad scenario and attitude (again, it may well be inadvertent) has resulted in the marginalisation of large sections of society based on language, keeping them out of higher-paying jobs and the higher socio-economic strata.

This attitude has kept the elite class and the jobs they control segregated from the economically weaker sections of society, which of course contain many hardworking, smart, high quality, highly skilled, and educated people who happen not to speak the language of the colonists and current elite. It has created an unnatural aspiration of parents for their children to concentrate on learning and speaking languages that are not their own.

For true equity and inclusion in society, and in the education and employment systems across the country, this power structure of language must be stopped at the earliest. A major effort in this direction must be taken by the elite and the educated to make increased use of languages native to India, and give these languages the space and respect that they deserve (particularly in hiring, societal events, and in schools and all educational institutions, as well as in daily conversation wherever possible). An importance and prominence must be returned to Indian languages that has been lost in recent years. Language teaching jobs must be created in schools and universities across the country to help connect together Indians from differing geographical areas as well as from differing socio-economic strata.

In particular, taking into account the enhanced abilities of young children to learn languages, and to help break the current divide between the economic elite and the rest of the country, in addition to teaching languages native to India, English must also be available and taught in a high quality manner at all government and non-government schools. The emphasis should be on functionality and fluency. Meanwhile the medium of instruction, and the depth of study of literature, arts, and culture in the Indian context should be conducted and explored to the extent possible through the local language/ mother tongue and other Indian languages.

We further observe that English has not become the international language that it was expected to become back in the 1960s. As already noted, most advanced countries use their own native languages as the languages of interaction and transaction, and it is suggested that India works towards the same, or its rich language and cultural heritage, along with the rich power of expression, may slowly be lost. It is also strongly recommended that interactions between people within India be conducted in languages native to India; thus Indian languages must be heavily promoted again and with new vigour (see Chapter 22).

Of course, English has become an international common language in certain realms such as science and technology research, e.g. most high level scientific journals around the world at the current time publish predominantly in English. For this reason, it is also important for children (especially those who intend to pursue scientific subjects at a postgraduate level) to become bilingual in science and to be able to communicate science fluently both in their home/local language and in English. This is in concurrence with the practice in all technologically advanced countries.

P4.5.5. **Continuation of the three language formula in schools:** The three language formula, followed since the adoption of the National Policy on Education 1968, and endorsed in the National Policy on Education 1986/1992 as well as the NCF 2005, will be continued, keeping in mind the Constitutional provisions and aspirations of the people, regions, and the Union.

However, because research now clearly shows that children pick up languages extremely quickly between the ages of 2 and 8, and moreover that multilingualism has great cognitive benefits to students, children will now be immersed in three languages early on, starting from the Foundational Stage onwards.

P4.5.6. **Implementation of the three-language formula:** The three-language formula will need to be implemented in its spirit throughout the country, promoting multilingual communicative abilities for a multilingual country. However, it must be better implemented in certain States, particularly Hindi-speaking States; for purposes of national integration, schools in Hindi-speaking areas should also offer and teach Indian languages from other parts of India. This would help raise the status of all Indian languages, the teachers of such languages, and the literature of such languages, and would open positions and increase opportunities for language teachers across the country; it would of course also truly expand horizons and enlarge the range of opportunities for graduating students.

There will be a major effort from both the Central and State governments to invest in large numbers of language teachers in all regional languages around the country, and in particular all Schedule 8 languages. States, especially States from different regions of India, may enter bilateral agreements to hire teachers in large numbers from each other other, in order to satisfy the three-language formula in their respective States, and also to encourage the study of Indian languages across the country.

P4.5.7. **Recruitment of teachers for language teaching:** In localities where there is a shortage of teachers who speak a given language, special efforts will be made, and special schemes rolled out, to recruit teachers (including retired teachers) to that locality who speak that language. There will be a major nationwide effort and initiative for the development of teachers of Indian languages.

P4.5.8. **Learning science bilingually:** Students whose medium of instruction is the local/home language will begin to learn science bilingually in Grade 8 or earlier, so that by the end of Grade 10 they can speak about science both in their home language and English.

This will enable students to think about scientific concepts in more than one way, and enable future scientists to talk about their work and about science to their families and to local news channels, write about their work for regional newspapers, and speak to children about their work in their home States and towns to help inspire the next generation.

Being science-bilingual in this way is indeed a boon; most Nobel Prize winners in science indeed report being able to think and speak about science in more than one language. In the current Indian system, many scientists have complained about their inability to think and speak about their subject in their mother tongue, and how this has hindered both their own thinking and their outreach capabilities in their communities.

P4.5.9. **Flexibility in the three-language formula:** In keeping with the principle of flexibility, students who wish to change one or more of the three languages they are studying may do so in Grade 6 or Grade 7, so long as they are able to still demonstrate proficiency in three languages (one language at the literature level) in their modular Board Examinations some time during secondary school (see P4.9.5). Since the modular Board Examinations for language proficiency will indeed test only for basic proficiency in each language, such a change in language choice in Grade 6 would certainly be feasible if the student so desires and would in such cases be supported by teachers and the schooling system. Additional choices of languages would therefore be offered in middle school for this purpose of choice and flexibility.

P4.5.10. **Foreign language offerings in secondary school:** A choice of foreign language(s) (e.g. French, German, Spanish, Chinese, Japanese) would be offered and available to interested students to choose as elective(s) during secondary school. Such an elective would indeed be an elective and not in lieu of the three-language formula. Because of the need for excellent translators in the country, one aspect of teaching foreign languages will include translation exercises between Indian and foreign languages.

P4.5.11. **Approach to language learning and teaching:** During the Foundational stage of education (pre-primary school to Grade 2), languages will be taught in a fun and interactive style with an emphasis on functionality and interaction (Samskrita Bharati and Alliance Francaise, which are organisations in India that teach Sanskrit and French, respectively, may serve as excellent models for such language teaching, and which may be adapted to other languages if desired). Language teaching would consist primarily of conversation (with a knowledge of alphabets and reading basic words) in the Foundational stage. It would move on to more sophisticated reading and basic writing abilities in each language's script in the Preparatory stage. Writing will be incorporated

more extensively during the middle stage. Language teaching at all stages will include extensive speaking exercises (especially in the home/local language in the beginning) to increase students' power of expression in each language.

In addition, the home/local language and/or second language will be enhanced with the reading of and analysis of uplifting literature from the Indian subcontinent, ancient to modern, and by authors from all walks of life (see also P4.5.12-P4.5.16.); these languages will also be enhanced through other arts, such as by playing and discussing music or film excerpts, or engaging in theatre in these languages. The incorporation of literature and other arts relating to language will be incorporated at all stages as appropriate, but particularly in depth during the secondary stage.

When teaching the State language and its literature, other forms of the language and other languages predominant in the region or variations thereof may also receive suitable attention for inclusivity, interest, enjoyment, and enrichment (e.g. excerpts from the rich traditions of Khariboli, Awadhi, Maithili, Braj, and Urdu literature may be included in Hindi courses for inclusivity and enrichment).

Exposure to Languages of India: Modern and Classical

As so many developed countries around the world have amply demonstrated, being well educated in one's language, culture, and traditions is not a detriment but indeed a huge benefit to educational, social, and technological advancement. For this reason, it is strongly recommended that India's languages, art, and culture be given a prominence again that has been lost in recent years. These cultural resources of one's country help make the people human beings equipped with cultural values, identity, and expression, which is necessary to work efficiently, creatively, and with happiness.

India's languages are among the richest, most scientific, most beautiful, and most expressive in the world, with a huge body of ancient as well as modern literature (both prose and poetry), along with films, and music that help form India's national identity and wealth. For purposes of cultural enrichment as well as national integration, all young Indians should be aware of the rich and vast array of languages of their country, and the treasures that they and their literatures contain.

P4.5.12. **Course on the Languages of India:** Every student in the country will take a fun course on "The Languages of India" sometime in Grades 6-8. In this course, students will learn about the remarkable unity of most of the major Indian languages, starting with their common phonetic and scientifically-arranged alphabets and scripts, their common grammatical structures, their origins and sources of vocabularies from Sanskrit and other classical languages, as well as their rich inter-influences and differences. They will also learn what geographical areas speak which languages, get a sense of

the nature and structure of tribal languages. They will learn to say a few lines in every major language of India (greetings and other useful or fun phrases), and a bit about the literature (e.g. simple poetry or major uplifting works from a representative and diverse set of authors) of each. Such a class would give them both a sense of the unity and the beautiful cultural heritage and diversity of India, and would be a wonderful icebreaker their entire lives as they meet people from other parts of India.

NCERT, together with SCERTs and language experts from across the country, will be tasked with designing this important course.

P4.5.13. **Incorporation of relevant excerpts from great works of Indian literature throughout the curriculum:** Excerpts from works of great Indian authors, classical and modern, in all Indian languages, suitably translated into the medium of instruction, will be incorporated as relevant throughout the curriculum across all subjects in order to expose students to great inspirational writings of India (e.g. suitable excerpts from works of Shri Rabindranath Tagore may be incorporated in classes on philosophy, writing, ethics, or history, etc.). See also P4.5.14-P4.5.15.

Classical languages and literatures of India. The importance, relevance, and beauty of the classical languages and literature of India cannot be overlooked. Sanskrit, while also an important modern (Schedule 8) language, possesses a classical literature that is greater in volume than that of Latin and Greek put together, containing vast treasures of mathematics, philosophy, grammar, music, politics, medicine, architecture, metallurgy, drama, poetry, storytelling, and more, written by people of various religions as well as non-religious people, and by people from all walks of life and a wide range of socio-economic backgrounds over thousands of years.

India also has an extremely rich literature in other classical languages, including classical Tamil, as well as classical Telugu, Kannada, Malayalam, and Odia, in addition to Pali, Persian, and Prakrit; these classical languages and their literatures too must be preserved for their richness and for the pleasure and enrichment of posterity. When India becomes a fully developed country, the next generation will want to be able to partake in and be enriched as humans by India's extensive and beautiful classical literature which contain great intellectual and cultural treasures.

P4.5.14. **Study of Sanskrit and knowledge of its extensive literature:** Sanskrit has been a great repository of knowledge pertaining to numerous subjects including science, mathematics, medicine, mathematics, law, economics, politics, music, linguistics, drama, storytelling, architecture, and more, by authors from all walks of life. Sanskrit (and Prakrit) has played a great role in the Indian tradition of the quest for knowledge, including the study of the 64 kalas or liberal arts.

Considering the special importance of Sanskrit to the growth and development of Indian languages, and its unique contribution to knowledge development in

as well as the cultural unity of the country, facilities for the study of Sanskrit, its scientific nature, and including samplings of diverse ancient and medieval writings in Sanskrit from a diverse set of authors (e.g. the plays of Kalidasa and Bhasa), will be made widely available in schools and higher educational institutions.

Where relevant, history-changing Sanskrit writings will be integrated suitably in various school subjects as well as in literature and writing classes (e.g. Bhaskara's poems on mathematics and puzzles that help to make the study of mathematics more engaging, the incorporation of relevant Panchatantra stories in ethics classes, etc.).

Sanskrit will be offered at all levels of school and higher education as one of the optional languages on par with all Schedule 8 languages. Sanskrit textbooks at the Foundational and Middle school level may be rewritten in Simple Standard Sanskrit (SSS) in order to teach Sanskrit through Sanskrit (STS) and make its study truly enjoyable.

P4.5.15. **Make available courses on all classical languages of India:** In addition to Sanskrit, the teaching of other classical languages and literatures of India, including Tamil, Telugu, Kannada, Malayalam, Odia, Pali, Persian, and Prakrit, will also be widely available in schools, to ensure that these languages and literatures stay alive and vibrant, especially in States where they may be best taught and nurtured. Classical writings in these and other languages across India from diverse sets of authors will also be studied and suitably incorporated throughout the curriculum and in literature and writing classes to inspire students with the rich long-standing traditions and writings of India (e.g. Sangam poetry in classical Tamil, the Jataka tales in Pali, the works of Sarala Dasa in classical Odia, excepts from Raghavanka's epic Harishchandra Kavya in Kannada, Amir Khusro's works in Persian, and Kabir's poems in Hindi, etc.).

P4.5.16. **A two-year relevant course on a classical language:** For the enrichment of our children, and for the preservation of these rich languages and their artistic treasures, all students in all schools, public or private, will take at least two years of a classical language of India in Grades 6-8, with the option to continue through secondary education and university. In order to make such courses in classical languages more enjoyable and relevant, relevant great works of literature that are easy to read, enjoyable, and relatable, and written by authors from diverse sections of society, will be read, and their connection to the phonetics and etymology of, and their influence on, modern languages will be discussed.

Students who may have opted for Sanskrit as one of their chosen languages in the three-language formula may instead take an additional modern or classical Indian language or literature class for two years in lieu of the classical language requirement. For example, students in Hindi-speaking States who are taking Hindi, Sanskrit, and English as their three languages could take two years of a language from another part of India (e.g. Tamil) in order to satisfy this language requirement.

4.6. Curricular integration of essential subjects and skills

While students must have a large amount of flexibility in choosing their individual curricula, at the same time this Policy envisions that certain subjects and skills should be learned by all students in order to become good, successful, innovative, adaptable, and productive human beings in today's rapidly-changing world. In addition to proficiency in languages, these skills include: scientific temper; sense of aesthetics and art; languages; communication; ethical reasoning; digital literacy; knowledge of India; and knowledge of critical issues facing local communities, States, the country, and the world.

> **Young children learn and grasp nontrivial concepts most quickly in their home language/mother tongue.**

4.6.1. Scientific temper

P4.6.1.1. **Inculcate scientific temper and encourage evidence-based thinking throughout the curriculum:** Evidence-based reasoning and the scientific method will be incorporated throughout the school curriculum - in science as well as in traditionally "non-science" subjects - in order to encourage rational, analytical, logical, and quantitive thinking in all aspects of the curriculum.

For example, in history, one could ask, "What are the possible historical scenarios consistent with the known archaeological and literary evidences?" In music/physics, one could ask, "What frequencies of notes should be used in musical scales, given that notes with resonant frequencies are the ones that sound good together to the ear?" In ethics, one could ask, "What are the positive benefits to society if every individual always acts according to certain ethical principles?"

Evidence-based and scientific thinking throughout the curriculum will lead naturally to rational, ethical, and compassionate individuals who can make good, logical, and sound decisions throughout their lives. Evidence-based thinking and a scientific temper is also considered a key ingredient in teaching students to "learn how to learn", to adapt to new situations, and to establish themselves as lifelong learners.

4.6.2. Art and aesthetics

Any education emphasising creativity and innovation must include the arts. It is well established that people (including engineers and scientists) who are well educated in the arts as children tend to be more productive, creative, and innovative in their lives as adults.

Music, in particular, has been shown to build in children emotional well being and the ability to focus, be creative, and collaborate. Wide-scale research also clearly demonstrates that children who practice music score substantially higher reading and math scores; schools that have music programmes also have significantly higher graduation rates; and people who learned music as children had far lower rates of substance abuse as adolescents and adults. A survey of Nobel Prize winners in all fields revealed them to be six times more likely to be practicing musicians or have a musical hobby than general adults.

These studies make it clear that including art - particularly music - from an early age and throughout school can be extremely beneficial for children's education and for their lives. India has extremely rich traditions in the arts, including and especially in music, and every student at every level must have the opportunity to partake in these character-building creative activities.

Thus specific Policy actions are:

P4.6.2.1. **Music and art experiences in the early years:** Every student from the Foundational stage onwards will have basic exposure to the notes, scales, ragas, and rhythms of classical Indian music (Carnatic and/or Hindustani) through vocal exercises, singing, and clapping, as well as in local folk music, art, and craft in a hands-on way; they will have exposure to both vocal and instrumental music. Simple, inexpensive hand instruments such as shakers and xylophones would be available in pre-schools and schools, especially for young children, in order for them to learn, make, and experience music.

Arts experiences will also include theatre, poetry, painting, drawing, and sculpture, and vocational arts such as carpentry and embroidery/sewing/clothes-making.

The methodology of teaching will aim to be age appropriate and safe. Instruction will be imparted throughout the school years by general teachers, as well as through trained art teachers and professional artists/musicians hired at the school and school complex level.

The aim, over time, will be to create a strong community of music and art educators. Community musicians and artists will also be recruited and trained to teach as special instructors in schools and school complexes.

These initiatives for music and art would also help preserve local artistic traditions and cultural heritage.

P4.6.2.2. **Taking up at least one art for deeper study:** In addition to spending sufficient time experimenting with and learning the basics of the arts, be it through an instrument, singing, sculpting, drawing, painting, or a vocational craft, students will be strongly encouraged to take up at least one such art more deeply - even if they plan to specialise in science or engineering in the future. Experience with the arts will help bring out the creative and innovative side of the brain regardless of specialisation.

P4.6.2.3. **Technology use for bringing the arts to more students:** Technology will be used to bring the arts to more students. For example, professionally recorded classes/demonstrations by great, famous artists of the country could be played on video screens or projectors, and students and teachers could follow along together in the exercises. This has been found to be a fun way to learn.

P4.6.2.4. **Interaction with local artists:** Local artists and crafts-persons will be recruited and utilised in schools - from short demonstrations to full-fledged classes - in order to ensure that local arts are enjoyed, well represented, and nurtured in each community.

A more holistic, artistic, interactive, fun, collaborative, and cross-disciplinary education will be key in unlocking the creativity, innovation, and humanity of students.

4.6.3. Oral and written communication

Communication skills - both verbal and written - have become increasingly important in the modern world. People spend much of their daily lives communicating messages, requests, questions, opinions, feedback, anecdotes, and more - both in person and in written or digital form. Numerous surveys of employers around the world reveal that verbal communication skills are ranked first among potential job candidate's "must-have" skills and qualities. The ability to speak, listen, question, discuss, and write with clarity and conciseness - and with confidence, eloquence, friendliness, and open-mindedness - is considered a truly essential skill for all managers and leaders.

The Policy therefore recognises the importance of schooling systems developing excellent communicators. As students learn languages, they must have regular practice in using these languages to speak, write, and communicate with their teachers and their peers. A core principle here will be that every student must have the opportunity to speak freely and creatively in front of their peers on topics of interest to them for at least a few minutes every week, starting in the very foundational years. Some of the key initiatives will be the following:

P4.6.3.1. **"Show and tell" sessions in the Foundational and Preparatory years:** The concept of "Show and tell" ("Dikhao, batao" in Hindi with similar translations in other languages) has been a great success in India and around the world in developing public speaking and listening skills and promoting communication and interaction among children early on. All students in primary school, starting in Grade 1, will have the opportunity (along with their teachers) to

participate in an enjoyable "show and tell" session at least once every week. This will involve students and teachers bringing in their favourite toys, games, family photos, flowers, children's books, original short stories, and personal anecdotes (about family members, friends, festivals, experiences, holidays, favourite lessons that week, favorite subjects, etc.), and speaking for a few minutes about them in front of the class. These "show and tell" sessions would initially be in the children's home languages, but eventually would also be held in other languages that students are learning within their language classes. Students and teachers would also ask questions and give comments during or at the end of each presentation to make the sessions more fun and interactive. Teachers would lead the way with their own presentations to set an example, and would participate throughout, encouraging discussion, in order for teachers to truly bond with students and for students to bond with each other.

In middle school, such show-and-tell sessions would still continue but be limited to a one-period-per-week course, and would discuss more sophisticated matters. Students would again source their own material, talking about anything that is important or of interest to them, such as news items, science trivia, recent technological gadgets, local art events, or their own artwork, poems, stories, humour, etc.

P4.6.3.2. **Incorporation of communication in every subject in the Middle and Secondary years:** In the Middle and Secondary stages, communication in front of one's peers will continue, with the aim to discuss more sophisticated and course-specific topics. For example, in science class, students may be asked to explain a creative solution to a problem at the board, or in ethics class, explain their own perspective on an ethical dilemma or discuss examples from their own lives. Teachers will constantly assess where the talents and interests of each student lie, and will ask her/him to speak on topics and problems, and at the level, in which they will do very well, so that each student's confidence is built up and fellow students are inspired, all while their collective communication skills are improved.

At the Middle and Secondary stages, students will also formally learn to talk about social, scientific, technological, agricultural, medical, and environmental problems facing India and the world (see P4.6.10.1 and P4.6.10.2). These aspects would naturally have important implications for students' future contributions to the country and to the global community.

> **School education will develop scientific temper, aesthetic sense, communication, ethical reasoning, digital literacy, knowledge of India, knowledge of critical issues facing the community and the world.**

4.6.4. Physical education, wellness, and sports

Physical education is important for both physical and mental health and development. It helps improve a child's muscular and cardiovascular strength, flexibility, endurance, motor skills, and mind-body connection and wellness. It gives children the opportunity to set and strive for personal

and achievable goals. Moreover, playing sports also helps students develop the qualities of teamwork, cooperation, problem-solving, discipline, perseverance, and responsibility. In general, physical activity is well established to be among the best releases for tension and anxiety, and facilitates emotional stability and resilience. All of these qualities and benefits are also relevant to success in the classroom; studies show that students who stay physically active are more successful with other school work as well. Finally, people who are physically active as young people tend to stay more fit as adults as well, leading them to lead longer, healthier, and more productive lives.

The following measures will therefore be taken:

P4.6.4.1. **Incorporating physical education, mind-and-body wellness, and sports into the curriculum starting at the Foundational stage:** All students at all levels of school will have regular periods and opportunities to participate in physical activity and exercise, including sports, games, yoga, martial arts, dance, gardening, and more, in accordance with local availability of teachers and facilities. Playgrounds and sports fields will be available - if not on the school grounds, then within the school complex region, with suitable transport provided if needed - so that all students have the opportunity to participate and excel in sports. Joint sports activities and competitions between schools within the school complex and across school complexes will be fostered and encouraged.

4.6.5. Problem-solving and logical reasoning

Just as exercising the body is important to keep it fit and healthy, so too is exercising the mind. Games of strategy, logic and word puzzles, and recreational mathematics are the best way to excite children about mathematics, and to develop the logical skills that are so critical throughout their school years and indeed throughout life.

Jigsaw puzzles, playing with blocks, and solving mazes help to develop a child's spatial reasoning; games of strategy (such as tic-tac-toe, and leading up to deeper games like chess) develop strategic thinking and problem-solving skills.

Word and logic puzzles (including grid-process-of-elimination puzzles) are a fun way to teach deductive reasoning. Simple puzzles can help develop in students skills of logical and creative thinking in an enjoyable manner. For example:

- If a drawer in a very dark room has 10 red socks and 10 blue socks, how many socks does one need to remove from the drawer to ensure that one has two socks of the same colour?
- A farmer traveling with a fox, a goat, and a head of cabbage needs to cross a river by boat. Alas, the boat only fits the farmer and one of the fox, goat, or cabbage, and the farmer cannot leave the fox with the goat on either bank of the river unsupervised (or the fox may try to eat the goat), and similarly she cannot leave the goat with the cabbage unsupervised. How can the farmer successfully bring the fox, goat, and cabbage across the river?
- A domino consists of two squares, 1x2, and covers two adjacent squares of the chessboard. Can 32 dominoes be used to perfectly cover an 8x8 chessboard? (Of course.) Can 31 dominoes be used to perfectly cover an 8x8 chessboard with 2 diagonally-opposite corners of the chessboard removed? Why or why not? (The answer is one sentence!)

The puzzles can get more challenging, and incorporate arithmetic and other elements, as students get older.

Language puzzles teach students to think linguistically - e.g. in North and South Indian languages, competitions asking students to write a paragraph about some chosen topic, in which no labial sounds ("p", "ph", "b", "bh", and "m") are used - or in English, where the letter "e" is not used - can be fun ways for students to understand and play with language.

Arithmetic puzzles and games can help develop a comfort with numbers and develop quantitative reasoning, e.g.:

- Take your favorite single digit number and multiply it by 9. Then multiply the result by 12345679. What happens? Why?
- Would you prefer to receive: (a) 1 crore rupees today, or (b) 1 rupee today, 2 rupees tomorrow, 4 rupees the day after, etc., doubling the amount received each day, for 30 days?

For instance, the last puzzle above - which has its origins in Indian writings (in a famous story about a king agreeing to grant rice on each square of a chessboard, in this doubling fashion, to the poor but brilliant citizen who invented chess) - teaches students about the powers of 2, exponential growth, and large numbers.

Given the extensive need and use for large numbers in the world today, in science, mathematics, finance, and beyond, it will be important to familiarise students, and enable students to be comfortable, with large numbers. At the moment, students generally only learn how to count up to 1 crore, which is hardly sufficient in today's world. In order to talk about the numbers needed for life and work in modern times, students must be taught the first several powers of 10: *one, ten, hundred, thousand, 10 thousand, lakh, 10 lakh, crore, 10 crore, arab, 10 arab, kharab, 10 kharab, neel, 10 neel, padma, 10 padma, shank, 10 shank, mahashank,* so that they can understand and speak about larger numbers early on and throughout their lives. These numbers can be incorporated across subjects to enhance learning. Interesting examples,

from biology, astronomy, finance, and geology, could include: the number of brain cells in a human - and the number of stars in our galaxy - is each about one kharab; the GDP of India is approximately ₹20 neels; and the number of grains of sand on Earth is about one mahashank!

India has a long tradition of riddles and mathematical puzzles - often written in the form of poetry, e.g. as in Bhaskara II's works - that would also be similarly enjoyable, enlightening, and beneficial to students. Making learning enjoyable through fun exercises, games, and puzzles across subjects will be a key aspect in ensuring that students stay engaged in school and at the same develop strong mental capacity and creativity.

P4.6.5.1. **Seriously incorporating games, puzzles, and problem-solving activities into the curriculum:** Games, puzzles, and problem-solving activities, including word puzzles such as those illustrated above, that involve spatial reasoning, wordplay, strategy, logic, arithmetic, and play with large numbers, will be seriously incorporated throughout the curriculum, particularly in the mathematics curriculum, in order to develop a love for thinking, logical deduction, quantitative reasoning, and creativity. Examples relevant to India, and which incorporate India's rich traditions of problem-solving and riddles, will also be extensively incorporated. In particular, chess (which also has its origins in India) will be seriously promoted as a mental sport.

4.6.6. Vocational exposure and skills

Vocational education is extremely vital for our country to run efficiently and properly, and thus it is beneficial to increasingly incorporate elements of vocational education into the school curriculum to expose children to its utility and its value as art. Indeed, some exposure to practical vocational-style training is always fun for young students, and for many students it may offer a glimpse of future professions while for others it would at the very least help teach and reinforce the dignity of all labour.

P4.6.6.1. **Vocational exposure:** The importance of and a basic knowledge of various livelihoods and life-skills (such as gardening, pottery, wood-work, electric work, and many others) will be taught at the Foundational and Elementary level, as early as the safety of children allows, so that students are well aware of, and may become interested in, these professions well before finishing high school. Some vocational arts, such as gardening or work with clay, will even be introduced in the foundational years (ages 3-8), so that experiential learning through working with one's hands is completely integrated.

Schools may choose a subset of livelihoods and related skills that are of value to the local community. Artisans and practitioners will be hired as tutors by schools or school complexes for teaching each of these skills, and tutors may be shared across multiple schools in the school complex as needed.

P4.6.6.2. **Survey course on vocational skills and crafts in Grades 6, 7, or 8:** Every student will take a fun year-long course, during Grades 6-8, that gives a survey and hands-on experience of a sampling of important vocational crafts such as carpentry, electric work, metal work, gardening, pottery making, etc., as decided by States and local communities and as mapped by local skilling needs.

P4.6.6.3. **Include ample vocational course options for all in secondary school curriculum:** Vocational courses in addition to more traditional academic courses will be offered in Grades 9-12 in secondary school and all children will have access to all courses on offer. Students will have plenty of choice regarding the curriculum, being allowed to mix and match academics with skills education, with sports and arts, and with soft skills training.

4.6.7. Digital literacy and computational thinking

P4.6.7.1. **Integration of digital literacy:** The new curriculum will also integrate digital literacy for all learners at the basic level, with hands-on assessments and worksheets keeping in mind the available digital infrastructure on the ground.

At a more advanced level, curricula will be developed for:

a. Computational thinking (the thought processes involved in formulating problems and solutions in ways that computers can effectively execute), a fundamental skill in the digital age;

b. Programming and other computer-based activities.

Appropriate learning outcomes will be formulated as part of the National Curricular Framework in these subjects, and they will be extensively offered as courses in upper primary and secondary schools with adequate computing and teacher resources.

4.6.8. Ethical and moral reasoning

Introducing an "ethics" component to the curriculum early on and throughout the years of school is also considered extremely important in helping students to build character, grow up into moral and good human beings, lead productive and happy lives, and contribute positively to society. Major initiatives will include:

P4.6.8.1. **Incorporation of basic ethical and moral reasoning throughout the school curriculum:** Students will be taught at a young age the importance of "doing what's right", and will be given a logical framework for making ethical decisions: "Will this hurt somebody? Is that a good thing to do?" In later years, this would then be expanded along themes of cheating, violence, plagiarism, tolerance, equality, empathy, etc., with a view to enabling children to embrace moral/ethical values in conducting one's life; formulate a position/argument about an ethical issue from multiple perspectives; and use ethical practices in all work.

Incorporation of ethical and moral awareness and reasoning in the curriculum will be promoted through direct as well as indirect methods. In the direct method there will be classroom activities, discussions and readings specifically designed to address ethical and moral awareness and reasoning. In the indirect method, the contents of languages, literature, history, and the social sciences will incorporate discussions particularly aimed at addressing ethical and moral principles and values such as patriotism, sacrifice, nonviolence, truth, honesty, peace, forgiveness, tolerance, mercy, sympathy, equality and fraternity.

P4.6.8.2. **Incorporation of ethical and moral principles and values:** As consequences of basic ethical reasoning as in P4.6.8.1, traditional Indian values of seva, ahimsa, swacchata, satya, nishkam karma, tolerance, honest hard work, respect for women, respect for elders, respect for all people and their inherent capabilities regardless of background, respect for environment, etc. will be inculcated in students. Scientifically speaking, these qualities are extremely important for society's and India's progress. Using dustbins, using toilets and leaving toilets clean after use, standing in queues properly and patiently, helping the less fortunate and conducting charity work, being punctual, and always being courteous and helpful to those around you in general even when you do not know them, are basic values of social responsibility that will be taught and inculcated in students early and throughout their school years.

P4.6.8.3. **Development of Constitutional values:** The process and the content of education at all levels will also aim to develop Constitutional values in all students, and the capacities for their practice. This goal will inform the curriculum as well as the overall culture and environment of every school. Some of these Constitutional values are: democratic outlook and commitment to liberty and freedom; equality, justice, and fairness; embracing diversity, plurality, and inclusion; humaneness and fraternal spirit; social responsibility and the spirit of service; ethics of integrity and honesty; scientific temper and commitment to rational and public dialogue; peace; social action through Constitutional means; unity and integrity of the nation, and a true rootedness and pride in India with a forward-looking spirit to continuously improve as a nation.

P4.6.8.4. **Development of ideas of personal freedom and responsibility among students:** At the same time, ideas of personal freedom and responsibility will be important to develop as well: the idea that India is a free society, but that freedom comes with responsibility for all citizens, in order for society to truly function and prosper.

Students will be taught not to cave into peer or societal pressure, and aim to pursue what they are most passionate about; it is best for the individual and for society if everyone attempts to do what they are best at and enjoy the most. In this regard, the school system will also help the individual by allowing students more freedom and empowerment to choose their own path, and a longer time period over which to do so.

P4.6.8.5. **Basic health and safety training, as a service to oneself and to those around us:** Basic training in health, including preventative health, mental health, nutrition, personal and public hygiene, and first-aid will also be included in the curriculum, as will be scientific explanations of the detrimental and damaging effects of alcohol, tobacco, and other drugs. Sex education will also be included in secondary school for future judgment surrounding consent, harassment, respect for women, safety, family planning, and STD prevention.

P4.6.8.6. **Socio-emotional learning:** Recent research drawing from a large number of scientifically rigorous cross-sectional and longitudinal studies demonstrates that introduction of

socio-emotional learning (SEL) in schools can lead to improved cognitive and emotional resilience and promote constructive social engagement. Examples of activities that inculcate socio-emotional learning include: carrying out work or tasks in teams/groups, organising get-togethers and games across different grades, role-playing and conflict resolution, discussing stories of kindness, and reflective writing, speaking, and art. Explicit training in socio-emotional skills ensures higher levels of attention and emotional and cognitive regulation that are necessary not only for well-being, empathy towards others, and lower stress, but also leads to increased academic success.

P4.6.8.7. **Inspiring lessons from the literature and people of India:** India has a long history and tradition of people and stories that beautifully teach us about so many of the above-mentioned core values and socio-emotional skills. Children will have the opportunity to read and learn from the original stories of the Panchatantra, Jataka, Hitopadesh, and other fun fables and inspiring tales from the Indian tradition. Excerpts from the Indian Constitution will also be considered essential reading for students, for the values of Equality, Liberty, and Fraternity that it espouses. Highlights from the lives of great Indians of history will also be an excellent way to inspire and introduce core values in India's young people - such Indian heroes including but not limited to Mahatma Gandhi, Dr. A.P.J. Abdul Kalam, Swami Vivekananda,

Guru Nanak, Mahavira Acharya, Gautam Buddha, Sri Aurobindo, Babasaheb Ambedkar, Shri Rabindranath Tagore, Dr. MS Subbulakshmi, Srinivasa Ramanujan, Dr. C.V. Raman, and Dr. Homi Bhabha, and indeed all Bharat Ratna awardees. Heroes from all over the world in various disciplines will also be studied to further inspire our youth, such as Albert Einstein, Martin Luther King, Jr., and Nelson Mandela.

P4.6.8.8. **Courses on ethical and moral reasoning:** In addition to incorporating P4.6.8.1-P4.6.8.7 throughout the school curriculum, a one-year course on ethical and moral reasoning will be required for all students sometime in Grades 6-8, where the subject of ethics as already described above will be discussed in a more sophisticated and deeper manner, with full class participation, and drawing from arguments of India's and the world's great philosophers and leaders. Subjects such as seva, swacchata, nonviolence, respect and safety for women, cheating, helpfulness, tolerance, equality, fraternity, etc. will again be discussed in this context. More advanced semester courses on philosophy, ethics, and moral reasoning will be available in high school as well.

4.6.9. Knowledge of India

Indian literature and traditions contain deep knowledge in a variety of disciplines, including mathematics, philosophy, art, logic, grammar, law, poetry, drama, astronomy, chemistry, metallurgy, botany, zoology, ecology, environmental conservation, medicine, architecture, water management, agriculture, music, dance, yoga, psychology, politics, fables, and education. These knowledge systems, which occur in ancient as well as more recent Indian literature, folk arts, and local oral and tribal traditions, serve to impart culture as well as valuable knowledge - yet much of this knowledge remains better known outside India than in India.

For example, in mathematics, the so-called Pythagorean theorem, Fibonacci numbers, and Pascal's triangle were first discovered and mathematically described in history (in very artistic and fascinating ways) by Baudhayana, Virahanka, and Pingala, respectively. The concept of zero and its use in the place value system that the world uses to write all numbers today - without which computers and modern technology would not be possible - also originated in India, over 2000 years ago; the use of this place value system for scientific computations was first demonstrated, extensively, by Aryabhata. The negative numbers - and the algebraic rules governing zero and negative numbers - were first introduced and used by Brahmagupta in Rajasthan, while the seeds of calculus were first laid down by Bhaskara II and Madhava in Karnataka and Kerala, respectively - among numerous other such fundamental contributions throughout mathematics and other fields. Such basic historical facts are not currently taught in India - perhaps a remnant of an earlier colonial time.

Indian contributions to knowledge and the contexts in which they were discovered must be incorporated into the school curriculum not just for reasons of historical accuracy (which is sufficient reason on its own), but also for the often more holistic nature of the traditional Indian approach which leads to a

deeper understanding, as well as for reasons of increased relatability due to geographic location, national pride, inspiration, and self-esteem.

There are a number of excellent, truly scientific, and learned scholars in India who are experts in traditional knowledge systems of India in various subjects, including in tribal knowledge. We must get their help to accurately and scientifically bring the most enlightening and relevant aspects of Indian knowledge systems to the appropriate grade levels in the school curriculum. Specific initiatives will include:

P4.6.9.1. **Incorporation of Indian knowledge systems into the curriculum:** Indian contributions to knowledge - and the historical contexts that led to them - will be incorporated in an accurate and engaging manner, wherever relevant, into the existing school curriculum and textbooks. Topics will include Indian contributions to mathematics, astronomy, philosophy, psychology, yoga, architecture, medicine, as well as governance, polity, society, and conservation.

P4.6.9.2. **Inclusion of local and tribal knowledge systems in the curriculum and textbooks:** Local and tribal knowledge systems will also be included in more detail in regions where such knowledge systems may hold a greater relevance with respect to local needs and customs.

P4.6.9.3. **Course on Indian knowledge systems:** A course on Indian knowledge systems (one such has already previously been designed by NCERT) will be available as an elective to students in secondary school who may wish to delve deeper into the subject.

4.6.10. Current affairs

The knowledge that schools impart to students is not an end in itself, but a means to a better and more meaningful and purposeful life in the future. In particular, since possible future endeavors and occupations to be taken up after school or university are dictated by the realities of the evolving world around us, we must encourage a constant connect between the classroom and the real world, and not isolate the two.

Much of the material in the school curriculum - though fundamental - is also “static”. Indeed, compiling knowledge into “textbook” format freezes it, often for decades! Thus it it logical and critical to have at least one subject that can focus purely on “dynamic” content - especially when it is the dynamic content that will eventually serve as the bridge between school lessons in theory and their real world applications in practice.

Dynamic content would involve talking about the current economic scenario, recent scientific inventions, advances in medicine, geopolitical power equations around the world, trends in art and music, gender issues, environmental concerns, etc. - all topics that would have a direct bearing in the future on students’ lives and their livelihoods.

Any education emphasising creativity and innovation must include the arts.

P4.6.10.1. **Course on critical issues facing the community, the country, and the world for all students in Grades 7-8:** All students in Grades 7 and 8 will take a course (one period per week, for one session) on Critical Issues facing humans in their communities and around the world. In this class, students would learn about current issues that they will likely need to face and hopefully address in their futures as adults, including those surrounding climate change, sanitation, water, Swacch Bharat, gender equality, social justice, science and its interaction with society, universal education, and, e.g. problems with this national education policy. The focus would be on content that is slightly dynamic but still introductory in nature in order to get students acquainted with the issues, and their potential solutions, that require awareness and attention from society. This course would also encourage communication, and serve as a discussion group where students would speak a few sentences to the class about their viewpoints, concerns, experiences, and aspirations relating to the topics in question.

P4.6.10.2. **Course on current affairs for all students in Grades 9-12:** Having become aware of some of the key issues, in Grades 9-12 the course in P4.6.10.1 would be continued in a more advanced manner, to be held during one period each week, and be sourced from current newspapers, journals/magazines, books, and even films. This will encourage reading and awareness about current affairs and foster critical thinking. The article will be assigned or read by the teacher in class, and the students will be asked to discuss and debate it, as individuals or in groups.

Teachers of current affairs within the same geographical region may gather or consult with each other periodically to discuss what will be taught in the forthcoming month's current affairs classes. This will allow the content to remain current and well-sourced, and also include a healthy amount of regional literature to encourage discussions over articles by regional authors as well. This local flavour will help in gaining relevance and relatability with respect to students' lives and experiences.

The job of the teacher will be primarily to help simplify ideas and communicate the content of the article to the students, until students themselves develop the skill of reading, digesting, and analyzing complex information. The teacher will nudge the discussions in the right direction and ask questions when required, but otherwise must mostly stay out of voicing her/his own opinions. It will be necessary to include a wide variety of material in this class ranging from science, technology and medicine to art, literature, and music. Articles addressing social issues such as patriarchy and racism will be included as well.

4.7. National Curriculum Framework

P4.7.1. **Revision of the National Curriculum Framework:** The NCF 2005 outlines many excellent strategies that are still relevant for accomplishing a more constructivist type of learning. This document will be revisited and updated by the end of 2020, taking into account the changing context of education today and, in particular, all the above Policy points, and will be made available in all regional languages.

4.8. National textbooks with local content and flavour

The reduction in, and increased flexibility of, school curriculum content - and the renewed emphasis on constructivist rather than rote learning - must be accompanied by parallel changes in school textbooks. All textbooks shall aim to contain the essential core material (together with discussion, analysis, examples, and applications) deemed important on a national level, but at the same time contain any desired nuances and supplementary material in accordance with local contexts and needs. Where possible, teachers will also have choices in the textbooks they employ - from among a set of textbooks that contain the requisite national and local material - so that they may teach in a manner that is best suited to their own desired teaching styles and to the needs of the students and communities.

The aim will be to provide such quality textbooks at the lowest possible cost - namely, the cost of production/printing - in order to remove the burdens of textbook prices on the students and on the education system. This may be accomplished by using high quality textbook materials developed by NCERT in conjunction with the SCERTs; additional textbook materials would be funded by public private partnerships and crowdsourcing that incentivise experts to write such at-cost-priced high quality textbooks. States will prepare their own curricula (which may be based on the NCERT Curriculum Framework) and prepare textbooks (which may be based on the NCERT textbook materials) having State flavour. The availability of such textbooks in all regional languages must be a top priority, so that all students have access to high quality learning.

P4.8.1. **Revision of NCERT textbooks:** Following the shrinking of the curriculum content in each subject to its core (see Section 4.3), NCERT textbooks will be revised to first contain only the essential core material in each subject, keeping in mind a constructivist, discovery-based, analysis-based, engaging, and enjoyable style of learning in accordance with the revised NCF as in Section 4.7. In certain subjects, in addition to this core material, NCERT may also prepare a few supplementary units that may be used to enhance the core material in various States.

P4.8.2. **Preparation of textbooks at the State level:** In order to have a national curriculum which also allows local variations, the SCERTs in each State will be encouraged to prepare textbooks that contain:

a. NCERT core material;

b. Any NCERT supplementary material deemed of interest to the State; and

c. Any other material and edits prepared by SCERT or local districts that add local relevance and flavor as needed or desired. The goal, overall, will still be to have textbooks that contain far less content load than they do now, but that are written in a more constructivist, analysis-based, and enjoyable style emphasising 21st century skills.

Textbooks will aim to contain only correct, relevant material; when unproven hypotheses or guesses are included, this will be explicitly stated.

After review, SCERTs may simply adopt NCERT textbook material, consisting of core national material, and supplementary material as chosen by the State, when no further modifications are necessary for the local context; if NCERT does not include certain material relevant in the local context, this may be added by SCERTs. For example, the NCERT core material in music may contain primarily the fundamentals of Hindustani and Carnatic music, while additional State material in Maharashtra may include information regarding abhangs, lavanis, and other varieties of folk and local musical traditions. Such textbooks will be finalised by SCERTs and then printed and made available at minimal cost, i.e., at the cost of production/printing.

P4.8.3. **Textbooks and materials for additional subjects:** With the new flexibility in the school curriculum, NCERT/SCERT textbooks and teaching-learning materials will be developed for additional subjects as well, e.g. computer science, music, and literature. All textbooks will aim to have a national and Indian flavor, as well as a local flavor where possible/desirable.

P4.8.4. **High quality translations:** An Indian Institute of Translation and Interpretation (IITI) will be established as a constituent unit of one of the existing national-level institutions or in a Central University, in collaboration with States, to carry out high quality translations of materials of importance between various Indian languages as well between foreign languages and Indian languages. The IITI will be equipped with state of the art equipment to enable it to use

latest processes and adopt modern approaches to translation of materials into different languages. The IITI will have multilingual language experts from across the country, which will help to promote all Indian languages. In particular, through the IITI, all NCERT-developed textbooks and nationally recommended teaching-learning materials (with collaboration from SCERTs) will be made available in all major Indian languages.

P4.8.5. **Innovative textbook development for increased choice of textbooks in schools:** To encourage innovative new school textbooks in all States and in all regional languages, and to give teachers choice in the textbooks and pedagogical styles that they use, both public and private schemes will be developed to give incentives or prizes to authors for excellent textbooks for given subjects, levels, and regional languages.

Such textbooks will be approved by an autonomous body of experts nationally and in each State. Textbooks will be approved on the basis of containing:

a. The national core curricular material and, where relevant, any local material deemed necessary by States;

b. Innovative, creative, and engaging presentation; and

c. Correctness and accuracy.

Such textbooks would also be available to teachers and students at minimal cost, i.e., at the cost of printing. The exact model for how to pay, incentivise, recognise, or crowdsource authors would be set separately for each such public or private philanthropic scheme.

> **Every student has innate talents, which must be discovered, nurtured, fostered, and developed.**

4.9. Transforming assessment for student development

The changes in curriculum described in Section 4.2-Section 4.8 must be accompanied by parallel changes in assessment procedures and mechanisms.

The very aim of assessment in the culture of our schooling system must shift from one that primarily tests rote memorisation skills to one that is more formative, promotes learning and development for our students, and tests higher-order skills such as analysis, critical thinking, and conceptual clarity.The primary purpose of assessment should indeed be for learning - it should help the teacher and student - and the entire schooling system - continuously revise teaching-learning processes in order to optimise learning and development for all students.

The approach must be to focus on formative and developmental assessment throughout the school years. Learning assessment must shift towards testing only the understanding of core concepts and knowledge, along with higher-order capacities such as critical thinking, analysis, and application; this approach must be used throughout the educational system and throughout all subjects, including on school examinations, Board Examinations, entrance examinations for universities, university examinations, and examinations for employment.

Unfortunately, the current nature of examinations - and the resulting coaching culture of today - are doing much harm, especially at the secondary school level, replacing valuable time for true learning with excessive examination coaching and preparation.

While the rigour of and the importance placed upon the Grade 10 and 12 Board Examinations do force students to study, and have been important resources with which to assess students for university admissions and employment, the current structure of the Board Examinations have also systematically prevented optimal learning from taking place in a number of ways:

- First and foremost, the Grade 10 and 12 Board Examinations place an enormous amount of pressure on students over just a few days of their lives. The harmful coaching culture results from the fact that students' lives depend so heavily on their performance over these few days, that all other considerations in a students' life become secondary. In particular, real understanding, thinking, analysing, doing, and learning takes a secondary seat to mugging, rote learning, and obtaining coaching for performing on these life-altering examinations.
- Second, the current structure of Board Examinations force students to concentrate only on a few subjects at the expense of others, preventing a truly holistic development. Specialisation is forced upon students early on, and an unnatural and early streaming and partitioning of students into science, arts, or commerce is the result. The desired flexibility for students to choose a wide range of courses across fields throughout secondary school and beyond is prevented by such early specialisation. Moreover, when

certain necessary areas, such as sciences, mathematics, arts, humanities, languages, and vocational skills are simply not assessed at all for some students, depending on their specialisations, such students simply never learn those areas well, as there is little incentive for them to do so. For example, science students in the country rarely study the arts, vocational subjects, or sports after grade 8, and vice versa, due to the nature of these all-important examinations, and this strongly prevents students from learning in the desired multidisciplinary manner in accordance with their interests.

- Third, if life-determining Board Examinations are given on only two occasions, in Grade 10 and 12, then it is inevitable that these examinations will be mostly summative and not formative, which is a wasted opportunity. Examinations should also be learning experiences, from which one can learn and improve in the future; the current Board Examination system does not line up with these goals.

These various negative effects of the current Board Examination system are also seen in the current university entrance examination system - in particular, there is a corresponding harmful coaching culture and further incentives for early specialisation and rote learning. To make matters worse, many universities give their own entrance examinations despite offering similar programmes, rendering 12th Grade for many students as a year of mugging and obtaining coaching for various different entrance examinations, rather than actually learning in school and pursuing their individual talents. Students often have to travel across the country for taking these examinations to enter select institutes.

Furthermore, many of these examinations happen only on one given day during the year - if a student misses a test, he/she has to wait a full year to try again. The financial load of taking multiple examinations with inflexibility in terms of timing, location, and content represents a tremendous burden on students. Entrance to postgraduate programmes suffers from similar issues.

In order to break these harmful effects of Board and entrance examinations during secondary school, it is necessary that Board and entrance examinations be restructured to encourage holistic development, flexible and individualised curricula, and formative assessment. For these aims, the solution that emerges is that:

- Board Examinations should be given in a range of subjects to encourage holistic development;
- Students should be able to choose many of the subjects in which they take Board Examinations, depending on their individualised interests;
- Board Examinations must also be made “easier”, in the sense that they test primarily core capacities rather than months of coaching and memorisation; any student who has been going to and making a basic effort in a school class should be able to pass the corresponding subject Board Examination without much additional effort;

- Students should be able to take a Board examination in a given subject in whichever semester they take the corresponding class in school, i.e., whenever they feel most ready; and they should be able to take any such subject Board Examination again if they feel they can study and do better.
- Board Examinations in each subject may replace the in-school final examinations for semester or year-long courses, whenever possible, so as not to increase the examination load on students.

Such a system is used by many countries, where coaching cultures for Board Examinations have not developed due to their structure.

The principles for university entrance examinations must be similar; the National Testing Agency (NTA) (see P4.9.6) will work to offer high quality common modular entrance examinations multiple times each year in various subjects, from logic, quantitative reasoning, and languages, to more specialised subject examinations in the sciences, arts, and vocational subjects, so that most universities may use these common entrance examinations, rather than having hundreds of universities devising their own examinations - thereby reducing the burden on both students and universities and colleges. The advantage of such a system is that students will be able to choose the range of subjects that they are interested in, and each university will be able to see each student's individual subject portfolio, and admit students into their programmes based on individual interests and talents.

It is thus of high importance that the NTA serve as a premiere, expert, autonomous testing organisation to conduct entrance examinations for admissions and fellowships in higher educational institutions. The NTA will be entrusted with the responsibility of assessing competence at scale in an efficient, transparent, and rigorous manner, using state-of-the-art methods in test preparation, test delivery, and test analysis. It will use the best subject experts, psychometricians, and IT-delivery and security professionals to ensure high quality assessment across the board.

Finally, all examinations such as Board and entrance examinations will not be as "high stakes", by allowing students best of multiple (i.e., at least two) attempts.

P4.9.1. **A new paradigm of assessment for learning and development:** Guidelines will be prepared by NCERT, and teachers prepared, for a transformation in the assessment system by 2022, to align with the NCF 2020. The focus will be on formative assessment, i.e., assessment for learning.

In this transformation, assessment will be redesigned to primarily test core concepts and skills along with higher order capacities such as critical thinking, analysis, and conceptual clarity rather than rote memorisation. This approach will be used across all examinations - from schools to "entrance examinations" to National or State-level achievement surveys to university examinations and examinations for employment. Examinations will not be as "high-stakes" - the psychological burden on students will be significantly reduced through mechanisms such as best of multiple attempts.

P4.9.2. **Formative assessment to continually improve teaching-learning processes:** At the school level, such developmental assessment of learning will be carried out periodically, and at least once a month, in all domains, to help both teachers and students continuously reassess and optimise learning plans. Over time, online question banks of higher order questions will be made available to teachers and students for this purpose. Since assessment will be formative and will test primarily higher order skills and applications of essential concepts, open book examinations may be used as well, and portfolios may be used in the Secondary Stage.

Teachers will prepare their own quizzes, examinations, and portfolio assessments in this spirit to track students' progress and revise personalised lesson plans accordingly for each student as needed.

These quizzes, examinations, and portfolios will also help teachers identify students who may make excellent candidates for participation in local subject-specific clubs and circles, who may make for excellent peer tutors in given subjects, and who may benefit from, e.g. the NTP and RIAP programmes in given subjects.

> **The culture of assessment must shift from one that primarily tests rote memorisation to one that is more formative, promotes learning, and tests higher-order skills.**

P4.9.3. **Piloting adaptive computerised testing:** Once internet and computers are standard in schools, assessment at all levels - especially during the Middle and Secondary stages - may also be conducted in an adaptive computer-assisted manner, so that students could regularly monitor their own progress and formulate, with the help of their teachers, revised personalised learning plans and goals. Formal official assessments, such as Board and entrance examinations, could eventually be conducted in this manner also, with students thereby being easily able to take such tests on more than one or two occasions to improve.

P4.9.4. **Census examinations in Grades 3, 5, and 8:** To track students' progress throughout their school experience, and not just at the end in Grade 10 and 12 - for the benefit of students, parents, teachers, principals, and school management committees in planning improvements to schools and teaching-learning processes - all students will take State census examinations in Grades 3, 5, and 8 in addition to the Board Examinations in Grades 10 and

12. Again, these examinations would test core concepts and knowledge from the national and local curricula, along with relevant higher order skills gained during the respective levels of education, rather than rote memorisation. The Grade 3 census examination, in particular, would test basic literacy, numeracy, and other foundational skills.

P4.9.5. **Restructuring of Board Examinations:** Board Examinations will be significantly restructured to test only core concepts, skills, and higher order capacities in a range of required subjects and a range of elective subjects of the student's choice. The goal will be to be flexible, like the curriculum, and to design the Board Examinations so that any student attending classes in their chosen subjects and making basic efforts in these classes will be able to comfortably pass their Board Examinations - without any necessity for coaching, cramming, or other major outside-of-usual-schoolwork efforts. Board Examinations will thus be used as a check for basic learning, skills, and analysis. To eliminate the "high stakes" aspect of Board Examinations, all students will be allowed to take Board Examinations on up to two occasions during any given school year.

Eventually, when computerised adaptive testing becomes widely available, multiple attempts for Board Examinations could be allowed.

To achieve such flexibility, reduce stress, lessen the examination burden on students by replacing in-class final examinations with Board Examinations, and allowing students to take the Board Examination in each subject at the end of the semester in which they take that subject, the Policy envisions shifting, as soon as is possible, to a "modular Board Examinations" approach, where Board examinations are offered each semester in a range of subjects.

As a suggested model, each student over the duration of secondary school would be required to take at least two semester Board Examinations in mathematics, two in science, one in Indian history, one in world history, one in knowledge of contemporary India, one in ethics and philosophy, one in economics, one in business/commerce, one in digital literacy / computational thinking, one in art, one in physical education, and two in vocational subjects. In addition, each student would be required to take three basic language Board Examinations that assess basic proficiency in the three-language formula, and at least one additional Board Examination in a language of India at the literature level.

Additional Board Examinations in various other subjects, including more advanced subjects in mathematics, statistics, science, computer programming, history, art, language, and vocational subjects, will be available. Students will be expected to take a total of at least 24 subject Board Examinations, or on average three a semester, and these examinations would be in lieu of in-school final examinations so as not to be any additional burden on students or teachers. Practical portions of certain Board Examinations would be assessed locally according to a pre-set State paradigm, and grades for the written and practical portions would be listed separately on a student's assessment report.

Recall that students will be taking 40+ semester courses during secondary school, so 15 or more semester courses could be decided completely locally by the student and assessed locally by the school, including subjects that would traditionally have been considered co-curricular or extra-curricular.

P4.9.6. **National Testing Agency strengthened to conduct college and university entrance examinations:** The autonomous NTA will comprise of numerous academic, educational, and psychometric experts, and from 2020 onwards will administer aptitude tests and tests in specific subjects that can be taken on multiple occasions during the year in order to reduce the intense and unnecessary pressures of the university entrance examinations system. The NTA tests will aim to assess essential concepts, knowledge, and higher order skills from the national common curriculum as per the NCF in each subject, for the purpose of aiding colleges and universities in their admissions decisions.

While admissions to institutions of higher learning will be based on criteria that higher educational institutions choose to set, most educational institutions and many employers will be encouraged to use these NTA tests rather than their own examinations to ease the burden on students and on themselves. This will help to eliminate the intensity, stressfulness, and wasted time of the Grade 12 examination season faced by students every year as well as by so many higher educational institutions and employers. The NTA will institute processes which would ease admissions into higher education programmes (e.g. directly sending scores to the institution). It could also institute processes which would connect it directly to the bodies offering scholarships to students.

The NTA will establish test centres across the country and have rigorous processes to enable their effective functioning. Tests will be offered in as many languages as possible. In the long run, tests will be offered in all mediums of instruction offered by higher education institutions (HEIs) in the country, and the NTA will institute processes for reliable translations of test material into multiple languages. The preferred modality will be computer-based testing (with the exception of assessment of practical skills), e.g. at ICT-equipped adult-education centres and schools; where this is not possible, paper-pencil tests will be used till such time the transition can be made.

The NTA will develop strategies for ensuring validity and reliability of its assessments, and to create credibility of its tests for admissions to universities and colleges across India as well as other countries. The NTA may also partner with institutions in the country and across the world to build up its capability. It will work in close collaboration with school systems, HEIs, Professional Standard Setting Bodies (PSSBs) (See P18.3.1) and all other relevant institutions in the education system. It may constitute an Advisory Board with representatives from such institutions which would ensure that its work remains relevant and forward-looking.

Due to its large-scale work, the NTA may also serve as a storehouse for assessment data in the country, which it may use and make available to external academics for educational research purposes and to policymakers within appropriate ethical considerations. Through assessment, data collection, and other initiatives towards research and assessment-literacy among all stakeholders, and building of capacity for formative assessment, the NTA will be committed to improving education quality and access across the country.

4.10. Support of students with singular interests and talents

Every student has innate talents, which must be discovered, nurtured, fostered, and developed. These talents may express themselves in the form of varying interests, dispositions, and capacities. Those that show particularly strong interests and capacities in a given realm must be encouraged to pursue that realm beyond the general school curriculum.

The current curricular transaction arrangements involve a "One-size-fits-all" approach to education with little variation or modification from student to student. All students in a given course receive the same type of instruction, same assignments, same learning assessments and pre-fixed assessment schedules. The Policy recognises the need to strongly support students who exhibit 'singular interests' and or 'talents' beyond what is ordinarily available to them in the school curriculum.

Some approaches to supporting students who exhibit singular interests and or talents will include: making individual interests and talents an important consideration in instructional approaches; designing a variety of learning experiences and academic support strategies, such as themes or topic-centered learning activities; project-based learning; etc. that are intended to respond to the distinct interests, talents and dispositions of individual students.

In mathematics, the idea of a "Mathematics Circle" has been a highly successful method (in Bulgaria, Russia, and more recently the United States) of enriching the mathematical horizons of young students who exhibit unusual inclinations and talents in mathematics - many of the world's great mathematicians have come through this system. The idea is to use school or university infrastructure, generally on weekends or evenings when school is not in session, to gather interested students (typically from Grade 6 and up) and their teachers, from around the neighborhood, to engage in enjoyable enrichment activities that go beyond the school curriculum. These activities may include creative problem-solving competitions (team or individual) interspersed with inspiring lectures by local mathematicians or math teachers, or other play-based activities that stimulate the mind. A Math Circle generally meets once every week or two, and is organised jointly by enthusiastic local teachers and talented university or high school students. It is an opportunity for students and teachers with common interests to explore a topic together in more depth and at a high level. These Math Circles, to add prestige, may be named after donors or after eminent mathematicians from the local area.

In a similar manner, topic-centred and project-based Clubs and Circles in localities in all subjects where there is such interest from students are highly encouraged to be set up in this manner at the levels of schools, school complexes, districts, and beyond. Examples include Science Circles, Music Performance Circles, Chess Circles, Poetry Circles, Language Circles, Debate Circles, and so on. Funds should be made available for transportation for teachers to

take their students to these circles or clubs when not taking place at their schools. Along these lines, national residential summer programmes for secondary school students in these various subjects will also be funded, with a rigorous merit-based admissions process to attract the very best students and teachers to these programmes. Teachers may also encourage students with singular interests and/or talents in the classroom, or groups of these students in a school setting, by giving them supplementary enrichment material and guidance and encouragement. Key initiatives will include:

P4.10.1. **Identify and foster singular interests and talents:** Teachers will aim to identify students with singular interests and talents and help support such students through supplementary enrichment material, projects, guidance, and encouragement. Project-based teaching in general will be encouraged at all levels so that a diversity of talents, interests, and dispositions may be fostered. Such students will be selected to help lead, along with the support and participation of teachers, topic-centered and project-based clubs at the school, school complex, block, and district levels.

P4.10.2. **Establish topic-centered and project-based clubs at the school, school complex, block, and district levels:** A system of Topic-centered and Project-based Clubs and Circles in Mathematics, Science, Music, Chess, Poetry, Language, Literature, Debate, Sports, etc. will be set up and funded in accordance with student needs in various localities, in order to foster singular interests and talents of students across the country. Teachers along with students would be encouraged to apply for such clubs where sufficient interest is present; further funding would be based on attendance levels achieved and the transportation and educational material needs of the circle or club.

P4.10.3. **Establish a system of centrally funded topic-based residential summer programmes across the country in various subjects for students with singular interests and talents:** New centrally-funded national residential summer programmes with rigorous merit-based subject-dependent admissions processes will be set up in various subjects, to be held once a year at institutions offering to host such programmes. The various clubs and circles mentioned in P4.10.2 may naturally lead up to participation in these national programmes.

P4.10.4. **Olympiads and competitions:** Olympiads and competitions in various subjects will be strengthened across the country, with clear coordination and progression from school to local to State to national levels. The very best performers in India would be funded to attend International Olympiads in various subjects. Public and private universities would be permitted and indeed encouraged to use results from Regional, National, and International

Olympiads, as well as results from and work in regional and national topic-based programmes, as criteria for admissions into their undergraduate programmes.

P4.10.5. **Internet-based apps, assessments, and online communities for students with singular interests and talents:** Once internet-connected smartphones or tablets are in the hands of all students, online apps with quizzes, competitions, assessments, enrichment materials, and online communities for shared interests will be developed, and will work to enhance the initiatives in P4.10.1-P4.10.4.

Chapter 5

Teachers

Objective: Ensure that all students at all levels of school education are taught by passionate, motivated, highly qualified, professionally trained, and well equipped teachers.

Teachers truly shape the futures of our children - and, therefore, the future of our nation. It is through teachers that our children are imparted with values, knowledge, empathy, creativity, ethics, life skills, and social responsibility. Teachers thus form the very heart of the education process, and represent an indispensable vehicle towards a progressive, just, educated, and prosperous society.

It is because of this noble role that the teacher in ancient India was the most respected member of society. Only the very best and most learned became teachers. Society gave teachers, or gurus, what they needed in order to pass on their knowledge, skills, and ethics optimally to students; in particular, gurus were given full autonomy to decide how best to carry out this creative process, and as a consequence, they did their very best to develop personalised learning plans for every student in order to help each student achieve her/his life's potential.

Today, however, the status of the teacher has undoubtedly and unfortunately dropped. The quality of training, recruitment, deployment, service conditions, and empowerment of teachers is not where it should be, and consequently the quality and motivation of teachers does not reach the standards where it could be. The high respect for teachers and the high status of the teaching profession must be revived and restored for the very best to be inspired to enter the profession, for teachers to be well motivated and empowered to innovate, and for education to therefore reach the heights and levels that are truly required to ensure the best possible future for our children and our nation.

What makes for outstanding teachers and teaching? Experiences and studies from India and around the world show that there are a few key qualities of teachers, teacher education, school resourcing, and school culture that enable and ensure excellent teachers and teaching.

- Teachers must be passionate, motivated, and well qualified, and well trained in content, pedagogy, and practice.
- It is important that teachers relate to the students whom they teach, and are invested in the communities in which they serve.
- To ensure that they perform well, teachers must be valued, supported, respected - happy teachers and students make for excellent teaching and learning! In particular, the everyday working environment of teachers and students must be safe, comfortable, and inviting.
- Teachers, and their schools, school complexes, and classrooms, must be well supplied with the learning resources that they need for effective teaching.
- Teachers should not be overburdened, especially with non-teaching activities, or with the teaching of subjects outside of their expertise.
- Teachers must have the autonomy to innovate and teach in the style that best suits them and their students.
- Teachers must have robust opportunities for CPD, and access to learning the latest advances and ideas in both pedagogy as well as subject content.
- Teachers must feel part of a vibrant professional community.
- The schools in which teachers work must have a caring, collaborative, and inclusive school culture, which encourages excellence, curiosity, empathy, and equity. A large part of this school culture must be set by school principals, school complex leaders, and SMCs and School Complex Management Committee (SCMCs).
- Finally, career management and progression of teachers (including promotion / salary structure, and the selection of school and school complex leadership positions) must be based on outstanding performance and merit, through clear standards for evaluation of the same.

What are the primary issues affecting teachers and teacher education today? Unfortunately, at the current time, most of these ten goals for enabling outstanding teachers and teaching are not being attained, for a number of reasons:

- First, **there are few initiatives that explicitly aim to recruit the best-performing students, or those that have the most talent for teaching, into the teaching profession**. In particular, current teacher recruitment does not involve any interviews or classroom demonstrations that assess motivation and passion; written examinations such as the Teacher Eligibility Test (TET) often have little correlation with teaching ability.
- Second, **teacher education is severely lacking and indeed in a crisis at the current time**. There are approximately 17,000 teacher education

institutions in the country, of which over 92% are privately owned. Various in-depth studies - including the Justice J.S. Verma Commission (2012) constituted by the Supreme Court - have shown that a large proportion of these teaching colleges are not even attempting to provide a good education; instead, many are functioning as commercial shops where even the minimum curricular or course requirements are not met, and where degrees are essentially available for a price. The integrity of teacher education cannot be attained without first shutting down this practice.

Moreover, most of the remaining teacher education institutions are 'stand-alone' teaching colleges; thus despite their good intentions, they generally do not have the capability of providing teacher education that includes a full range of content across fields - which is truly needed for teaching in the modern day - and that also includes strong pedagogical and practicum training.

- Third, **there are severe shortcomings and suboptimal practices in the deployment of teachers.** According to government data, the country faces over 10 lakh teacher vacancies - a large proportion of them in rural areas - leading to PTRs that are even larger than 60:1 in certain areas. Even more worrisome than the problem of PTRs in some areas is the issue of lack of teachers in schools across the necessary subjects. Many schools face the serious problem of having no teachers at all having expertise in key subjects of the curriculum; in many cases, a Hindi teacher may be asked to teach mathematics, or a science teacher asked to teach history. The majority of schools have no music or art teachers whatsoever, and there is a major shortage of language teachers.

  A further issue that is currently faced in the deployment of teachers is the often unfortunate and unpredictable transfers to which teachers (and thus their students and their schools) are too often subjected. Losing teachers suddenly can have harmful effects on students, particularly young children, with respect to both their psychology and their educations. Transfers also prevent teachers from becoming truly invested in and building relationships with the schools and communities in which they serve. Teachers must have stability of tenure because this has a direct bearing on educational outcomes.

  An additional critical issue with teacher deployment is that frequently students do not have role models from their own communities, and teachers with whom they can speak their home language. It is vital, particularly in remote, rural, and tribal areas, that at least some teachers are hired locally or speak the local language, so that they may communicate fluently and effectively with students and parents, and so that students may have local role models.

- Fourth, **many schools lack sufficient infrastructure, resources, and supplies** for teachers to feel comfortable in their professions. Lack of safe drinking water, working toilets, and electricity in some schools

is an initial problem that must be dealt with at the earliest. In addition, lack of adequate learning resources and supplies is common, including a lack of human resources such as social workers, counsellors, and remedial instructors who can help support teachers in their duties.

- Fifth, **teachers are often asked to spend large portions of their time on non-teaching activities**, such as midday meal preparation, electioneering, or various administrative tasks. This prevents teachers from concentrating on their actual teaching jobs.
- Sixth, **quality professional development opportunities are not sufficiently available**. Teachers often speak of teacher development workshops as not particularly relevant to them, while others do not have any such opportunities at all. There are few teacher organisations that help to connect teachers within localities, exacerbating the lack of opportunities for increasing teacher motivation through the sharing of ideas and best practices with peers.
- Finally, **salary, promotion, career management, and leadership positions in the school system and beyond tend not to have any formal merit-based structures**, but rather are based on lobbying, luck, or seniority. An excellent system of merit-based structures and reviews, with excellent enabling school and school complex leadership and environment, is essential for outstanding teachers to be incentivised and motivated to do, and be appreciated for doing, their highest quality work.

What can be done to help restore the high prestige of the profession, and to ensure high quality teachers and teaching across the country? The structure of teacher education, recruitment, deployment, service conditions, professional development, and career management must be completely overhauled in order to restore the high status of the teaching profession, and to ensure that teachers are maximally productive and effective in their efforts.

To this end, the Policy envisages a complete overhaul of the teaching profession in these key areas, so that the seven key issues listed above, currently affecting teaching are fully addressed, and so that the ten above mentioned goals required for outstanding teaching may be achieved.

Recruitment and deployment: To ensure that truly excellent students enter the teaching profession - especially from and in rural areas - **a large number of merit-based scholarships will be instituted across the country for studies at outstanding four-year integrated Bachelor of Education (B.Ed.) programmes.**

In rural areas, **special merit-scholarships will be established that also include guaranteed employment in their local areas** upon successful completion of their four-year integrated B.Ed. programmes; such scholarships with guaranteed employment will provide local job opportunities to outstanding local students (especially female students), so that these students may serve as local area role models for the next generations.

To further encourage outstanding teachers to be deployed to rural areas, **incentives will be provided for teachers to take up teaching jobs in rural areas**, especially in those rural areas with the greatest current teacher shortages

and the greatest needs for outstanding teachers. One difficulty that new teachers in rural areas face is finding proximate housing; often the nearest accommodations that teachers are able to procure are kilometres away. Therefore, **a key incentive for teachers being deployed at rural schools will be the provision of local housing** near or on the school premises.

The harmful practice of excessive teacher transfers will be halted with immediate effect, to ensure that teachers can build relationships with and become invested in their communities, and so that students have a continuity in their role models and in their educational environments. Transfers will occur only in very special circumstances, to solve two-body or other family-related issues, for reasons of large changes in school attendance at a school, or for promotions of outstanding teachers to leadership positions.

To ensure that the best enter the teaching profession, the **(TETs) will be strengthened** through improved test material correlated to capacities of outstanding teachers, both in terms of content and pedagogy.

In addition, for subject teachers, **suitable NTA test scores in the corresponding subjects will also be taken into account for recruitment**.

Finally, in order to gauge passion and motivation for teaching, **a classroom demonstration or interview will become an integral part of teacher hiring** at schools and school complexes; these interviews would also be used to assess comfort and proficiency in teaching in the local language, so that every school / school complex has at least some teachers who can converse with students in the local language. It is vital, particularly in remote, rural, and tribal areas, that a significant number of teachers are hired locally or speak the local language/dialect, so that they may communicate fluently and effectively with students and their parents.

In order to ensure an adequate number of teachers across subjects, **particularly in subjects such as art, physical education, vocational education, and languages, teachers will often be hired to a school complex** (a conglomeration of local area schools consisting of one secondary school and a number of pre-primary through middle schools - see Section 7.2) rather than a specific school; such teachers could then be shared across schools in the complex as needed.

In the long term, the minimal degree requirement for all permanent tenured teachers will be the four-year integrated B.Ed. degree. However, to promote local knowledge and expertise, **schools and/or school complexes will be permitted and, indeed, supported with suitable resources to hire local eminent persons or experts as "specialised instructors" in various subjects, such as traditional local arts, vocational crafts, entrepreneurship, agriculture**, or any other subject where local expertise exists, and would benefit students and help preserve and promote local knowledge.

A comprehensive teacher requirement planning exercise will be conducted across India and in each State to assess expected teacher and subject vacancies over the next two decades. All the above described initiatives in recruitment and deployment will be scaled as needed over time, with the aim to fill all vacancies with outstanding teachers, including outstanding local teachers.

Service environment and culture: The primary goal of overhauling the service environments and cultures of schools will be to maximise the abilities of teachers to do their jobs effectively, and to ensure that they are part of vibrant, caring, and inclusive communities of teachers, students, parents, principals, and other supporting staff, all of whom share a common goal: to ensure that our children are learning.

A very first requirement in this direction is to ensure decent and pleasant service conditions at schools. **Adequate and safe infrastructure, including working toilets, clean drinking water, clean and attractive spaces conducive to learning, electricity, computing devices, and internet, will be important to provide to all schools** in order to ensure that teachers and students are comfortable and inspired to teach and learn in their schools.

Meanwhile, the creation of school complexes (see Section 7.4) will go a long way towards building vibrant teacher communities. As already mentioned, the hiring of teachers to school complexes will automatically create relationships between schools across the school complex; it will also help ensure excellent subject distribution of teachers, creating a more vibrant teacher knowledge base. Teachers at very small schools will remain isolated no longer and will become part of and work with larger school complex communities.

The creation of the school complex as the smallest viable unit of governance will therefore help create vibrant communities of teachers, who can share community best practices with each other and aim to work collectively and collaboratively to ensure an empowering culture for themselves and to ensure that all children in the system are learning. School complexes will also share counsellors, social workers, technical and repair staff, and remedial instructors to further support teachers and help create an effective community environment for learning.

In collaboration with parents and other key local stakeholders, **teachers will also be more involved in the governance of schools and school complexes**, including as members of SMCs and SCMCs.

To prevent the large amounts of time spent currently by teachers on non-teaching activities, **teachers will not be allowed any longer to conduct government work that is not directly related to teaching** (except for rare events that do not interfere with their class work); in particular, teachers will not be involved in electioneering, cooking of midday meals, and other strenuous administrative tasks, so that they may fully concentrate on their teaching-learning duties.

To help ensure that schools have positive learning environments, **the role expectations of principals and teachers will explicitly include developing a caring and inclusive culture at their schools, for more effective learning for all, and for the benefit of all in their communities.**

Finally, **teachers will be given more autonomy in choosing finer aspects of curriculum and pedagogy**, so that they may teach in the manner that they find most effective for the students in their classrooms and communities. Teachers will be recognised for novel approaches to teaching that improve learning outcomes in their classrooms.

Continuous professional development: Teachers must be given constant opportunities for self-improvement and to learn the latest innovations and advances in their profession. To ensure that every teacher has the flexibility to optimise their own development as teachers, **a modular approach to CPD will be adopted.**

Developmental opportunities, in the form of local, State, national, and international teaching and subject workshops, as well as online teacher development modules, will be available to all teachers so that each teacher may choose what is most useful for their own development. Platforms (especially online platforms) will be developed so that teachers may share ideas and best practices. Each teacher may be expected to participate in, say, 50 hours of CPD opportunities every year for their own professional development.

Leaders such as school principals and school complex leaders will be have similar modular leadership / management workshops and online development opportunities and platforms to continuously improve their own leadership and management skills, and so that they too may share best practices with each other. Such leaders would also be expected to participate in 50 total hours of CPD modules per year, covering leadership and management, as well as content and pedagogy for the teaching aspects of their jobs.

Career management: Career management of teachers is an important area of reform to restore the prestige of the teaching profession. Teachers doing outstanding work must be recognised, promoted, and given salary raises, to incentivise passionate teachers to do their best work for their students and the community.

Therefore, **a robust merit-based promotion and salary structure will be developed**, with multiple levels within each teacher rank, to incentivise and recognise excellent and committed teachers through promotions and salary increases. **A system of multiple parameters for proper assessment of performance will be developed for the same**, that would be based on peer reviews, student reviews, attendance, commitment, hours of CPD, and other forms of service to the school and the community. Such merit-based assessments would be used to determine tenure decisions, and the rate of promotions and salary increases for each teacher.

Vertical mobility of teachers based on merit will also be paramount; outstanding teachers with demonstrated leadership and management skills would be trained over time to take on academic leadership positions in schools, school complexes, and at Block Resource Centres (BRCs), Cluster Resource Centres (CRCs), BITEs (Block Institutes of Teacher Education), and District Institutes of Education and Training (DIETs).

Approach to teacher education: Recognising that the best teachers will require training in a range of content as well as pedagogy, **teacher education will gradually be moved into multidisciplinary colleges and universities**. As colleges and universities all move towards becoming multidisciplinary (see P10.4), they will also aim to house outstanding education departments that offer B.Ed. and M.Ed. degrees.

By 2030, the minimum degree qualification for teaching will be a four-year liberal integrated B.Ed. degree that teaches a range of knowledge content and pedagogy, and includes strong practicum training in the form of student-teaching at local schools. The two-year B.Ed./D.El.Ed. (now to be referred to only as B.Ed.) programmes will also be offered, *by the same multidisciplinary institutions offering the four-year integrated B.Ed.*; the two-year B.Ed. will be intended only for those who have already obtained Bachelor's Degrees in other specialised subjects. These B.Ed. programmes may also be replaced by suitably adapted to one-year B.Ed. programmes for those who have completed the equivalent of four-year multidisciplinary Bachelor's Degrees or who have obtained a Master's degree in a specialty and wish to become a subject teacher in that specialty. Again, all such B.Ed. degrees would be offered only by accredited multidisciplinary higher educational institutions offering four-year integrated B.Ed. programmes.

All B.Ed. programmes will include training in time-tested as well as the most recent advances in pedagogy, including with respect to foundational literacy and numeracy, multilevel teaching and evaluation, teaching CWSN, using educational technology, and learning-centered and collaborative learning; all B.Ed. programmes will also include strong practicum training in the form of in-classroom teaching demonstrations and student-teaching at local schools. Because of the multidisciplinary nature of the B.Ed. degree, regardless of its duration, all B.Ed. degrees will be housed in the multidisciplinary colleges and universities.

Teachers form the very heart of the education process – all teachers will have academic and professional support within a motivating environment and culture.

Special shorter local teacher education programmes will also be available at BITEs, DIETs, or at school complexes themselves, so that **eminent local persons may be hired to teach at schools or school complexes as "specialised instructors", for the purpose of promoting local knowledge and skills, e.g. local art, music, agriculture, business, sports, carpentry, and other vocational crafts**.

Secondary shorter post-B.Ed. certification courses will also be made widely available, at multidisciplinary colleges and universities, to teachers who may wish to move into more specialised areas of teaching, such as the teaching of students with special needs, or move into leadership and management positions in the schooling system.

Finally, in order to fully restore the integrity of the teacher education system, the thousands of **substandard standalone Teacher Education Institutions (TEIs) across the country will be shut down as soon as possible**.

5.1. Effective teacher recruitment and deployment

P5.1.1. **Merit-based scholarships to encourage outstanding students to enter the teaching profession:** A large number of scholarships will be instituted for high-performing high school students, upon graduation from secondary school, to study at outstanding four-year integrated B.Ed. programmes at colleges and universities across the country. Partnerships between governments, colleges and universities, and philanthropic organisations will be established to fund and establish such scholarships. These scholarships will be especially targeted at outstanding students from underprivileged backgrounds; scholarship offers would be based on school performance, NTA test scores, and geographic and socio-economic background.

Special such merit-based scholarships will also be instituted, for students from underprivileged, rural, or tribal areas - or other areas where teachers having proficiency in the local language are limited - that will also include guaranteed employment in their local areas upon successful completion of their four-year integrated B.Ed. degrees. This will help provide local job opportunities to outstanding local students, provide local role models, as well as ensure that there are sufficiently many teachers at schools familiar with the local language and culture and who are comfortable conversing with students and parents in their home languages. Female students will be a special target of such scholarships to provide an increased number of local female role models.

P5.1.2. **Teacher recruitment process:** The recruitment process for teachers will be rigorous and transparent, designed to find the best teachers, instill confidence in them, and be a representation of the high regard and respect in which they and their profession are held by society.

The TET will be the first screening for recruitment. The present TETs will be improved and strengthened to ensure more meaningful testing of the capacities and knowledge of aspiring teachers. The TETs will also be extended to cover teachers across all stages (Foundational, Preparatory, Middle, and Secondary) of school education. In addition, for subject teachers, NTA test scores in relevant subjects will also be factored suitably in the recruitment process. The requirement of qualifying through the TETs (either State or Central level examinations) and NTA examinations will be made mandatory also for teachers of private schools with immediate effect.

Because written examinations cannot necessarily test passion and motivation for teaching - key qualities needed for outstanding teachers - and cannot

always determine familiarity with local language proficiency when relevant, a second screening for aspiring teachers will be instituted, that would involve an interview and a short 5-7 minute teaching demonstration. This second screening would take place at a local BRC, or when that is not possible, via a phone call and a demonstration video sent electronically.

> **The high respect for teachers and the high status of the teaching profession must be revived and restored for the very best to be inspired to enter the profession.**

P5.1.3. **Achieving desired Pupil Teacher Ratios:** The practice of assigning teachers to individual schools based on overall student-teacher ratios will be replaced by a much more careful assignment system based on the educational needs of the children. Given that teachers can be shared across the school complex, this will not cost as much as it would have to fulfill PTR ratios in each subject at the level of individual schools. Adequate numbers of teachers will be recruited and deployed in school complexes to ensure that all subject-teaching needs at every school in the complex are met. Teachers in subjects such as art, music, vocational crafts, sports, and yoga will be shared across the school complex, as will be substitute teachers, student counsellors, and social workers.

P5.1.4. **Ensuring both local teachers as well as diversity:** In hiring school teachers, at all stages but particularly at the Foundational, Elementary, and Middle stages, strong preference will be given to local teachers and to teachers fluent in the local language, so that teachers may communicate easily with students, and with their parents and community members. Teachers will also be recruited and deployed with respect to considerations of diversity, with an emphasis on recruiting from URG. This will help to make education as inclusive as possible, and students from URGs will also have excellent role models in their teachers, in every locality. There will also be a strong imperative to recruit an increased number of female teachers, including local female teachers.

P5.1.5. **Deployment of teachers to a particular school complex:** Teachers will be recruited to the district, as is done now in many States, and then deployed to the school complex, and then, as per school needs, to individual schools. For certain subjects, such as art, music, physical education, languages, and vocational crafts, some teachers may be shared across schools in the complex to ensure that these subjects are available and taught well at all schools.

P5.1.6. **Incentives to teach in rural areas:** Suitable incentives will be developed for excellent teachers to desire teaching jobs in schools in rural, tribal, and remote areas, where they are especially needed. These incentives will include, in particular, quality housing on or near the school premises, so that the frequent hurdles for teachers of procuring suitable housing close to schools in such areas are eliminated.

> **Recruitment will be rigorous, impartial, transparent - designed to find the best teachers, representing the high regard and respect in which they and their profession are held by society.**

P5.1.7. **Halting / slowing teacher transfers to ensure continuity of teacher-student-community relationships:** For teachers to develop strong relationships with their school complex communities, teachers will ideally not be transferred out of the school complex. A one-time adjustment of teacher placements may be carried out in accordance with their wishes, tenure status, and ability to speak the local language; all future teacher recruitments will be carried out against vacancies and subject/stage/local language requirements in specific school complexes. If teacher transfers cannot be discontinued, then transfers must be carried out in a much more sparing manner by the State governments to ensure continuity of teacher appointments and teacher investment in their communities. A fixed tenure of at least 5 to 7 years, and a rule- and empathy-based system of transfers, through a transparent IT system, will be the way forward. Such a move will need to be backed by suitable legislation.

P5.1.8. **Stopping the practice of para-teachers:** All "para-teacher" (Shikshakarmi, Shikshamitra, etc.) systems across the country will be stopped by 2022. This is for the same reason: we must ensure that teachers are invested in, and can build strong long-term relationships with, their communities.

P5.1.9. **Induction of freshly trained teachers into schools:** Research and understanding of the development of teachers draws attention to the initial post-employment period as being crucial and requiring support and mentoring. All fresh teachers, in their first two years of teaching, will be registered with a centre for CPD such as the BRC, CRC, BITE, or DIET that is associated with the school complex where they are inducted, so that they can be mentored and integrated into a community of their peers. Teacher

induction could also be designed as blended learning, with some face-to-face meetings and school-based mentoring and participation in a community of practice. During the period of their induction, beginning teachers could be given a lighter workload as compared to experienced teachers (about 80% of the workload). Collaborative unit planning, review and discussion of modules, plans and experiences, knowledge of and use of school complex resources, evaluation techniques, individualising teaching, organising group work and collaborative learning, classroom management, and building connection and relationships with the complex and the community are some of the areas that merit such specific mentoring and focus during the beginning teacher phase.

> **Teachers must feel a part of, and be invested in, the schools and communities in which they serve.**

P5.1.10. **Teacher-requirement planning:** Recruitment of teachers will be carried out through a robust process based on projections for the number of teachers needed, taking into consideration the requirements for subject teachers as well as special teachers at all schools within a school complex. A careful and comprehensive teacher-requirement planning exercise will be undertaken immediately, along with the demarcation of school complexes, and then once again every five years at the Centre as well as at the State levels. State governments will prioritise funding to ensure that every school complex has a full complement of teachers at the level of the complex, and on a shared basis at the level of individual schools. The number of B.Ed. scholarships with guaranteed employment in each geographical region, as in P5.1.1 will also be determined based on the data collected during such teacher-requirement planning exercises.

5.2. School environment and culture that is conducive to quality education

Happy and motivated teachers and students make for good learning. Schools should be aesthetically pleasing, inviting, and inspiring places to be for students as well as teachers. They must be clean, pleasant, and safe, and teachers must have the necessary freedom, infrastructure, and resources to perform their roles. It is important that teachers feel a part of, and are invested in, the schools and communities in which they serve so they must be provided with basic facilities and supplies they need to help them teach effectively, with safety, dignity, and good health.

P5.2.1. **Adequate physical infrastructure, facilities, and learning resources:** All schools will be provided with adequate physical infrastructure, facilities, and learning resources, either individually or within their school complex. State governments will review all schools against clearly stated norms for essential facilities and safe and attractive learning environments and achieve them by 2022. Funding will be allocated by the Centre and State governments on a priority basis for the design, development, and maintenance of infrastructure and resources that are effective and conducive to learning.

Electricity connections will be provided to all schools that do not already have them, by 2022, and they will be charged the lowest rate of tariff. All schools will also be provided with computers and internet connectivity for pedagogical purposes, infrastructure and materials to support differently-abled students, safe drinking water on the school premises, functioning toilets with running water, separate for girls and boys, and basic hand washing facilities by 2022. The infrastructure and teaching materials necessary to teach students effectively include functioning classroom boards, vibrant school libraries, equipment for use in science experiments and laboratories, material for arts/crafts and vocational training classes, computer rooms, as well as suitable classrooms with adequate furniture.

Consultations will be held with leading educators, cognitive scientists, artists, and architects on Learning Space Designs that optimise learning and are inviting, and that take into consideration and incorporate local cultures, arts, and traditions. New schools will be constructed keeping in view these designs.

> **Teachers must be given constant opportunities for self-improvement and to learn the latest innovations and advances in their profession.**

P5.2.2. **Caring and inclusive school culture:** Schools will attempt to develop and demonstrate a caring, collaborative, and inclusive school culture. This will be specified in the role expectations of the head teacher/principal and teachers. Both pre-service teacher education and CPD shall make development of the dispositions and capacities for caring and inclusive culture as an integral part of their goals. The School Management Committee (SMC) shall be sensitised about the need for creating a caring and inclusive school culture on a continuing basis and the officials of the Directorate of School Education (DSE) will reorient their functioning to support such a culture. This must be made explicit in their role expectations.

Practices of inclusive, caring, and collaborative culture will be shared across schools and innovations and good practices recognised - e.g. with respect to the way in which the principal interacts with teachers, and teachers interact with children and parents; the way responsibilities are organised and shared; the accessibility of learning resources to all; the organisation of the school calendar and time-table; the participation of teachers and children in the school; and non-discriminatory and equal behaviour with children from all (particularly disadvantaged) groups.

P5.2.3. **Ensuring that teachers are able to teach with full dedication and at full capacity - no non-teaching activities:** There must be no interruption to school schedules so that teachers can use their work time to concentrate solely on and excel at their chosen professions.

Aside from the minimal Supreme Court directives related to election duty and conducting surveys, teachers will not be requested nor allowed to participate in any non-teaching activities during school hours that affect their capacities as teachers - e.g. cooking midday meals, participating in vaccination campaigns, procuring school supplies, or any other time-consuming administrative assignments. For any non-teaching jobs at schools, staff must be deployed as needed and shared across the school complex. Teachers in turn will be held accountable for being absent from school without cause or without being on approved leave.

P5.2.4. **Remedial education:** Remedial programmes will be established at all levels to help teachers in ensuring that all students are achieving their potential. Teachers will manage school remedial programmes, such as the NTP and the RIAP. They will help identify students who require the services of peer tutors and IAs and connect them with tutors and aides on an expedited basis. Teachers will also select the tutors and guide their work in the NTP, and that of the IAs in RIAP, so that they can effectively support their students who require extra support. The RIAP programme is time bound, designed to help schools catch up with backlog of falling behind, and neither the aides not the tutors are in any way a replacement for the teacher. In the long term, post the closure of the RIAP, it will be the teachers who will be responsible for identifying and helping students who are falling behind in the curricular work in the classroom along with the peer and volunteer tutors that they assign and supervise. The work load of the teachers will be suitably adjusted to make time for these critical tasks.

P5.2.5. **Rejuvenating academic support institutions (SCERT, BITE, DIET, BRC, CRC, CTE, IASE):** The BITEs, DIETs, BRCs, CRCs, and other academic support institutions represent an important investment in developing an infrastructure to support quality in school education. These institutions provide school-based teacher support and mentoring, access to resources and professional development, and quality monitoring and supersion. A well-connected, well-resourced network of these support institutions at the district and sub-district levels, with CRCs at the school complex level linked to BITEs and DIETs

through BRCs, and integrated into the State's long-term vision and plan for quality improvement of schools and teacher education, will go a long way in supporting teachers and improving the quality of education. A careful plan to strengthen all existing academic support institutions will be created and implemented.

P5.2.6. **Community connect:** In the spirit of increasing local governance, and involving the most crucial stakeholders (including teachers) in the governance process, every teacher by rotation will have the opportunity to serve and connect with their community by being on the SMC and SCMC.

P5.2.7. **Materials for teachers in Indian languages:** Developing high-quality material for teachers and teacher educators in Indian languages, including tribal languages, will be accorded priority in order to ensure quality learning in the local language and thereby the inclusion of all students. This will be carried out in a distributed manner, backed with appropriate funding, to ensure that innovation is fostered. Universities/departments that could take responsibility for translations and validation of language quality will be identified and supported. Material will be produced in print or in digital form. Teachers and teacher educators will be encouraged to develop material in local languages.

5.3. Continuous professional development

The development of teacher interests and their own continuous education and related career shifts within the profession must be supported by a rational approach to professional development that is based on a modular approach. A range of opportunities to be members of professional communities where they share their experiences, practices and insights, and opportunities to update their knowledge must be made available.

Teachers should be able to develop in their professions to become academic coordinators or supervisors in their schools, educational administrators, mentors, and also become faculty at teacher education institutions. A common practice has been to bring in teachers to serve in Cluster and BRCs as Resource Persons; this practice will also be continued and the opportunity will be seen as a career advancement opportunity with a stable tenure of at least five years. Experienced teachers developing into these new roles within the profession would go a long way in strengthening not only the quality of school education, but also the quality of teacher preparation programmes. Such CPD also requires that teachers should be able to access accredited certified and modular programmes.

P5.3.1. **Flexible and modular approach to continuous professional development for teachers:** Teachers must have access to more short courses that are certified, for modular approaches that allow them to accumulate credits and earn certificates and diplomas, even leading to professional degrees (including an M.A. in Education or M.Ed. degrees). Such courses must be offered in a range of formats including part time, evening, blended, and online in additional to full time programmes either by Departments of Education at Universities or at Centres of Professional Development that are accredited. Teachers must also have opportunities for research, access to professional communities through which they develop and share their professional knowledge. Teachers who are in service need to be seen as an important student clientele by Departments of Education at universities, so that programmes that meet their requirements for research and further study are developed and offered.

These requirements and avenues of professional development are over and above other avenues that are already well established presently, including workshops, seminars, short courses, teacher meets, and also certificate and diploma courses for various areas of pedagogy and related skills, understanding of education, school social work, administration and leadership.

The practice of assigning teachers to individual schools based on overall student-teacher ratios will be replaced by a much more careful assignment system based on the educational needs of children.

P5.3.2. **Revamping continuous professional development:** All CPD will be redesigned, keeping in mind the following considerations:

a. A well-integrated CPD curriculum will be developed for all stages and subjects including subject content, pedagogical content knowledge, development of school culture, classroom practice, and - in cases of principals/headmasters/school complex leaders - also management, administration, resource sharing, effective handling of finances, and leadership.

b. Teachers must be able to choose what they want to learn, the content as well as the delivery methods. Teachers will have the opportunity to choose from multiple modes of learning - namely, expert-driven, peer-supported, or self-directed; in-person workshops, blended, or online; etc. - which would be all informed by the CPD curriculum and will include short and long-duration workshops, short discussions, exposure visits, in-class demonstrations, online apps and content, and other creative methods.

c. Teachers will complete, at minimum, 50 hours of CPD training per year, across all platforms, as per their choosing.

P5.3.3. **Self-directed personal development of teachers:** All States should adopt a technology-based system for enabling choice-based CPD and to track the professional trajectory of each teacher. This system must be used for developmental purposes by the teacher as well as head teachers and principals, and be based on a personal development plan and goals. Professional learning communities and centres must be created, developed and sustained. While such efforts do require great academic and social expertise, they must be carried out so that a culture of self/peer learning is developed rather than a "command and control"-type directed learning. CPD must be delivered within school complexes by making use of the nearest CRCs, which can be upgraded into well-resourced and pleasant environments, offering platforms for peer learning. Mechanisms for regular interactions, such as school complex meetings, may also be utilised for peer-supported CPD.

P5.3.4. **Online resources for continuous professional development:** ICT will also be utilised extensively for CPD. Teachers will be given access to the internet and to technology platforms both at school and from their homes. There will be no centralised determination of the curriculum, no cascade-model training and no rigid norms.

The resource people for delivering these CPD programmes will be carefully selected, effectively trained, and will have tenure in the role. The capacity of these resource persons / teacher educators will have considerable impact on the quality of the CPDs so they will be suitably invested in. Such resource persons will most often be selected from amongst the best teachers and they must be given every opportunity to develop their knowledge continually.

Collaboration with civil society organisations will be encouraged for the development and execution of effective CPD. The programmes will be based on a coherent curriculum framework that addresses issues relevant to the practice of teaching, including perspectives in education, content, pedagogy, interrelated nature of subjects, school culture, governance, management, resource sharing, and leadership.

P5.3.5. **In-school teacher development processes:** Every head teacher and/or school principal will be responsible for building strong in-school teacher development processes and a supportive school culture that enhances the capabilities of all the teachers in the school. This task will be integrated into their role definition and evaluation. In this effort, the teachers and the head teacher/principal can receive support from the larger community available to them within the school complex.

P5.3.6. **Recognising outstanding teachers:** Truly outstanding teachers - as nominated and recommended by students, parents, principals, school complex leaders, and peers - will be given awards annually at ceremonies at

the school, school complex, district, State, and national levels, to recognise and incentivise innovative and transformative work of dedicated teachers across the country.

5.4. Career management

P5.4.1. **Tenure track system of hiring teachers:** A tenure track system for hiring teachers across all levels of education will be established. Under the tenure track systems, teachers will be on a three-year probationary/tenure track period followed by a performance-based confirmation.

Confirmation/tenure decisions will be made based on multiple factors including peer review, dedication, and classroom evaluation. The framework for this review will be set up by the SCERTs. It must include evaluation and assessment of long-term work and must not be based on episodic assessment. This assessment should be multi-source; reviews of peers, supervisors, and parents, and actual evidence of work, must be included. The system must be professionally rigorous and fair.

P5.4.2. **Parity in service conditions across all stages of school education:** As soon as possible and in the long term, pay and service conditions of teachers have to be commensurate with their social and professional responsibilities, and must be set so as to attract and retain talented teachers in the profession. All teachers, from Foundational stage teachers to Secondary school teachers, will be recruited with standard service conditions as per their work requirements and the same salary structure.

All teachers will have the opportunity to progress in their career (in terms of salary, promotions, etc.) while remaining as teachers in the same stage of education (i.e., Foundational, Preparatory, Middle, or Secondary). The approach will be to ensure that growth in one's career (salary and promotion) is available to teachers within a single school stage, and that there is no career-progression-related incentive to move from being teachers in early stages to later stages (though such career moves across stages will be allowed, provided the teacher has the desire and qualifications for such a move).

This is to support the fact that all stages of school education will require the highest-quality teachers, and thus no stage will be considered more important than any other - indeed, early stages of school education are equally important and will require highly qualified teachers in the practice of early childhood education. Therefore, in ten years (by 2030), as the necessary qualification for all teacher roles becomes the four-year integrated B.Ed. programme, the salary-and-promotion structure will also be made equivalent across all stages.

P5.4.3. **Professional progression via promotions and salary increases:** Independent of the stage of school education they are currently engaged with, teachers will be able to progress within that stage via merit-based promotions and salary

increases. The aim will be to have a clearly-defined promotion-and-salary ladder to mark milestones in professional development and accomplishment, and therefore continuous incentives for conducting outstanding work as a teacher.

There will be at least five promotional levels as a teacher in each stage, which may be labelled Early Teacher (without tenure), Early Teacher (with tenure), Proficient Teacher, Expert Teacher, and Master Teacher. Within each promotional level / rank, there would be a preset range of salary levels through which teachers could progress based on merit and performance in that rank.

Professional standards would be defined (see P5.4.4 below) for these levels, including expectations from teachers in these levels; e.g. Master Teachers would naturally become the resource persons for CPD of teachers in their geographical area.

> **There will be parity in service conditions for teachers across all stages of school education.**

P5.4.4. **Professional standards for teachers:** Clearly laid out professional standards for teachers will inform career progression of teachers. A common guiding set of National Professional Standards for Teachers (NPST) will be developed by 2022, coordinated by the National Council for Teacher Education (NCTE) and NCERT, while involving the SCERTs, teachers from across levels and regions, expert organisations in teacher preparation and development, and higher educational institutions.

Each State may then develop its own specific standards, State Professional Standards for Teachers (SPST), coordinated by the SCERT; these standards, and performance appraisal vis-a`-vis these standards, will determine all teacher career management, including tenure (after the probationary/ tenure track period), professional development efforts, salary increases, promotions, and other recognitions. Promotions and salary increases will not occur based on the length of tenure or seniority, but only on the basis of such appraisal.

The professional standards will be reviewed and revised nationally and then at the State level in 2030, and thereafter every ten years, on the basis of rigorous empirical analysis of the efficacy of the system. The standards would cover expectations of the role of the teacher at different levels of expertise / rank, and the competencies required for that rank. It will also comprise standards for performance appraisal, for each rank, that would be carried out on a periodic basis and would be used, in particular, for salary increases within that rank.

Such standards for performance appraisal would include both hard indicators which are non-negotiable (e.g. attendance regularity and punctuality, financial propriety, not using corporal punishment, participating in any mandatory school functions and meetings, etc.) and soft indicators (such as effective pedagogy and classroom practices, effective developmental assessment of progress of students, effective use of teaching-learning material, quality of engagement and interaction with parents and students, organisation of quality school events, etc.) which are related to professional practice and competencies.

The NPST and SPST will also inform the design of the pre-service teacher education programmes.

Performance Indicators for Elementary School Teachers (PINDICS) already developed by NCERT can be a useful document to serve as a starting point for this exercise.

All teachers will have possible career progression paths to become educational administrators or teacher educators.

P5.4.5. **Periodic (annual or higher frequency) performance appraisal of teachers:** The SPST will form the basis for the performance appraisal of teachers. Such an appraisal will be carried out by the head teacher and the head of the school complex, and similarly for the head teacher by the head of the school complex and the Block Education Officer (BEO). All heads of school complexes will be appraised by the BEO and District Education Officer (DEO). All appraisals will be based on carefully recorded multiple sources of evidence, comprising minimally of school visits, school records and classroom observations, peer review, and feedback on progress of students. The appraisal must be endorsed by the SMC. The details of this process will delineated by the SCERTs by 2022 for each State.

This process will also be the basis for determining teacher accountability. Teachers are accountable to students, their parents, the community and the public at large for what they are doing or not doing for education in schools. This ensures professional integrity and transparency in the education system. It will always be important to remember that empowerment and autonomy are preconditions for true accountability - a threatening environment is the nemesis of sustainable quality. An accountability mechanism that has clear non-negotiables and supports teachers in effecting improvements will tend to work the most effectively. This mechanism will look at several factors that make up accountability while ensuring autonomy and empowerment for all teachers. Based on the NPST, the SCERTs will also develop the frameworks and norms for this autonomy and empowerment in the teacher's role within their States as a part of their SPSTs.

P5.4.6. **Professional progression via vertical mobility:** In addition to moving across ranks within their own stage or stages of teaching, teachers will also be able to move into either educational administration or teacher education as part of their career progressions. After outstanding and clearly-defined accomplishments as a teacher, school teachers may choose to

a. Enter educational administration, or

b. Become teacher educators. In the long term, all educational administrative positions in CRCs, BRCs, BITEs, DIETs, SCERTs, etc. will be reserved for outstanding teachers who are interested in administration by way of their career development paths. The professional standards to enter educational administration or teacher education will again be set by the NPST and SPSTs, and would require at a minimum outstanding teaching, in addition to requirements (in the case of educational administration) of leadership / management experience or training.

5.5. Approach to teacher education

Teacher education requires multidisciplinary inputs and a marriage of high-quality content with pedagogy that can only be truly attained if teacher preparation is conducted within composite institutions offering multidisciplinary academic programmes and environments. As a consequence, programmes of teacher preparation at all levels must be conducted within large multidisciplinary universities or colleges in order to be maximally effective. Teacher education in multidisciplinary colleges or universities would ensure that teacher education benefits from interaction with other areas of higher education, and that student-teachers develop in liberal spaces with access to a full range of academic resources, including libraries, internet, and extra-curricular activities. Teachers-in-training would thereby be able to interact with peers from other disciplines and be taught by faculty in allied disciplines of education such as psychology, child development, and social sciences - making them that much stronger as teachers when they graduate. Multidisciplinary settings will also ensure that the disciplinary components of integrated programmes will be offered by experts from the relevant departments.

In terms of areas for further reform within the education component of the B.Ed. programme, multilevel, discussion-based, and constructivist learning, and a concentration on foundational literacy/numeracy, inclusive pedagogy and evaluation, knowledge of India and its traditions, and the development in students of 21st century skills such as problem-solving, critical and creative thinking, ethical and moral reasoning, and communication and discussion abilities, are among the key areas of the curriculum for teacher preparation that will be reformed and revitalised.

Ensuring that university B.Ed. programmes are affiliated with a variety of nearby schools at various levels - in which potential teachers may student-teach in order to hone the above skills and obtain practical teaching experience - will complete the well-rounded education and training of B.Ed. candidates that will be needed to produce outstanding teachers.

While such four-year Integrated B.Ed. programmes are being developed at multidisciplinary universities, every effort will be made to shut down the practice of corrupt and substandard teacher education institutions that sell degrees with little actual education; the purpose of this important initiative will be to bring, as quickly as possible, the needed integrity and thus quality into the teacher education system. By 2030, the goal will be to have all B.Ed. programmes moved into multidisciplinary colleges universities.

The actions that will be required in the higher education system for this shift of teacher education will be described in more detail in Chapter 15; below are described the basic changes in the approach for teacher education that will be adopted in order to ensure passionate, motivated, well-qualified, and holistically well-trained teachers in our schools.

Teacher education for all levels will take place within the university / higher education system as a stage-specific, 4-year integrated Bachelor of Education (B.Ed.) programme that combines high-quality content, pedagogy, and practical training.

P5.5.1. **Moving teacher education into the university system; the four-year integrated B.Ed. programme:** Teacher education for all levels - Foundational, Preparatory, Middle, and Secondary - will take place within the university/higher education system as a stage-specific, four-year integrated B.Ed. programme, combining content, pedagogy, and practical training. The four-year integrated B.Ed. programme of pre-service teacher preparation for different tracks will be offered at the university level as a dual-degree (in education together with any desired specialised subject) undergraduate programme of study, and will thus include both disciplinary as well as teacher preparation courses.

Every B.Ed. programme will be affiliated with 10-15 local schools where student-teacher internships would take place. Each student in a B.Ed. programme will go through a period of student teaching at one of these schools where she/

he would be placed with a mentoring teacher - first observing the mentor's class, then teaching students in the mentor's classroom with feedback from the mentor, and also carrying out remedial work or other teaching-related tasks under the mentor's guidance.

The different tracks that teachers will be prepared for in a B.Ed. programme will include:

a. Foundational and Preparatory school generalist teachers;

b. Subject teachers for Middle and Secondary school;

c. Special education teachers;

d. Art teachers (including visual and performing arts);

e. Teachers for vocational education; and

f. Physical education teachers. The four-year degree will be on par with other undergraduate degrees and students with a four-year integrated B.Ed. will be eligible to move on to a Master's degree programme in either the disciplinary stream or the pedagogic stream.

P5.5.2. **The two-year B.Ed. programme for lateral entry into teaching:** The two-year B.Ed. degree will be offered to Bachelor's degree holders in various disciplines for the preparation of teachers for various levels of schooling, e.g. as subject teachers for Middle and Secondary education, and will again include a strong practical training component in schools. Offering a two-year B.Ed. programme, in addition to the four-year integrated B.Ed., will enable entry into the profession of teaching for people who are at later stages in their careers, and will help to attract diverse talent into the profession. The two-year programme will continue to be offered at institutions such as Colleges of Teacher Education (CTEs), Regional Institutes of Education (RIEs), and other locations till such time as the four-year degree is seeded at universities, and begins graduating an adequate number of teachers. Beyond that, the two-year degree will be retained only at multidisciplinary institutions offering the four-year integrated B.Ed. programme. For those students who have obtained a four-year liberal Bachelor's degree, or for persons with other outstanding specialised qualifications to become a subject teacher (such as a Master's degree in the specialised subject), the two-year B.Ed. programme could be replaced by a suitably structured special B.Ed. programme of slightly shorter duration, as determined by the same multidisciplinary institutions offering the four-year integrated and two-year B.Ed. programmes.

P5.5.3. **Specialised instructors for specialised subjects:** In the case of certain specialised subjects or expertise of a local nature - including but not limited to local traditional art, music, vocational crafts, language, poetry, literature, or business - a well-respected local expert may be hired as a "Specialised Instructor" to teach in a school or a school complex, after a short, say, 10-day orientation programme offered by the school complex itself. This will

help to easily introduce local arts, languages, crafts, etc. into the curriculum, support the local arts, and will also encourage prominent persons from the community to come share their knowledge with students and inspire them.

P5.5.4. **Closing down substandard standalone teacher education institutions:** The process of reviewing the performance of teacher education institutions, and closing down the corrupt or substandard ones will be immediately initiated through mandatory accreditation of all TEIs as multidisciplinary HEIs within the next 3-5 years. A sound legal strategy to weed out poorly performing programmes and shutting them down will be put in place by the Rashtriya Shiksha Aayog (RSA) (see Chapter 23), in collaboration with the National Higher Education Regulatory Authority (NHERA). Promoters of such institutions will be free to put their infrastructure to other productive uses, such as for vocational education. See also Section 16.1.

P5.5.5. **Pedagogical aspects of the four-year integrated B.Ed. programme:** In addition to multidisciplinary knowledge, and specialised subject content as chosen by the student, the pedagogical aspects of the four-year integrated B.Ed. programme will consist of integrated theory and practice. Teachers-in-training will learn about learning-centred and collaborative learning strategies and they will be taught techniques to simultaneously teach students at multiple levels. Their courses will include diversity training - regarding how to enable underserved groups to thrive - ranging from women to socio-economically disadvantaged to differently-abled students. Trainees will use these teaching methods during their practice teaching so that they gain experience in their respective classes. Projects, rubrics, portfolios, concept maps, and mock classroom observations will replace or significantly supplement written tests, so that continuous assessment of higher order objectives will become the norm.

P5.5.6. **Specialist teachers:** There is an urgent need for additional special educators for certain areas of school education. Some examples of such specialist requirements include subject teaching for CWSN at the Middle and Secondary school level, education of children with singular interests and talents, and teaching for specific learning disabilities. Such teachers would require not only subject-teaching knowledge and understanding of subject-related aims of education, but also the relevant skills for and understanding of such special requirements of children.

While the generalist special educator is competent to work across the primary school subject areas and can also support and complement a subject teacher in middle or high school, a special educator will not himself/herself have adequate knowledge to undertake subject teaching at higher levels of school. Similarly, education of children with singular interests and talents is best prepared for after a teacher has accumulated work experience. Therefore, such areas could be developed as secondary specialisations for subject teachers or generalist teachers, after initial or pre-service teacher preparation is completed. They will be offered as certificate courses, in the in-service mode, either full time or as part time / blended courses - again, necessarily, at multidisciplinary colleges or universities.

Chapter 6

Equitable and Inclusive Education

Objective: Achieve an inclusive and equitable education system so that all children have equal opportunity to learn and thrive, and so that participation and learning outcomes are equalised across all genders and social categories by 2030.

Education is the single greatest tool for achieving social justice and equality. Inclusive and equitable education - while indeed an essential goal in its own right - is also critical to achieving an inclusive and equitable society in which every citizen has the opportunity to dream, thrive, and contribute to the nation. Unfortunately, prejudice and bias, based on gender, social and economic status, and special needs, among other factors, often affect people's capacity to benefit from the education system, compounding social cleavages that hold the nation back from growth, innovation, and progress. This Policy aims to shape an education system that benefits all of India's children so that no child loses any opportunity to learn and excel because of the circumstances of birth or background.

Data shows that, over the last three decades, the Indian education system and successive government policies have made steady progress towards bridging gender and social category gaps in all levels of school education. However, large disparities still remain, especially at the secondary level, particularly for groups that have been historically underrepresented in education.

URGs in education can be broadly categorised into those having given gender identities (including women and transgender individuals), given socio-cultural identities (such as SC, ST, OBCs, Muslims, migrant communities), given special needs (such as learning disabilities), and given socio-economic conditions (such as the urban poor). While overall enrolments in schools

decline steadily from Grade 1 to Grade 12 - a problem which must be addressed across the country as discussed in Chapter 3 - this decline in enrolments is considerably more pronounced for many of these URG. According to U-DISE 2016-17 data, about 19.6% of students belong to SC at the primary school level, but this fraction falls to 17.3% at the higher secondary level. These enrolment drop-offs are even more severe for ST students (10.6% to 6.8%), Muslim students (15% to 7.9%), and differently-abled children (1.1% to 0.25%), with even greater declines for female students within each of these URG. The declines in URGs enrolment in higher education is even steeper.

These statistics make it clear that inequities affect children already in primary school. Actions must be taken urgently to understand the barriers students face and to implement proactive measures ensuring inclusive and equitable participation of children from URGs across all levels of school education, beginning in a child's early years. This will, in particular, also help ensure that all children will be a part of an inclusive and equitable society when they grow up, which in turn will raise the peace, harmony, and productivity of the nation.

What causes exclusion and discrimination in education? A first basic cause for the exclusion of URGs from the education system is that children from URGs often suffer from a **lack of access to schools**, especially quality schools. Despite the dramatic leap in access to schooling over the past decade, there remain very serious barriers to access to early childhood and secondary education - especially for areas with large populations from educationally underrepresented groups (see Chapters 1 and 3).

The problem does not end at access, however. Even when a child from a URGs does succeed in accessing and entering a quality school, a number of other factors can and often do come into play that create barriers to learning, which in turn lead to low attendance, poor learning outcomes, and higher rates of dropping out. Indeed, there is a complex web of discriminatory and exclusionary practices and realities, due to various economic, social, political, and historical factors, that often lead to such barriers.

Poverty plays a major role in both exclusion and discrimination. Poor families struggle to send their children to school (even when there is access), and to provide support for their schooling when they do. Children from poorer homes often also suffer nutritional deficiencies that have a direct impact on learning. The lack of quality infrastructure, functional and secure toilets, and safe drinking water in schools in poorer areas represents a severe form of discrimination in education for children from socio-economically disadvantaged communities. The lack of good libraries, laboratories, and learning supplies at school hits children from disadvantaged communities the hardest, as they generally will not have as many educational resources at home.

Social mores and biases also contribute in a serious way to discriminatory practices; for example, many communities believe that girls need not go through formal schooling. Historical discrimination against various groups in our society has had a strong corresponding harmful impact on the practice of education as well, e.g. differential classroom seating based on caste, or only girls doing domestic chores in school. A longer-term consequence of this kind

of systemic bias and discrimination that children witness in school is that many of these groups then remain underrepresented and discriminated against when they grow up and join the professional education community as teachers, school leaders, and educational functionaries, creating a vicious cycle of discrimination.

Finally, school **curriculum and textbooks** often also play a role. For some communities, the connection between formal schooling and their own lives is unclear, e.g. in cases of exclusionary curricula that do not refer to what is familiar, valuable, or relatable to them. Indeed, any analysis of the existing curricula, pedagogy or textbooks exhibits a biased picture of life where the view of the "powerful" prevails: for example, the earning member of a family is almost always male in our textbooks; names of children in stories might not reflect all communities; there are almost no references to people that are differently-abled. Thus many of our classroom processes do not welcome or encourage children from disadvantaged or underrepresented communities.

What can be done to work towards and thereby attain full equity and inclusion in schools? The critical problems and Policy actions regarding early childhood education, foundational literacy/numeracy, and access/enrolment/attendance discussed in Chapters 1-3, respectively, are well-established to be particularly relevant and important for underrepresented and disadvantaged groups; therefore, **the measures from Chapters 1-3 must be targeted in a concerted way for URG**.

In addition, there have been various successful policies and schemes implemented over the past several years (such as targeted scholarships, conditional cash transfers to incentivise parents to send their children to school, providing bicycles for transport, etc.) that have significantly increased participation of URGs in the schooling system in certain areas. These **successful policies and schemes of past years must be renewed and significantly strengthened for URGs across the country**.

It will also be essential to **take into account research that ascertains which measures are particularly effective for certain URGs**. For example, providing bicycles and organising cycling and walking groups to provide access to school have been shown to be particularly powerful methods in increasing participation of female students - even at lesser distances - because of the safety benefits and comfort to parents that they also provide. One-on-one tutors and open schooling can be particularly effective for certain CWSN. Schools having quality ECCE reap the greatest dividends for children who come from families that are socially or economically disadvantaged. Meanwhile, the hiring of social workers and counsellors that work with and connect students, parents, schools, and teachers in order to improve attendance and learning outcomes have been found to be especially effective for children in urban poor areas.

Data shows that certain geographical areas contain significantly larger proportions of URG. Thus, this Policy states that **certain regions of the country with large populations from URGs should be declared Special Education Zones (SEZs), where all the above schemes and policies are**

implemented to the maximum through additional concerted efforts and funding from the Centre and States in order to truly change the educational landscape of these Zones.

It must be noted that women cut across all URG, making up about one half of all other URGs - unfortunately, the exclusion and inequity that URGs face are only amplified for women. The Policy additionally recognises the special and critical role that women play in society and in shaping social mores - not only in their own generation but in the next one; therefore, providing a quality education to girls in URGs is the best way to increase the education levels in these URGs not just in the present but also in future generations. The Policy thus states that **the policies and schemes designed to uplift students from URGs should be especially targeted towards the girls in these URGs**.

All the above policies and measures are absolutely critical to attaining full inclusion and equity for all URGs - but they are not sufficient. What will also be required is **a change in school culture**. All participants in the school education system, including teachers, principals, administrators, social workers, counsellors, and students, will need to be sensitised to the requirements of all students, the notions of inclusion and equity, and the respect and dignity of all persons. Such an educational culture will be the best tool to help students become empowered individuals who, in turn, will enable society to transform into one that is responsible towards its most vulnerable citizens. Inclusion and equity will become a key aspect of teacher education (and training for all leadership, administrative, and other positions in schools); efforts will be made to recruit more high quality teachers and leaders from URGs in order to bring in excellent role models for all students.

Finally, students will be sensitised through this new school culture brought in by teachers and other school workers (such as social workers and counsellors), and also by **corresponding changes in the school curriculum**. The school curriculum will include material on human values such as respect for all persons, empathy, tolerance, inclusion, and equity early on; any biases in school curriculum will be removed, and more material will be included that is relevant and relatable to all communities, and which develops these human values.

6.1. Upliftment of underrepresented groups in education

This Policy envisages concerted and intensified policy efforts to support all such URGs in school education. In this section, policy initiatives for inclusion and equity that are critical to all URGs are described. In subsequent sections, policy initiatives that are specific to, or that need strengthening for, particular URGs will be discussed.

P6.1.1. **Emphasis on the Policy actions of Chapters 1-3 for students from underrepresented groups:** The critical educational issues raised in Chapters 1-3, relating to ECCE, foundational literacy/numeracy, and school access/enrollment/attendance, are often especially relevant for students from URG. The Policy actions in Chapters 1-3 will thus receive targeted attention and support for students from URG.

> **Special Education Zones will be set up in disadvantaged regions across the country.**

P6.1.2. **Establishment of Special Education Zones:** Special Education Zones will be set up in disadvantaged regions across the country. It is known that there is inequitable development across regions - even within States that are otherwise performing better than the national average on human development indicators. Data reveals that there are significantly higher proportions of students from URGs in certain geographical areas. States will be encouraged to declare any clearly definable area as a SEZ on the basis of clear social development and socio-economic indicators (e.g. tribal districts of Madhya Pradesh).

The Central government will support extra investment and per-child expenditure in the ratio of 2:1 for each rupee spent by the State in these Zones. These extra investments will be spent on multiple aspects required for improving educational outcomes in these regions, including implementation of the Policy laid down in Chapters 1-3 as well as in this chapter; in particular, infrastructure, learning resources, and teacher capacity will receive targeted support in these regions. Other innovative educational initiatives will also be piloted in these zones, and will be closely monitored and adjusted based on outcomes.

The key idea will be to have these Zones act upon all the Policy actions for the upliftment of URGs in a concerted manner, with close joint monitoring by the Centre and the State, in order to quickly enable substantial positive differences in the areas of the country that truly need it most.

P6.1.3. **Availability and capacity development of teachers:**

a. **Inclusive education in teacher preparation:** Inclusive education will be an integral part of both pre-service teacher education as well as in in-service professional development, including for Anganwadi workers, pre-school and school teachers, school leaders, and other education functionaries. These programmes will ensure that all teachers are continuously

sensitised about different learners and hence will be able to cater to the educational needs of all learners, particularly from URGs and including those with certain disabilities, developmental delays or trauma who require additional attention. States and districts will develop customised training modules based on their specific contexts. Universities will be encouraged to offer certificate courses on topics related to equity and inclusiveness, and teachers will also be encouraged to undertake such courses.

b. **Alternate pathways for recruitment of teachers from URG:** To address the underrepresentation of teachers from URG, alternate pathways for the recruitment of high-quality teachers from URGs will be developed. Such efforts will include a "recruitment followed by training" model (instead of the typical "training followed by recruitment" model) for teachers from URG.

c. **Pupil-Teacher Ratio:** PTR in schools with a high proportion of learners from URGs should not be more than 25:1. This ratio is keeping in mind the remedial measures and bridge activities that will be required at every such school on a continuous basis until such time that the gaps are bridged.

Inclusive education will be an integral part of both pre-service and in-service teacher education.

P6.1.4. **Creation of inclusive school environments:**

Establishing mechanisms to address discrimination, harassment and intimidation: Admissions processes that go against the spirit of inclusivity will be abolished, and institutional processes (including time-tables and academic calendars) will reflect the diverse needs of learners and their communities. Schools will define and enforce rules and regulations to ensure privacy, dignity, safety, and access to all school resources, activities, and events (including sports and self-defense classes) for learners from URG.

a. **Eliminating exclusionary practices:** Clear criteria on equity and inclusiveness will be laid down that schools will be expected to follow. Criteria for assessing equity and inclusiveness of all schools will be developed and given adequate weight during accreditation or self-evaluation processes.

b. **Sensitising learners:** All students will develop sensitivity and appreciation of the diverse cultures and traditions to which we belong. A concerted set of actions on various fronts will be implemented, e.g. through inclusion of narratives around different socio-economic situations in the curriculum, questioning simplistic labeling of individuals on the basis of their community or beliefs, etc. Basic human values of tolerance, inclusiveness,

equity, empathy, helpfulness, service, etc. will be incorporated throughout the curriculum.

c. **Inclusive curriculum:** School curricula, syllabi and teaching learning materials (especially textbooks) will be reviewed to identify and remove overt or hidden bias and stereotyping. In all curricular reform, a concerted effort will be made to mainstream issues related to URGs in curricula for school education as well as for teacher development programmes.

> **In schools with a high proportion of learners from underrepresented groups, PTR should not be more than 25:1.**

P6.1.5. **Maintenance of databases:** Up to date information for each student will be maintained in the National Repository of Educational Data (NRED). While some education indicators will be common to all URGs, specific indicators may be tracked for particular groups. National Institute of Educational Planning and Administration (NIEPA) will devise an appropriate mechanism to track students from educationally URGs. The use of tools to capture and analyse data of URGs will enable effective monitoring of the progress of children from URGs in school education. The Central Educational Statistics Division (CESD), which will be set up within NIPEA, will undertake the analysis of this data in order to facilitate the design and delivery of targeted initiatives.

P6.1.6. **Financial support to individual students:**

a. **Targeted scholarships:** A special National Fund will be created specifically for providing scholarships and developing resources and facilities for students from URG. Students will be able to apply for financial support in a simplified manner - from a single national agency or a "single window" system - and will be able to register complaints if they are denied due support or services. Additionally, data will be linked to the NRED to ensure that no student is denied due support or resources, while also ensuring that the privacy and dignity of students are always respected.

b. **Alternative means of support:** Besides scholarships, other means of support may be made available, e.g.:

- Recruitment of talented and meritorious students from URGs to participate in NTP and RIAP programmes as educational role models, tutors, and instructional aides.

- Breakfast (in addition to midday meals), particularly for learners in economically-disadvantaged areas, following similar quality standards as for midday meals.
- Special internship opportunities under various departments concerned with the development of URG.

> **Admissions processes and institutional processes (including time-tables and academic calendars) will reflect the diverse needs of learners and their communities.**

P6.1.7. **Targeted funding and support for inclusion and access to districts and institutions:**

a. **District-wise financial assistance:** Provision of financial assistance for initiatives related to inclusion and access will be made to districts identified as special focus districts for implementing context-specific and targeted interventions/strategies, including strengthening of infrastructure. District-wise financing will be accompanied with autonomy to the districts to spend funds on aspects identified by the respective district stakeholders and based on their specific needs.

b. **Adequate financial and other resources for institutions:** Institutions serving the educational needs of students from URGs will identify specific needs; initiatives to address these needs will be backed by adequate financial resources by the system (e.g. additional teacher recruitments from the respective communities, translated material catering to the needs of specific URG, social workers to appraise the concerned community and build awareness among its members on school education, etc.)

c. **Funding will be made available for independent research on inclusive education:** This will include teacher development and impact evaluation studies of all schemes related to the promotion of inclusive education and the identification of causes for dropouts and poor educational outcomes, particularly of learners from URG, and initiatives to address these issues.

P6.1.8. **Coordinated and integrated policy implementation to support underrepresented groups:** There will be a focused approach and carefully planned synergy among all efforts towards increased participation of URGs in school education. While the ultimate responsibility for ensuring equitable educational opportunities lies with the Ministry of Human Resource

Development and relevant State/UT-level Departments/Ministries of Education, an enabling ecosystem for participation of members of URGs will be created (e.g. by specific Ministries dedicated to empowerment of specific groups, health and nutrition in early years, transport facilities, etc.).

A special National Fund will be created for providing scholarships and developing resources and facilities for students from underrepresented groups.

6.2. Education of girls as a cross-cutting theme

Indian society has long upheld the high status of women and girls and the importance of girls' education. Early history dating back thousands of years indicates the preeminent role women played as leaders in politics, defense, religion, literature as well as the fabric of Indian society.

Girls' access to education is the clearest path to disrupt poverty and violence, promote community health and well being, and foster development dividends that carry on into the next generation. Thus a key strategy in uplifting Indian society is to give concerted attention to uplifting women and girls; and a key strategy in uplifting URGs is to give due attention to uplifting the women in these groups.

For all these reasons, and in order to achieve gender equality in education, the Policy aims to integrate gender as a cross cutting priority for all aspects of policy implementation. Key efforts will include:

P6.2.1. **Partnerships with States and community organisations for girls' education:** The Government of India will develop a 'Gender-Inclusion Fund' to build the nation's capacity to provide quality and equitable education for all girls, focusing on five pillars:

a. Ensuring 100% participation of girls in the schooling system and a high participation rate in higher education;

b. Closing gender gaps in educational attainment at all levels;

c. Changing mindsets and halting harmful practices to foster gender equity and inclusion;

d. Inculcating girls' capacity for leadership to help develop current and future role models; and

e. Improving dialogue with civil society to exchange best practices and lessons learned.

The fund will authorise two funding streams - formula and discretionary grants. Formula grants will be available to States to implement priorities determined by the central government critical for assisting women and girls in gaining access to education (such as the provision of sanitation and toilets, bicycles, conditional cash transfers etc.).

Discretionary funds will enable States to support and scale effective community-based interventions that address localised and context-specific barriers to girls' access to and participation in quality education. Discretionary funds will be directed towards underfunded educational challenges facing women and girls at the community level based on a comprehensive independent-needs assessment. A portion of discretionary funds will be used to conduct due diligence on community-based organisations and to provide them with targeted technical assistance to enhance their capacity to deliver programming. States that receive resources through the fund will detail out their plan to consult civil society as a component of its efforts to close the gender gap in education.

A Gender-Inclusion Fund will focus on supporting quality and equitable education for all girls.

P6.2.2. **Fostering women's participation and leadership in education:** Resources will be made available to increase the number of women in positions of leadership in schools, including but not limited to institutional heads, teachers, hostel wardens, health workers, security guards, and sports instructors. To facilitate the hiring and retention of women in education, the amended Maternity Benefit Act will be implemented to provide crè che facilities for educators. By focusing on leadership development, incentive programmes, teacher education, recruitment and retention efforts, these initiatives will ensure women play a leading role in children's education.

To address the gender imbalance among school teachers (especially in some rural schools), alternate pathways for female teacher recruitment will be developed, without compromising on merit and qualification, both educational and professional. For example, in rural and remote areas with low proportions of female teachers, scholarships will be offered to the best female students and IAs of that area to enter outstanding teacher education programmes and become teachers, and efforts will be made to preferentially employ them in these areas after they complete their education.

P6.2.3. **Prioritising school safety and security:** All schools will develop credible mechanisms to ensure schools remain discrimination-, harassment-, and

intimidation-free, especially for women and girls. Guidelines for ensuring school safety and security of girls will be developed and made a part of the eligibility conditions for institutional accreditation. This framework will include mandatory training for educators and administrators on efforts to prevent and respond to school-related gender-based violence. Working female-only toilets with a regular stock of menstrual hygiene products will be constructed and available.

Girls' safety outside of school is also recognised as critical to their attendance and overall educational attainment; unfortunately, transportation to and from school can sometimes infringe on their personal safety in some areas. Efforts will be made to ensure girls benefit from initiatives that promote access to safe and reliable transportation, including bicycle access programmes.

> **All schools will develop credible mechanisms to ensure that they remain free of discrimination, harassment and intimidation especially for women and girls.**

P6.2.4. **Addressing social mores and gender stereotypes that encourage school non-attendance:** As part of an ongoing effort to identify and eliminate gender stereotypes in society, especially those that encourage withdrawal from schools, schools and social workers will hold regular discussions with parents, e.g. on social issues like child marriage, not sending girls to high school or for further studies, placing financial expectations on boys pre-maturely, forming negative perceptions around women employment, involving school-going children in the family profession or household work, and in general, according external factors precedence over formal education. The importance of formal education in securing better positions in medium- to high-productivity jobs and attaining financial independence will also be stressed. In addition, the presence of strong role models, e.g. female teachers, as in P6.2.2, will help change societal perceptions about women's abilities and ambitions.

P6.2.5. **Gender sensitisation in schools:** All educational institutions and affiliated offices will be mandated to conduct awareness sessions on gender issues to break stereotyped gender roles, on the importance of harassment-free environments and equal treatment of genders, and on legal protections and entitlements for girls and women including the Protection of Children from Sexual Offenses Act (POCSO), Prohibition of Child Marriage Act, the Maternity Benefit Act (along with its Amendment), and the Sexual

Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act. Training will aim to raise teachers' and educational administrators' awareness of gender-sensitive and inclusive classroom management.

P6.2.6. **The importance of focusing on girls from URG:** Acknowledging the special role that women play in society, and in the shaping of the social mores and educational values of the next generation, as well as the extra underrepresentation that they face even within URG, all policy initiatives for the upliftment of underrepresented socio-economic and socio-cultural groups will be especially targeted towards the girls and women in these groups.

6.3. Education of children belonging to Scheduled Caste Communities and Other Backward Classes

Due to various historical and linguistic factors, SC and OBC communities face severe disadvantages at multiple levels. Bridging the social category gaps in access, participation, and learning outcomes in school education will continue to be one of the major goals of all education sector development programmes. While several programmatic interventions to reduce social category gaps in education that are currently in place will continue to be pursued, along with all other key policy laid out in Section 6.1, additional key specific interventions for reducing the social category gaps in school education will include:

P6.3.1. **Recruitment of teachers from SC and OBC communities:** Affirmative action in higher education space has allowed for a significant number from marginalised communities acquire teaching degrees. However, due to the various disadvantages they carry forward, many find it difficult to obtain a job. Special initiatives should be taken up by the concerned ministries and departments to up-skill them and prepare them to be recruited as teachers in schools, especially in their home regions where they can become excellent role models.

In addition, in geographies where SC and OBC teachers are underrepresented, scholarships will be offered to the best students and IAs from SC and OBC communities to enter outstanding teacher education programmes and become teachers; efforts will be made to employ them in these areas after they complete their education.

P6.3.2. **Translated learning material:** Many students from SC and OBC communities have home languages that are different from the State/official language. This puts them at a disadvantage up front as they have to learn a new language unlike other peers whose home language and medium of instruction may not differ. Easy-read material translated into local spoken languages will be used

in the early grades to initiate children into learning; such learning materials will be prepared locally under the supervision of BITE/DIET faculty or other academic coordinators. A concerted effort will be made to hire teachers who speak various local home languages so that they may use these languages as a medium of transaction with students, as needed, in order to improve learning outcomes.

6.4. Education of children from tribal communities

Tribal communities and children from Scheduled Tribes also face severe disadvantages at multiple levels due to various historical and geographical factors. Children from tribal communities often report finding their school education irrelevant and foreign to their lives, both culturally and academically. While several programmatic interventions to uplift children from tribal communities are currently in place, and will continue to be pursued, sometimes children do not receive the benefits of these interventions due to geographical barriers and a lack of proper oversight, management, and community knowledge of these benefits. All the Policy actions of Section 6.1 will again be very important also for tribal communities.

> **Contextualising curriculum and incorporating tribal knowledge traditions will be an immediate action, while encouraging students from the community to gain qualifications as teachers will be a longer-term one.**

P6.4.1. **Relevant education:** Curriculum and pedagogy will be contextualised to make education a relevant experience for students from tribal communities. Unfortunately, one of the foremost issues children face today is the lack of relevance of the education that takes place in their schools; this comes from a curriculum design and pedagogy that often excludes them, and from teachers who do not understand or relate to their culture or language.

All these aspects have to be addressed systematically to make education relevant. Contextualising curriculum and incorporating tribal knowledge

traditions will be an immediate and necessary action, while encouraging students from the community to gain qualifications as teachers will be a longer-term one. To the latter end, scholarships will be offered to the best students and IAs in tribal areas to enter outstanding teacher education programmes and become teachers, and efforts will be made to employ them in these areas after they complete their education.

Concerted efforts will be made to provide learning materials in local tribal languages, and also teach in these languages (as a medium of communication, transaction, or instruction), especially in children's early years, whenever possible. Bilingual textbooks will be prepared and bilingual education will be pursued to facilitate smooth transition from the home language of children to the language which is used as the medium of instruction in schools.

P6.4.2. **Community coordinators:** Coordinators at the State level and tribal-dominated districts will be deployed by choosing members from the specific tribal communities. These coordinators will monitor education programmes and support the activities of the Ministry of Tribal Affairs, and education departments and ministries in order to ensure that children of these communities receive the benefits earmarked for them.

6.5. Education of children from educationally underrepresented groups within minority communities

The Policy acknowledges the importance of interventions to promote education of children belonging to all minority or religious communities, and particularly those communities that are educationally underrepresented.

The greatest educational underrepresentation among religious communities in the school and higher education system has occurred in the Muslim community. Even though there have been significant improvements in the enrolment and retention of Muslim children in school education, the gap between Muslims and other population groups continues to remain high. Muslim students have primary enrolment rates that are lower than the national average, and this gap only increases at the middle, secondary and higher education levels. All the Policy actions of Section 6.1 thus must apply, in particular, also to children from Muslim communities - in particular special actions must be taken to attain higher participation levels and learning outcomes of Muslims in newly dedicated Special Education Zones having high populations from Muslim communities as per P6.1.2. Analogous Special Education Zones must also be dedicated in areas where there is underrepresentation in higher education among other minority or religious groups.

Some of the other initiatives to enhance participation of children belonging to Muslim and other underrepresented minority communities in school education will include the following:

P6.5.1. **Supply-side interventions to incentivise Muslims and other educationally underrepresented minorities to complete school education:** Excellent schools will be established in areas with high Muslim populations, with efforts to bridge language barriers when they exist by hiring teachers who speak and write Urdu or other home languages.

Strong efforts will be made to impart foundational literacy and numeracy, in accordance with the three language formula, along with strong science, mathematics, and art backgrounds, to prepare an increasing number of students from Muslim communities and other educationally under-represented minorities for higher education. Steps will be taken for all linguistic and minority groups that exist in high concentrations in certain areas and that are educationally-underrepresented. In particular, scholarships for excellent students from Muslim communities and other underrepresented minority communities to enter higher education - identified on the basis of National Testing Service scores - will be established.

P6.5.2. **Strengthening madrasas, maktabs, and other traditional or religious schools, and modernising their curriculum:** Existing traditional or religious schools, such as madrasas, maktabs, gurukuls, pathshalas, and religious schools from the Hindu, Sikh, Jain, Buddhist and other traditions may be encouraged to preserve their traditions and pedagogical styles, but at the same time must be supported to also integrate the subject and learning areas prescribed by the National Curricular Framework into their curricula in order to reduce and eventually eliminate the underrepresentation of children from these schools in higher education. The programmes being implemented to encourage traditional or religious institutions to modernise their curriculum will be expanded and strengthened:

a. Financial assistance will be provided to introduce science, mathematics, social studies, Hindi, English, or other relevant languages in their curriculum in order to enable children studying in traditional cultural or religious schools to attain the learning outcomes defined for Grades 1-12.

b. Students in madrasas, maktabs, and other traditional or religious institutions such as schools in Buddhist monasteries, etc. will be allowed and indeed encouraged to appear for State Board Examinations and assessments by the National Testing Agency in order to enrol in higher education institutions.

c. Capacities of teachers in teaching of science, mathematics, language, social studies will be developed, including orientation to new pedagogical practices.

d. Libraries and laboratories will be strengthened and adequate teaching-learning materials made available.

6.6. Education of children from urban poor families

There are nearly 1 crore children from urban poor families, and this number seems to continue to increase (though it is hoped that measures may be taken soon to reverse this trajectory). About half of all urban poor children are severely malnourished, while nearly three-quarters are illiterate. The parents of these children have often left their hometowns in other States to make a new living in an urban area in a new State, often rendering their children unacquainted with both their home State's culture as well as life in the city. As a result, the generational divide between parents and children is often particularly stark among the urban poor. This, coupled with the lack of literacy and proper schooling and playing opportunities, often leads children and adolescents into unfortunate and harmful activities, including petty crime and drugs; an estimated one third of street children are dealing with substance abuse.

Providing children from urban poor families with quality education is the only way to rescue so many of these children and enable them to become happy and productive members of society. The Policy points in Chapters 1-3 (and many in Section 6.1) are particularly relevant for children from urban poor families and must be implemented urgently for these children.

Additional specific Policy points for urban poor children include:

P6.6.1. **Focused efforts on educational access:** Greater attention will be paid to enhance access to school education by children from urban poor families. Partnerships with urban local bodies will be strengthened to establish new schools in unserved and underserved areas, to enhance the enrollment capacity of existing schools, and to ensure that safe routes exist for children to access these schools from urban poor areas.

P6.6.2. **Role of social workers and counsellors:** Research studies show that visits from and associations with social workers form the most effective intervention in encouraging children from urban poor families to go to school. The new and existing schools that will enhance access for children in urban poor areas, as per P6.6.1, will also invest in hiring excellent social workers and counsellors. The social workers will: work to find children and parents in urban poor areas; explain to them the value of school; connect parents and children with schools, teachers, remedial instructors, and tutors; plan with them methods (such as walking groups) and routes for children to reach school safely; inform parents of children's learning outcomes and help them to be involved in their children's learning (including arranging parent-teacher conferences as necessary); help children maintain connections with their parents' languages and culture; help keep children away from harmful activities; and, along with counsellors, generally be a source of support and advice to children and their families throughout the learning process as needed.

P6.6.3. **Curricula that take into account the needs of the urban poor:** Some parts of the curriculum will be redesigned to help students from urban poor families navigate life in urban poor areas, and will include: matters of health and safety, clean drinking water, the harmful effects of substance abuse, ethics, nonviolence, matters of gender equality, respect for women, tolerance and empathy for people of all backgrounds, multilingualism, the harmful side of improper use of technology such as smartphones, beneficial uses of technology, financial literacy, aspirations for employment and higher education, and skills and vocational training. The curriculum will be designed to maximise health and safety, opportunities for learning, and the future security and productivity of children from urban poor families.

6.7. Education of transgender children

P6.7.1. **Ensuring participation of transgender children in school education:** The Policy recognises the urgent need to address matters related to the education of transgender children and initiating appropriate measures to remove the stigma and discrimination they face in their life, including with respect to education. As a part of the initiative to promote education of transgender children, a reliable national database on transgender children will be crated. The creation of safe and supportive school environments which do not violate their Constitutional rights will be accorded priority. Schools, school complexes, and social workers will be encouraged to develop a plan in consultation with transgender students and their parents regarding the use of their names and access to rest rooms and other spaces corresponding to their gender identity. The curriculum and textbooks will be reoriented to address issues related to transgender children, their concerns, and approaches that would help meet their learning needs. Teachers will be sensitised about the issues related to transgender children and their concerns and learning needs.

P6.7.2. **Involvement of civil society groups:** Civil society groups that have gained substantial knowledge of and experience in working with transgender children will be involved in the planning and implementation of education programmes for these children. Active involvement of civil society groups in conjunction with social workers will be sought to facilitate and ensure participation of transgender children in all levels of school education. More active engagement of the Directorate of Education in the States as well as NCPCR/SCPCR will be sought to ensure that all transgender children of school age are enabled to receive quality school education.

6.8. Education of children with special needs

The Policy recognises the importance of providing CWSN the same opportunities of obtaining quality education as any other child. The RTE Act Amendment Act, which came into force with effect from the 1st of August, 2012, provides for the inclusion of CWSN as contained in the Persons with Disabilities Act 2005 and the National Trust Act, under the purview of the RTE Act, thereby providing CWSN free and compulsory education; in fact, the RTE Act ensures CWSN free and compulsory education either until the completion of the elementary stage of school education or till the age of 18 years. Further, the RTE Act also provides to parents of children with severe and profound disabilities the right to opt for home-based education. The Policy points indicated in Section 6.1 are all important in the context of CWSN as well.

Specific additional policy initiatives to ensure that every CWSN is provided meaningful and quality education will include the following:

P6.8.1. **Inclusion of children with special needs in regular schools:** One of the priority areas of action in regard to education programmes for CWSN will continue to be mainstreaming them in neighborhood schools and supporting their participation in the schooling process from the Foundational stage through Grade 12.

> **Physical access to schools for children with special needs will be enabled through prioritising barrier-free structures, ramps, handrails, disabled-friendly toilets, and suitable transportation.**

P6.8.2. **Financial support for initiatives for educating children with special needs:** Clear and efficient avenues for obtaining financial support will be provided to schools or school complexes for integration of CWSN, as well as for the establishment of resource centres at the village/block level where needed for learners with severe or multiple disabilities - such centres would assist parents/guardians in part-time or full time home-schooling and in skilling such learners (including in ISL or other local sign languages if they exist, and accessing provisions available through NIOS).

P6.8.3. **Physical access to schools for children with special needs** will be enabled through prioritising barrier-free structures, ramps, handrails, disabled-friendly toilets, and suitable transportation for CWSN to comfortably attend schools. While in the long-term, the goal will be for all schools to have such facilities, in the interim schools and school complexes will be able to apply for funding to arrange and build such facilities as needed.

P6.8.4. **Inclusion of children with special needs:** Assistive devices and appropriate technology-based tools, as well as adequate and language-appropriate teaching-learning materials (e.g. textbooks in accessible formats such as large print and Braille) will be made available to help CWSN integrate more easily into classrooms and engage with teachers and their peers. To this end, research efforts to develop and test solutions that are effective in local contexts will be supported. The other components of interventions will include functional and formal assessment, appropriate educational placement, and preparation of Individualised Educational Plans (IEP).

P6.8.5. **Provisions for home-based education:** Home-based education will be provided for children with severe and profound disabilities who are unable to go to schools, with the objective of enabling them to complete school education, including through NIOS. Orientation of parents/caregivers along with wide-scale dissemination of learning materials to enable parents/caregivers to actively support their children's learning needs will be accorded priority.

The programmes for inclusive education of CWSN will be implemented in collaboration with resource centres for CWSN as well as NGOs and volunteer organisations who may wish to participate. Local resource centres and NGOs would be involved in the planning of inclusive education, awareness generation, community mobilisation, early detection, identification and assessment of CWSN.

P6.8.6. **Availability of open schooling for hearing-impaired students:** NIOS will develop high quality modules to teach ISL, and to teach other basic subjects using ISL.

P6.8.7. **Special educators and therapists with cross-disability training:** To assist teachers in catering to the needs of all learners more fully, each school complex will appoint an adequate number of special educators with cross-disability training to work with all schools within that complex. Resource centres at the block level in conjunction with special educators at the school complex level will support the rehabilitation and educational needs of learners with severe or multiple disabilities, and will assist parents/guardians in achieving high quality home-schooling and skilling for such students.

P6.8.8. **Scholarships for differently-abled students:** As a part of the efforts to enhance participation of differently-abled children in school education, scholarships for talented and meritorious students will be offered on a more liberal scale, especially at the secondary stage of education, to facilitate their entry into higher education.

Chapter 7

Efficient Resourcing and Effective Governance through School Complexes

Objective: Schools are grouped into school complexes to facilitate the sharing of resources and render school governance more local, effective, and efficient.

Achievements and challenges related to the expansion of the Indian schooling system

India now has near universal enrolment of children in primary schools. Gender parity has been achieved and the most disadvantaged groups have access to primary schools. These are laudable achievements, and must be acknowledged as such, while the task may be unfinished.

All this has been enabled by expansion of the elementary schooling system, notably by the establishment of primary schools in every habitation across the country, driven by the Sarva Shiksha Abhiyan (SSA), and other efforts across the States. While the basic principle of the expansion of the schooling system, of having a primary school within 1 km of each habitation, has enabled access, it has led to certain significant issues and challenges.

According to U-DISE 2016-17 data, nearly 28% of India's public primary schools and 14.8% of India's upper primary schools have less than 30 students. The average number of students per grade in the elementary schooling system (primary and upper primary, i.e. Grades 1-8) is about 14, with a notable proportion even below 6; during the year 2016–17, there were 119,303 single-teacher schools, the majority of them (94,028) being primary schools serving Grades 1–5.

In essence: our strategy of school expansion has delivered access, but has resulted in the development of very small schools, i.e., schools with small number of students. This is now a structural matter of our schooling system and underlies some key issues that are serious challenges to improving the quality of education. There are three kinds of serious challenges, and other relatively smaller ones.

First, the small size of schools makes it economically suboptimal and operationally complex, to allocate and deploy all the resources necessary to run a good school. Most importantly, this affects the deployment of teachers and availability of critical physical resources. Some of the most serious manifestations and implications of this matter are:

- Teachers have to teach multiple grades at the same time (called "multigrade teaching"). While there are many occasions where varied age groups learning together is very useful, a structural constraint of this sort, where multigrade teaching is the default, is deeply detrimental to educational quality.

- Teachers have to teach many subjects, often teaching subjects in which they have no background. This problem becomes even more severe in Grades 6–8

- Very rarely are teachers appointed to subjects/areas that have been traditionally given the status of "co-curricular", e.g. music, sports, arts.

- Physical resources such as experimental kits, laboratory equipment, library books etc., are very inadequate across schools.

Second, small schools present a systemic challenge for governance and management. The geographical dispersion, challenging access conditions and the very large numbers of schools, make it difficult for any effort to reach all schools equally. This has an impact on improvement initiatives, on provision of support that the schools need (e.g. BRC and DIET), and all matters of interface of the individual school with the overall education system. This situation is exacerbated because the administrative structures have not been expanded in accordance with the expansion of the number of schools.

Third, schools with small number of students and few teachers, are educationally sub-optimal. While this is one of the most serious effects of the phenomenon of small schools, it is paid woefully inadequate attention. This matter has two dimensions. One, optimal learning environments require a certain cohort size (about 15 at least) of same-age students. Most of our schools do not have these numbers. Second, teachers function effectively and optimally in teams. Our structural situation has led to 80% of elementary schools having three or fewer teachers. Such small schools exacerbate the phenomenon of isolation of teachers and impede their professional development.

Although consolidation of schools is an option that is often discussed, any efforts to do this must not impact educational access in rural areas. Consolidation must therefore be done very judiciously, and only when it is ensured that there

is genuinely no impact on access. This is likely to result in only a small degree of consolidation, something that will not solve the structural problem.

Schools will be organised into school complexes which will be the basic unit of governance and administration.

Addressing these challenges through the establishment of school complexes. The suggestion to create a larger group structure called the school complex, consisting of one secondary school together with all other schools offering lower grades in its neighbourhood, a radius of five to ten miles, was first made by the Education Commission (1964–66) but was left unimplemented. Here we adopt and extend the ideas for the utility of school complexes.

The aim is to provide peer support to principals and teachers of individual schools and thereby end their isolation. By additionally devolving various administrative, organisational, governance-related, and management-related responsibilities to the school complex, it will therefore become possible to:

- Build vibrant communities of teachers, school leaders, and other supporting staff;
- Better integrate education across all school levels, from early childhood education through Grade 12, for all students in the local region;
- Share key material resources such as libraries, science laboratories and equipment, computer labs, sports facilities, as well as human resources such as social workers, counsellors, and specialised subject teachers, such as those for music, art, languages, and physical education, amongst schools in the complex;
- Develop a critical mass of teachers, students, supporting staff, as well as equipment, infrastructure, labs, etc., resulting in more effective leadership, governance, and management of schools and the schooling system.

The establishment of school complexes and the sharing of resources across complexes will have a number of other benefits as a consequence, such as significantly improved support for children with special needs, more topic-centred clubs and academic / sports / arts / crafts events across school complexes, better incorporation of art, music, language, physical education,

and other subjects in the classroom through the sharing of teachers in these subjects, better student support, enrolment, attendance, and performance through the sharing of social workers and counsellors, and SCMCs (rather than simply SMCs) for more robust and improved governance, monitoring, oversight, innovations, and initiatives by local stakeholders. Building such larger communities of schools, school leaders, teachers, students, supporting staff, parents, and local citizens would energise and enable the schooling system, and in a resource-efficient manner.

7.1. Ending the isolation of small schools through school complexes

P7.1.1. **Public school complexes:** Multiple public schools will be brought together in an organisational and administrative unit called the school complex. This will not require physical relocation of schools. Each individual school that is viable in size will continue to function even as it is integrated administratively into a school complex.

The school complex will become the basic unit of educational administration of the public school system, and will be developed accordingly.

a. The school complex will be used to break the severe isolation in which teachers at small schools function today. It will create a community of teachers and principals who can meet face-to-face and work together to support each other - academically and administratively.

b. School complexes will also enable administrators at all levels of the State government to function more effectively, since each complex will be treated as a single unit, with substantial autonomy and independence, thus reducing the span of direct management.

c. While each individual school will be adequately resourced, the introduction of complexes will enable substantially better resourcing across all schools in the complex due to the ability to share resources e.g. teachers for all subjects and grades, more books for libraries, better equipped laboratories and sports facilities. Students will be able to get all the facilities they need until Grade 12, within their own school complex.

> **A school complex will be a cluster of public schools in a contiguous geography offering education across all stages - Foundational to Secondary.**

P7.1.2. **Composition of the school complex:** Each school complex will be a semi-autonomous unit that will offer education from the Foundational stage (age 3-8 years) till Grade 12 (age 18). The complex will consist of one secondary school (covering Grades 9-12) and all the public schools in its neighbourhood that offer education from pre-primary till Grade 8. All the schools that are part of a complex will be chosen due to their proximity to each other, forming a logical geographical group. If for any reason a school complex does not have a secondary school where Grades 9-12 are being taught, then these grades must be introduced in one of the schools. The school complexes will also have pre-school centres/Anganwadis, vocational education facilities, an Adult Education Centre (AEC) etc., associated with them.

It will be up to the individual State governments to group schools into school complexes according to the population distribution, road connectivity, and other local considerations. Therefore the size and composition of the school complexes can vary, but the grouping must ensure convenience of access for students and families, administrative ease for the State government, and a support system for teachers and principals.

P7.1.3. **Leadership of school complexes:** The principal of the secondary school will be the head of the school complex. S/he will be endowed with administrative, financial and academic powers to oversee the coordinated development of all the schools within the complex. S/he will be given adequate administrative support by the functionaries of the DSE, the DEO and the BEO, and be assigned an adequate number of staff members for general administration, finance and accounting, and so on. The principals/head teachers of the other schools within the school complex will report to the head of the school complex. They will form a team that will be charged with the responsibility of improving the quality of each individual school in the complex, increase enrolment, reduce drop out rates sharply, and encourage all children to stay in school until Grade 12.

7.2. Better resourcing of schools through school complexes

The grouping of schools across the country into school complexes will enable the sharing of resources across schools including subject teachers, sports, music and art teachers, counsellors, social workers and so on, and also material resources such as laboratories, libraries and so on. School complexes will be used for increased, improved resourcing of ICT equipment, musical instruments, sports equipment, sports fields etc. - all these resources would thus now be shared and therefore be available to a much larger number of students than is possible today.

P7.2.1. **School infrastructure:** While each individual school will be resourced adequately for their basic functioning, school complexes can house shared facilities and equipment at the secondary school that cannot be provided separately to each individual school. For audio-video systems with a portable generator can be taken around from school to school. Similarly, the secondary school may have a good laboratory, musical instruments, and playgrounds with sports equipment that students from the pre-primary, primary, and upper primary schools in the complex may be given access to on a regular basis. The secondary school can maintain a large circulating library from which books can be sent out to schools in the neighbourhood. All shared resources will be in the charge of the principal of the secondary school who will ensure their optimal use.

P7.2.2. **Teachers:** Teachers can also be shared among the schools in the complex. Areas/subjects, which by the nature of the curriculum, do not require a teacher for every school (accounting for the number of students), may have teachers appointed to the overall school complex thus making it possible for resourcing to happen optimally. For instance, language teachers, sports teachers, art and music teachers, yoga teachers, school nurses, and counsellors can all be appointed to the staff of the secondary school and be shared across the schools in the complex.

It is generally difficult to provide leave substitutes for teachers in primary schools, because of the small sizes of the schools. The problem becomes acute in single teacher schools where, if the teacher is on leave, no education can happen. With the school complex concept, it will become possible to attach one or two leave reserve teachers to the secondary school so that they can be sent to schools within the complex as and when the need arises. School complexes shall have adequate numbers of teachers for all areas/subjects in the curriculum on behalf of all schools within the complex.

P7.2.3. **Social workers:** Adequate numbers of social workers will be appointed to the school complexes depending on the student population and the population of adult learners in that geography.

The social workers will engage deeply with the community being served by the school complex. They will work pro-actively with parents and students, to ensure enrolment and attendance, and to eliminate the phenomenon of children 'dropping out' of school. They will work to bring back students who have dropped out of school. Particular attention will be paid in this regard to areas where there are many students from socially and economically disadvantaged groups, including in urban areas.

Social workers will help teachers in identifying and managing CWSN including managing relationships with their families and the community. They will also facilitate the engagement of teachers with the communities that the school complex serves.

Social workers will help in making the SMC more effective. They will also work with counsellors and families to help students identify vocations of their

choice, and identify and mobilise adults who can benefit from participation in adult education programs.

The school complex will support social workers in every way to achieve these aims. The State departments of education will coordinate with the departments of health and of law enforcement to establish mechanisms to provide support to the social workers when needed, e.g. in cases where students' attendance is affected by illness, there are cases of abuse, there is lack of safety, etc.

P7.2.4. **Counsellors:** While the teachers will have the central role in student care and well-being, each school complex will have one or more capable counsellors available. The counselling available will range from career guidance to mental health. While there may be other areas of counselling that can be identified and mechanisms established to offer them, the following will be provided:

a. Counselling on choice of subjects in secondary grades, including vocational subjects, and on choices in higher education, leading to potential career choices

b. Support and counselling on age related growth and development issues, especially during the adolescent years

c. Support and counselling on mental health issues, including stress and mood disorders

The mechanisms to make such counselling available will have to be responsive to the practical reality of the school complex, including training some of the teachers or social workers to be able to play the role of counsellors, appointing full time counsellors for one or more school complexes, and arranging for counsellors to visit the schools frequently. This counselling support should also be able to identify cases requiring clinical mental health support - and the school complex must have the tie-ups necessary to provide this. The State departments of education and health will have to coordinate closely for enabling this.

> **School complexes will ensure availability of all resources - infrastructure, academic (e.g. libraries) and people (e.g. art and music teachers)**

P7.2.5. **Optimal utilisation of institutional facilities:** Since the physical infrastructure of educational institutions is investment intensive, it is important to utilise these as fully as possible, for the longest time during each day and for all the days in the year, by making suitable administrative arrangements. An administrative plan to enable this must be created urgently by the government for each school complex, and should be integrated in the development plan for the complex.

Given that vocational education and adult education will all be administered through the school complex, utilising the physical infrastructure outside of school hours will be possible. Teachers and students would continue to have their own hours of work and vacations.

However, the libraries, laboratories, workshops, craft sheds, sports fields, play grounds etc., should be open all the year round and should be utilised for at least eight hours a day, if not longer, by anyone interested in learning through the use of these facilities. Even the classrooms can be used post school hours as needed.

Special vacation programs should be arranged to utilise institutional facilities for community service, teacher professional development, adult education, enrichment programs for gifted students and supporting programs for students with special needs.

With an encouraging climate for the sustained use of facilities, teachers, students and the local communities will discover innumerable ways of utilising school facilities to their maximum potential throughout the year.

7.3. Fostering integrated education through school complexes

The definition of a school complex as envisaged by the Education Commission (1964-66) will be generalised and extended in the present context, to go beyond the original goal of ending the isolation of small schools and improving educational outcomes. The aim will be to create a coherent set of educational facilities including pre-schools/Anganwadis, institutions offering vocational education and adult education, teacher support institutions and support for CWSN that are located within a well-connected geographical area and can support each other in their work.

Such a school complex would then become the primary administrative unit of the public school system.

P7.3.1. **Integrating early childhood care and education:** The requisite focus and emphasis on ECCE will be enabled through the school complexes - by providing academic, resource and administrative support to all public institutions engaged in ECCE within the geographic area of that school complex. Schools that already have or will start pre-primary education, will run these classes fully integrated with the school complex system.

The school complex will provide specific support to Anganwadis in its vicinity. This will include moving the Anganwadi to within one of the school premises if possible, provided such a move does not impact access but improves the physical infrastructure substantially. The support will also include sharing of resources, social workers, teachers and including the Anganwadi staff in professional development activities within the school complex. Each State government will promote interactions between its Department of Women and Child Development and Department of School Education to facilitate the tighter coordination that will be needed for this purpose. The RSA, through its Standing Committee on Coordination (SCC), will also work towards formalising such programs of support and integration.

P7.3.2. **Integrating vocational and adult education:** School complexes will collaborate with institutions such as ITIs, Polytechnics, etc., with local businesses (industry, service, agrarian, etc.), health centres and hospitals, artists and artisans, and those with expertise in local crafts and traditions, to offer a range of vocational education courses (see Chapter 20). Since vocational education has a large hands-on learning component, school complexes must take on the responsibility of ensuring that the students receive this component of training even while they continue in school to complete the rest of their broad-based general education. Infrastructure for adult education (see P21.2.1) can also be associated with specific school complexes and be made available to the entire community served by the complex.

P7.3.3. **Children with special needs:** Every school complex will create the infrastructure necessary to ensure that appropriate support is available to all CWSN, within the complex. Irrespective of the type of support that a child requires, s/he should be able to study at one or the other of the schools within the complex, with transport provided as needed. Teachers will be trained to help identify students that are differently-abled. Once such children are identified, the school complex will be given suitable funds and provided with the knowhow they need, to integrate the child into the school community, if they don't already have the ability to do so. A special fund will be created for this activity in collaboration with the Rehabilitation Council of India.

P7.3.4. **Role of higher education institutions:** Universities, colleges, and polytechnics in the vicinities of schools will contribute to improving school outcomes using the capacities relevant to school education that they may have. This may be particularly useful for secondary schools in terms of support for subject content and in offering physical resources such as laboratories, books, and playgrounds. Specific contributions will also be possible in supporting schools to offer vocational courses, including by the use of facilities in colleges and polytechnics. Each college will be functionally related to one or more school complexes in their neighbourhood and provide such support. The universities and colleges could also support students with

singular talents and interests from the local schools / school complexes. Many such possibilities of support will emerge, as the HEIs integrate community service into their Institutional Development Plans (IDPs), including with regard to school education and adult education.

Each district will have atleast one HEI offering high quality liberal education programmes (see P10.15). This HEI will play a significant role in supporting the school systems in the district to improve, for example, by supporting teacher professional development and helping in the development of localised vocational courses.

The DEO and the BEO will work with the HEIs in the district to plan and enable their support to the schools. The support to the local schooling system will be a part of the mandate of all HEIs.

7.4. Improved support to teachers through school complexes

School complexes will be organised in such a way that they will have 80-100 teachers each, so that a strong community of teachers can be formed. Such teacher communities can support each other and work together more effectively for improving the outcomes at schools, and for their own professional development.

Since teachers will henceforth be appointed to school complexes, they can form lasting relationships among themselves and with the community they serve. The school complex can also provide guidance to new teachers with planning their teaching since there will be several experienced teachers in the group.

P7.4.1. **Continuous professional development for teachers:** The CPD of teachers will be an important responsibility of the school complex. A comprehensive teacher development plan (TDP) will be drawn up for the purpose, including multiple modes of development (see P7.4.2 and P7.6.2).

All the teachers of the complex would be developed into a community, to provide each other with support and learning opportunities. These will be participative communities of peer support and learning, and will culturally be encouraging and informal. The development of these peer learning communities will require sustained work from the school leadership and other resources. The SCERT and BITEs/DIETs will create special programmes for learning how to develop and run effective peer learning communities. Civil Society Organisations (CSOs) will be encouraged to contribute and engage with the development and functioning of these peer learning communities.

In addition to the peer learning communities, which in themselves will be enabled by relevant mechanisms (e.g. weekly meetings, teacher-learning-centres) by the school complex, it will also provide other modes of CPD, e.g. seminars, in-class mentoring, exposure visits, etc.

The continuous professional development of teachers will be an important responsibility of the school complex. A comprehensive teacher development plan will be drawn up for the purpose, including multiple modes of development.

P7.4.2. **Aligning the teacher support systems:** The academic and teacher support system, and its institutions, will be aligned to the school complex system by the DSE and the SCERT. This will include the CRCs, BRCs, BITEs, and DIETs.

The States may consider integrating the CRCs within the school complexes, depending on the geography. This would imply that the dedicated CRC resources are available for the school complex. These CRCs may develop into Teacher Learning Centres (TLCs) for the school complex. The TLC may have books, periodicals, experimental kits, online resources, etc.

The functioning of the BRCs and BITEs/DIETs will have to respond to the school complex system and the role of the latter in teacher professional development, especially by the development of teacher communities. The BRCs and the BITEs/DIETs will respond to fulfil the needs of the School Complex Development Plan (SCDPs) including the TDP, and this shall form an integral part of the short and mid-term plans of these institutions. The school complexes, BRCs and BITEs/DIETs will develop their plans for teacher development and academic support collaboratively and consultatively, this must be facilitated by the DEOs and the SCERT.

A plan for this alignment and functioning will be developed by each State and will be facilitated by the SCERT.

7.5. Administration and management of school complexes

Administration and management of individual schools will be facilitated by the creation of school complexes, through enabling peer interaction and support, and creating a single point of contact with government. The administrative infrastructure, including officials such as the BEO and DEO, and academic support institutions such as CRCs, BRCs, BITEs, and DIETs, will be able to interface better and provide more relevant support,

by interacting with the school complex on behalf of each of its individual constituents.

P7.5.1. **Organisation of schools into school complexes:** Individual State governments will group schools into complexes according to the population distribution, connectivity, and other local considerations. While the size and specific composition of the school complexes will vary, the grouping will ensure convenience of access for students and families, administrative ease, and the creation of a support system for teachers and principals.

The grouping exercise will also include the review and consolidation of schools that have very small enrolment (e.g. < 20 students) and are not viable as independent units. Access to a school for students must not be impacted in the process. Transport will be provided within the school complex for students as well as teachers to ensure safe access (bicycles, buses and other means as needed).

State governments will complete the process of organisation of schools into school complexes by 2023. Adequate planning and preparation must be done to ensure that the spirit in which school complexes are being created, as a facilitation mechanism for teachers and principals towards improved learning outcomes, is communicated to all stakeholders.

P7.5.2. **Upgrading infrastructure of schools and ensuring maintenance through school complexes:** The process of organisation of schools into complexes will also be used as an opportunity to assess the status of infrastructure at all schools and to allocate adequate one-time funding to upgrade them. Adequacy of classrooms, toilets, water, electricity, safety features such as boundary wall and other important facilities and educational resources that may be identified as missing must be recorded and provided for at the earliest. Subsequently, the school complexes will be given adequate budgets for maintaining the infrastructure of all their schools in good shape, on an ongoing basis, by the DSE.

P7.5.3. **School Complex Management Committee:** Each school complex will have an SCMC comprising representatives from all the schools in the complex. The SCMC will be led by the head teacher/principal of the secondary school in the complex and will have the head teachers/principals of all schools within the complex as well as one teacher and a civil society member from the SMCs of each of the schools. Besides this, the SCMC will also have membership from all the other institutions that are attached to the school complex such as AECs, academic support institutions such as CRCs and so on. The SCMC will be the tasked with improving learning outcomes of all schools within the complex. Towards this they will meet regularly - at least once a month at times convenient to the members, especially the parents/civil society members - to discuss and chalk out the development plans of the schools and the school complex individually and collectively, and monitor the progress on all their initiatives. They will take into account any issues/suggestions/complaints raised by the SMCs in the school complex, as reported by the SMC representatives on the

SCMC. The SCMC will consider creating smaller teams/ committees to look into specific long-term goals such as integration of vocational education, development of professional learning communities among teachers and so on.

P7.5.4. **Managing school complexes:** Only a small fraction of schools in the country have support staff associated with them, with the result that teachers are generally in-charge of everything, from the midday meal to accessing supplies for the school. With the creation of school complexes this will change. School complexes will be assigned an adequate number of staff members by the DSE, to ensure smooth functioning of the school complex. This will include staff to handle accounts, general administration etc., and arrangements for cleaning and maintenance of infrastructure. This is in addition to the appropriate numbers of teachers, social workers and counsellors. Staff as well as teachers who work with multiple schools in the school complex will be provided with either transport or transport allowance by the head of the school complex.

7.6. Effective governance through school complexes

The introduction of school complexes bring in at least two important advantages with regard to governance of the school education system. The first is that responsibility for decision making devolves downwards, towards principals, teachers and other stakeholders within the school complex who are better placed to make these decisions and work towards improved learning outcomes. The second is that the role and responsibility of State governments get simplified since their DSE's can treat the complex as a semi-autonomous unit, leaving all the finer local decision making to them, even as they focus on the larger picture of the evolution of quality. State governments must also create district level units of governance called District Education Councils (DEC) as an intermediate stage between school complexes and the DSE to help in making local district-level decisions at the district level.

P7.6.1. **Improved governance through school complexes:** The DSE will devolve authority to the school complex and each complex will be a semi-autonomous unit. The DEO and the BEO will interact primarily with each school complex as a single unit and facilitate their work. The complex itself will perform certain delegated tasks, tasks that would otherwise have been performed by the inspecting officers of the DSE, and deal with the individual schools within it.

This school complex will be given significant autonomy by the DSE to innovate towards providing integrated education and to experiment with pedagogies, curriculum etc., while adhering to the National Curriculum Framework (NCF) and State Curriculum Framework (SCF).

Under this organisation, schools will gain in strength, will be able to exercise greater freedom, and will contribute towards making the complex more innovative and responsive. The DSE will be able to focus on the aggregate level goals that need to be achieved, improving overall system effectiveness.

P7.6.2. **Nurturing the culture of planning:** The culture of working to a plan, both short-term and long-term ones, will be developed across the leadership of all educational institutions.

Schools will develop their School Development Plans (SDPs) with the involvement of their SMCs. These plans will then become the basis for the creation of School Complex Development Plans (SCDPs). The SCDP will also involve the plans of all other institutions associated with the school complex such as the vocational education institutions and so on, and will be created by the principals and teachers of the school complex with the involvement of the SCMC.

The plans will include human resources, learning resources, physical resources and infrastructure, improvement initiatives, financial resources and educational outcomes. The improvement efforts will include a comprehensive and integrated educational plan for improving learning in the school, this will include pedagogical approaches and changes in school culture that may be required. It will also include the TDP. It will detail the efforts to leverage the teachers and students across the school complex to develop vibrant learning communities.

The SDP and SCDP will be the primary mechanism to align all stakeholders of the school including the DSE, and to ensure its smooth functioning. The SDP and SCDP will be made available publicly. The SMC and SCMC will use the SDP and SCDP for oversight of the functioning and direction of the school. They will assist in the execution of these plans.

The DSE, through its relevant official, e.g. the BEO, will endorse and confirm the SCDP of each school complex. It will then provide the resources (financial, human, physical, etc.) necessary to achieve the SCDPs, both short-term (one-year) and long-term (3-5 years). It will also provide all other relevant support to the school complexes to achieve the desired educational outcomes. The DSE and the SCERT may share specific norms (e.g. financial, staffing, process) and frameworks for development of the SDP and SCDP with all schools, which may be revised periodically.

P7.6.3. **District Education Council — Zilla Shiksha Parishad:** Each district will have a DEC/ZSP for oversight of the functioning of the school system in the district, and to enable the functioning and empowerment of the schools, school complexes, SCMCs, and SMCs. The DEC will also enable coordination with other departments of the State, e.g. the Department of Woman and Child Development, Department of Health, and the Department of Higher Education.

The DEC will report to the DSE and will focus on achievement of the educational outcomes for the district. It will not have any regulatory or standard setting role. The DEC will play a key role in encouraging teachers and schools to improve, for this it may devise specific schemes for schools and school complexes, especially for recognition and replication of good practises.

The collector/district magistrate will chair the DEC. The DEO will be the executive officer of the DEC. It will have 15-20 members, including parents, teachers, principals, civil society organisation representatives, and the principal of the DIET. At least five of the members will be people with expertise in education, with a track record of public contribution in that district - this will be in addition to the teachers and principals in the DEC. All BEOs of the districts will be invitees to the DEC.

The DEC will develop a mid-term and short-term District Education Development Plan (DEDP), on the basis of the SDPs and SCDPs of the district. The framework for this will be decided by the DSE.

P7.6.4. **Planning and review for development at every level:** A culture of rigorous planning and review will be established at all levels by the corresponding apex governing bodies; the SDP, SCDP, and DEDP will form the basis for such reviews. The objective of the planning and review process will be developmental - to improve all aspects of education at schools.

Such reviews will also be used to recognise and award best practices and contributions to school education, including recognition of teachers, principals, social workers, counsellors, schools, school complexes, etc. These reviews will also form the basis for the planning processes at each level for the following year.

7.7. Effective governance and management of individual schools within school complexes

Schools are social institutions. They are an integral part of the community and its development. It is this community - including the parents of current and future students - that have the greatest and most immediate investment in the school. They are best placed to provide support and oversight to the governance of schools through the SCMCs and SMCs. This mechanism has already been enabled for schools by the RTE Act.

This approach is in tandem with India's overall commitment to local governance. The Panchayati Raj and other local self-governance institutions were empowered through the 73rd and 74th Constitutional Amendments,

facilitating the three-tier system of governance at the State, district and village/ town levels. This devolution of power to the people was the direct route to addressing local concerns effectively and facilitating appropriate contextual responses.

However, the desirable state in which all SMCs actively participate in school governance is still not a reality. Various challenges have come to fore, including lack of awareness among parents, the inability of parents dependent on daily wages to participate in the activities of the SMC, lack of participation of women, etc. It has been observed that meetings of the SMC are often not held, or held without sufficient representation, or with no influence on the matters of the school.

Over the past two decades, a large proportion of the socio-economic middle and upper middle class has moved its children to private schools. Thus, the parents of students in public schools are often those with relatively less political and economic influence - they have a smaller 'voice' in the socio-political sphere. This very unequal power equation also impacts the effectiveness of the SMCs and any other form of community engagement with the school. The DSEs across the States continue to manage and govern the schools, with only a secondary role to the SMCs.

Making SMCs effective for improved local governance of schools. States have already laid out guidelines for constitution of SMCs, which generally include representation by school teachers, parents, students and the community. This will be executed with greater adherence to the spirit of the role of the SMC and also be built upon for improvements. The community engagement model of the SMC will be extended to School Complexes, by the creation of the SCMCs.

Those who have the greatest investment in the school and its well-being (e.g. mothers of students) and alumni of the school, will be the ones who will strive the hardest to ensure the aspirations and needs of their children are met. This group must find adequate and empowered role in the SMC. The membership of the SMC could also include local people with expertise in relevant areas of school functioning, and those with exemplary public spirit. This will substantially increase the engagement of the SMC with the school.

This issue of unequal power structure and the relatively smaller 'voice' of the communities being served by the public school system will be addressed and will be crucial to making SMCs more effective. This will be done by supporting the SMC by school complexes and other institutions of local governance (e.g. panchayats, ward councils), and also developing effective and easy-to-use grievance handling mechanisms, including a public IT based platform, which will escalate issues to higher authorities and provide public scrutiny to the handling all such matters.

Teachers and the school leadership must be fully involved in the governance mechanisms of the school for them to have a sense of deep ownership of the development and functioning of the school. The SMC and SCMC will empower school leaders and their teams to run the school.

The DSE, which would be fully responsible for the operations of the public schools across the State, will enable this overall governance and management system, including by fulfilling the resource requirements across the State.

P7.7.1. **School Management Committees as a mechanism for community support and supervision:** Functioning of all schools (government/public, private-aided and private-unaided) will be supervised by the SMC, the constitution of which is mandatory since the enactment of the RTE Act.

States may review the constitution of the SMCs using the following as guidelines.

a. SMCs should have 10-12 members, the majority of them should be parents of students, especially mothers. At least two teachers along with the head teacher should be a part of the SMC. The other members should be: one or more alumni, a member of the panchayat, and a local person of reputation of social contribution.

b. The SMC must elect a chairperson, who will ensure its functioning, arrange meetings, set the agenda, review progress and plan for the future.

c. The head-teacher/principal of the school will be accountable to the SMC. The SMC will be responsible for supervising governance and holding the school and DSE (including its officials) accountable for educational outcomes. The SMCs will enable a "sense of ownership" for the school within the community, and would nurture the feeling of social cohesion and working together.

P7.7.2. **Enabling the School Management Committees to function effectively:** Specific efforts will be made on a continuous basis, to improve the functioning and effectiveness of the SMCs.

The SMC will meet at least once a month. Meetings will be held at a time which is convenient to the members, especially the parents on the SMC. All SMC meetings shall have minutes recorded, which shall be made available publicly.

Capacity development programs for SMCs will be run on a continuing basis, by the DSE and its institutions such as the Cluster and Block Resource Centres and civil society organisations with relevant capacity.

The local panchayat or ward council will oversee that the SMC of each school in its area of jurisdiction is functioning effectively and is meeting regularly. The district educational administration should evaluate the functioning of every SMC to ensure that it does not become the exclusive preserve of powerful local interests.

P7.7.3. **Performance management of teachers:** The SMC will play a central role in performance management of teachers and head teachers, by endorsing their evaluation and assessment, including the annual appraisal, as detailed in the section on teachers (see P5.4.5).

The SMC will closely monitor matters of adherence to the basic code of conduct by teachers including regular attendance at school, treatment of children, proper usage of school resources and probity. This will form an integral part of the annual appraisal of the teachers and the principals.

Promotion and compensation increases of teachers and principals will be done only upon endorsement by the SMC based on their adherence to the basic code of conduct.

P7.7.4. **Addressing School Management Committee issues and grievances:** SMCs will be empowered to have a voice to intervene on behalf of the school with the State and its bodies. To enable this, an IT-based grievance logging system visible to the public and easily useable on mobile devices will be set up, for addressing SMC issues and grievances, with specific timeline based escalation up the hierarchy of the State education system.

The District Education Council will champion the SMCs and their issues, with the DSE and other relevant bodies.

The local panchayat/ward council must track, support and advocate (with DSE, Zilla Parishad, Collector and local MLA) for the SMC, including for adequate resourcing of all schools in their area of jurisdiction. The assessment and evaluation of performance of BEOs and DEOs will take into account systematic feedback from SMCs and SCMCs in their geography.

P7.7.5. **Leadership of schools:** The head-teacher/principal will be the executive head of the school - with responsibility and authority over all academic and administrative matters, while being accountable to the SMC, for the educational outcomes of the school and for the probity of its functioning, as per norms set by the DSE and detailed in the SDP. Leaders of schools will be chosen by the DSE and its relevant officers on the basis of relevant capacities, determined through their performance appraisal, and not on the basis of seniority.

The role of school principals will be strengthened by giving them autonomy and authority over financial decisions within a framework announced by the school complex. They will also be supported by the school complex to make best use of their autonomy. The financial decisions and flows will be reviewed by the SMC, in addition to oversight by the head of the school complex.

P7.7.6. **Managing schools as a team:** Teachers and principals will continue to be responsible for working together as a team, and with the parents and community members, to steer their own institutions towards excellence. In addition to the learning of their students, this team will also be responsible for their care and overall well-being.

The team of teachers headed by the principal/head teacher, in close collaboration with their counterparts at other schools within the school complex, will work closely together to manage the school. This team will work towards clear curricular, learning and administrative objectives both for the short-term (one year and less) and the long-term (three to five years) agreed upon with the DSE, the SCMC and the local SMC. This will include objectives of improving learning of students and the overall quality of the school, including ensuring that foundation literacy is achieved for all, and age appropriate learning happens right up to grade 12. It will also include increasing enrolment, reducing

dropouts sharply, and ensuring that all children stay in school until grade 12. All these matters should be integrated within the SDP.

This team will have significant autonomy to make decisions that help meet the objectives and implement the SDP and will be supported and supervised by the SMC.

Chapter 8

Regulation and Accreditation of School Education

Objective: India's school education system is invigorated through effective regulation and accreditation mechanisms that ensure integrity and transparency and foster quality and innovation for continually improving educational outcomes.

Realigning the core aims of regulation

Regulation must invigorate India's school education system and work continually to improve its educational outcomes. It must accomplish this by empowering schools and teachers with trust, enabling them to perform at their very best, while ensuring integrity through transparency and full public disclosure.

Without such a culture, we have at the current time an irreconcilable dichotomy in our education system. On the one hand, we want our education system to develop citizens who are responsible, creative, autonomous, independent, and humane, and creative; and on the other, the regulatory and governance culture is sclerotic and disempowering. Teachers and principals are often not allowed to take decisions of a local nature that they should be taking, this includes choices of pedagogical approaches and teaching learning material, matters of setting the time table, and basic financial matters that are important to the daily functioning of the school etc. They are also not trusted as professionals, with the officials adopting an 'inspectorial' approach to management of the system. Even this 'inspectorial' approach is generally

focused more on the appearances and procedural aspects of the school, rather than educational matters. And at a human level, they are often mistreated by officials, without the basic respect due to any human being. School cultures are shaped by this culture of the system, leading to undesirable outcomes on many dimensions.

The present structure of governance of the school education system in which all three main functions, the provision of public education, regulation of all educational institutions, and making policy are all handled by the Department of School Education or its arms (e.g. DSE and its officials such as the DEO, BEO), leads to deep concentration of power and conflicts of interest. It also leads to ineffective management of the school system, since the efforts towards education provision is often diluted by the focus on the other roles, particularly regulation, that the DSE must perform.

The current regulatory regime also has not been able to curb the rampant commercialisation and economic exploitation of parents by many for-profit private schools, yet at the same time it has all too often inadvertently discouraged public spirited private/philanthropic schools. There has been far too much asymmetry between the regulatory approaches to public and private schools, even though the goals of both types of schools should be the same: to provide a quality education.

A revolution in our approach to governance and regulation is required, in order to address these issues at the earliest and make regulation a true engine for educational attainment and improvement. The public education system is the foundation of a vibrant democratic society, and the way it is run must be transformed and invigorated in order to achieve the highest levels of educational outcomes for the nation. At the same time, the private philanthropic school sector must also be encouraged and enabled to play a significant and beneficial role.

Regulation to catalyse and invigorate educational attainment and improvement

The governance and regulatory systems of this policy are formulated to enable the empowerment of schools, local communities, and all primary stakeholders, while also addressing the issues of conflict of interest and concentration of power outlined above. To this end, the key principles and recommendations of this policy regarding the State school education system, the responsibilities within that system, and the approach to its regulation are as follows:

The three distinct roles of policymaking, the provision/operation of education, and the regulation of the education system will be conducted by separate independent bodies, in order to avoid conflicts of interest and concentrations of power, and to ensure due and quality focus on each role.

The Department of School Education currently acts as the apex state level body in school education. If the Rajya Shiksha Ayog (see Chapter 23) is created, it would then become the apex body, and the role of the Department would then

be accordingly delineated. This apex body will be the primary institution for overall monitoring and policymaking for continual improvement of the system; however, it will not be involved with the operation of schools (service provision) or with regulation of the system, which will be carried out by separate bodies to eliminate conflicts of interest.

The educational operations and service provision for the public schooling system of the whole state will be handled by the Directorate of School Education (DSE); it will work to implement policies regarding educational operations and provision, but otherwise will be separated from and work independently of the apex body above.

An independent, state-wide, regulatory body called the State School Regulatory Authority (SSRA) will be created for each state. All regulation will be carried out by the SSRA, based on very few basic parameters (namely, safety, security, basic infrastructure, the number of teachers across subjects and grades, probity, and sound processes of governance), to bring down significantly the heavy load of regulatory mandates currently borne by schools. The framework for these parameters will be created by the SCERT for each state in consultation with various stakeholders, especially teachers and schools. Accreditation and audit will be used to implement these frameworks. Transparent public disclosure of all regulatory information, by the regulatory bodies and by the schools, will be used extensively for public oversight and accountability.

Academic matters, including standards setting and curricula in the State, will be led by the SCERT, which must be reinvigorated as an institution along with the other academic support structures such as the BRCs, BIETs, and DIETs. Certification of competencies of students at the school-leaving stage will be handled by the Boards of Certification/Examination in each State, which will conduct meaningful examinations for this purpose. The Boards will assess core capacities in each subject (see x4.9), but will have no role in mandating curricula (including syllabi or textbooks).

Public and private schools will be regulated on the same criteria, benchmarks, and processes, emphasising public disclosure and transparency rather than mandates, so as to ensure that public spirited private schools are encouraged and not stifled in any way. Private philanthropic efforts for quality education will be encouraged – thereby affirming the public good nature of education – while protecting parents and communities from usurious commercial practices, including arbitrary increases in tuition fees.

Since the RTE Act, 2009 has been the statutory lynchpin for school regulation and governance for the past decade, it will be reviewed and appropriate modifications made to enable this policy and to incorporate improvements on the basis of the learnings and experiences gained since it was enacted.

For a periodic 'health check-up' of the overall system, a sample-based National Achievement Survey (NAS) of student learning levels will continue to be carried out by the NCERT. States will also be encouraged to conduct their own census-based State Assessment Survey (SAS) (see P8.5.1), the

results of which will be used only for developmental purposes, by sharing it with teachers, students, and their parents.

The children and adolescents enrolled in schools must not be forgotten in this whole process; after all, the school system is designed for them. Careful attention to their safety and rights, and the various difficult issues faced by adolescents, must be provided the highest importance by the system, with clear, safe, and efficient mechanisms for reporting and for due process on any infractions against children's/adolescents' rights or safety. The quick development of such mechanisms that are effective, timely, and well known to all students will be accorded the highest priority.

8.1. System architecture and roles in the school education system

P8.1.1. **Separation of functions of policymaking, regulation, operations, and academic standards:** States will separate the regulatory function from that of other functions in education, such as policymaking, school operations and education provision, academic development and assessment, and ancillary services. They will thus establish clear, separate systems for policymaking, regulation, operations and academic matters.

The new regulatory authority for schools called the State School Regulatory Authority (SSRA), will have the regulatory mandate, and will set basic and uniform standards for both public and private schools. The establishment of the authority will free up administrative resources in the DSE to focus on the provisioning of education in public schools, and will facilitate the structural reform of separating roles of policy making, regulation and service provisioning.

Enforcement of regulation will not be driven by the current inspectorial approach. Instead, all relevant information like school infrastructure, teacher resources, including their qualifications, school results in a public examinations, fees, etc. will be put in the public domain for the parents to make informed choices and thereby become the de facto regulator.

> **Regulation will be based on separation of functions to eliminate conflicts of interest.**

P8.1.2. **Apex body for policy and overall coordination:** The Department of Education of the State will be the apex policy making body and shall also be responsible

for policy and the overall coordination and monitoring of the system. If the State were to set up a RjSA (see P23.19), the roles of the Department and the Aayog will be suitably delineated and clearly separated.

P8.1.3. **A single independent regulator for the school education sector:** An independent SSRA will be established to handle all aspects of school regulation including the oversight of the school system and implementation of Accreditation. SSRA will be a body similar to NHERA (see P18.1.4).

The newly constituted SSRA will be the sole regulator for the school sector in the State. SSRA shall be governed by an independent board, consisting of 10-15 members with expertise in education and other relevant areas, with high integrity and an unimpeachable track record. The SSRA will report to the RjSA, in the absence of which it will report to the Chief Minister of the State.

a. The RjSA (or CM) shall appoint the chairperson and the board members, each of who will not have more than two consecutive terms of 3 years.

b. SSRA will have adequate staff and resourcing to carry out its mandate. It will develop and oversee the system of regulation based on accreditation as detailed in Section 8.2.

c. SSRA will set up a robust and easily accessible public grievance and redressal mechanism which shall be widely communicated and disseminated. This may include multiple ombudspersons across the State.

d. SSRA may have a quasi-judicial status, and will set up an adjudication body within, for the speedy judicial resolution of matters that require the same. This body may have offices across the State. If the State sets up an empowered Education Tribunal, this function may then be performed by the Tribunal. SSRA shall be fully empowered to enforce the regulatory regime, including by withdrawing approval to operate schools, i.e. shutting down schools, if the basic minimal parameters for accreditation are not satisfied.

> **An independent State School Regulatory Authority will be established to handle all aspects of school regulation including the oversight of the system and implementation of accreditation.**

P8.1.4. **Responsibility for operations and running of the public school system:** The DSE, which is also called Directorate of Public Instruction in some States,

will continue to be responsible for running the public school system. It will continue to report to the Department of School Education. In the redesigned architecture of the school system in the State, DSE will be able to focus on the improvement, functioning and operations of public schools, with its regulatory function having entirely devolved to SSRA.

All existing missions (e.g. Samagra Shiksha Abhiyan which combines Sarva Shiksha Abhiyan, Rashtriya Madhyamik Shiksha Abhiyan, teacher education, etc.) will be merged/mainstreamed with the DSE for focused efforts on the provision of education. The DSE will also be responsible for schools runs by municipal corporations and any other public body.

P8.1.5. **Enabling the change in role of the Directorate of School Education:** This whole effort of transforming the DSE from a regulator cum operator of schools to only an (effective) operator of schools may require a project-like 'change management process,' over a period of 2-3 years - DSEs should develop a framework and plan for this change and create a highly competent and empowered team to enact this change. Some of the key dimensions of this change will be:

a. First, officials (e.g. directors, joint directors, DEOs, BEOs) of public schooling system will have to transform themselves into becoming and playing the role of, education leaders focused on effective and efficient functioning of the public schools, in order to deliver continually educational outcomes. DSEs must review and revise the role descriptions and expectations of its officials at every level. The officials (e.g. BEOs, DEOs, Deputy Directors of Public Instruction) would be accountable for educational outcomes of the schools in their territories.

b. Second, officials must be supported and provided professional development, as well as incentives such as career progression opportunities and recognitions for outstanding work, in order to play these roles effectively.

c. Third, to make the empowered SMCs function well will require a substantial change in the administrative culture and practices of the DSE and its officials, most crucially the frontline officials such as the BEOs. This system and its officials will play the role of leaders of change and improvement in schools, for which they would support the schools in every way.

d. Fourth, the overall planning and management systems of the DSE will have to be reconfigured so that it benefits to the maximum from the new governance structure of the empowered SMCs, school complexes and DEC/ZSP. This will include but will not be limited to "grounds up" resource and academic planning via consolidation and analysis of the State's SDPs.

The Directorate of School Education will be responsible for running the public school system.

P8.1.6. **Apex body for academic matters:** The State Council for Education Research and Training (SCERT) will be the apex body on all academic matters including curriculum, textbooks, standards for teacher related processes (e.g. recruitment, development, evaluation and assessment), and learning standards for all stages of school education including early childhood education. It will also lead the other academic support institutions of the public system, e.g. CRCs, BRCs, and DIETs.

SCERTs will have to be reinvigorated to become outstanding institutions with the ability to provide educational vision and leadership to the State through their expertise. The SCERTs will develop State Curricular Frameworks (SCF) and Curriculum (including syllabus, textbooks etc.) aligned with the NCF, which may be used by the public school system and others. The SCF may take the common dimensions and areas of the NCF entirely, while developing and adding any desired State specific dimensions. This must be done within two years of the revision of the NCF (see Sections 4.7 and 4.8). All curricula will be reviewed and revised every 5 years. The SCERT will develop and revise curriculum through processes of wide consultation with teachers, other educators, civil society organisations, etc.

The SCERT will be responsible for the capacity development of the teachers and leaders of the public school system. The DSE must ensure that its entire staff - all teachers and leaders - undergo effective CPD to continually improve as educators as reflected in the trajectory of their evaluation over the years of service. The State Institute of Education Management and Training (SIEMAT) of each State, if they have been established, will work with the SCERT to focus on development of the capacity of education leaders - from school leaders (head teachers/principals) up to the highest officials in the DSE.

The SCERT will be led by an educationist who has high competence and a track record of unimpeachable integrity; the SCERT will report to the Department of Education.

P8.1.7. **Reinvigoration of CRCs, BRCs and DIETs:** The CRCs, BRCs, and DIETs will provide educational support to teachers and schools in their geographies, for all stages of school education including early childhood education, and for vocational education. This will include support to CPD of teachers and school leaders, support in development and access to effective teaching-learning material, support in development of the SDP and SCDP and its execution on the academic matters, etc.

These academic support institutions will be staffed adequately with people having requisite capacities. Reinvigoration of these institutions will play an

important role in the improvement of school education. People staffing these institutions must be selected rigorously for their competence - through a transparent process - from amongst the existing teachers of the public system. Those selected should go through specific rigorous training on a carefully designed curriculum by the SCERT, which is informed by the needs for support of teachers, head teachers and SMCs.

The SCERT will lead a "change management process" similar to that of the DSE for the reinvigoration of these institutions, which must change the capacity and work culture of these institutions in 3 years, developing them into vibrant institutions of excellence.

The State Council for Educational Research and Training will be the apex body on all academic matters for the whole of school education.

P8.1.8. **Boards of Assessment:** Every State must have one or more Boards of Assessment (BOA) which conduct the assessment for the school leaving certificate and certify the same. In addition to the State BOAs, students at some schools may also have the option to be assessed by central BOAs, or other (international) BOAs. The State BOAs will report to the Department of Education and the central ones to MHRD or to an authority designated by the RSA. It is these authorities that will approve the formation of any new BOA through a preannounced process and transparent criteria. There may be private not-for-profit BOAs, which may be entirely independent, only with oversight by the Department of Education or MHRD to ensure that they continue to abide by the approval conditions. Universities may also start BOAs, if approved through the aforementioned process.

The State and Central BOAs will completely reform and improve the examination system, moving it away from the current content heavy testing to a genuine assessment of the competencies, which are the objectives of the curricula framed by the NCERT, SCERT and other relevant bodies (see Section 4.9).

The BOAs will not determine or have any role in determining the curriculum or syllabus or text books, for any school in any way. All these will be decided by the State school system. They will also have no regulatory or oversight role with schools.

More than one BOA may operate in all states including some that operate nationally, including the existing Central BOAs (e.g., CBSE, ICSE, NIOS). This will offer a liberalised system for school leaving certification, with multiple

choices available. BOAs will not affiliate schools but will offer their services for schools and students to choose; schools may decide which Board(s) of Assessment they use, based on the curricula they set. All Central and State BOAs will assess core capacities and competencies across subjects, as articulated by the NCF and SCF (see Section 4.9). Schools that opt for international Boards will supplement their curricula suitably so that they are in line with the NCF/SCF (e.g., with regard to the three language formula, and suitably covering art, music, history, philosophy, etc. with respect to the Indian context).

> **The Boards of Assessment will completely reform and improve the examination system - they will have no role in setting curricula or creating textbooks.**

P8.1.9. **Flexibility to choose curriculum:** Schools and schools system will have full flexibility to choose their curriculum. However all curricula of all schools, including goals, academic content, and process should be aligned with the NCF and SCF. In the public school system, all school education authorities and academic support institutions discussed in P8.1.6–P8.1.7 will coordinate the development and implementation of curricula in consultation with the schools.

P8.1.10. **Planning and review for development:** All bodies and institutions mentioned in this chapter will develop rigorous plans each year to guide their work. They will also develop mid-term plans (3-5 years). These plans will be drawn to achieve the goals of the institution and help it to perform its intended role in the education system with a high degree of efficacy. These plans and their successful delivery will be reviewed by the corresponding apex governance body of the institution for the purpose of support, development, and improvement.

The RjSA (or the Department of School Education) will lead this planning and review process for the State, ensuring that the individual plans are synchronised to continually improve the educational outcomes of the system.

8.2. Accreditation for autonomy with accountability

Accreditation will be the method used to ensure that schools are meeting the standards of the School Quality Assessment and Accreditation Framework (SQAAF) and Licence to Start a School (LSS), as defined below.

The system and structure for accreditation of schools will take into account the wide variability of local conditions, the flexibility that is required when dealing with younger students and with small institutions, and the operational reality of dealing with the huge number of schools across the country. This will require a system whose operations are distributed across geographical regions – enabling easy access to all schools – yet having strong checks and balances to ensure probity. This policy also recognises and indeed requires that responsibility and accountability must flow concomitantly with empowerment.

P8.2.1. **School Quality Assessment and Accreditation Framework:** The SCERT will develop a School Quality Assessment and Accreditation Framework (SQAAF) for each State. This will be used by the SSRA for its regulation of schools based on a system of accreditation.

The SQAAF will be developed with wide consultation from all stakeholders in education, including teachers, other educators, school leaders, schools, parents, SMCs, SCMCs, and civil society organisations. It will incorporate the learnings from the School Education Quality Index (SEQI) and implementation of the Shala Siddhi (National Programme on School Standards and Evaluation).

NIEPA along with NCERT, will develop a set of national guidelines for the development of the SQAAF, to enable a common approach for all States. This will be done in consultation with the States and other stakeholders. These guidelines will not be prescriptive but facilitative.

These guidelines and therefore the SQAAF of all States will be based on the following principles:

a. SQAAF will set standards on a few basic parameters, which schools must fulfil/meet, in order to obtain regulatory approval to function as a school. In addition to these basic parameters, it may have multiple other parameters or dimensions that enable schools to improve continually, but these additional parameters will have no bearing on the schools' regulatory status.

b. The basic parameters will only address: safety and security of all within the school, essential infrastructure required to run the school, explicit statement of a curriculum which aligns with the NCF/SCF, number of teachers and their distribution with respect to the number of students, subjects, and grades taught at the school, probity in all aspects of functioning, and processes of governance including public and transparent disclosure of all such regulatory information.

- On infrastructure, a "one-size-fits-all" approach will not be adopted, it will be responsive to local reality, while ensuring adequacy from a perspective of safety and security.
- The school will have full freedom to choose any curriculum, or develop its own, so long as it is aligned with the NCF and SCF; the basic parameter on curriculum will be only the expectation for an explicit articulation of the curriculum being followed by the school.
- The requirement on teachers will be limited to stating the number and distribution of teachers across subjects and grades that have the requisite qualification as mandated by the national system for teacher education; it will not require any other information on this front.
- On all the basic parameters, while setting the expectations from the schools, the purpose and spirit of the parameter will be paramount, and a mechanistic, input and process focussed approach will not be adopted.
- No other parameters will be added to the list of expected basic standards.

c. Any additional parameters/dimensions that the SQAAF may have would all be included with the objective of improving educational outcomes. Some of these parameters could be:

- Processes for classroom transaction of the curriculum, and review processes for their efficacy;
- Effective methods for continuous developmental assessment of student learning, and their use in fine tuning individualised learing plans;
- Processes that enable teachers to work as a team, to ensure that each student receives appropriate attention and intervention
- Functioning of the SMC, and methods to seek its support in and for the school;
- Retention of students and the curtailing of dropout rates;
- Effective professional development plans for teachers;
- Cohesive functioning of the school with the school complex

The basic parameters of the SQAAF will also be used by the SCERT to develop the requirements for LSS. The LSS will also not mandate any parameter, other than the basic parameters of the SQAAF.

Both of these frameworks (SQAAF and LSS) must be periodically reviewed and improved through a wide consultation with all stakeholders; this must be carried out once in 5 years. DSE and SCERT may use the SQAAF to inform the framework for SDP in the state.

This overall system may be developed by 2023 and will be reviewed by the DSE, SCERT and RSA for it efficacy every 5 years.

P8.2.2. **School Quality Assessment and Accreditation Framework and Licence to Start a School as the basis for accreditation based regulation:** The SQAAF will form the basis for the accreditation of any school, and this will be used as such by the SSRA to develop a robust accreditation system, which will be revised periodically (every 5 years) on the basis of experiences and other developments. Schools not meeting the expectation on the basic parameters of the SQAAF, even after a suitable probationary period, will not be allowed to operate, and its students will be transferred to nearby schools.

P8.2.3. **Self-accreditation:** On the basis of SQAAF, all schools must self-accredit, by giving details on their meeting all the basic parameters, and the relevant supporting documents. The SMC and two peer schools must endorse the self-accreditation for it to be valid, after adequate due diligence.

Self-accreditation must be repeated every three years. The peer schools shall not be schools from within the same school complex. The self-accreditation and its endorsements, and their details, will be publicly available as mentioned in P8.2.5 below.

P8.2.4. **Mechanism of audit of accreditation:** The SSRA will set up a mechanism of audit of accreditation. This will be done using peer schools and other organisations with capacity and credibility; all schools (government/public, private-aided and private-unaided schools) will be covered by this audit once in five years. Results and details of the audit will be publicly available as mentioned in P8.2.5 below.

DSE and its officials will not be involved in the accreditation of schools or its audit, but they must facilitate the overall process of accreditation, by providing for time and resources for accreditation in the plans of schools in their respective geographies. DSE or its officials will be held accountable for any hindrance, disruption, or misuse of the accreditation process, caused or enabled by their action or inaction.

P8.2.5. **Public availability of information relating to accreditation and its audit:** Public scrutiny of all information and supporting documents regarding all steps and processes of the accreditation system will be used as a key mechanism for oversight and accountability.

To enable this, all information regarding accreditation (including self-accreditation) and audit, their rationale and the supportive documents, for all schools shall be available publicly and freely. The SSRA will develop and operate a public website where all this information will have to be uploaded and maintained by the schools. This website will be developed in all States by 2024. The format for these disclosures will be determined by the SSRA.

In addition to the public website maintained by the SSRA, the schools must disclose the same information in the same format: on their own website, keep printed copies readily available at the school, and also share this information freely on request.

Any failure on these disclosures or any misrepresentation will lead to penal action against the school as well as the endorsers. Members of the public will be encouraged to use the grievance redressal system or any other system to highlight any misrepresentation.

8.3. Regulation, accreditation, and oversight of private schools

Private philanthropic schools have played and will continue to play an important role in India. These initiatives must be encouraged and not stifled by treating them with suspicion. Such schools too must be empowered and freed of the regulatory overload, and its resulting problems. At the same time private operators who try to run schools as commercial enterprises, vitiating the basic public good nature of education, will be stopped.

Education and schools are not 'marketable goods'. There is substantial 'information asymmetry' - schools have enormously more knowledge about educational processes and their outcomes, than students and their parents can ever have. There are also unaffordable 'switching costs' - students cannot keep changing schools because of geographical, social, and economic reasons. This concentrates power in the hands of schools vis-a-vis their users. Thus, students, parents and communities must have adequate protection within this highly unequal power distribution, especially from the often and arbitrary behaviour of some schools.

The educational outcomes of private schools also need to improve substantially, akin to the public schools. This is essential for the future of the millions of children that are being educated in private schools. The responsibility for such improvement rests with the private schools themselves, including their management and owners. Those private schools that wish to receive various types of support from the public system for this improvement will be provided with this support under suitable arrangements.

> **Private schools will not use the word 'public' in their names. 'Public' schools will only be those that are funded publicly, i.e., government schools and government-aided schools.**

P8.3.1. **Regulation of private schools:** Regulation of private schools will be conducted within the same framework as public schools, and all policies above will apply equally to public and private schools.

The loading of regulatory requirements only against private schools should end with uniform requirements for all schools emphasising public disclosure on basic parameters. Existing private schools will have to go through the aforementioned regulatory regime and receive accreditation. The criteria of assessment for accreditation and thus regulation will be objective, consistent, unobtrusive, and transparent and in line with those for public schools.

P8.3.2. **Correcting nomenclature of private schools:** Private schools will not use the word "public" in their names in any communication, documentation or declaration of status. This change will be effected by all private schools within 3 years. "Public" schools will only be those that are funded publicly, i.e., government schools (including schools run by any body of the State) and government-aided schools.

P8.3.3. **Starting new schools:** New private schools will have to obtain an LSS from SSRA - this will be on the basis of a self-declaration on the requirements and criteria set up by the SSRA. This self-declaration must be endorsed by the local panchayat/ward committee, the SMC, and by a Chartered Accountant. At this juncture, the SMC will not have any parent representatives, since the school has not started, but will have other members as mentioned in P7.7.1.

P8.3.4. **Public disclosure of all information:** Parents should be able to make informed choices while admitting their child to a school. To achieve this, all relevant information of schools must be available in the public domain; this will include information in addition to what is available as a part of the accreditation process, including fees structure, facilities, learning outcomes, details of teachers and their qualifications, and other matters relevant to the decision making of the parents on choosing a school for their child.

The dimensions on which information has to be disclosed, and the format of disclosure, will be decided by the SSRA. It will have to be made available and kept updated by all schools, on the aforementioned public website maintained by the SSRA, on the schools' website, and must be physically available for public inspection in the school, and on request to any member of the public.

> **Private schools may be free to set their fees, but they shall not increase school fees arbitrarily. Reasonable increases that can stand public scrutiny can be made.**

P8.3.5. **School Management Committees for private schools:** All private schools must form an SMC like any public school and have an SDP reviewed and endorsed by the SMC on a continuous basis. They must also transparently report their annual audited financial statements and other reports submitted to the Income Tax Department, the SMC and the public. The SMC must endorse the statement for it to be valid. The financial disclosure standards must be the same as for Section 8 (not-for-profit) companies. The SDP and the Financial Statements shall be freely and publicly available (including online).

P8.3.6. **Fees in private schools:** Private schools may be free to set their fees, but they shall not increase school fees (taken under any head) arbitrarily. Reasonable increases that can stand public scrutiny due to increase in costs can be made (e.g. inflation related). However, any substantial increases in the fees that cannot be anticipated and/or justified shall not be made, including under any 'fees head', e.g. 'school development', 'infrastructure fund', etc. The percentage fee increase permissible based on inflation, etc. will be decided by SSRA for every three year period.

P8.3.7. **Schools must be not-for-profit:** Schools must be not-for-profit entities, as evidenced by their audited financial statements that must be held to the same disclosure standards as for Section 8 companies. In addition to the stipulations under the Income Tax Act, State Governments may stipulate additional accounting and reporting standards for schools that discourage the possibility of profiteering.

P8.3.8. **Diversity in private schools:** Private schools have, over the last 50 years become much less diverse in student socio-economic profile than before. This harmfully stratifies the school system and access to it. This must be reversed; the regulatory authority and the licensing authority must encourage all private schools to build diversity and inclusion within their student populations, through recruitment, lotteries, and scholarships. The impetus for this must come also from educationists, NGOs, and public intellectuals. In the end, the schools must decide that they want this; forcing schools through measures such as those in the RTE Act 12(1)(c) have not worked nearly as effectively as had been hoped. Giving schools the autonomy to do the right thing, and to innovate, is in general the better way to encourage best practices in schools, and is in better alignment with the principles of this policy.

P8.3.9. **Improvement of educational outcomes of private schools:** Private schools should also strive to improve their educational outcomes, the results of which would be publicly disclosed as already mentioned in P8.3.4. If a private school wishes to avail of support from the public system for such improvements, it will be provided under the following conditions:

a. The public system institutions will not make extra and specific efforts for the private schools, but will enable the private schools to leverage ongoing activities of the public system, e.g. a private school may send its teachers to participate in capacity development workshops being designed and run for public school teachers; or it may participate in resource-sharing activities of school complexes (e.g. use or building of common playgrounds, or sharing of vocational teachers, etc.).

b. An appropriate charge or cost may have to be borne by the private school for any such public support.

c. Any such arrangement must be agreed upon explicitly between the private school and the public institution (e.g. school complex, BRC, DIET), and this arrangement must be then approved by the relevant governing body (e.g. SMC, DEO, SCERT), and the costs borne and utilisations made by the private schools under this arrangement will be publicly disclosed.

d. Under no circumstances will any such support to private schools be provided at the cost of reducing opportunities or support to the public school system, and mutual benefit and synergy will always be the key consideration.

8.4. Implications for the RTE Act

The RTE Act has been an important milestone in the history of Indian education. Many of the actions in this Policy have implications for matters within the RTE Act. This Policy envisages a comprehensive and detailed review of the RTE Act, to ensure enablement of this Policy. Subsequent to this review, the RTE Act may be suitably amended and/or the Government may consider a comprehensive legislative enablement of this Policy, since the overall policy has many legislative dimensions, in addition to the RTE Act.

Moreover, this review must also be used for the improvement of the RTE based on the learnings and experiences of the past decade. In brief, the RTE must focus more on educational outcomes and less on inputs. It must also not have a mechanistic and deterministic approach on inputs and processes, but be responsive and enabling, e.g., on infrastructure requirements. It must emphasise disclosure for public scrutiny rather than mandates, but otherwise empower public and public spirited private schools with the ability to locally determine optimal practices regarding infrastructure, curricula, pedagogical methods, syllabi, Boards of Assessment, admissions, teachers, diversity of student body, service to students from underprivileged backgrounds, scholarships, and so on, in accordance with local needs and local constraints.

P8.4.1. **Extension of the RTE Act, 2009 to include early childhood education through secondary school education:** To ensure that all students, particularly students from under-privileged and disadvantaged sections, have a guaranteed opportunity to participate in high quality schooling from early childhood

education (age 3 onwards) through higher secondary education (i.e., until Grade 12) – both today considered essential for a young person's educational development and attainment – the right to free and compulsory education as guaranteed by the RTE Act will be extended downwards to include up to three years of early childhood education prior to Grade 1, and upwards to include Grades 11 and 12.

In other words, there will be government provision for free and compulsory education for all children and adolescents between the ages of 3 and 18, from the full foundational stage through the full secondary stage. See also P1.8 and P3.13.

> **The RTE Act must be responsive and enabling - it must focus more on educational outcomes and less on inputs.**

P8.4.2. **Review of the RTE Act:** The RTE Act will be reviewed comprehensively in light of this policy, to enable the policy, and at the same time to improve it on the basis of the experiences and learnings of the past decade:

a. The overemphasis on inputs, and the mechanistic nature of their specifications – physical and infrastructural – will be changed and the requirements be made more responsive to realities on the ground, e.g. regarding land areas and room sizes, practicalities of playgrounds in urban areas, etc. These mandates will be adjusted and loosened, leaving suitable flexibility for each school to make its own decisions based on local needs and constraints, but without in any way compromising on the requirements of safety, security, and a pleasant and productive learning space.

b. Educational outcomes will be given due importance and will be added adequately in the assessment of schools.

c. Clause 12(1)(c) will be reviewed in light of this policy and in light of any positive as well as negative experiences it has encountered over the past decade.

    - In a basic sense, 12(1)(c) is extremely well intentioned, aiming to bolster the inclusion of students from socio-economically disadvantaged backgrounds in private schools. However, the clause is not quite in tune with the principle of autonomy of institutions

(including for student admission) in this Policy, which empowers schools and trusts them to do the right thing. In addition, in practice the clause has been implemented with very mixed effect, including opening up a variety of possibilities for corruption, the manufacturing of fake student numbers and certificates, increases in fees (including fees collected under other guises), lobbies to attain minority status to avoid the clause, and more. Furthermore, the large amounts of money and effort spent on implementing this clause may be more effectively spent, e.g. by investing the money on the public schooling system – particularly in disadvantaged areas – which would directly support many more students from underprivileged backgrounds in a sustainable manner.

- If the review suggests that 12(1)(c) be kept as it is, then it must be better enforced, in the following manner.

i. Admissions of students from disadvantaged sections, under Clause 12(1)(c), will be fairly and fully implemented in all private schools. A transparent common public IT platform-based system, as is already being used in some States, should be developed and used for all such admissions by all schools. All schools must receive the requisite funding guaranteed to them on time and in a punctual manner so as not to disrupt the school's educational activities.

ii. Schools receiving support from 12(1)(c) will make full and specific efforts to integrate and welcome students thus admitted into the school – there shall be no overt or covert discrimination. Extra support to all students who may be falling behind, or starting out behind, will be provided by the schools, in a natural and kind manner, e.g., through peer tutoring and remedial instructor programmes. Credible systems will be made available for grievance redressal in case of discrimination or the charging of additional or hidden fees, etc.; this may, for example, be implemented through the SSRA grievance redressal system.

iii. Misuse of certain specific provisions/clauses of the RTE that have occurred over the past decade will be stopped by effective enforcement, administrative, and legislative measures. While there may be others, two prominent misuses are: (i) Clause 12(1)(c) may have been misused by certain private schools by inflating admission numbers of children from socio-economically disadvantaged groups, by charging fees to these students over and above the State reimbursement, and/or by treating these students in a discriminatory manner; and (ii) Judicial exemption, granted by the Supreme Court, may have been misused by certain schools, by claiming minority status, while in reality their school is not serving primarily that minority group, as reflected in the proportion of the schools' students from that minority group.

d. Schools such as gurukulas, madrasas, pathshalas, home schools, alternative schools, etc. will be allowed and enabled to deliver a quality education and participate in the education system (e.g., in BOAs). Specific norms will be developed (including with respect to educational outcomes), so that a wide variety of schools can be recognised and enabled to deliver a quality education; these norms will be minimal but essential and used with great probity, and will be strictly enforced to prevent misuse.

e. The recent amendments to the RTE Act on continuous and comprehensive evaluation and the no detention policy must be reviewed. This Policy states that there should be no detention of children in Grades up to 8; instead, schools must ensure that children are achieving age-appropriate learning levels and are receiving the relevant extra support (e.g., through remedial support programmes such as the NTP and RIAP) in every instance where it is required.

f. There may be better provision for third party assessment of student learning in all schools including private schools.

8.5. Assessment of functioning of the school education system

Assessment of educational outcomes will form an important feedback loop for the functioning and improvement of the school education system.

P8.5.1. **National Achievement Surveys and State Assessment Surveys:** The NAS of student learning levels will be carried out periodically. The cycle of assessment will be a minimum of 3 years. The assessment will cover the entire range of curricular and learning domains, including knowledge and skills that are specific to disciplines, and generic capacities and skills that students should acquire. This survey will provide an educational 'health check-up' of the system and thereby should be based on a sample and should not venture into a full-scale census assessment. NAS will be conducted nationally with a common national framework. The framework for the NAS will be decided by NCERT. NAS will be conducted by organisations following a process identified by NCERT.

States may conduct a census-based assessment of student learning at the class and school level similar to the NAS periodically – called the State Assessment Survey (SAS). This may be considered for Grades 3, 5, and 8. The SAS results should be made available transparently to teachers, students, and their parents, the SMC, and the community. The data from SAS may also be used, in an anonymous manner with names of students removed, for research purposes and to guide Policy to continually improve educational outcomes.

The purpose of the SAS is to give summary feedback to the interested parties mentioned above to help in developing and adjusting teaching-learning processes at the micro- and macro-levels. This Policy explicitly recognises that educationally such summative assessment at the individual level is of limited use, and cannot replace the developmental and educational role of continuous comprehensive developmental evaluation, which must be conducted rigorously.

The SAS results are thus only for the information of the interested parties as an occasional 'health check up' and shall not be used to take any administrative or educational decisions regarding individual students or teachers. Specifically, NAS and SAS assessments must not be used to evaluate/grade individual teachers, students, and/or the school, and they should not be used as a means of tracking or labelling individual students, schools, or school complexes. These surveys will not publicly release information about any specific students, teachers, or schools, or their social-demographic characteristics. The purpose of the surveys will to give individual feedback to local stakeholders, and to assess the general state of learning and learning outcomes in the State based on aggregate data and anonymous testing, to help guide the continual improvement of the educational system.

Identification of students with learning difficulties, developmental challenges, and other kinds of support needs should be carried out within schools and must involve teachers and parents, and must be done sensitively.

8.6. Protection of rights of the child and adolescent education

Protection of child rights goes beyond personal safety of children and includes: prevention of corporal punishment; absence of emotional and physical harassment or abuse; precautions against injury during school activities; safe infrastructure; use of child friendly language and actions; non-discrimination; etc. It calls for creating the right environment for children that is sensitive to child rights. A zero-tolerance approach for any breach of child rights will be adopted to ensure physical and emotional safety of children.

The following initiatives will be taken:

P8.6.1. A framework and guidelines for ensuring school safety and security of children will be developed, and will be made a part of the eligibility conditions for a school education institution for recognition and registration.

P8.6.2. Every principal and teacher will be made aware of the provisions of the relevant Acts, Rules, Regulations, etc. relating to child rights, and what constitutes their violation, by including a module in the teachers'/principals' education/training programmes and refresher courses.

P8.6.3. Self-learning online programmes on child rights will be developed for the benefit of students, teachers, and parents.

P8.6.4. Credible mechanisms for students to report breaches of their rights, and for appropriate actions to be taken against perpetrators, will be developed and implemented, in collaboration with local police.

P8.6.5. The Adolescent Education Programme and National Population Education Programme will be integrated into the curriculum of schools in a phased manner.

P8.6.6. Adolescent Education will be included in pre- and in-service education and development programmes of secondary school teachers.

P8.6.7. School and school complex counsellors and social workers will be trained to confidentially advise parents and teachers on adolescent problems faced by growing boys and girls.

Part II

Higher Education

Chapter 9

Quality Universities and Colleges: A New and Forward Looking Vision for India's Higher Education System

Objective: Revamp the higher education system, create world class multidisciplinary higher education institutions across the country - increase GER to at least 50% by 2035.

Higher education is a critical contributor to sustainable livelihoods and economic development of the nation. Higher education also plays a large and equally important role in improving human well being, and developing India as envisioned in the Constitution - a democratic, just, sociallyconscious, self-aware, cultured, and humane nation, with liberty, equality, fraternal spirit, and justice for all. Higher education aims to serve as a hub for developing ideas and innovations that enlighten individuals and help propel the country forward socially, culturally, artistically, scientifically, technologically, and economically.

As India moves towards becoming a true knowledge society and economy - and in view of the forthcoming fourth industrial revolution, where India aims to lead and where an increasing proportion of employment opportunities will consist of skilled jobs of a creative and multidisciplinary nature - more and more young Indians are aspiring to higher education. Accordingly, the higher education system in India must, at the earliest, be readjusted,

revamped, and re-energised to fulfil these important and noble aspirations of the people.

In view of the requirements of the 21st century, the aim of a quality university or college education must be to develop good, well rounded, and creative individuals. It must enable an individual to study one or more specialised areas of interest at a deeper level, while at the same time building character, ethical and Constitutional values, intellectual curiosity, spirit of service, and 21st century capabilities across a range of disciplines including the sciences, social sciences, arts, humanities, as well as professional, technical, and vocational crafts. Quality higher education must enable personal accomplishment and enlightenment, constructive public engagement, and productive contribution to society. It must prepare students for more meaningful and satisfying lives and work roles, and enable economic independence. Quality university and college education must therefore aim to be both a joy and an opportunity to which all citizens must have access if they so desire.

At the level of society, the aim of higher education must be to enable the development of an enlightened, socially conscious, knowledgable, and skilled nation that can uplift its people, and construct and implement robust solutions to its own problems. Higher education must form the basis for knowledge creation and innovation in the nation and thereby contribute deeply to a growing national economy. The purpose of quality higher education is therefore more than simply the creation of greater opportunities for individual employment; it represents the key to more vibrant, socially engaged, and cooperative communities and a more happy, cohesive, cultured, productive, innovative, and prosperous nation.

In order for it to attain these critical end goals, higher education must possess some fundamental attributes. It must provide students with broad-based multidisciplinary education and 21st century skills, while developing specialised knowledge with true disciplinary rigour. It should engage faculty and students with local communities and with real world problems, and function in collaborative, inclusive, and cross-disciplinary ways. Instead of solely mechanistic rote learning, colleges and universities must encourage active learners to develop the abilities of independent, logical, and scientific thinking, creativity and problem solving, and decision making. It must engage young people in national issues and concerns of the day. Finally, it must generate human capacity to build new knowledge and foster innovation. The structure, curriculum, and processes of higher education must all work together coherently towards attaining all of these characteristics in order to deliver its lofty end goals.

It should be emphasised that higher education must build expertise that society will need over the next 25 years and beyond. Simply tailoring people into jobs that exist today, but that are likely to change or disappear after some years, is suboptimal and even counterproductive. The future workplace will demand critical thinking, communication, problem solving, creativity, and multidisciplinary capability. Single-skill and single-discipline jobs are likely to become automated over time. Therefore, there will be a great need to focus on multidisciplinary and 21st century competencies for future work roles

- these are indeed the capabilities that will separate humans from robots. In particular, education must empower workers of the future to become enterprising and creative innovators. By focusing on such broad based, flexible, individualised, innovative, and multidisciplinary learning, higher education must aim to prepare its students not just for their first jobs - but also for their second, third, and all future jobs over their lifetimes. In particular, the higher education system must aim to form the hub for the next industrial revolution.

Happily and coincidentally, the aforementioned multidisciplinary education and 21st century capabilities necessary for the employment landscape of the future - such as critical thinking, communication, problem solving, creativity, cultural literacy, global outlook, teamwork, ethical reasoning, and social responsibility - will not only help to develop outstanding employees but also outstanding citizens and communities.

> **Higher education must develop good, well-rounded and creative individuals, with intellectual curiosity, spirit of service and a strong ethical compass.**

What are the challenges currently facing India's higher education system? India faces a number of challenges at the current time in the attainment of the above key goals of higher education.

Fragmentation of the higher education system: India has over 800 universities and approximately 40,000 colleges, reflecting the overall severe fragmentation and small size of HEIs currently in the country. Remarkably, over 40% of all colleges in the country run only a single programme, far from the multidisciplinary style of higher education that will be required in the 21st century. In fact, over 20% of colleges have enrolment below 100, while only 4% of colleges have enrolment over 3000 (AISHE 2016-17). To make matters worse, thousands of the smaller colleges hardly have any teaching faculty at all, and there is little or no education taking place - thus affecting severely the integrity of the higher education system in the country.

This fragmentation of the system leads directly to severe suboptimality on various fronts: resource utilisation, the range and number of programmes and disciplines, the range and number of faculty, and the ability to carry out high-quality multidisciplinary research.

Too many silos; too much early specialisation and streaming of students into disciplines: India's higher education has developed rigid boundaries of disciplines and fields, along with a narrow view of what constitutes

education. As already mentioned, its most harmful expression is in the enormous number of mono-field institutions that have been developed, most notably in the professional and vocational fields. For example, there are thousands of stand alone teacher education institutions, and most engineering and medical colleges are also stand alone institutions. Even in institutions that offer programmes across more than one discipline, there are silos that separate disciplines within these institutions, e.g. students in engineering are generally not encouraged or even allowed to take courses outside of their single programmes (e.g. in the arts, humanities, social sciences, or even in the pure sciences), thereby producing thousands of students with identical educations rather than true individuals and humans exercising their own creativity, and developing their own talents and interests. Such rigid boundaries and silos violate the basic requirement of good higher education.

Lack of access, especially in socio-economically disadvantaged areas: Access in higher education has significantly improved in the past few decades, but is still not sufficient to reach all our young citizens; equity in and quality of education still remain a big challenge. While the GER of higher education has risen over the last several years, to around 25%, and notable progress has been made, this Policy aims for GER to reach 50% by 2035, in order to fulfil the aspirations of our youth and to form the basis for a vibrant society and economy. This implies more than doubling enrolment, from the present base of 35 million students, and including increased opportunities and access for students from socio-economically disadvantaged backgrounds and areas.

Lack of teacher and institutional autonomy: The lack of teacher autonomy has led to a severe lack of faculty motivation and scope for innovation. In order for faculty members and institutional leaders to innovate and explore in their teaching, research, and service, they must have the individual autonomy that allows them to do so. In particular, the system of affiliated colleges which are required to follow a central syllabus, curriculum, pedagogy, and textbook makes it very difficult to provide teachers with such autonomy.

In the same manner, most institutions and institutional leaders are unable to take bold and innovative steps to enhance their educational offerings or research related and community outreach programmes, because they too do not have the academic, administrative, or financial autonomy to do so.

A final challenge in recent years is that the very word 'autonomy' has come to mean 'reduction of public funding', when the true meaning of the word could not be further from this. 'Autonomy' must mean the freedom to innovate, to compete, to cooperate, to govern more locally, to optimise resources given one's direct local knowledge of circumstances and opportunities, to break silos, and to excel.

Inadequate mechanisms for career management and progression of faculty and institutional leaders: A further reason for lack of novel initiatives from faculty and institutional leaders, besides the lack of autonomy, is the lack of a suitable structure for career management of faculty and of institutional leaders. The system of selection, tenure, promotion, salary increases and other recognition and vertical mobility of faculty and institutional leaders is, at the

current time, not based on merit but tends to be either seniority based or arbitrary. This has had the negative effect of severely disincentivising quality and innovation at all levels.

The lack of research at most universities and colleges, and the lack of transparent and competitive peer reviewed research funding across disciplines: The separation in higher education between teaching institutions and research institutions post-independence has caused much harm, as most universities and colleges in the country today conduct very little research. This is problematic on two fronts. First, so many members of the academic community of the country not conducting (and not incentivised to conduct) scholarly research is an enormous lost opportunity for research and innovation in the country. Secondly, on the education side, it is difficult to have outstanding higher education and teaching in an environment where knowledge creation is not taking place; indeed, how can students be taught to innovate in a location where innovation is not on the agenda?

At the current time, there is no mechanism to seed or mentor research at universities and colleges where research is in a nascent stage particularly at State Universities where 93% of all students in higher education are enrolled. In addition, very little funding is available for novel research ideas and proposals at most HEIs, especially for research in important multidisciplinary and cross-disciplinary areas (e.g. relating to clean water, renewable energy, education and pedagogy, health, etc.).

Suboptimal governance and leadership of higher education institutions: Governance and leadership of HEIs are, at the current time, deeply influenced and controlled by external bodies and individuals. Often these external influences have vested political and/or commercial interests in the HEIs. Public institutions are often operated as extensions of government departments. There is significant external interference in the selection and functioning of leaders of public institutions; this is all too often starkly visible in undeserving and inappropriate people as leaders of HEIs, appointed through corrupt or arbitrary practices that are not merit based. The educational aspects, including curricula, of HEIs are controlled by multiple external bodies. HEIs are not empowered to manage their own teams, and often have little or no influence on compensation, progression of faculty, and appointments. Internal governance structures have thereby become dysfunctional.

A regulatory system allowing fake colleges to thrive while constraining excellent, innovative institutions: There are many fake colleges in existence that run with impunity, while excellent colleges and universities feel constrained academically, administratively, and financially. Regulation has been too heavy handed for decades. It has been the key contributor to the diffused sense of autonomy and accountability in the system. Too much has been attempted to be regulated with too little effect.

The mechanistic and disempowering regulatory system has been rife with basic problems, such as a concentration of power within a few bodies, conflicts of interest among these bodies, and a resulting lack of accountability. This

regulatory culture has unfortunately stifled innovation and creativity, and unfortunately instead has fostered mediocrity and graft. Moreover, private HEIs have not been treated on an equal footing with public institutions. On the one hand this approach has discouraged public- spirited philanthropic HEIs, while on the other hand it has been unable to stop commercialisation of education.

Overcoming these challenges in order to establish high-quality access to higher education for all. This Policy envisions a complete overhaul and re-energising of the higher education system in order to overcome the aforementioned eight challenges and thereby deliver high quality higher education, with equity and inclusion, to all young people who aspire to it. The Policy's vision includes the following key changes to the current system:

P9.1. **Moving towards a higher educational system consisting of large, multidisciplinary universities and colleges:** The main thrust of this policy regarding higher education is the ending of the fragmentation of higher education by moving higher education into large multidisciplinary universities and colleges, each of which will aim to have upwards of 5,000 or more students.

If higher education is moved entirely into large multidisciplinary HEIs, it would address many of the problems that higher education faces today:

- It would give students vibrant communities of scholars and peers in which to learn;
- It would help break down harmful silos between disciplines;
- It would enable students to become well-rounded and develop optimally both sides of their brains (artistic/creative and analytic), and would help bring flexibility and individuality into their learning programmes;
- It would help develop active research communities across disciplines - particularly cross-disciplinary research, which will be key for the innovations of the 21st century;
- It would greatly improve (by an order of magnitude) the efficiency of use of resources and of resource sharing, both material and human, across higher education.

Thus, regarding the structure of higher education, this Policy places the highest emphasis on moving to large multidisciplinary universities. The ancient Indian universities of Takshashila and Nalanda which had thousands of students from India and the world studying in such vibrant multidisciplinary environments, and modern universities today, amply demonstrate the great success that such large multidisciplinary research universities can bring. It is time that India brings back this great Indian tradition, that is needed more today than ever to create well-rounded and innovative individuals, and which is already transforming other countries educationally and economically.

This move towards large multidisciplinary HEIs will be carried out as swiftly as possible and in a systematic and thoughtful manner, by consolidating and restructuring existing institutions and building new ones including establishing new world class model institutions of this type across the country, and also establishing at least one large high quality multidiscipilinary HEI in (or close to) every district.

Three types of such HEIs along the research-teaching and university-college spectrum will be developed in accordance with the needs of the country. Single-stream HEIs will be phased out, and all single-stream HEIs will move towards becoming multidisciplinary.

All higher education will happen in multidisciplinary institutions with teaching programmes across disciplines and fields to ensure optimised resources, integration across disciplines and vibrant, large education communities.

P9.2. **Moving towards a more liberal undergraduate education:** This goes hand-in-hand with the first policy initiative. The needs of the 21st century require that liberal broad-based multidisciplinary education become the basis for all higher education. This will help develop well-rounded individuals that possess critical 21st century capacities in fields across the arts, humanities, sciences, social sciences, and professional, technical, and vocational crafts, an ethic of social engagement, and rigorous specialisation in a chosen field or fields. Such a liberal education would be, in the long run, the approach across all undergraduate programmes, including those in professional, technical, and vocational disciplines.

Imaginative and flexible curricular structures will enable creative combinations of disciplines for students to study, and would offer multiple useful entry and exit points, thus demolishing currently prevalent rigid boundaries and creating new possibilities for lifelong learning. Graduate (masters and doctoral) level education in large multidisciplinary universities, while providing rigorous research-based specialisation, would also provide opportunities for multidisciplinary work, including in education and in industry.

India has a long tradition of holistic and multidisciplinary learning in the so-called 'liberal arts', from universities such as Takshashila and Nalanda to extensive literatures combining subjects across fields. Ancient books described education as knowledge of the 64 *Kalas* or arts, and among these 64 arts were included subjects such as singing, playing musical instruments, and painting, but also 'scientific fields' such as engineering, medicine, and mathematics. The notion of 'knowledge of many arts'- i.e. what is called 'liberal arts' in modern times - must be brought back to Indian education, as it is exactly the kind of education that will be required for the 21st century.

P9.3. **Moving towards faculty and institutional autonomy:** Through faculty autonomy, faculty will be enabled and motivated to innovate in their teaching and pedagogical approaches, student assessment, community service initiatives, and research, and share best practices and ideas with each other in university wide and larger forums in order to continually improve. Through institutional academic and administrative autonomy, institutions will be enabled to start and run novel and cutting-edge programmes, develop innovative curricula, govern more locally given local knowledge of circumstances and requirements, and set up optimal people and career management systems. All of these issues of administration and academics would be best handled (and innovated and improved upon) locally by those who are directly involved in the local issues (namely, faculty and institutional leaders), and they must in due course be empowered to do so.

Substantial and adequate public funding, with stability, must therefore be provided to public institutions to enable such academic and administrative autonomy. Over time, as financial probity and responsibility is demonstrated by various public institutions, an increasing amount of financial autonomy may be granted so that resource allocations for teaching, service, equipment, and research may also be decided locally to optimise resources by those who understand local needs best; this would, as usual, be contigent on continual demonstration of financial probity through full transparency and public disclosure of all finances. Financial autonomy will not mean a cut in funding, but rather the freedom to decide how best to spend funds to maximise educational attainments.

Private higher educational institutions will arrange their own funding; however, so long as they publicly disclose their full academic, administrative, and financial details to demonstrate financial probity, and academic and administrative responsibility, they too will move towards full autonomy in order to allow them to strive for excellence.

Such gradual granting of autonomy to all institutions that are making serious attempts towards attaining excellence will indeed be key to actually attaining true excellence at all higher educational institutions.

P9.4. **Curriculum, pedagogy, assessment, and student support will be revamped:** Curriculum, pedagogy, and assessment will move away from solely rote learning of facts and mechanical procedures. The examination system in higher

education will be recast; evaluation will be guided by curricular objectives and overarching educational goals. Faculty will be supported to achieve these transformations. Quality higher education in Indian languages will be offered across fields.

ODL programmes will be reimagined to ensure that their quality is equivalent to the best in class programmes. ODL will help expand the reach of higher education and thus improve access.

Strong academic, financial, social, and psychological support systems for students shall be put in place with a special focus on those from disadvantaged groups.

P9.5. **Reaffirming the integrity of faculty positions and institutional leadership through merit based appointments and career management:** All faculty positions will be filled, based on rigorous recruitment evaluations, and the practice of contract employment will be stopped. Appointment of faculty, their tenures and promotions, and compensation increases will be on the basis of merit taking into account teaching, research, and service - the assessment of which will be carried out through a rigorous process of evaluation by students, institutional leaders, and committees consisting of peers, as defined clearly by the HEI governing boards and institutional leadership.

Institutional leaders will be prepared years in advance through leadership training and promotion ladders based on merit. Leadership transitions will be overlapping and smooth. Institutional leaders will help create a culture of innovation and excellence that will encourage and incentivise outstanding and innovative teaching, research, institutional service, and community outreach from faculty and HEI leaders.

Incentives will be created, allowing colleges and universities to attain new heights of excellence across fields, and across teaching, research, and service.

P9.6. **Establishment of a National Research Foundation:** A National Research Foundation (NRF) will be established to grant competitive funding for outstanding research proposals across all disciplines, as determined by peer review and success of proposals. Most importantly, it will aim to seed, grow, and facilitate research at academic institutions where research is currently in a nascent stage, through systems of mentoring by active research scholars, who may have retired or be near retirement at top research institutions. The NRF will also act as a liaison among researchers, ministries of government, and industry, in order to ensure that the most relevant and societally useful research reaches the people as soon as possible. Finally, the NRF will recognise outstanding research accomplishments achieved through NRF funding and initiatives, across subjects and various categories, through prizes and seminars recognising the work of the researchers. All these initiatives, together with career management structures suitably incentivising research at HEIs, will help bring research cultures to institutions, including most State Universities, where research has not previously been present in a strong way.

P9.7. **Higher education institutions will be governed by Independent Boards, with complete academic and administrative autonomy:** Clear merit based procedures for appointments of the Board of Governors (BoG), the Chancellor, and the Vice Chancellor/Director/Chief Executive of HEI will ensure elimination of external interference, including from the government, and will aim to engage high capacity individuals who are invested in and have strong commitment towards the institution. Accountability for educational outcomes will flow concomitantly to the Board of the institution. Mechanisms will be established to align all stakeholders, including the government (and its bodies), for the long term development of the institution.

P9.8. **"Light but tight" regulation:** The regulatory system will be transformed to have only one regulator for all higher education, including professional education. Accreditation on basic parameters (such as financial probity) will form the basis for all regulation - these parameters will be minimalistic but rigorously enforced, including shutting down HEIs which do not adhere. Public disclosure of all relevant information by HEIs will be enforced and used for public scrutiny and informed decision making.

The various distinct functions of funding, standard setting, accreditation, and regulation will be separated and will be conducted by independent bodies, eliminating concentration of power and conflicts of interest. Private and public institutions will be treated on par by the regulatory regime. Commercialisation of education will be stopped and philanthropic efforts will be highly encouraged.

The above represents a summary of the vision of this Policy for ensuring high-quality higher education in the 21st century. In the ensuing chapters of Part II, more details are given on each of the above initiatives.

Terminology. A *programme* consists of a set of courses or other modes of learning, the successful Completion of which results in a degree or diploma. A *course* is a properly designed unit of study/instruction in a particular subject, generally transacted as a series of lectures or lessons, for which credit is awarded (e.g., towards a programme or programmes). A course would generally run for a semester, trimester, or 123 quarter, while programmes generally run for 3–5 years. A *curriculum* is an organisational framework for various educational activities, structured as courses and other modes of learning, that make up a programme of study.

This Policy uses the term *Higher Education Institution* (HEI) to include any institution of education post the secondary school level (Grade 12) that awards a degree at any level in any field or discipline. This includes universities (of all kinds), autonomous colleges, and institutions that have the status of a university. Affiliated colleges are presumed to be a part of the affiliating university for purposes of governance and regulation. Institutions, such as polytechnics, are not included within HEIs so long as they offer only diplomas. Such institutions are covered by this Policy in Chapter 20 on Vocational Education, and also referred to specifically elsewhere when relevant.

Chapter 10

Institutional Restructuring and Consolidation

Objective: Vibrant multidisciplinary institutions of high quality that increase capacity of higher education in India and ensure equitable access.

The vision of higher education enunciated in Chapter 9 will require, in particular, a new vision for what constitutes an HEI, i.e. a university or a college. All HEIs will aim to become large and multidisciplinary, in order to fulfil the attributes of broad-based education, research, and service required of them. Accordingly, a university will mean a multidisciplinary institution of higher learning that offers undergraduate and graduate programmes, with high quality teaching, research, and service. The definition of universities will thus allow those that place equal emphasis on teaching and research ('research universities') as well as those that place greater emphasis on teaching but still conduct significant research ('teaching universities').

Meanwhile, a college will eventually be restricted to being a large multidisciplinary institution of higher learning primarily focused on, though not restricted to, undergraduate teaching, and it would generally be smaller than a typical university. A college would either be an autonomous degree granting institution or a constituent college of a university - in the latter case, it would be fully a part of the university. With appropriate accreditations over a period of time, colleges could evolve into autonomous research or teaching universities if they so aspire.

It is the vision of this Policy that all HEIs evolve into one of these three types of institutions, which we will refer to as Types 1, 2, and 3: research universities,

teaching universities, and colleges. All three types of multidisciplinary higher educational institutions must aim to have student enrolments in the thousands, if not tens of thousands, for optimal use of infrastructure and resources, and to attain the type of multidisciplinary ecosystem of teaching, research, and service that is being envisioned for the higher education of the future.

A suitable number of Type 1-3 institutions must be developed in order to ensure geographical diversity with full access, equity, and inclusion. The GER goal that is being set over the period of this Policy is 50%, commensurate with the aspirations of the people and comparable with other rapidly developing nations (such as, e.g. China and Brazil, which have GERs in higher education of 44% and 50%, respectively). While a number of new institutions may be developed, in order to attain these goals a large part of the capacity creation shall happen by consolidating, expanding, and improving existing ones. Growth will be in both public and private institutions, with strong emphasis on developing a large number of outstanding public institutions of Types 1, 2 and 3.

Access to high quality institutions in disadvantaged geographies will be a priority. This consolidation, expansion and improvement shall ensure equitable and high quality higher education across the country.

New institutional architecture with large, well-resourced, vibrant multidisciplinary institutions for teaching and research, which will significantly expand reach and capacity.

P10.1. **Nationwide ecosystem of vibrant multidisciplinary universities and colleges:** HEIs will be developed into vibrant communities of high quality teaching, research, and service, and these will form a national ecosystem of learning and knowledge generation, with special measures to provide equitable access to all citizens. To enable this development, some of the most important dimensions of action shall be:

a. All HEIs will become multidisciplinary institutions, with teaching programmes across disciplines and fields, which is essential for high quality higher education. This will require that all HEIs have relatively large numbers of students, a must for being able to develop such multidisciplinary institutions efficiently and effectively. An HEI will be called multidisciplinary if it offers at least two programmes or majors in the arts and humanities, at least two in science and mathematics, and at least one in the social sciences, though most multidisciplinary HEIs in the long run will offer far more

than this minimum requirement, and will also include professional and vocational programmes.

b. All HEIs will be adequately resourced and staffed with high quality teams of faculty and members in other roles, including leadership roles. These teams will be empowered and will have effective merit-based performance management, in order to foster the best possible culture of deep learning, knowledge generation, service and excellence.

c. All HEIs will gradually move towards full autonomy - academic, administrative, and eventually financial - in order to enable this vibrant culture. The autonomy of public institutions will be backed by adequate public financial support and stability. Private institutions with public spirited commitment to high quality, equitable education will be encouraged and treated on par. The new regulatory system envisioned by this Policy will foster this overall culture of empowerment and autonomy to innovate, including by gradually phasing out the system of 'affiliated colleges' in order to enable and encourage local innovation.

d. The overall higher education sector will be integrated into one higher education system - including professional and vocational education. This Policy, its approach, and specific policy points will be equally applicable to all HEIs across all current streams which would eventually merge into one coherent ecosystem of higher education.

Professional education will be an integral part of higher education.

P10.2. **Public higher education will be expanded and improved:** Public institutions will be developed and improved, strongly reaffirming a commitment to the national importance of public education.

P10.3. **New institutional architecture for higher education:** To make quality higher education accessible to all who desire to pursue it and to foster high quality research, a new institutional architecture with three kinds (or Type) of institutions shall be developed. These three kinds of institution will differ in their focus of goals and work, but will have equal commitment to ensuring high quality. All HEIs, by 2030, will develop into one of three types of institutions. These three types of institutions will differ in their focus as far as goals and work are concerned, but will have equal commitment toward ensuring high quality. These three types of institutions are characterised as follows.

a. Type 1: Research universities. These will focus equally on research and teaching: they will dedicate themselves to cutting-edge research for new knowledge creation while at the same time offering the highest quality teaching across undergraduate, masters, Ph.D., professional, and vocational programmes. Many graduate and research institutions do not currently offer undergraduate education, which is essential for ensuring that knowledge from the best institutions gets passed on, on a wide scale, to the next generation. These institutions will be encouraged to introduce undergraduate programmes as well. It is expected that, over a period of two decades, a couple of hundred institutions, say 150–300, will belong to the Type 1 category, and each will aim for on-campus enrolments between 5000 to 25000 or more students. They will aim to become world-class research universities and compete with global institutions.

b. Type 2: Teaching universities. These will focus primarily on high quality teaching across disciplines and programmes, including undergraduate, masters and doctoral, professional, vocational, certificate and diploma programmes, while also significantly contributing to cutting-edge research. Such institutions will target enrolments between 5,000 and 25,000 or more on their campuses. It is expected that there will be several hundred such universities, say, between 1000 to 2000, created over a period of two decades. As they begin to achieve higher quality in research and the range of programmes offered, some of them may aim to join the ranks of Type 1 institutions.

c. Type 3: Colleges. These will focus almost exclusively on the goal of high quality teaching. These institutions will largely run undergraduate programmes, in addition to diploma and certificate programmes, across disciplines and fields, including vocational and professional. A large number of such autonomous colleges, say 5,000–10,000, will provide high quality liberal undergraduate education, with a target of on-campus enrolments of 2,000–5,000 or higher. These colleges will also be expected to offer certificate, diploma, and degree courses in vocational education, and in some fields of professional education. Given that teaching is strengthened through research and vice-versa, faculty at these colleges will be encouraged to apply for research funding and conduct, and be able to give senior undergraduate students a flavour of research. Over time, such autonomous colleges can begin to conduct quality research across disciplines and introduce graduate programmes, and may thereby aim towards becoming either Type 2 or Type 1 institutions.

It is important to note that the categorisation of HEIs into these three 'Types' is not in any natural way a sharp, exclusionary categorisation, but is along a continuum. HEIs will have the autonomy and freedom to move from one Type to another, on the basis of their plans, actions, and effectiveness. The most salient marker for the three types of institutions will be the focus of their goals and work. The accreditation system (see Section 18.2) will develop and use appropriately different and relevant norms for the three types of HEIs.

However, the expectations of high quality of education, and therefore of teaching-learning, across all Types and all HEIs will be the same. In addition

to teaching and research, HEIs will also have other crucial responsibilities, which they will discharge through appropriate resourcing and structures. This includes supporting other HEIs in their development, community engagement and service, contribution to various fields of practice, faculty development for the higher education system, and contribution to school education.

In the long term (by 2040), the Indian higher education system will consolidate into a far smaller number of institutions, across the three Types of HEIs, but the average size of these institutions will be much larger than the average size today; this will help increase resource efficiency, multidisciplinary capacity and quality, as well as GER.

All types of institutions must be equitably distributed across the states and regions.

P10.4. **Liberal education and programmes/departments/schools of higher education institutions:** A liberal education approach will be the basis of undergraduate education in all fields and disciplines at the undergraduate level, including professional education. The notion of 'streaming', where science, arts, and vocational students are separated, based on their academic performance, majors, interests, or any other such criteria, will end. Courses across all subjects will be available for all students across majors.

All HEIs, including all universities (Type 1 and 2), shall be required to offer liberal education undergraduate programmes. All universities shall also offer the four-year teacher education programmes, to enable the preparation of outstanding school teachers; many colleges will also aim to establish the same. All Type 1 and 2 HEIs will offer graduate programmes. HEIs will offer programmes and majors across the basic disciplines and fields, and also in interdisciplinary areas. They will also innovate and develop relevant programmes for emerging areas of study, including areas of application.

To enable these programmes, the HEIs will establish quality departments and schools across all basic disciplines and fields, particularly languages, social sciences, humanities, physical sciences, education, mathematics, arts, music, sports, etc., and also in application fields such as engineering, medicine, pharmacy, agriculture, forestry, etc.

There will be three types of institutions based on a difference in focus - all three types will be of high quality.

P10.5. **Development of the new institutional architecture:** The development of this new institutional architecture across the country will be energised by the autonomy of the institutions, substantial increased public financial support, and encouragement of private philanthropic efforts.

Each HEI will chart out a course for its own development through its IDP (see P17.1.7), including choosing the kind of institution it wants to be, the action plan for reaching there, and the continuing growth thereafter. The substantial part of the actions to fulfil these plans and aspirations will be within the HEI, empowered by the administrative and curricular autonomy provided by this Policy, and the associated full public academic, administrative, and financial disclosure and demonstration of probity required by this Policy.

The primary mechanism for aligning, committing, regulating/monitoring/auditing, and thereafter guiding action for all HEIs and their stakeholders, regarding their growth and development, will be the IDP. This will explicitly account for the financial support from the relevant public body in the case of public HEIs.

> **Substantial public investment will be made to expand and vitalize public higher education.**

P10.6. **Fair and transparent system for determining public funding:** There will be a fair and transparent system for determining (increased) levels of public funding support for public HEIs. This system will give equitable opportunity for public institutions to grow and develop.

The system will be based on transparent, preannounced criteria from within the accreditation norms of the accreditation system (see P18.5.1). This system will be used by the relevant State and/or Central government public body, including by the Higher Education Grants Council (HEGC) (see P18.4.1), to commit to short-, mid-, and long-term support for carrying out the IDPs (see P17.1.7), which will reflect the goals and plans of the HEIs.

In providing increased financial support, the relevant government/public body may consider other factors such as ensuring regional distribution of Type 1 and 2 HEIs, ease of access for students, and the availability of supporting ecosystems. These additional considerations will not result in denying any public institution appropriately increased support that meets the preannounced criteria for the same.

Over time, as financial probity and responsibility is demonstrated by various public institutions, through full and proper public academic, administrative, and financial disclosure, an increasing amount of financial autonomy may be

granted so that resource allocations for teaching, service, equipment, and research may also be decided locally to optimise resources by those who understand local needs best; this would, as usual, be contigent on continual demonstration of financial probity through full transparency and public disclosure of all finances. Increasing financial autonomy will not imply cuts in funding, but rather the freedom to decide locally how best to spend funds to maximise educational attainments.

The framework for this system will be developed by the apex body of Mission Nalanda (see P10.15 below), with wide consultations with the states, by 2021, and approved by the RSA. This will be reviewed and revised in 2024 and 2030.

P10.7. **Central government funded higher education institutions to develop into Type 1 institutions:** The existing Central Universities (CUs), Centrally Funded Technical Institutions (CFTIs), Institutions of National Importance (INIs) and other institutions substantially (around 50% or more) supported by the Central government (e.g., National Institutes of Technology), and Research Institutions (RIs) will all be supported to become Type 1 institutions.

This support will also be driven by the aforementioned criterion-based system for public funding. Some RIs may have insurmountable constraints in developing to become Type 1 HEIs (e.g. campus size that cannot accommodate 5000+ students). Such RIs may choose not to grow into Type 1 institutions, and should instead closely align and work with proximate Type 1 or 2 institutions for engaging their own faculty in adequate teaching and mentoring opportunities.

P10.8. **State level plans for new institutional architecture:** All State governments should prepare and execute a comprehensive 10-year plan for the development of this institutional architecture in their states. This plan should envision a judicious distribution of the types of institutions across the State, with a special emphasis on access in disadvantaged regions – which may form an integral part of the plan for the Special Education Zones (see P6.1.2). The plans will target approximately the following numbers of different types of institutions: one each of Types 1, 2, and 3 for 50 lakhs, 5 lakhs, and 2 lakhs of population, respectively. These are indicative numbers, and may vary notably across geographies. Demographic trends would also be considered in these plans, as also the phenomenon that good universities, by their very presence, lead to growth and development of localities.

The plan will require a thoughtful consolidation of existing HEIs into a fewer number of HEIs, considering issues of access, distribution, and the quality of existing and future outcomes. The plan may build on the momentum and progress of the Rashtriya Uchchtar Shiksha Abhiyan (RUSA).

The consolidation must result in larger and more vibrant educational communities within each HEI. The existing resources of the HEIs, affected by the consolidation, must be used optimally: human resources will not be rendered surplus, since capacities only have to be increased; physical

resources (i.e., a college campus) must be reused effectively as a part of the 10-year educational plan of the State – for uses ranging from the development of school complexes to extension centres for vocational education.

The success of these plans will require a careful synchronisation of the multiple actions emanating from this Policy, especially between the Central and State governments, which may be facilitated by the Standing Committee on Coordination of the RSA (see P23.10). It will also require a culture of encouragement to the HEIs, such that they feel energised, and supported to grow and develop. It will require the commitment of adequately higher resources to specific HEIs, including those that are specifically encouraged to become Type 1 and 2 HEIs; for this, the State may articulate its own version of the aforementioned criterion-based system of increased financial support, considering State level factors.

P10.9. **Support from the National Research Foundation:** All HEIs will have the opportunity to access and raise funds for support for their development, including for development as Type 1 and 2 HEIs. These mechanisms are in addition to the public funding that may be committed through the IDP. One of these important mechanisms is the ecosystem of research funding being created in this Policy though the NRF (see Section 14.2). The systems and culture of the HEIs should encourage their faculty to seek and secure substantial research grants from the NRF. This will be a critical mechanism in facilitating their journey to becoming a Type 1 or 2 HEI and in sustaining the change.

The NRF will run a special programme till 2040 to support State Universities to enhance their research capacities, thus enabling them to transition to Type 1 or 2 institutions. Under this programme, the NRF will select and offer 500 National Postdoctoral Fellowships (NPDF) and 500 National Doctoral Fellowships (NDF) every year across disciplines and fields. The fellowships will be for 3 and 5 years, and will be awarded on the basis of a national selection process organised by the NRF. Those receiving NPDFs may join designated research groups in their areas of work in State Universities. NRF will select the State Universities that may host NPDF recipients, in specific areas of research. State universities may apply to the NRF for recognition as host institutions for specific areas. This list of host HEIs will be made available publicly, with descriptions of the research being conducted there, so that candidates may apply to them according to their own passions and interests. The detailed guidelines for this programme will be formulated and circulated by the NRF within a year of its formation.

P10.10. **Equal encouragement and empowerment for private higher education institutions:** Private HEIs will be encouraged to develop into Type 1 and 2 institutions, and must develop to become Type 3 institutions. While the financial support for such development must be arranged by the private HEI, the government will treat them on par with public institutions, and empower them equally. The private HEIs will have equal access to NRF funding for research support as public institutions.

P10.11. **Quality transformation of open and distance learning and expansion for access:** All types of institutions may run ODL programmes, provided they are specifically accredited to do so (see Section 12.3), in order to enhance their offerings, improve access, increase GER, and provide increased opportunities for lifelong learning.

All ODL programmes (and their components) leading to any diploma or degree will be of a standard and quality equivalent to the highest quality programmes run by the HEIs on their campus. To ensure that truly high quality ODLs are developed and delivered, HEIs will use their best faculty, and will invest in adequate facilities and support staff. HEIs will also use the best possible materials, resources, and web-based platforms available throughout the world through technology and not remain limited to their own resources.

> **Disadvantaged geographies will be a priority - there will be at least one Type 1 - 3 institution for every district within 5 years.**

P10.12. **Simplified institutional categories, and streamlining university nomenclature:** A university has only one definition worldwide, namely, a multidisciplinary institution of higher learning that offers undergraduate, graduate, and Ph.D. programmes, and engages in high quality teaching and research. The present complex nomenclature of HEIs in the country as 'deemed to be university', 'affiliating university', 'unitary university', and so on will be phased out. Universities will be characterised only as public, private, or private-aided; and as multidisciplinary research universities (Type 1) or comprehensive teaching universities (Type 2).

P10.13. **Degree-granting powers:** Degree-granting powers are, at present, vested only with universities. This will change, as autonomous colleges will also gain the freedom to grant their own degrees. All institutions of education and research, public as well as private, will be allowed to award degrees in their own names, irrespective of whether the word 'university' figures in their name or not. Universities will be distinguished from degree-granting colleges by the fact that they offer graduate programmes in a broad range of subjects, especially quality PhD programmes, and are of relatively larger sizes. By 2032, all higher educational qualifications – including all degrees and diplomas – shall be granted only by accredited (see Section 18.2) Type 1, 2, or 3 institutions.

P10.14. **Transforming affiliating universities:** All affiliating universities shall completely transform their institutional structure:

a. All affiliating universities will transition to a Type 1 or 2 institution, with one or more campuses. Universities will have no affiliated colleges.

b. All (currently) affiliated colleges, must develop into autonomous degree granting colleges (Type 3) by 2032, or merge completely with the university that they are affiliated to, or develop into a university themselves (Type 1 or 2). These transitions will be a part of State level plans for developing the new higher education institutional architecture (see P.10.3).

c. To enable this transition and development of the colleges into Type HEIs, adequate support, including mentoring, will be provided by Type 1 or 2 HEIs or other mentor institutions. Special budgets will be allocated to the mentor institutions for this purpose.

d. There will be an adequate time period provided for this transition to happen. This time period may extend up to twelve years. Thus, there will be no affiliating universities or affiliated colleges after 2032.

e. The facilities and resources of colleges that do not develop into Type 3 HEIs by 2032 will be optimally utilised for other public good and services, for example as adult education centres, public libraries, vocational education facilities, etc. This will also be a part of the State level plan.

f. These developments will require enablement by the governance and regulatory regimes, in addition to institutional development, which will be facilitated by the relevant bodies of the State and the Centre.

All higher education institutions will either be universities or degree granting autonomous colleges - there will be no affiliating universities or affiliated colleges.

P10.15. **Missions Nalanda and Takshashila for catalysing the new institutional architecture:** The long-term vision for the Indian higher education system, articulated above, will take time and considerable effort to achieve. In order to kick-start the efforts and to ensure that a significant number of high quality Type 1, 2 and 3 institutions are in place by 2030, Mission Nalanda (MN) and Mission Takshashila (MT) will be launched in tandem. These missions will be constituted by the RSA (see Chapter 23) and will have a common apex body – the Mission Directorate.

Mission Nalanda will ensure that there are at least 100 Type 1 and 500 Type 2 HEIs functioning vibrantly by 2030, with equitable regional distribution. Mission Takshashila will strive to establish at least one high quality HEI in or close to every district of India, with 2 or 3 such HEIs in districts with larger populations, each with residential facilities for students.

The Mission Directorate will oversee and manage the development of the new institutional architecture with a clearly articulated plan, milestones, and commitments towards funding from the Central and State governments. The plan would include not only all institutional aspects, but also ecosystem aspects such as local infrastructure and community development, which are essential for the development of high quality HEIs. This plan should be jointly owned by State and Central governments. The aforementioned State level plans may leverage the plan of the missions, and State governments will be actively involved in the planning and execution of MN and MT.

As a first step for MN, the focus shall be on existing institutions that can be quickly developed into Type 1 and 2 institutions, such as the CUs, CFTIs, NITs and large State Universities. These will be fully residential universities. The MN and MT will receive shared funding by Central and State governments, in the cases of State institutions, for developmental funding exceeding the current budgets; Central institutions will be funded 100% by the Central government.

A few new model institutions may also be set up and developed as a part of this mission, e.g., the Multidisciplinary Education and Research Universities (MERUs) (see P11.1.4) which will be pace-setting institutions for multidisciplinary undergraduate education and research. The missions will also enable and support private HEIs aspiring to develop into Type 1 or 2 HEIs.

Several institutions will require concentrated support and mentoring to be able to get started on the path to multidisciplinary capacity, accreditation, and autonomy, as well as for inputs on making the best use of their autonomy, over the coming decade. Such support will be institutionalised, and the modalities will be worked out by the RSA. Other institutions will require mentoring to seed and grow research, and this will be made available through the NRF (see Section 14.3). The missions will track all such requirements for expertise and knowhow and make them available appropriately.

Chapter 11

Towards a More Liberal Education

Objective: Move towards a more imaginative and broad-based liberal education as a foundation for holistic development of all students, with rigorous specialisation in chosen disciplines and fields.

The concept of 'liberal arts' literally means a liberal notion of the arts. The very idea that all branches of creative human endeavour (including mathematics and science) should be considered 'arts' indeed has distinctly Indian origins. Numerous ancient books in India going back over 2000 years (including Banabhatta's Kadambari, written 1400 years ago and one of the world's first-ever novels) described the 64 *kalas* or arts, wherein a truly educated person was described as one who mastered all the 64 *kalas*. These 64 *kalas* included music, dance, painting, sculpture, languages, and literature, in addition to subjects such as engineering and mathematics as well as vocational subjects such as carpentry – this is very close to what the 'liberal arts' refers to today! The number of *kalas* grew over time, with 86 described in the Lalitavistara Sutra, and 512 *kalas* across various human endeavours mentioned in Yasodhara's Jayamangala in the 13th century! Indian literature is replete with instances of cross-disciplinary works combining various subjects across the arts and sciences (such as Bharata's Natyashastra, c. 300 BCE, a text largely about music and dance but which also delves deeply into connections with principles of mathematics and physics).

Indian universities such as Takshashila and Nalanda were the oldest universities in the world, and of the very highest quality. These ancient universities definitively emphasised the liberal arts and liberal education tradition. Students from across the world came to study grammar, philosophy,

medicine, politics, astronomy, mathematics, commerce, music, dance, and much more. Among the eminent graduates and scholars of Takshashila and Nalanda were the philosopher and economist Chanakya; the Sanskrit grammarian, mathematician, and discoverer of generative grammar, Panini; the leader and statesman Chandragupta Maurya; and the mathematician and astronomer, Aryabhata.

This critical Indian concept of liberal arts education has indeed become extremely important in the modern day employment landscape of the 21st century, and liberal arts education of this kind is already being extensively implemented today (e.g. in the United States in Ivy League schools) with great success. It is time India also brought back this great tradition to its place of origin.

A liberal arts education, as so beautifully described and practiced in India's past, enables one to truly develop both sides of the brain - both the creative side and the analytical side.

The purpose and importance of a liberal arts education today – i.e. an education across the kalas – is to enable students to explore the numerous remarkable relationships that exist among the sciences and the humanities, mathematics and art, medicine and physics, etc. – and more generally, to explore the surprising unity of all fields of human endeavour. A comprehensive liberal arts education develops all capacities of human beings – intellectual, aesthetic, social, physical, emotional and moral – in an integrated manner. Such education, which develops the fundamental capacities of individuals on all aspects of being human, is by its very nature liberal education, and is aimed at developing good and complete human beings.

The overly pragmatic and sceptical student will, of course, always ask: "Why do I need to know about disciplines that seemingly have nothing to do with the job I intend to work in?" There are many answers to this question. Firstly – and perhaps most importantly – a liberal arts education greatly enriches one's life, and makes it so much more meaningful and joyful when one is able to appreciate many worlds.

Secondly, one never actually knows what one's job is going to be in the long-term, or what work it will entail! As remarked by journalist Fareed Zakaria, the purpose of a liberal arts education is not simply to prepare for one's first job, but also for one's second job, third job, and beyond. With the coming fourth industrial revolution, and the rapidly changing employment landscape,

a liberal arts education is more important and useful for one's employment than ever before.

Thirdly, even if one somehow knows in advance what job one will have forever, one still never knows when certain ideas and concepts from other disciplines might make an appearance, in a way that could improve or even completely transform the work that one is doing. For example, many of the world's greatest innovations and breakthroughs have occurred due to such cross-fertilisation of ideas across seemingly different fields. X-rays, CAT scans, MRIs, and lasers in medicine all originally came about due to physicists and space scientists thinking about these concepts for completely different reasons. In most cases, the immediate purpose was pure curiosity in that field! Radiocarbon dating, as used in archaeology, anthropology, and history, is another example of where ideas from – in this case – physics and chemistry resulted in a revolution in completely different fields. Music is another subject that has had incredibly interesting influences on and has in turn been influenced by many areas: psychology, physiology, sociology, engineering, physics, and mathematics.

A liberal arts education enables one to truly develop both sides of the brain – both the creative/artistic side and the analytic side. Aesthetic, social, and moral capabilities can greatly enhance one's scientific capabilities, and vice versa; and education across all such fields can fire up one's capacity and desire for creativity and innovation, and enhance one's skills in communication, ethics, service, critical thinking, cooperation, and collaboration. Many of the world's top entrepreneurs have often spoken about how having team members with a liberal education allowed their enterprises to truly excel. For example, Steve Jobs was famous for ideas for products that married top-notch aesthetics with top-notch engineering. When asked about why the Macintosh computer revolutionised computing, he remarked: "I think part of what made the Macintosh great was that the people working on it were musicians and poets and artists and zoologists and historians who also happened to be the best computer scientists in the world."

Indeed, the available assessments on educational approaches in undergraduate education that integrate the humanities and arts with STEM have consistently showed positive learning outcomes, including increased creativity and innovation, critical thinking and higher order thinking capacities, problem solving abilities, teamwork, communication skills, deeper learning and mastery of curricula across fields, an increase in social and moral awareness, besides general engagement and enjoyment of learning. As an example, a survey of Nobel Prize winning scientists revealed that they are three times more likely than the average scientist to have an artistic hobby. Research is also improved and enhanced through a liberal education approach.

A holistic and liberal education as described so beautifully in India's past is indeed what is needed for the education of India in the future to truly lead the country into the 21st century and the fourth industrial revolution. Even engineering schools such as the IITs must move towards a more liberal education integrating arts and humanities, while arts and humanities

students must aim to learn more science – while all must make the effort to learn more vocational subjects. India's rich legacy in the arts as well as in the sciences and beyond will greatly help in making the move towards liberal education an easy and natural transition.

What is the best way to deliver a liberal arts education? A number of measures must be taken to properly bring back high quality liberal arts education to India in an appropriate manner, and to optimally prepare India's young people for the challenges of the 21st century.

Multidisciplinary environments and institutions: High quality liberal education is, by its very definition and nature, multidisciplinary. For liberal education to become the norm and to truly thrive, higher education must move into multidisciplinary institutions. Institutions offering a single stream must be phased out, and all universities and colleges must aim to become composite multidisciplinary HEIs.

Breaking silos within universities: Even within multidisciplinary universities, there is currently little interaction among different disciplines. Students are streamed into narrow areas such as science, or engineering, or art, or professional or vocational subjects, and are generally mandated to take almost all if not all courses only within their stream. This is a very harmful practice that prevents students from having the flexibility to develop their own individual interests and talents; develop cross-disciplinary capabilities; and develop both the creative and analytic sides of their brains.

These silos must be broken in order to develop true liberal education for all students, and to encourage cross-disciplinary collaborative research and study among faculty as well. In summary, we must swiftly move away from single-stream HEIs – and indeed away from all forms of streaming and silos within institutions.

Imaginative curriculum and pedagogy: HEIs must offer flexibility in curriculum, and novel and engaging course options to students. This will be facilitated through increased faculty and institutional autonomy in setting curricula. Pedagogy for courses will strive for significantly less rote learning and an increased emphasis on communication, discussion, and opportunities for cross-disciplinary and interdisciplinary thinking.

Establishment and strengthening of departments needed for multidisciplinarity and cross-disciplinarity: Departments of languages (especially Indian languages), literature (especially Indian literature), music (including Carnatic, Hindustani, folk, and film), philosophy (especially Indian philosophy, including Buddhist and Jain philosophy), Indology and the study of India, art, dance, theatre, education, statistics, pure and applied sciences, sociology, economics, sports, and other such departments truly needed for a multidisciplinary and stimulating Indian education and environment will be established and strengthened at HEIs across the country.

Liberal education to be accompanied by rigorous specialisation: A liberal and broad-based education must be accompanied by rigorous specialisation in chosen disciplines or fields in order to develop deeper expertise in one or

more subjects. A broad-based education will in fact help in attaining better expertise and creativity in one's field due to better overall development of a range of capacities and the ability to think in a cross- and interdisciplinary manner. Thus, undergraduate education will consist of great flexibility in choosing courses to satisfy core subject distribution requirements, together with a selection of courses to establish expertise in a chosen field or fields (called majors, dual majors, or minors). This will ensure well-rounded individuals who are also experts in given disciplines or fields.

Inclusion of lessons in *seva* / service as part of liberal education: How can one use one's broad-based knowledge and rigorous specialisation to improve one's own life and the lives of those around? Universities and colleges will take the lead in community service – using their multidisciplinary repository of knowledge, research, and knowhow, and their capable faculty and students – to address local needs such as clean water, energy, adult education, issues with school education, and more. Students will think about questions such as "How can the art, science, engineering, professional, or vocational craft that I study be used to improve the lives of others?" When possible, courses will strive to include relevant and educational local community service opportunities (inside or outside of the university premises) as part of their curricula to help develop socially conscious individuals, and to help connect the subjects that students study to life.

Internships and research opportunities: Finally, as part of a liberal education, students will be provided with opportunities for internships with local industry as well as research internships with faculty and researchers at their own or other HEIs or research institutions. This will be recognised as a component of the liberal arts degrees for those students who partake in this option, and they will receive credit for such work as part of their Bachelor's degrees when applying for graduate programmes or other employment.

Flexible Bachelor's degree options: To facilitate the attainment of all the above ideal attributes of liberal education, a four-year Bachelor of Liberal Arts (BLA) or Bachelor of Liberal Education (BLE) degree (or BLA / BLE with Research) will be offered by those institutions which are ready to run such programmes consisting of a broad-based liberal education together with rigorous specialisation in a field or fields. The three-year traditional B.A., B.Sc., as well as B.Voc. degrees will continue as well for those institutions that wish to continue such programmes, but all Bachelor's degrees will move towards taking a more comprehensive liberal education approach.

Liberal education approach for enhancing graduate programmes and research in HEIs: A multidisciplinary and liberal approach to higher education will serve to enhance not only undergraduate programmes but also graduate programmes and research in HEIs. Indeed, the multidisciplinary environments, the breaking of silos, and the connection with local communities and industry will help greatly in making research by faculty and graduate students more interdisciplinary and locally relevant. It will encourage collaboration across departments to tackle local issues relating to, e.g. clean water, energy, environmental sustainability, gender equality, preservation of endangered languages, preservation of local arts, etc.

University research and graduate programmes will thus connect with the liberal ethos to conduct higher quality, more relevant, and interdisciplinary research. One of the core goals of the NRF (see Sections 14.2 and 14.3) will indeed be to help seed and grow such high quality, relevant, and interdisciplinary research at HEIs across the country, and to connect such research across disciplines with societal needs and with governmental bodies and with industry.

11.1. Liberal education to energise undergraduate programmes

The overall transformation of undergraduate education shall entail institutions offering courses and programmes across the humanities and arts, social, physical and life sciences, mathematics, and sports, alongside vocational and professional fields. Appropriate grouping of courses and credit structures will then offer students the flexibility to fulfil both the requirements of their programme and any other interests that they may have, as well as give them the option to choose the number of years they devote to a programme through credit-based systems and multiple exit and entry options. To enable this overall transformation, all undergraduate programmes will be developed on an underlying foundation of liberal education, which develops the intellectual, social, ethical, analytical, and aesthetic capacities of all students.

> **A liberal and broad-based undergraduate education will also be accompanied by rigorous specialisation in chosen disciplines or fields in order to develop deeper expertise in one or more subjects.**

P11.1.1. **Redesigning undergraduate programmes for liberal education:** Undergraduate programmes shall be interdisciplinary with curricula designed to develop broadly useful capacities and important dispositions, while offering rigorous education in specialisations, as chosen by students, from across all disciplines and fields: arts, physical and life sciences, mathematics, social sciences and humanities, vocational and professional fields.

To enable this overall transformation of undergraduate education, the curriculum shall have:

a. A common core curriculum / subject distribution requirement for all students; and

b. One or two area(s) of specialisation.

The common core curriculum shall aim to develop broad capacities and important dispositions, including but not limited to: critical thinking (e.g. courses on statistics, data analysis, or quantitative methods); communication skills (e.g. courses on writing and speaking); aesthetic sensibilities (e.g. courses in music, visual art, or theatre); scientific temper and the scientific method; an understanding of India, our context, and our challenges (e.g. courses on India's history and diversity, or on the social realities of contemporary India); Constitutional values and their practice; social responsibility and moral and ethical reasoning; an adequate exposure to multiple disciplines and fields including the arts, humanities, and sports; and science in relation to society and the environment.

The overall institutional experience of the students, in addition to the curriculum, must be designed and fostered to develop these capacities and dispositions. Students will be given adequate flexibility in deciding which courses to take in order to satisfy the core curriculum requirements.

Students shall furthermore be required to choose an area of specialisation called their 'major' (e.g. history, chemistry, philosophy, mathematics, or electrical engineering) and optionally an area of additional study called their 'minor' (e.g. music, Tamil, physics, geography, or pharmacy), or they may choose to double-major. Students shall gain deep disciplinary knowledge through theory and practical experiences in their area of specialisation (major). They shall gain additional understanding of any additional area of study (minor) that they choose. Students will be allowed to choose subject combinations across the current so-called 'streams', including professional and vocational streams, e.g. a student will be able to choose a 'major' in physics with a 'minor' in history. Again, students will be given some degree of flexibility in deciding which courses to take in order to satisfy the requirements for the major or minor.

All HEIs will strive to develop and run programmes with these goals and structure. In addition, all undergraduate programmes will also feature:

Opportunities for conducting community service, especially service that makes use of capacities and subjects being learned by the student at the HEI. All HEIs will create mechanisms for social engagement of students at the undergraduate level, by contributing to issues of justice, equity and development. These engagements should be designed and run to offer exposure of students to the pressing issues of the local community, State, and country. To the extent possible, these will be integrated within the programme curriculum. The time allotted for social engagement for each student should be at least equal to a full one-semester course, across the duration of the programme. This could be attained through volunteering in local communities, through engagement in public social welfare programmes, or through collaboration with civil society institutions. It could also be attained through programmes such as the National Service Scheme, the National Cadet Core, and the youth wing of the Indian Red Cross.

Practical engagement with the world: All programmes should combine conceptual knowledge with practical engagement which has relevant real world connections (e.g. through practical laboratory work, field work, workshops, internships, involvement in teaching or tutoring, student research projects, and student portfolios).

Focus on language, literature, arts, sports, and music: All undergraduate programmes shall have a special focus on language education. Institutions will be encouraged and funded to offer several Indian languages, as well as some foreign languages, so that students can develop proficiency in as many as possible and increase their cultural literacy of India and the world. These programmes will cover both language and literature. Students will be required to attain proficiency in discussing their major in at least one Indian language, through an appropriate written project or presentation in that language.

All undergraduate programmes will also emphasise music, visual arts, performing arts, and sports. This shall include India's deep traditions in the arts, music and sports, including the numerous remarkable local regional traditions. Yoga shall form an integral part of such efforts as well. Institutions will be encouraged and funded to offer full-fledged programmes and courses in these areas.

Professional competence within liberal education: All undergraduate liberal education programmes shall have a robust element of skills and professional competence. Curriculum and pedagogy shall have a strong connection with the world of work, so as to develop capacities for employment and livelihood, along with those for being an engaged citizen. Students must also be prepared to respond to changes in the workplace.

Professional and vocational subjects: Professional and vocational areas of study (e.g. engineering, medicine, law, and teacher education) will be an integral part of, and will work towards, this liberal education approach and curriculum. In the long-term, subjects from these streams will be offered as part of the liberal education approach to the undergraduate curriculum, within the constraints posed by the specific requirements of learning within these fields. Given that professional and vocational fields are also better served in many cases by those obtaining a liberal education (this is especially true for teacher education, but also, e.g. for engineering, medicine, and law), professional, technical, and vocational education programmes will arrange to enable arrangements and room for students to pursue a truly liberal undergraduate education. (See also Chapters 15, 16 and 20)

A four-year duration programme will offer the full possibilities for such a transformed liberal undergraduate education programme, and shall be called a Liberal Arts programme, resulting in a BLA or BLE degree. The BLA or BLE will also offer students the possibility of in-depth research in their final year, resulting in a BLA or BLE with Research. The three-year undergraduate programmes currently running will also be redesigned with the same objectives and principles, recognising the fact that the shorter duration of the programme will result in somewhat lesser possibilities for broad exposure or in-depth research. The existing three-year programmes will also continue, and it will be left to individual educational institutions to decide the duration (3 or 4 years)

of the undergraduate programmes that they offer in different disciplines. The four-year programme will certainly allow for deeper possibilities for multidisciplinary exposure, research, internships, and dual majors or minors.

P11.1.2. **Liberal education to develop Constitutional values**: HEIs will develop an understanding of our Constitutional values, and the disposition and capacities for their practice, amongst all their students. The curricula of (all) programmes, in tandem with the overall culture and environment of the HEI, will enable this. The duties and rights in action, of all citizens of India, informed by these values will also be highlighted. Some of the Constitutional values that will be thus developed, as evidenced in action through the life of the students, are: democratic spirit and commitment to liberty and freedom; commitment to equality, justice, and fairness; embracing diversity, plurality, and inclusion; humaneness and fraternal spirit; social responsibility and the spirit of service; spirit of universalism, with rootedness in India; scientific temper and commitment to rational dialogue and public reasoning; and an ethic of integrity and honesty.

P11.1.3. **High quality Bachelor of Liberal Arts in every district**: There shall be at least one high quality HEI offering the four-year undergraduate BLA programme in or near every district in the country. The design of these programmes could also offer an exit option for the student after three years with a B.A., B.Sc., B.Voc., or other relevant undergraduate degree if a student so desires.

This effort could begin with the educationally disadvantaged districts, while all districts should be covered by 2030. These HEIs may be set up as "Model Undergraduate Colleges". Availability of high quality infrastructure, all relevant learning resources, and adequate number of capable faculty across disciplines will be ensured in these HEIs. Special incentives may be offered to all staff, including to faculty, to relocate to HEIs in disadvantaged districts, for long periods (e.g. not less than ten years).

P11.1.4. **New Multidisciplinary Education and Research Universities or Indian Institutes of Liberal Arts**: As with the establishment of the first IITs in the late 1950s and early 1960s, the first IIMs in the early 1960s, central universities in the 1970s and 1980s, IIITs in the 1990s, the IISERs in the 2000s, and other new institutions, this Policy must result in the creation of new pace-setting institutions in the liberal arts and in multidisciplinary education and research. These would be centres of holistic learning, important in the advancement of knowledge in the country.

The liberal arts educations given by the Ivy Leagues have played a major role in the development of the United States for a number of years, and Tsinghua is playing a major role in the development of China in recent years, among other examples throughout history such as Nalanda which produced scholars of the highest quality for many centuries, many of whom changed world history.

A small number (say five) of multidisciplinary education and research universities providing world class liberal arts education and modelled after

some of the best universities in world history, such as Nalanda and the Ivy League schools in the U.S., will be set up in India within the next five years. Their locations will be decided based on the State government's ability to make available a large tract of land, say 2,000 acres, in an attractive location and provide up to 50% of the funding requirements of these universities.

These residential Multidisciplinary Education and Research Universities (MERUs) / Indian Institutes of Liberal Arts (IILAs) will aim to become model multidisciplinary liberal arts institutions and pinnacles of excellence in education and research in India and the world, and will grow to support 30,000 or even more students at peak capacity. They will be exemplary institutions of liberal arts education offering the four-year undergraduate degree, the BLA. They will be comprehensive in their coverage of disciplines and will support under-graduate, Masters, and PhD programmes of the highest quality. Faculty and leadership of these institutions will be given the exemplary freedoms they would need to build world class universities in India in the shortest possible time.

MERUs / IILAs will offer the entire range of physical sciences, social sciences, arts, humanities, and application fields as majors and minors. They will also lead in integrating vocational and professional education within the liberal arts education approach. This can be used as a model by HEIs that are currently dedicated to professional and/or vocational education in their transformations.

11.2. Liberal education approach to energise graduate programmes

Masters and Doctoral programmes will also be significantly enhanced by being located in vibrant multidisciplinary communities, by the breaking of silos, and via the overall liberal education approach. As such, there will be an increased emphasis on developing interdisciplinary research projects for graduate students, and on developing research relevant to local communities and the nation. Connections with education, with local, State, and National cultures and communities, and with industry (as is in the aim of the liberal education approach) will be exploited in order to enable higher quality and more relevant research. Masters and Doctoral programmes will be called 'graduate' programmes, as these programmes will follow undergraduate education. The aim will be for graduate students to become increasingly involved in teaching undergraduates through the liberal education approach, involved with internships in industry, involved with service in the community, and involved in collaboration with research faculty, in order to foster the highest possible quality education and research in graduate programmes. Institutional and faculty autonomy will help greatly in developing such initiatives for developing quality.

P11.2.1. **Enhancing graduate programmes through the liberal education approach:** Vibrant multidisciplinary communities and the liberal education approach

will enhance not only undergraduate programmes but also graduate programmes on campuses, through initiatives such as the breaking of silos, teaching undergraduates with the liberal education approach, collaborating with industry, and conducting interdisciplinary research.

All Masters and Doctoral programmes will develop rigorous and deep understanding and expertise in their disciplines and fields within these stimulating multidisciplinary environments. Graduate programmes will develop the capacities to generate new, relevant, and cross-disciplinary knowledge – both pure and applied – in their fields of study.

The new multidisciplinary atmosphere of liberal education will help graduate students to focus their research and coursework on more interdisciplinary subjects; on research that helps local, State and National communities; and generally on more relevant research. Research conducted by graduate students will increasingly include collaborations with faculty, with industry, and with undergraduates.

All Masters students will have some exposure to research and to cross-disciplinary themes in their subject as a significant part of their learning experiences.

One of the goals of the liberal education approach will be to better connect research and education at all levels. To enhance their own connection with education, Doctoral students at HEIs will engage in teaching as a substantial (but not overly time consuming) part of their learning experiences. In particular, all Doctoral students will take a one-semester course/seminar on teaching – both the general aspects of good pedagogy as well as aspects more specialised to their specific subject.

Following such a course, Doctoral students may be engaged significantly in providing academic support to undergraduate students, including through teaching assistantships to support faculty in the teaching of courses, which would help in the overall holistic learning experiences of graduate students and also help provide financial support for their expenses.

All Doctoral students will take a unit on communication in at least one Indian language other than English (e.g. as part of their course on teaching), in order to develop the capacity to communicate their discipline/field in that language. This is considered important to, e.g. write newspaper articles and conduct interviews in Indian languages, and to visit and speak in areas (e.g. at schools) about their subject where that language is prevalent. (This requirement is of course automatically satisfied for programmes that are directly conducted in – or where theses are written in – Indian languages.)

The course work for graduate programmes (both Doctoral and Masters) will aim to develop relevant skills and ethics in students (e.g. an understanding of what constitutes innovation, academic honesty, and non-plagiarism, as well as the ability to write proposals for grants). Wherever relevant, industry internships and field studies will become part of training.

The number and quality of Doctoral (PhD) programmes at multidisciplinary institutions will be increased substantially (while increasing their quality) in order to bridge the current gap that exists at universities between education and research. In the medium term, once the accreditation system is in place, only accredited institutions will be permitted to have PhD programmes. This will ensure that poor quality Doctoral programmes can be weeded out.

The NRF will also provide prestigious fellowships for postdoctoral fellows (including foreign applicants) to pursue high quality research at universities, in areas identified by the NRF. Such postdoctoral programmes will contribute significantly to the growth of individuals pursuing doctorates, and will help develop them into independent researchers (see Chapter 14).

Special support will be provided to faculty in existing HEIs for working towards their PhDs, in order to stimulate their professional growth and therefore enhance the quality of multidisciplinary research and education at HEIs. A separate admission process for faculty seeking admission to premier research institutions in the country will be set up so that the best researchers in the country, from the top national HEIs conducting research, are enabled to mentor and supervise their research.

Masters, doctoral, professional, and vocational programmes will also be significantly enhanced by being located in vibrant multidisciplinary institutions, by the breaking of silos, and via the overall liberal education approach.

11.3. Enhancing professional education through a liberal education approach

P11.3.1. **Transforming professional education and single-field programmes:** The large number of professional education (including technical education) and single-field programmes across the country should over time morph into full-fledged liberal education programmes, offering the entire range of majors and minors. During the transition, and for those HEIs which choose to continue to be focused on professional programmes, the curriculum shall integrate strong elements of other disciplines and fields, including humanities, social sciences, and arts, in order to develop the important attributes of scientific temper as well as creative and innovative thinking. These programmes must be cognisant

of larger social concerns, and develop a mindset of public service and cultural awareness. These programmes will thus develop the same broadly useful capacities and important dispositions that the liberal education programmes would, and will not remain narrowly-focussed on technical expertise alone (see Section 16.1).

Institutions that currently are focused on single (or few) fields will build and develop themselves into Type 1, 2, or 3 multidisciplinary institutions. This will manifest in their offering undergraduate and graduate programmes across fields and disciplines. This will be particularly important in many of the professional fields, which already have a large number of well-resourced institutions, including engineering, medicine/health, law and agriculture. It will also include the large number of teacher education institutions.

Special initiatives will be envisioned and implemented to enable and foster the culture of liberal education in such institutions, e.g. through programmes such as 'artist-in-residence' and 'writer-in-residence', musical concerts, organising conferences and lectures in humanities and social sciences, engagement with school education, etc.

> **The four-year Bachelor of Liberal Arts / Education will provide the full range of liberal education with choice of major and minors. The three-year programme will lead to a Bachelor's degree. Multiple exit options, with appropriate certification, will be available.**

11.4. Liberal education and research to foster and bolster each other

As already remarked, high quality knowledge generation across fields is necessary for high quality liberal higher education; conversely, a multidisciplinary atmosphere of liberal education greatly enhances research. The fact that so many Nobel Prize winning scientists have had serious hobbies in the arts is indeed strong evidence for this important synergy. Thus high quality liberal education and high quality research must go hand-in-hand at higher educational institutions, in order to foster and energise each other.

P11.4.1. **Liberal education culture to enhance research:** Silos will be broken between disciplines in all higher educational institutions to encourage more multi-,

inter-, and cross-disciplinary conversation, interaction, events, education, and research. Connections that the liberal education approach will develop with industry and with local communities will further encourage and strengthen high quality, and locally and societally relevant research by faculty and by graduate students, including on interdisciplinary subjects of high importance to society such as clean water, energy, environmental sustainability, gender equality, preservation of endangered languages, preservation of local arts, and more. The injection of a liberal education ethos into research culture will truly enhance research, improve its quality, and make it more interdisciplinary, and more relevant.

P11.4.2. **Initiatives to promote quality research and teaching that foster quality liberal education**: Specific measures will be taken to promote a culture of research, and for research to contribute to the development of a vibrant liberal education culture; four are listed below, and more will be envisioned and added.

a. Promoting Inter-University Centres for collaborative research and teaching: As a part of the initiative to promote collaborative research, several new research-based Inter-University Centres (IUCs) in different areas will be established. These will be an integral part of the universities that host them unlike older IUCs. The IUCs will foster interdisciplinary research and teaching in several areas, organise training programmes for researchers to enhance their research competence and increase their innovation capacity in both research and teaching. Networks will be established by creating linkages between national laboratories / national research centres and universities.

b. Research and teaching in languages, language education, literature, arts, philosophy, Indology, and related cultural areas: Research in languages, language education, literature, arts, philosophy, Indology, and related cultural areas will be supported by the NRF with adequate funds. This will encourage the growth of strong departments with a variety of rich courses for developing cultural literacy at various HEIs across the country, and thereby foster stronger liberal education and innovative relevant research. All institutes supporting language programmes will be funded to study and teach comparative literature. (See P22.4)

c. Research and teaching in the culture and history of India's neighbours: Research and teaching in the languages, culture, and history of India's neighbours should be strongly encouraged, such as the culture and civilisation of China. Understanding and knowledge of our neighbours contributes to regional peace and mutual economic growth.

d. Dynamic and proactive introduction of research and teaching programmes in fields of national importance: There will be a rigorous periodic review (once every 5 years) of areas and fields of current national importance, and of emerging fields, by a committee constituted by the RSA for this purpose. Programmes at the undergraduate and graduate levels in education and research will be introduced to address these needs. Some currently relevant examples of such fields are: strategic areas (e.g. aerospace, rocket propulsion, advanced materials), areas of critical economic importance (e.g. geology,

exploration and mining), and emerging fields (e.g. bio-informatics, artificial intelligence).

P11.4.3. **Enhancing access to libraries and online journals**: Access to high quality multidisciplinary libraries and online journals play a key role in liberal education and also in the performance of high quality research. The Government of India will set up a mechanism, e.g. becoming a single buyer, for online access to journals for all public institutions in the country, so as to save on costs and improve access. This would replace the present practice of funding premier institutions to subscribe to journals, which will save significant cost, and enable access for students and faculty from all public institutions.

11.5. Programmes, degrees and other certifications in higher education

P11.5.1. **Programmes and certification in higher education**: The awarding of specific degrees, diplomas, and other certificates at each HEI will require specific combinations and numbers of courses to be completed successfully. This will be appropriately detailed within the overall curricular framework by each HEI. There may be differential credit requirements (i.e. the number of courses to be completed) for different types of certification across fields. Various fields and disciplines may have requirements for larger and more tightly-knit sets of courses, but in all cases there shall be adequate curricular space for the basic expectations of liberal education.

The undergraduate degree will move towards a strong liberal education approach, regardless of subject, and be of either three- or four-year duration. HEIs may offer multiple exit options within this period, with appropriate certification, e.g. an advanced diploma in a discipline or field (including vocational and professional areas) after completing two years of study or a diploma after completing one year.

The four-year programme, the BLA or BLE in the chosen major and minors, will provide students the opportunity to experience the full range of liberal arts education. The three-year programme will lead to a Bachelors degree. Both programmes may lead to a degree "with Research", if the student completes a rigorous research project as specified by the HEI. HEIs may choose to call their three-year undergraduate degree a Bachelor of Arts, or Science, or Vocation, or the appropriate professional field.

Certain professional streams (e.g. teacher education, engineering, medicine, law) may only have programmes of a four-year duration (or more) for the undergraduate degree.

The duration of any of the programmes is reflective of general time requirements for achieving the required credits for the relevant degree or

certificate. However, students may take less or more time to complete the programme, depending on a range of factors including their effort, courses on offer by the HEI, etc.

HEIs will have the flexibility to offer different designs of Masters programmes, e.g. there may be a two-year programme with the second year devoted entirely to research, for those who have completed the three-year undergraduate programme; there may be an integrated five-year Bachelor's/Masters programme; and for students completing a four-year BLA or BLE with Research, there could be a one-year Masters programme.

Undertaking a PhD shall require either a Master's degree or a four-year Bachelor's degree with Research. The MPhil programme shall be discontinued.

Admission to all undergraduate programmes of public HEIs will be through a process of assessment through the NTA (see P4.9.6).

Chapter 12

Optimal Learning Environments and Support for Students

Objective: Ensure a joyful, rigorous, and responsive curriculum, engaging and effective pedagogy, and caring support to optimise learning and the overall development of students.

Effective learning requires a comprehensive approach, beginning with a curriculum that is engaging, relevant, and clearly articulates a vision for the desired outcomes and how to attain them. However, even the finest curricula in the world require effective pedagogy to successfully impart the curricular material to students; pedagogical practices determine the learning experiences that are provided to students – thus directly influencing learning outcomes.

Additionally, the development of capacities that promote student wellness – such as good health, psycho-social well-being, and sound ethical grounding – are also necessary for high quality learning. Young people enrolled at the higher education level are capable of intense effort, commitment, and purposefulness. However, this stage can also be a tumultuous period in the personal, social, and intellectual world of the student. Often, higher education represents the first time in students' lives when they are living and working independently, and the resulting stress and pressures of student life can sometimes form a serious threat to wellness. Robust care and support systems are thus vital for maintaining beneficial conditions for student wellness, an important precondition for effective learning.

In summary, curriculum, pedagogy, and student support are the fundamental requirements for quality learning; infrastructure, resources, technology, etc., while important, are merely the means for supporting these necessary ingredients.

India has a number of high quality institutions which already have excellent practices that are designed to ensure that students learn effectively; their alumni are spread across the world and contribute across various domains. However, this must be the case consistently for all institutions across the country.

Current challenges to effective learning environments. Despite well-meaning efforts over the past decades, the quality of programmes at a majority of our institutions, in both in-class and ODL modes, have been lacking across a number of parameters. First, curricula remain rigid, narrow, and archaic. They have too often not responded to the modern advances in disciplinary knowledge or in educational practice. Programmes do not cultivate a broad knowledge of the Indian context – and its history and culture – or of the global literacy that is required for effective learning in the 21st century, and that is needed to make our programmes attractive and relevant for today's Indian and global citizens.

Second, faculty too often lack the autonomy to design curricula, and this lack of autonomy also negatively impacts pedagogy – indeed, faculty perform best when they are able to teach in their own innovative styles, and when they are able to take into account their own expertise and their own knowledge of students' needs. The rigid curriculum that is transacted, combined with the external assessment of students that follows – with no formal processes for formative assessments in the majority of institutions – ensure emphasis on rote memorisation with little room for critical thinking, creative projects, and discussion.

Finally, student support is currently almost non-existent at most institutions. While some form of academic support may be available in a few institutions, the quality care that young people may need is generally missing.

Ensuring that learning environments are engaging and supportive for all students to succeed. Institutions and faculty must have the autonomy to innovate on matters of curriculum, pedagogy and assessment, informed by a broad overall framework of higher educational qualifications that ensures consistency across institutions and equivalence across programmes, both in the ODL and the traditional in-class modes. Curriculum and pedagogy must be designed by institutions and motivated faculty to ensure a stimulating and engaging learning environment for all students, and assessment must be used to further the goals of each programme.

Each institution must integrate their academic plans – ranging from curricular improvement to quality of classroom transaction – into the larger IDP. Each institution must also be committed to holistic development of students, and create strong internal systems for supporting diverse student cohorts in academic, social and interpersonal domains – both inside and outside formal academic interactions in the classroom. Faculty must have the capacity and training to be able to approach students not just as teachers in the classroom, but also as mentors and guides.

Students from socio-economically disadvantaged backgrounds require particular encouragement and support to make the transition to higher education successfully. Providing access is only the first step; continuous support must also be provided. Universities and colleges must be required to set up high quality academic support for educationally disadvantaged groups and must be given adequate funds and academic resources to carry this out effectively.

ODL provides a natural path to increase access to high quality higher education. In order to leverage its potential completely, ODL must be renewed through concerted, evidence-based efforts towards expansion and strengthening, while ensuring adherence to clearly articulated standards of quality. ODL programmes must consistently aim to be equivalent to the highest quality in-class programmes available.

Programmes, courses, curricula, pedagogy across subjects, including those in both in-class and in ODL modes, as well as student support must aim to achieve global standards of quality. This would also help in having larger numbers of international students studying in India, and provide greater mobility to students in India who may wish to visit, study at, transfer credits to, or carry out research at institutions abroad, and vice versa. Courses and programmes in subjects such as knowledge of India and its languages, arts, history, culture, and global context; global literacy; internationally relevant curricula in the sciences, social sciences, and beyond; quality residential facilities and on-campus support; etc. must be fostered to attain this goal of global quality standards and 'internationalisation at home'.

12.1. Innovative and responsive curriculum and pedagogy

P12.1.1. **Autonomy on curriculum, pedagogy and assessment**: All HEIs will have complete autonomy on curricular, pedagogical, and assessment- and resource-related (including qualification of faculty) matters (see P17.1.20).

P12.1.2. **Development of vibrant and rigorous curricula:** While each HEI will have complete autonomy in developing the curricula for its programmes, all curricula must respond to the standards of professional practice or learning outcomes or graduate attributes set up by the relevant standards-setting body in that field/discipline.

The Board of Governors (see Section 17.1) must approve a plan for developing and running programmes of the HEI and this must form an integral part of the IDP. All curricula must be developed to serve rigorously the learning goals of the specific programmes by a multidisciplinary group of capable faculty, who must thereafter operate the programme as a collective endeavour. All curricula must be periodically (maximum in 5 years) reviewed and revised to

improve, on the basis of developments in the relevant fields, the experiences of the faculty and the students, and the track record of achievement of learning outcomes.

> **Curriculum and pedagogy in higher education will move away from rote learning of facts and mechanical procedures. They will help young people prepare to contribute both as active citizens of a democracy and as successful professionals in any field.**

P12.1.3. **National framework for learning goals**: A National Higher Education Qualifications Frame-work (NHEQF) outlining the learning outcomes associated with degree/diploma/certification shall be the guiding document for curricula across all disciplines and fields, which do not have their individual PSSBs (see P18.3.1). This framework will be formulated by the General Education Council (GEC)(see P18.3.2). In the case of vocational subjects, correspondence between the National Skills Qualifications Framework (NSQF) and the NHEQF shall be established to enable equivalences and mobility.

P12.1.4. **Stimulating learning experiences through effective teaching-learning and pedagogical practices**: Classroom processes including pedagogical approaches will move decisively away from pure rote learning, and will encourage rigorous training with conceptual understanding, development of fundamental capacities and dispositions, practical and hands-on exercises, discussions, and a sense of excitement about learning. Faculty must be empowered and supported by the HEIs to innovate and adopt pedagogical approaches that help make this happen.

This would require going beyond the standard lecture method to use pedagogical approaches that involve student participation and dialogue, relevant field work and hands-on activities, and facilitating student ownership of learning experiences. Seminars, symposia, independent reading scaffolded by the teacher, and group and individual projects are some examples of pedagogical strategies that can be adopted. Cooperative and peer-supported activities can help substantially in empowering students to take charge of their own learning.

A significant part of classroom pedagogy may be devoted to the 'how' of things, i.e., the application of theory and ideas. All programmes (especially those in

the visual or performing arts, the sciences, and mathematics) should have equipment, material, and appropriate spaces where students can experiment, understand, and try out ideas. All programmes (including those in the humanities and social sciences) should design local and relevant projects and practicums for students to engage in relevant hands-on experiences. To complement conceptual learning in the classroom, as well as to help students gain significant exposure to field realities, field experiences, projects, practicums, and internships will be widely integrated within programmes.

Pedagogical practices will be designed to ensure that students learn to engage with issues through peaceful dialogue. Our students should be able to see and reinforce the importance of public spaces for critical dialogue, and peaceful public discussion and tolerance as a bulwark of democracy.

While faculty must have the freedom to identify and use the pedagogical approach that is best suited to a particular course and student, all pedagogical approaches must ensure that issues of inclusion and diversity are addressed adequately.

P12.1.5. **Meaningful opportunities for social engagement for all students in higher education institutions**: All HEIs will create mechanisms for social engagement of students at the undergraduate level to contribute to issues of justice, equity, and development. Such mechanisms should be designed and run to give exposure to students to the pressing issues of the local community, State, and country. To the extent possible, these mechanisms would be integrated within the programme curricula as much as possible. The time allotted for such social engagement for each student should be at least equal to a full one semester course, across the duration of the programme. This could be accomplished through relevant volunteering programmes in local communities, engagement in public social welfare programmes, collaboration with civil society institutions, participation in tutoring or support groups on campus, or other social engagement activities that are equally effective.

P12.1.6. **Assessment for development and not judgement**: All assessment systems shall be decided by the HEI, including those that lead to final certification. The Choice Based Credit System (CBCS) of the current UGC will be revised and improved, in order to make clear the basic vision while leaving plenty of room for innovation and flexibility. HEIs should move to a criterion-based grading system that assesses student achievement based on the learning goals for each programme – making the system fairer and outcomes more comparable. HEIs should also move away from high-stakes examinations towards more continuous and comprehensive evaluation.

Assessment will be comprehensive along all aspects of learning and would be designed to reflect learning experiences along with learning outcomes. Students should be assessed not only on academic aspects but also on the broad capacities and dispositions that are the goals of liberal education.

Assessment must provide a basis for frequent reflection by students to assess their progress, and by faculty to further improve the quality of learning

experiences being provided. The purpose of assessment must not be to label or rank but to identify areas of strength and areas that need improvement, as students move towards attaining the outcomes defined for their programme. A range of tools and processes for assessment should be used for this purpose, e.g. peer and self-assessment, portfolios, assignments, projects, presentations, and dissertations. The criteria and rubrics for assessment must be determined in a collaborative manner by the faculty and shared with students.

P12.1.7. **Curriculum and pedagogy to be integral to institutional assessment and development**: The quality of the curriculum, its improvement, the actual quality of classroom transaction, and the learning outcomes of the students shall form an integral part of the IDP of all HEIs. This should be used systematically and judiciously for assessment of the institution, its programmes, and also of its faculty. This may include student evaluations, peer reviews, and other relevant mechanisms. This assessment of the institution may be in the nature of self-assessment for improvement or as part of the accreditation process in the accreditation system (see Section 18.2).

12.2. Student support for learning and development

P12.2.1. **Academic support for students**: All institutions shall provide academic support to students in addition to regular classes. Institutions shall achieve this through a variety of means appropriate to their individual contexts, e.g. initiatives for improving capacities in given languages, academic reading, academic writing, academic speaking, reasoning, and analysis; focussed support for a particular subject; special (sensible and sensitive) bridge programmes/centres for additional/remedial support; and special tutorials and tutoring programmes and centres. Universities/colleges may choose to offer bridge programmes to students before they enter higher education – this should primarily aim to lessen the impact of social or educational disadvantages.

> **Academic, financial and emotional support will be available for students to help them attain better outcomes.**

P12.2.2. **Career support for students**: All institutions will ensure occupational readiness in their students. The curriculum will help students develop capacities for the world of work. In addition, institutions will help students in other ways, e.g. through: placement/counselling assistance to help them clarify

their occupational choices, facilitate processes to identify employment opportunities, and set up interactions with potential employers; and workshops and short courses on specific workplace skills that may not be part of the regular curriculum.

P12.2.3. **Physical and emotional health support for students**: Institutions shall create systems and processes, and allocate time to ensure students' physical health and emotional wellness. Facilities for medical care, counselling services, therapy, and treatment in cases of illness or distress will be made available. Institutions must set up strong mentoring programmes by faculty along with peer support programmes (e.g. buddy systems and student support groups). There must be formal student and faculty development initiatives to help everybody value the practice of care and promote conversations among all these groups. These initiatives must help staff and students recognise that care in educational settings eventually resides in the quality of relationships and the responses to interpersonal needs and challenges – it is not an activity to be executed by specialists but an ethos that informs all relationships. Even when some of the responses require the attention of specialists, the ability to detect such needs and to initiate the appropriate responses will be important to cultivate in the culture of each HEI.

P12.2.4. **Financial support for students**: Financial assistance to students who need such financial support shall be made available. No student will be deprived of higher education because of financial inability. A National Scholarship Fund will be established which will ensure that all students who require financial support to attend a public HEI will receive it – this could also cover stipends, and boarding and lodging, and not just waivers of tuition fees. Private HEIs will offer scholarships ranging from 100% to 50% for at least half of their students (see P18.6.3).

P12.2.5. **Facilities for sports and arts**: All institutions will offer facilities, classes, and clubs for students to participate in activities related to sports and to visual and performing arts. There will be funds set aside for the development and maintenance of such facilities and programmes, including 'artist-in-residence' programmes at all HEIs.

P12.2.6. **Involving students in institutional processes**: Students will be involved in relevant processes and committees of the institution – systems and mechanisms may be set up for this. This will be developed as a mechanism to enhance the educational experiences of students as well as a method for HEIs to be more responsive to feedback and the needs of students.

P12.2.7. **Topic-centred clubs and activities**: All HEIs will have mechanisms and opportunities for funding for topic-centered clubs and activities organised by students (with the help of faculty and other experts as needed), such as clubs and events dedicated to science, mathematics, poetry, language,

literature, debate, music, table tennis, etc. Over time, such activities could be incorporated into the curriculum once appropriate faculty expertise and campus student demand is developed.

P12.2.8. **Adequate grievance redressal**: Delivery of time-bound and reliable quality of student services and grievance redressal will be ensured; fines or other penalties or actions may be suitably levied on the concerned persons if not delivered as promised.

12.3. Open and distance learning: Curriculum and pedagogy for enhancing access and opportunities for life-long learning

P12.3.1. **Transforming the quality of open and distance learning**: The full potential of ODL as a curricular and pedagogical approach that can substantially expand access to higher education will be fully leveraged by ensuring that ODL programmes are of the highest quality. The explicit aim will be for ODL programmes to be equivalent to the highest quality in-class programmes available at the institution, via making use of the highest quality faculty, programmes, courses, and resources available. The highest student evaluations and peer reviews of courses/programmes and teachers at the institution will be nominated by a rigorous process and supported to be converted into ODL courses and programmes (in particular, MOOCs).

P12.3.2. **Leveraging open and distance learning for improving access to quality learning experiences**: High quality ODL courses and programmes will be expanded to: i) enhance access to higher education, including professional and vocational education; ii) promote life-long learning and certification through reaching out to people engaged in various livelihoods as well as those who wish to re-enter the formal education system; and iii) support the continuous professional development of teachers in school and higher education.

P12.3.3. **Both traditional and open and distance learning modes to be offered by institutions:** All Type 1 and Type 2 institutions will be encouraged to offer innovative ODL programmes with the help of the very best teachers at their institutions. Existing programmes of high quality may be used to develop ODL programmes with similar learning goals. These institutions may also offer programmes exclusively in the ODL mode – again when equivalence to standards of the highest quality in-class programmes at the institution can be ensured. Type 3 institutions may also offer ODL, based on receiving appropriate accreditation for the same.

P12.3.4. **Ensuring quality of open and distance learning**: To ensure that the highest quality ODLs are developed and delivered, HEIs will use their highest-rated

faculty, courses, and programmes, and invest in adequate facilities and support staff, amongst other such initiatives to produce the highest-quality content with innovative curricula and pedagogical practices. The quality of ODL programmes will be measured by their effectiveness in delivering learning outcomes relative to the best in-class programmes of a similar nature across HEIs. All institutions offering courses and programmes in ODL mode will develop and standardise programmes based on national as well as local needs. Norms, standards and guidelines for systemic development, regulation, and accreditation of ODL will be prepared by NHERA, and a framework for quality of ODL that will be recommendatory for all HEIs will be developed by the GEC.

An internal nomination and review mechanism in all HEIs for the development and offering of ODL courses and programmes, in order to ensure high quality, promote innovation, and continually reshape and refresh ODL courses and programmes, will be put in place.

Only HEIs accredited to offer ODL will be allowed to offer ODL programmes (see Section 18.2).

> **ODL must play a significant role in increasing GER to 50%. Innovation and expansion of ODL must be encouraged, while ensuring quality.**

P12.3.5. **Online digital repository**: To ensure efficient utilisation of resources and to avoid unnecessary duplication of effort, all content developed for ODL will be included in an online digital repository (see P19.4.6). An appropriate mechanism will be put in place for creating and continually reviewing content to ensure their quality. The content will be available freely to all students and faculty across the country.

P12.3.6. **Funding for research to improve the quality of open and distance learning:** Adequate funding will be provided for research to continually improve the quality of ODL-specific pedagogy and assessments, student support services, models of ODL, and integration of technology.

P12.3.7. **Support services for students enrolled in open and distance learning:** Learner support services shall be institutionalised at all institutions offering ODL. These must be as effective and relevant as the ones on offer for full-time students of the same HEI. Services will include providing learning

material (e.g. hosting courseware, repositories, Open Educational Resources or OERs, MOOCs), support from help desk services, tutoring and counselling, conduct of classes (through webinars, discussion forums, webcasting), library facilities, virtual labs, e-learning modules, timely feedback on performance, online examinations, declaration of results, granting of certifications, redressal of grievances, etc.

P12.3.8. **Capacity development for expertise in open and distance learning**: Type 1 HEIs will be funded specifically to devise and offer capacity development programmes for faculty for developing and transacting ODL courses and programmes. This will include training educators and writers for development of ODL materials and offering such learning resources widely. These programmes could be offered both fully in the in-class mode and in the ODL mode. A cadre of experts on ODL would thereby be developed though these programmes.

P12.3.9. **Massive Open Online Courses:** MOOCs have emerged as an important form of ODL. The demand for enrolment in high quality MOOCs continues to increase. Although MOOCs have not yet fulfilled the initial projections made about their usage, they continue to be a useful way to reach large numbers of students without boundaries, and are still being experimented with to improve their quality of engagement and learning outcomes. Presently, India enrols the second largest number of students in MOOCs after the USA. The SWAYAM (Study Web of Active Learning for Young Aspiring Minds) platform is a recently-launched Indian platform for offering MOOCs that will be used to help individual educators and HEIs to cater to this demand.

P12.3.10. **Meeting the growing demand for MOOCs:** HEIs will be encouraged, through funding and other support mechanisms, to put some of their best courses online. This could be either by setting up their own open learning platforms or putting them on the SWAYAM platform to meet the growing demand for MOOCs for the continuous upgrading of knowledge for young students and adult learners alike. Students will have the freedom to opt for online courses offered by various universities and institutions across the country. Well known experts and teachers in the country will be encouraged and supported to design and deliver MOOCs on topics in their area of expertise. Faculty and HEIs offering MOOCs will ensure reliable and credible student assessment and institutionalise an appropriate mechanism for providing timely feedback to enrolled students on their performance.

P12.3.11. **Recognition and accumulation of credits earned by MOOCs.** A mechanism for the recognition and accumulation of credits earned through MOOCs will be put in place by the GEC as part of the NHEQF. MOOCs offered by universities anywhere in the world will be suitably recognised, after ascertaining the alignment of their contents with the NHEQF, and appropriate checks on their delivery methods, modes of interaction with students, and assessment procedures. HEIs may allow their students to take part of their total requirement

in a particular semester (especially for subjects not yet represented at the HEI) through recognised MOOCs, as per their choice. The details will be left to individual HEIs to specify as per their needs.

P12.3.12. **Ensuring the quality of MOOCs**: HEIs must take the lead to ensure rigorous nomination and review processes for MOOCs (and all forms of ODL) so that the MOOCs offered by their faculty, and taken by students for credit, are run as per the guidelines from the GEC, and achieve standards of quality equivalent to the very best and most highly-rated courses at the HEI, with due attention being paid to student interaction and support to achieve the desired learning outcomes. Being requested by an HEI to transform an in-class course into a MOOC (or other ODL course) will be considered a prestigious honour and task for a faculty member to receive and undertake, and faculty members so requested will be well-supported with resources (human, material, and technological) to carry out such a transformation to ensure a resulting MOOC of the highest quality.

12.4. Internationalisation of higher education

While preparing our students to participate in world affairs through providing them with learning experiences that cut across countries and cultures, we must also attract students from other countries to participate in our higher education programmes. The understanding these students will derive and the relationships they will forge in our country will influence their work in their home countries. India has had an illustrious history in the internationalisation of higher education. The world's first university was established in Takshashila in 700 BCE. In its heyday in the 7th century CE, the University of Nalanda had students and scholars from China, Indonesia, Korea, Japan, Persia, Turkey, and other parts of the world. However, currently, while Indian students are increasingly travelling abroad for their studies, only approximately 45,000 (11,250 per year) international students study in Indian higher education institutions, making India the 26th ranked country among the top destinations for international student mobility. This accounts for less than 1% of global international student mobility, given that globally, nearly 5 million students were reported to be studying outside their home countries in 2014.

An education that prepares students to think globally and become global citizens, confident and capable of working in different countries around the world, is one of the foremost considerations influencing student choice regarding the country they would like to study in; and it is important to recognise the fact that international students are attracted due to the reputation of an institution, and thereby the first step must be towards creating such institutions. Therefore, the quality of education on offer at Indian institutions becomes of critical importance in the endeavour to attract foreign students.

Thus, the approaches to promoting internationalisation of higher education in this Policy will involve facilitating student and faculty mobility, establishing international partnerships for research and cross-border delivery of higher education programmes, easing the processes through which institutions can enroll students from around the world, as well as the feasibility of carrying credits across institutions in multiple countries, and other such measures.

P12.4.1. **Internationally relevant education**: Indian higher education institutions must take advantage of the freedoms that will come with the autonomy that will be widely granted as a result of this Policy to create a nationally and internationally competitive education. The curriculum, its delivery, assessment processes, and the entire educational experience of students must equip them with the knowledge, skills, and competencies they need to become global citizens. The NHEQF as well as similar qualifications frameworks in professional education must be aligned with global standards so that students receive internationally recognised qualifications. These efforts towards 'internationalisation at home' must be achieved without compromising the requirements of the Indian context. Faculty in HEIs must also be assisted in cultivating a global outlook. This will require investment in quality academic infrastructure such as well-equipped laboratories, libraries, computing services, and so on.

P12.4.2. **Courses on Indian languages, arts, culture, history, and traditions:** Universities seeking to become attractive destinations for foreign students will receive funds to develop and offer specially designed courses on Indian languages, arts, history, Ayurveda, yoga, etc. Other areas of strength in India such as STEM subjects, computer science, gaming, and related topics are also attractive to foreign students, and efforts must be made to tie these courses up with internships and industry attachment to make them even more attractive. There are many other uniquely Indian cultural traditions such as cuisines, textiles, and so on that also offer extremely attractive opportunities for study, not just for foreign students, but also for Indian students. Departments for Indic studies will also be funded in several institutions on a competitive basis, so that even Indian students do not have to go abroad to learn Indology as is often the case today.

P12.4.3. **Encouraging institutional collaborations**: Collaboration between foreign and Indian institutions will be facilitated for twinning programmes – a programme of study whereby students enrolled with an Indian educational institution may complete their programme of study partly in India, complying with relevant regulations, and partly in the main campus of a foreign institution, and vice versa. Given that the duration of undergraduate and graduate courses can be different in different countries, MHRD will sign MOUs with many countries, thus suitably providing mutual recognition to the degrees awarded by both countries as a very important means of attracting students. More MOUs need to be signed with countries of interest such as those in the Global South because with the rising cost of education in the U.S. and Europe, students around the world could also find low-cost high quality education in India very attractive.

P12.4.4. **Facilitating entry of international students and researchers**: The ease of entry for international students will be improved. The RSA will examine the formalities required by various ministries to achieve this and will make all the information available on a 'Study in India' Portal that will be set up by MHRD. It will also work with all the relevant ministries to improve processes and set transparent criteria for permissions. The visa and Foreigner Registration Regional Office (FRRO) processes, extension of stay, and internship policies will be simplified to attract high quality students from all over the world.

The newly constituted NRF (See Chapter 14) will be encouraged to support special schemes for offering research scholarships to talented international students from developing countries. Good quality credit-based short-term Indian studies courses will be offered to enable students who wish to stay for a shorter period. Students who have completed a degree in India will be allowed to seek employment in the country for a pre-decided period of time so that they can gather some work experience before they return to their respective countries if they so desire.

P12.4.5. **Facilitating stay and integration of incoming students within local communities:** Admissions for international students are facilitated by the 15% supernumerary quota that has already been in place for some time. However, educational institutions keen on hosting international students must create the additional infrastructure, such as residential facilities, required to host them, either on their own or in partnerships with service providers. Institutions must also focus on providing incoming students with a safe, positive, and holistic experience by creating the necessary social infrastructure to help them. These include assigning faculty mentors, host families and student buddies, and offering local language courses and other bridge courses as needed. HEIs can also introduce scholarships to attract meritorious international students. At present, most of the foreign students studying in India are doing so at private institutions because they offer the best student experience available, but in time the influx into Central and State universities must increase.

P12.4.6. **Student exchange**: Indian students will be supported to have 'a global immersion' experience through short-duration visits to reputed universities abroad. Movement of undergraduate and graduate students from Indian universities to take up semester-abroad programmes, short-term internships, training or project work in international institutions will be encouraged. Tie-ups with educational institutions abroad for student exchange programmes will be expanded and strengthened. The provision for credit transfer to such selected students will be facilitated. Scholarships and/or educational loans for students and researchers aspiring to pursue higher studies abroad and return to India will be enhanced.

P12.4.7. **Faculty mobility**: Faculty members at Indian institutions will be encouraged to get exposure to foreign universities, and vice versa. This could include exchange programmes with designated universities, deputation/lien, short-

term assignments/jobs and short-term training programmes in India and abroad. Faculty at Indian higher education institutions will be eligible for sabbatical leave which they can use for availing of such opportunities.

Additionally, Indian institutions hosting visiting scholars under the Global Initiative of Academic Networks (GIAN) scheme will be encouraged to provide such analogous opportunities for selected faculty from their institutions to visit foreign institutions.

P12.4.8. **Research collaborations**: Strategic partnerships between universities in India and abroad will be used to expand research collaborations. The NRF will provide funding support for the two-way movement of talented research students and post-doctoral fellows, as part of funding joint research projects. Once again, factors such as visas, registration, extension of stay, etc., must be facilitated by their International Offices – set up to develop and deliver on an internationalisation strategy, and offer services and supports to international students – working with the newly set-up Inter-University Centre for International Education (IUCIE) (see P12.4.12).

P12.4.9. **Offshore campuses**: Public and private universities that meet specified eligibility criteria will be encouraged to set up campuses in select countries particularly in the Global South. Both the Central and State governments will take up the task of initiating amendments in the Acts of the Central and State Universities to enable such initiatives.

P12.4.10. **MOOCs and open and distance learning**: Indian HEIs will be encouraged to extend the coverage of their ODL programmes to other States and to foreign countries to meet in-country and overseas demands. Indian universities may also consider launching online and blended learning courses in various disciplines to expand their reach in India and abroad. Necessary software support and funding can be made available to all interested higher education institutions. In turn, MOUs for the recognition of mutual degrees, signed between the two countries, must also cover the online domain. Indian HEIs must work with their foreign counterparts, under the umbrella provided by the MOUs, to mutually recognise MOOCs and other forms of online courses and degrees.

P12.4.11. **Inviting foreign universities into India**: Select universities (i.e. those from among the top 200 universities in the world) will be permitted to operate in India. A legislative framework facilitating such entry will be put in place, and such universities will have to follow all the regulatory, governance, and content norms applicable to Indian universities.

P12.4.12. **An Inter-University Centre for International Education:** The IUCIE will be set up along with an International Education Centre (IEC) within selected Indian universities to support internationalisation of higher education in universities. Necessary budget provision will be made available to operationalise these Centres.

P12.4.13. **Outreach and branding:** A systematic brand building campaign will be undertaken for attracting students from abroad. This will include using all forms of communication and outreach, including social media. The IUCIE, the government, and Indian HEIs through their International Offices, must undertake this systematic brand-building exercise. Scholarships are a very important component of making it attractive for students to come to India. A large number of scholarships for outstanding international students to study in India must be made available.

In addition, country-specific dossiers based on primary and secondary market research will be prepared. Seminars/workshops/presentations and cultural events highlighting educational opportunities available in India will be organised in each of the target countries. Identified institutions will be provided with funding support to undertake these outreach events.

Chapter 13

Energised, Engaged and Capable Faculty

Objective: Empowered faculty with high competence and deep commitment, energised for excellence in teaching and research.

The most important factor in the success of higher education institutions is the quality and engagement of its faculty. This crucial matter has not escaped the attention of India's current higher education system. Acknowledging the criticality of faculty in achieving the goals of higher education, various initiatives have been introduced in the past several years to systemise recruitment and career progression, and to ensure equitable representation from various groups in the hiring of faculty.

Compensation levels of permanent faculty in public institutions have been increased substantially. Various initiatives have also been taken towards providing faculty with professional development opportunities through the Human Resource Development Centres (HRDCs), formerly known as the Academic Staff Colleges.

Happily, there are thousands of faculty members working in higher education across the country who are motivated, engaged, and fully committed towards achieving the highest levels of excellence. Their dedicated involvement with teaching and research, as well as with community service and service to their profession, has been truly inspirational.

However, despite these various improvements in the status of the academic profession - and the existence of so many model faculty members who truly inspire us all - on an average, faculty motivation in terms of teaching, research, and service in universities and colleges remains far lower than

would be truly desired and needed for the higher education system to thrive and reach the high levels that are expected of it.

The various factors that lie behind the lower-than-desired faculty motivation levels must be assessed carefully and addressed in turn to ensure that each faculty member is happy, enthusiastic, engaged, and motivated towards advancing her/his profession and institution.

Challenges for faculty motivation in HEIs

There remain a number of challenges for faculty motivation in HEIs at the current time.

First, physical infrastructure and service conditions remain less than ideal at too many institutions, including at many Central and State Universities. Many institutions lack the basic facilities and infrastructure needed for faculty (and students) to feel comfortable in coming to work. Essential facilities such as clean drinking water, clean working toilets, as well as blackboards, offices, teaching supplies, laboratories, pleasant classroom spaces and campuses, etc. must be provided and maintained at all institutions for faculty to want to come and spend significant time working at and for their institution.

The service conditions of faculty members are also severely inadequate. At the current time, there are too many faculty members on temporary appointments, with low salaries and/or insecurity. Indeed, faculty vacancies against permanent roles remain extremely high; for example, faculty vacancies in the new Central Universities are reported to be over 50% and 35% in the new IITs; at other universities, the numbers are generally even worse. Ad hoc and contractual appointments have become the norm, compromising institutional processes and depleting the energies and motivation of all faculty members. This is true for both public and private HEIs.

In addition, heavy teaching loads (often as much as 36 hours a week), with high student-teacher ratios in each class (sometimes higher than 50 to 1), leave little time for adequate class preparation or proper student interaction, let alone time for research or other university activities and service.

A second, related, issue is that faculty completely lack autonomy - in course development, on curricular matters, on pedagogical approaches, on taking service initiatives, and on research. Even for faculty members who are not on short term contracts, the feeling of being empowered and having the freedom to innovate is generally lacking. Curricula and syllabi are too often simply handed to faculty members to teach, with little room for any creativity or innovation in presentation, content, assignments, or assessment. This stymies the energy of the educational enterprise and demotivates faculty. Moreover, the heavy teaching loads, and high student-teacher ratios in each class, leave little time for creative class preparation, let alone time for innovative research or service initiatives.

A further challenge with faculty motivation is that career management is too often not based on merit, but rather on seniority, luck, or other arbitrary

factors. There is no clear tenure track or career progression system at most institutions that ensures that hiring, retention, salary increase, promotion, and vertical mobility are all based on merit and quality of performance in teaching, research, and service. Incentives for conducting outstanding work are not an inherent part of the system, severely reducing faculty motivation and commitment to excellence.

Finally, the institutional leadership system is broken. Institutional leaders are not trained and fostered well in advance, or always chosen based on merit; in fact, in too many cases, institutional leadership is chosen based on totally corrupt practices. Transition between institutional leaders is too often not smooth, with reports of leadership vacancies for several months or more. As institutional leadership, by definition, must take the lead in creating a merit-based culture of excellence and high performance at each institution, the broken system of leadership can have a severely demotivating effect on both faculty and students.

13.1. Putting faculty back into the heart of higher education institutions

Motivating and energising faculty to achieve high quality in higher education: Service conditions, faculty empowerment, performance management or career progression, and institutional leadership in HEIs must be completely overhauled so that faculty members are motivated, energised, and incentivised to spend their energies on achieving personal and institutional excellence in teaching, research, and service to their communities.

Ensuring service conditions conducive to excellent teaching and research: All HEIs must be equipped with the basic infrastructure and facilities necessary to carry out good work in higher education, including but not limited to: clean drinking water, clean working toilets, blackboards, offices, teaching supplies, laboratories, pleasant classroom spaces and campuses, etc. Teaching duties must also not be excessive, and student-teacher ratios not too high, so that the activity of teaching remains pleasant and there remains adequate time for interaction with students, for conducting research, and for other university activities. Faculty must be appointed to individual institutions and not be transferable across institutions, so that they may feel truly invested in and committed to their institution and community.

Enabling vibrant university communities through faculty empowerment: To motivate faculty members, it is important that they be trusted and empowered; they must have the freedom to creatively design their own curricular and pedagogical approaches, including with respect to syllabi, pedagogy, assignments, and assessments, and to choose their textbooks and other learning materials.

Faculty perform best when they are able to teach in their own innovative and personalised styles, and when they are able, in their teaching, to take into account their own expertise as well as their knowledge of their students' needs. Faculty must also be empowered to decide how best to invest their time, with respect to research and other institutional activities and service - within some basic norms.

In summary, empowering faculty to do innovative research, teaching, and service is a key motivator and enabler for faculty to do truly outstanding, creative work.

Incentivising excellence through merit-based career management: Institutional decisions regarding faculty recruitment, retention, salary increases, promotions, recognition, and vertical mobility into institutional leadership must all be based entirely on merit and performance with respect to the quality of teaching, research, and service. Meanwhile, faculty who do not deliver on basic norms must be held to account.

In keeping with the vision of autonomous institutions empowered to drive excellence, HEIs will have clearly defined, independent and transparent processes for faculty recruitment. The intent will be to ensure the highest capability individuals as well as a wide range of capacities and experience among teachers within an institution, as determined by each HEI.

A robust and merit-based tenure track, promotion and salary structure will be developed, with multiple levels within each faculty rank, to incentivise and recognise excellent and committed faculty through tenure, promotions, and salary increases. A system of multiple parameters for proper assessment of performance will be developed for the same, including peer reviews, student reviews, innovations in teaching, quality and impact of research, and other forms of service to the institution and the community. Such merit-based assessments would be used to determine tenure decisions, as well as promotions and salary increases for each faculty member, among other possible department-wide and institution-wide recognitions.

Vertical mobility of faculty based on merit will also be essential; outstanding faculty with demonstrated leadership and management skills would be trained over time to take on academic leadership positions.

Faculty recruitment, development, performance management, and career progression will be part of the IDP (see P17.1.7).

Creating a culture of excellence through outstanding institutional leadership: The presence of outstanding and enthusiastic institutional leadership that cultivates excellence and innovation through creating a merit and performance-based culture is the need of the hour. High quality institutional leadership is extremely important for the success of an institution and of its faculty. Various outstanding faculty with high academic and service credentials as well-demonstrated leadership and management skills will be identified early, and trained through a ladder of leadership positions.

Leadership positions will not remain vacant, but rather an overlapping time period during changes in leadership will be the norm to ensure smooth

transitions and the smooth running of institutions. Corrupt practices will be removed and replaced by merit-based hiring of institutional leaders.

Institutional leaders will aim to create a culture of innovation and excellence that will encourage and incentivise outstanding and innovative teaching, research, institutional service, and community outreach from faculty members and all HEI leaders. It is the institutional leaders that would be held to account for the quality and direction of the institution (See Chapter 17).

Higher education faculty must be valued and supported with excellent preparation and conducive working environments.

P13.1.1. **Adequate physical infrastructure and facilities:** All HEIs will have adequate physical infrastructure and facilities with basic hygienic requirements by 2023, including: safe drinking water and functioning toilets; faculty office space; conducive learning environments through pleasant classrooms with adequate furniture; materials and infrastructure to support differently-abled students; well-designed campuses; computers and computer rooms, internet connectivity, and institutional e-mail; science laboratories; vocational education spaces; materials for arts/crafts, etc.

P13.1.2. **Ensuring faculty availability:** Every institution must have adequate faculty, ensuring that all programme, subject and field needs are met, a desirable student-teacher ratio (not more than 30:1) is maintained and diversity is ensured. The prevalent approach of adhoc, contractual appointments must be stopped immediately.

P13.1.3. **Judicious mix of capacities within each institution:** Faculty must have academic expertise and depth, and teaching capacities along with dispositions for public service; they must be inspired and guided by the educational goals and the vision for the country as envisaged in the Constitution. Faculty must also have the capacity to engage with students not just as teachers in the classroom, but also as mentors and guides.

The faculty body must be a mix of academicians and field practitioners, which is critical for establishing strong and involved connections with the field of practice; lateral recruitment will therefore be encouraged. For such faculty with backgrounds as practitioners, their experience and capacity will be the criterion for appointment, and not their educational qualifications.

P13.1.4. **Institutional autonomy for recruitment:** All institutions, including public institutions (and aided institutions), will have the autonomy to recruit faculty and other members of their choice. Recruitment will be based on rigorous and transparent criteria and processes; both the criteria and processes will be available in the public domain. Recruitment criteria for faculty should include diversity, disciplinary understanding, social perspectives, pedagogical ability, and contribution to practice and research; the ability to work with diverse groups must be an important criteria for those in senior positions. The BoG, through the President/Vice-Chancellor/Director, will ensure that the appropriate process is followed during recruitment, e.g. by constituting appropriate search and recruitment committees. (See Section17.1)

P13.1.5. **Empowering and motivating institutional culture:** An enabling and participative culture characterised by equality, and respect for the value and dignity of each member will prevail in every institution. The environment should be open with new ideas being encouraged, with a commitment to dialogue even in the face of dissent. A sense of ownership will be fostered through shared institutional vision and goals. Faculty must be informed about their roles and responsibilities, and should be accountable for fulfilment of the same, while contributing to the furtherance of the larger goals of the institution. Space must also be accorded for them to share challenges and to seek support for professional development.

The most important element of the empowering culture must be academic freedom for the faculty, including the freedom to pursue their research, write, and adopt innovative pedagogical and curricular practices. Developing such a culture would be one of the most important facets of the role of the institutional leaders, including the Vice Chancellor/Director.

P13.1.6. **Permanent (tenure) employment track for university staff including faculty:** An appropriately designed permanent employment (tenure) track system for faculty will be introduced for all college and university staff, including the faculty - this will be fully functional in all institutions by 2030, including private HEIs. The probation period will typically be five years, which may be reduced or increased upon evaluation. Confirmation will be based on a rigorous and comprehensive assessment process with multiple sources of data. This could include 360 degree feedback (supervisor, peer and student review) over a period of time and assessment of a portfolio of work. Every institution will decide on its own process to confirm permanent employment/tenure. Such appointments will be made to individual institutions; faculty will not be transferable across institutions.

'Permanent employment' refers to an employee who has been hired/recruited for a position without a predetermined time limit. A permanent employee differs from a term or temporary or contract employee, all of which have a predetermined period of employment. Such a permanent employee will have an explicit long term appointment contract, usually ending when the employee reaches the age of retirement in that institution or resigns or is dismissed/ terminated from the employment of the institution following the due processes of the institution.

Faculty recruitment will be on the basis of academic expertise and depth, on teaching capacities and dispositions for public service.

P13.1.7. **Faculty development plan:** All institutions will develop a CPD plan for the faculty and determine the process for its implementation. The plan should include capacity development in the field/discipline, pedagogical capacities, research and contribution to practice. Institutions could consider putting in place a mentorship programme for young faculty members and a self-assessment tracking system that would encourage faculty to assess their own progress and learning.

The HRDCs will be integrated into the Universities presently hosting them, instead of remaining external entities. MHRD will provide for the expenditure of HRDCs in two separate parts: funding for (i) the centre and the staff as part of the university budgets, and (ii) professional development programmes. HRDCs will be allowed to train teachers of private HEIs, and charge for the same. The number of HRDCs will be expanded by funding new ones within the multidisciplinary universities.

A national programme for the professional development of teachers (faculty) in higher education will be launched, the curricular framework for which will be designed by the HRDCs, in consultation with HEIs across the country. This framework may be used by HEIs to run their own CPD programmes; the HEIs will be responsible for the effective CPD of their faculty and other members. (See P15.5.2)

P13.1.8. **Orientation programme for new faculty:** All new faculty in HEIs must undergo orientation programmes, which may also be designed and offered by the Departments/Colleges of Education. This programme must familiarise them with the culture and ethos of the institution, the programmes and courses, good teaching practices and pedagogical approaches, and other matters that will facilitate them into becoming an effective part of the team of the HEI. Each new faculty member may also be assigned a faculty mentor having a long tenure in the HEI and an exemplary track record.

P13.1.9. **Mentoring by senior academics:** A large pool of outstanding senior/retired faculty, willing to provide short term mentoring/professional support to University/ College teachers must be funded and established, particularly those with the ability to teach in Indian languages.

Outstanding people for specific subjects or geographies must be specially considered. This pool must be fully utilised for improvement of the quality of HEIs across disadvantaged districts. This can call for a specific initiative within MN and MT. (See P10.15)

Faculty will empowered to make curricular choices for their courses and to pursue research with academic freedom.

P13.1.10. **Career and compensation management of faculty and other employees:** All HEIs will decide their people management processes, including career progression, promotions, compensation (salary) determination, and service conditions of all their employees.

HEIs will set up effective and fair processes for career progression, promotion and compensation determination (including service conditions) of all its employees, including the faculty. These processes will be based on developing, recognising and rewarding performance and contribution; they will not be based on 'seniority'. They will be set up by the institution with an explicit approval from its BoG, which will also review and monitor them to ensure that they are implemented effectively and fairly. More than two people (from the management of the HEI) will be included in the decision making process - they must have knowledge of the contribution, performance and capacity of the individual for determination of compensation or its increase, or of promotion or other actions for career progression.

The evaluation of contributions and performance, through these processes, will be in the context of the work goals and objectives set up for individuals, deriving from the goals of the institution and informed by measures of excellence in the relevant field across the country and the world.

The evaluation could include 360 degree feedback (supervisor, peer and student review) on assessment of contribution to teaching, research, practice (e.g. engagement with practising professionals, adult education, community service, field intervention projects), institutional development (e.g. serving on academic/administrative committees, student support) and other dimensions that the HEI may decide. Relative weightage to each of these parameters could vary across the different kinds of institutions (Type 1, 2 and 3) depending on their focus.

The evaluation of research will ensure that the quality of work is assessed rigorously, and will not be driven by mere number of publications, being especially careful about the credibility and reputation of the publication platforms (journals, etc), ensuring that no credence is given to low quality (some being 'fake') journals.

Academic staff would have three levels - Assistant Professor, Associate Professor and Professor - across which promotions may happen depending on evaluation of individual faculty members as mentioned earlier. Within each of these levels there would be a wide compensation range, with some overlap across the levels. The HEI may decide the overall structure and levels of staffing.

While HEIs, including public HEIs, will be empowered to set up the compensation levels and its increases for all its employees, HEIs shall not reduce

the compensation of its employees from currently prevailing levels, nor will they recruit new employees in equivalent roles with lower compensation. However, the future trajectory of compensation increases will be entirely the prerogative of the HEI.

Regulatory authorities or regulatory processes (including accreditation) will have no role in determining this process for any HEI, they will assess the diligence of adherence of the HEI to the process articulated by itself.

P13.1.11. **Faculty recruitment and development, career progression and compensation management to be part of the Intitutional Development Plan:** All matters pertaining to faculty, from number of faculty to be recruited to recruitment criteria and processes, to career progression, and compensation determination will be part of the IDP, and will be owned by the BoG.

Since the IDP is the primary mechanism for alignment of all stakeholders of the HEI, including for public HEIs, it will be used as such for all these people processes. This will include commitment of adequate funding in the long term from the relevant public body/sponsoring institution, for supporting all costs related to all the employees of the HEI, including their compensation. By 2030, all HEIs, including public HEIs, shall have empowerment on all these counts, enabling them to manage and develop their people resources, aligned with their growth and development plans.

Chapter 14

National Research Foundation

Objective: Catalyse and energise research and innovation across the country in all academic disciplines, with a special focus on seeding and growing research at universities and colleges - create a conducive ecosystem for research through competitive peer-reviewed funding, mentoring, and facilitation.

Knowledge creation and research are well-known to be centrally critical to growing and sustaining a large and vibrant economy, uplifting society, and continuously inspiring a nation to achieve even greater heights. Indeed, some of the most prosperous civilisations throughout history, from ancient times (such as India, Mesopotamia, Egypt, China, and Greece) to the modern era (such as the United States, Germany, Israel, South Korea, and Japan), were / are strong knowledge societies that attained their intellectual and material wealth in large part through celebrated and fundamental contributions to new knowledge - in the realm of science as well as art, language, and culture - that enhanced and uplifted not only their own civilisations but those around the globe.

A robust ecosystem of research is perhaps more important than ever with the rapid changes occurring in the world today, e.g. in the realm of climate change, population dynamics and management, biotechnology, an expanding digital marketplace, and the rise of machine learning and artificial intelligence. If India is to become a leader in these disparate areas, and truly achieve the potential of its vast talent pool to again become a leading knowledge society in the coming years and decades, the nation will require a significant expansion of its research capabilities and output

across disciplines. Research has never been more essential for the economic, intellectual, societal, environmental, and technological health and progress of a nation.

> **Research and innovation is central to growing and sustaining a large and vibrant society and economy.**

The above observations are borne out by recent data and economic studies from around the world. For example, in a policy brief released by the European Union, titled 'The Economic Rationale for Public R&I funding and its Impact' (2017), it was reported that: two-thirds of the economic growth of Europe from 1995 to 2007 came from research and innovation (R&I); R&I accounted for 15% of all productivity gains in Europe during the period 2000 and 2013; and that an annual increase of 0.2% of GDP in R&D investment would result in an annual increase of 1.1% in GDP - a five-fold return. Other countries across the globe, including the United States, have reached similar conclusions on the criticality of R&I investment for their economic growth. Indeed, there is a clear correlation between the rates of R&I investment of developing/developed nations and various measures of their prosperity such as GDP per capita.

Unfortunately, levels of R&I investment in India have not grown but instead have steadily dropped over the last decade - from 0.84% of GDP in 2008 to around 0.69% in 2014, where it remains today. For the sake of comparison, the levels of R&I investment as a proportion of GDP in some other countries are: United States (2.8%), China (2.1%), Israel (4.3%), and South Korea (4.2%); i.e. all invest at least three times as much as a proportion of GDP.

The exceedingly small proportion of GDP that India currently invests in R&I is naturally reflected in its research-output numbers. The number of researchers per lakh of population was shockingly only 15 in India, compared to 111 in China, 423 in the United States, and 825 in Israel (Economic Survey of India 2016-17). As a direct consequence, India severely lags behind in the number of patents and publications produced: according to the World Intellectual Property Organisation (WIPO), China made as many as 13,38,503 patent applications, with just 10% being made by non-resident Chinese, the USA made 605,571 patent applications, while India made a mere 45,057, of which over 70% were by non-resident Indians. In terms of publications, India has been doing somewhat better, showing a steady growth in its output and taking India's share of scientific publications from 3.1% in 2009 to 4.4% in 2013. However, a 2018 compilation of Science and Engineering indicators by the US National Science Foundation showed that both the USA and China published at least four times as many articles as India in 2016.

The national importance of a permeating culture of research and innovation. The societal challenges that India needs to address today, such as access for all its citizens to clean drinking water and sanitation, quality education and healthcare, improved transportation, air quality, energy, and infrastructure, will require the implementation of approaches and solutions that are informed by top-notch science and technology and are also rooted in a deep understanding of the social sciences and humanities and the various socio-cultural dimensions of the nation. Facing and addressing these challenges will require high quality interdisciplinary research across fields that must be done in India and cannot simply be imported; the ability to conduct one's own research also enables a country to much more easily import and adapt relevant research from abroad.

Furthermore, in addition to their value in solutions to societal problems, any country's identity, upliftment, spiritual/intellectual satisfaction and creativity is also attained in a major way through its history, art, language, and culture. Research in the arts and humanities, along with innovations in the sciences and social sciences, are therefore extremely important for the progress and enlightened nature of a nation.

Research and innovation at institutions in India, particularly those that are engaged in higher education, is critical. Evidence from the world's best universities throughout history shows that the best teaching and learning processes at the higher education level occur in environments where there is also a strong culture of research and knowledge creation; conversely, much of the very best research in the world has occurred in multidisciplinary university settings.

It is also extremely important to note that only the government can have the perspective to drive the research that will result in innovations that will facilitate economic growth.

India has a long historical tradition of research and knowledge creation, in disciplines ranging from science and mathematics to art and literature to phonetics and languages to medicine and agriculture, and it is time India reclaimed this tradition, at the earliest, to be ready to lead research and innovation in the 21st century, as a strong and enlightened knowledge society and one of the three largest economies in the world.

What are the impediments to research and innovation in India today?
There are a number of impediments to conducting research in India at the current time. As a consequence, many talented Indians wishing to innovate often leave the country, or otherwise turn to other jobs that do not optimise their talents. Reducing these impediments to research and innovation will be key to increasing home-grown research, retaining talent in the country, and again attaining a vibrant research ecosystem by which India can solve some of its most pressing problems and grow its economy, and intellectual and material prosperity.

Some of the primary obstacles to conducting research in India at the present time include:

- **Lack of funding for research:** As already mentioned, a lack of funding sources, both public and private, to support outstanding research and innovation initiatives remains a major issue.
- **Lack of a research culture and mindset:** A related problem is the associated decline of prestige and encouragement of young people to enter research and innovation. Talented students are rarely encouraged by parents or by society to pursue their research interests in, e.g. pure science or - even less often - in the humanities. If all students were enabled and encouraged to pursue subjects that they found the most interesting and in which they had the most talent, it would be best for these students as well as best for the nation. At the current time, most students who excel at studies (regardless of their subject of interest) are generally urged towards a few restricted areas, such as engineering or medicine; a full range of individual interests must be encouraged to help rebuild a vibrant knowledge and research culture.
- **Lack of research capability in most universities:** Even if the above two obstacles were overcome, there is still the serious issue of lack of research capacity in most State universities where the bulk of the students study (93%). Unfortunately, at the current time, most universities where undergraduate students study in India simply do not have the capability of seeding, managing, funding, and conducting research. The decision to separate research and teaching in post-independence India, with research being conducted at relatively well-funded standalone research institutions while universities were designated only for teaching and largely starved of research funds, has evidently hurt the country considerably - both in education and in research. The relatively few scholars in the country who are enabled to conduct research (only 15 per lakh of population) are then generally not in a position to pass on and teach their research knowledge and experience to the next generation!

  A concerted effort thus needs to be made to halt and reverse the effects of this separation in higher education between teaching and research. Research will have to be seeded, grown, supported, and fostered at HEIs around the country that do not currently have the capacity for research.

Removing impediments to and thereby significantly expanding research and innovation in the country through a new National Research Foundation.
This Policy envisions a comprehensive approach to transforming the quality and quantity of research in India. This includes definitive shifts in school education to a more play and discovery-based style of learning - with a key emphasis on the scientific method and critical thinking, career counseling in schools towards identifying student interests and talents, the institutional restructuring of the higher educational system to promote research in universities, the multidisciplinary nature of all HEIs and the emphasis on liberal education, the inclusion of research and internships in the undergraduate curriculum, faculty career management systems to substantially include research in its considerations, and the governance and regulatory changes that encourage faculty and institutional autonomy and innovation - all of these aspects are extremely critical for a research mindset in the country and have been elaborated on in other parts of this Policy.

To build on these various elements in a synergistic manner, and to thereby truly grow and catalyse quality research in the nation, this Policy envisions the establishment of an NRF. The overarching goal of the NRF will be to enable a culture of research to permeate through our universities.

In particular, the NRF will explicitly aim to remove the above-mentioned obstacles to research in the country by providing a reliable base of merit-based peer-reviewed research funding, helping to develop a culture of research in the country through suitable incentives for and recognition of outstanding research, and by undertaking major initiatives to seed and grow research at State Universities and other public institutions where research capability is currently limited. Successful research will be recognised, and where relevant, implemented through close linkages with governmental agencies as well as with industry and private/philanthropic organisations.

The primary activities of the NRF will be to:

- Fund competitive, peer-reviewed grant proposals of all types and across all disciplines;
- Seed, grow, and facilitate research at academic institutions, particularly at universities and colleges where research is currently in a nascent stage, through mentoring of such institutions by eminent research scholars across the country, hiring excellent young research students and faculty, and strengthening and recognising existing high quality programmes at such institutions;
- Act as a liason between researchers and relevant branches of government as well as industry, so that research scholars are constantly made aware of the most urgent national research issues of the day, and so that policymakers are constantly made aware of the latest research breakthroughs; this would allow breakthroughs to be brought into policy and/or implementation in an optimal fashion; and
- Recognise outstanding research and progress achieved via NRF funding/mentoring across subjects, through prizes and special seminars recognising the work of the researchers.

Today, unfortunately, no organised mechanism exists to address these important matters regarding research in an interrelated fashion. This is precisely the goal of a new and comprehensive NRF.

> **The National Research Foundation will catalyze and expand research and innovation in the country.**

14.1. Establishing a new National Research Foundation

P14.1.1. **Establishment of a National Research Foundation:** A new NRF will be set up through an Act of Parliament, as an autonomous body of the Government of India, to fund, mentor, incentivise, and build capacity for quality research across the country in all disciplines, primarily at universities and colleges, both public and private. Appropriate infrastructure and a trained staff will be provided to enable it to fulfil its mission.

P14.1.2. **Scope of work:** The NRF will consist of four major divisions - Sciences; Technology; Social Sciences; and Arts and Humanities - with the provision to add additional divisions (e.g. health, agriculture, environmental issues), whenever it may be determined to be beneficial by the Governing Council of the NRF.

The NRF will competitively fund research in all disciplines across the academic landscape - from subjects such as Medicine, Physics, Agriculture, Artificial Intelligence, and Nanoscience to Education, Sociology, Archaeology, Art History, and Literature. The NRF may on occasion identify areas of research that are of special importance to the country and prioritise funding to them, but it will consider and fund outstanding proposals in all areas. The NRF will not directly fund defence-related or other sensitive strategic research.

In addition to directly funding outstanding research proposals, the NRF will also help seed centres of research in select disciplines at various universities, through providing institutional funding, bringing in research mentors as well as postdoctoral and doctoral students to grow an ecosystem for research at institutions where it currently does not exist or is limited.

The NRF, through its Governing Board, will also act as a liason between researchers and the government, helping to ensure that the most urgent national issues of the day (e.g. clean water, sanitation, energy) are well-studied by researchers, and that the latest research breakthroughs are implemented for the public good through policy in an efficient manner.

Finally, the NRF will recognise outstanding research progress (especially research funded by the NRF), through NRF Prizes and through the organisation of national seminars on truly transformative research and successful seeding / growth of research at higher educational institutions.

All proposals funded, together with amounts of annual funding, annual updates on progress, and final results achieved (all explained also in layperson terms) will be publicly displayed on the NRF website.

P14.1.3. **Funding for the National Research Foundation:** The NRF will be given an annual grant of ₹ 20,000 crores (Rs. 2 kharab, or approximately 0.1% of GDP) and will be conferred with the autonomy to set its own finances, governance rules, and statutes. Given the imperative to increase research and innovation

activities widely and across the country, this initial grant will be increased progressively over the next decade as the country's capacity for quality research is developed. Any unspent funds in the initial years will be held towards a corpus for the NRF which will be managed professionally for steady risk-free return.

P14.1.4. **Governing Board:** The NRF will have a Governing Board consisting of leading academics and professionals in their respective fields. This Board will be constituted by the RSA.

P14.1.5. **Divisional Councils:** Each of the four divisions of the NRF - Science, Technology, Social Sciences, and Arts and Humanities - will have an associated Divisional Council consisting of an appropriate number of eminent academics from India and abroad who have a broad range of expertise within these respective divisions. The eminence of these Councils, and of the Governing Board, will set a very high bar for the proceedings of the NRF. The Divisional Councils for each division will be constituted by the Governing Board of the NRF. They will articulate a vision for funding basic and applied research within their respective divisions. The Chair of each Divisional Council will be a member of the Governing Board.

P14.1.6. **Subject Committees and Chairpersons:** Each Divisional Council will partition its Division area into subjects as needed in order to suitably handle all proposals across the Division. For each such subject, the Divisional Council will constitute an empowered 'Subject Committee' of peers having a broad range of expertise within the subject.

a. To ensure that substantial research occurs in interdisciplinary areas and application fields, specific joint Subject Committees that span two or more Divisions will also be constituted, including in areas such as health, environmental conservation, education, agriculture, among others (until which time they may become separate Divisions).

b. Each Subject Committee will have a 'Chairperson' who is a distinguished expert in the subject. The Chairperson of each Subject Committee will be appointed by the Divisional Council; the other members of the Subject Committee will then be selected by the Divisional Council in consultation with the Chairperson.

c. Each Subject Committee will consist of approximately 10 members, although the exact number in each case may vary according to its needs. The scope of each subject and subject Committee will be narrow enough to evaluate in depth all proposals received in the subject, yet broad enough to include sufficiently many subject experts who, together, may assess all proposals in the subject without conflicts of interest.

d. It will be the empowered Subject Committees that make the primary decisions on funding within each subject, subject to allocations of funding to each subject as determined by the Divisional Councils, and subject to

allocations of funding to each Division as determined by the Governing Board. Any unused funds may be returned to the associated Divisional Council/Division/NRF corpus.

e. The Subject Committees will also review annual reports regarding progress on each funded proposal within the subject, and sign off on recommendations to their Divisional Councils of proposals/projects that appear to be worthy of government or industry implementation (see Section 14.4) and/or for NRF Prizes (see Section 14.5).

P14.1.7. **Allocation of funds:** The allocation of funds among the four major divisions will be as per the needs and funding requirements of each division. In general, science and technology will require much higher levels of funding for laboratory equipment, experiments, etc. However, funding for the humanities and social sciences will be increased considerably from present levels, in recognition of the fact that such areas have been ignored in the country for far too long. Allocation of funds among divisions will be determined by the Governing Board of the NRF, in consultation with the Divisional Councils - who in turn will consult with Chairpersons of Subject Committees - and fine tuned year-to-year, based on prior research outcomes and annually-updated assessments of research needs. Similarly, Divisional Councils will determine funding allocations among subjects within their respective divisions, again in consultation with Chairpersons of Subject Committees, taking into view prior outcomes of research in each subject, upcoming proposals, and updated assessments of national research needs.

P14.1.8. **Governance of the National Research Foundation:** The Governing Board will be the custodian of the overall vision of the NRF and it will work with the Divisional Councils and Subject Committees to ensure oversight and course corrections as needed; the Governing Board will hold a meeting with the Councils and Subject Committee Chairs at least twice a year for this purpose. The Divisional Councils, along with the Subject Committee Chairs, will oversee and ensure the smooth functioning of the Subject Committees. Members of the Governing Board will have fixed tenures, to be decided by the RSA. Members of the Divisional Councils and Subject Committees will also have fixed tenures to be decided by the Governing Board.

P14.1.9. **Eligibility for receiving National Research Foundation funding:** Researchers from all educational institutions, universities, colleges and schools, both public and private, as well as from research institutions, will be eligible to compete for funding from the NRF.

P14.1.10. **Other funding agencies:** Institutions that currently fund research at some level, such as DST, DAE, DBT, ICAR, ICMR, UGC, as well as various private and philanthropic organisations, will continue to independently fund research according to their priorities and needs. Many of the leading research-producing nations in the world have multiple public and private funding agencies, and

India would benefit from the same. However, a central NRF that transparently seeds and funds research across educational institutions in the country in all disciplines, with a special mandate to foster research and innovation in universities and colleges, including interdisciplinary research, not limited by any particular subject or geographic interests, and through a robust system of peer review, is distinct from the mandates of other organisations and will be critical in building quality research capacity in universities and colleges across the country.

14.2. Funding research proposals through rigorous peer review

The primary task of the NRF will be to fund peer-reviewed research proposals across all disciplines.

P14.2.1. **Calls for research proposals:** Every year, each Divisional Council will make public calls for research proposals of various types. Divisional Councils may choose to emphasise certain subject areas within their division according to national needs, but all proposals within the discipline of the division will be considered. Interdisciplinary proposals, across two or more divisions, would also be specially welcomed and encouraged.

> **The National Research Foundation will fund competitive peer - reviewed grant proposals of all types, across all disciplines.**

P14.2.2. **Types of proposals:** Proposals of various types will be allowed, including:

a. Research projects to be conducted by a single principal investigator (PI);

b. Collaborative grants for inter- and intra-institutional projects;

c. Initial capacity building by a mentor researcher and mentee institution;

d. Capacity building to push institutions that are already conducting research into a higher orbit;

e. Well-envisioned consortia and conferences that are likely to move forward research in the country;

f. Research facilities of national and international importance;

g. Larger and longer duration projects/facilities of national importance or inspiration.

In addition to describing the research to be carried out, and detailed resource and funding requirements, proposals will also describe any societal impact expected and sought, e.g. the training of students and postdoctoral fellows, public outreach, cleaning of a river, elimination of a disease, increasing agricultural yields, taking strides towards gender equality, preservation of ancient manuscripts and artifacts, etc.

Research proposals would generally be for projects of three-years duration; however, for truly outstanding proposals of high impact, proposals of five years or even longer in exceptional cases would be considered.

P14.2.3. **Assessing and funding quality research proposals through a system of rigourous peer review:** All proposals received within each Division will be distributed appropriately by subject to the empowered Subject Committees. All funding decisions for proposals will be made by the empowered Subject Committees.

a. The Subject Committees will make funding decisions based on detailed written reviews for each proposal, providing ample justification, comparisons, and rationale for funding. Such reviews will be carried out by members of the Subject Committees themselves, or in instances where there is insufficient expertise or capacity within the Subject Committee, through external peer reviews, national or international, as necessary. Funding decisions, together with the full record of written reviews, will be submitted to the Divisional Council. Peer reviews will also be made available to the writers of each proposal, without revealing the names of the specific referees, in order to provide proposers with valuable feedback.

b. A key aspect of this peer-review process will be the absence of conflicts of interest: committee members will recuse themselves and leave the room during discussions of proposals submitted by their colleagues from the same institution, by their collaborators or family members, or from institutions that have funded them in the recent past. Committee members will not participate in the writing of the reviews in such cases.

c. In cases of 'mega-projects', 'moonshots', or large-scale facilities (i.e. for projects demanding larger-than-usual amounts of funding or that must be carried out over longer periods of time) that have extremely high merit or a likely huge positive impact for knowledge or society, a special committee of expert peers dedicated to the study and evaluation of the megaproject - and if funded, to the financing, administrative, and other practical needs of the large project - will be set up by the relevant Divisional Councils. The funding of such proposals would have to be approved by this special Committee, together with all relevant Divisional Councils and by the Governing Board.

P14.2.4. **Approach to funds disbursal:** Sanctioned funds will be released annually, and in a timely manner, to the researchers' institutions, subject to receipt of annual detailed reports describing progress and spending. Suitable overhead expenses will be provided to the recipient institutions for administration of the grant. Separate financial auditing procedures and norms will be instituted for research projects, and fair consideration will be given to the inherent uncertainties and risks involved in research.

P14.2.5. **Oversight and coordination by Subject Committee Chairpersons:** Funded projects within each given subject will be overseen end-to-end, in terms of funding, advice, progress, and completion, by the Subject Committee Chairperson, who will also serve as the point of contact for funded proposals and will annually report to the Council on the status of each funded proposal. Subject Committee Chairpersons will be given suitable support to carry out their duties, e.g. the provision for an administrative assistant at their home institution.

P14.2.6. **Assessment and accountability:** The NRF will not only revamp the current funding and support mechanisms for research in the country, but will also change the culture of research into one of accountability and the responsible use of funds. Initial funding will be provided only if the proposals clear a specified, high, benchmark. Progress reports with transparent disclosure of the use of funds, and the results achieved, will be submitted by the writers and host institutions of funded proposals each year.

The NRF will expect the host institutions to ensure fiduciary accountability for the research project, and will set up specific reporting mechanisms for the host institutions for this purpose; the NRF will also periodically conduct audits to ascertain appropriate responsible usage of funds. Assessment of outcomes of research will be carried out annually on quality metrics that will be pre-specified and agreed upon (suitably taking into account the risks inherent in research). NRF will attain further accountability by ensuring that only investigators who handle their initial funding well will receive new funds in the future.

P14.2.7. **Intellectual property to belong to researchers:** In accordance with international best practice, all intellectual property rights, including publications and patents, of NRF-funded research will be retained solely by those carrying out the research, while giving the government (including any of its assigned agencies) the license to use, practice, or implement the research/invention (or any of its output) for the public good without payment of any royalty or charge. In cases where NRF funding is being provided by a

public-sector, private, or philanthropic entity for a particular research project (see Section 14.4), this entity would also receive, along with the government, the same royalty- and charge-free license to utilise the research and its output.

14.3. Building research capacity at all universities and colleges

In addition to funding peer-reviewed research proposals from around the nation, an important mandate of the NRF will be to seed, grow, and facilitate research at institutions in India where currently research is very limited. A key aspect of NRF's approach to build research capacity will be to utilise and bring outstanding serving or retired researchers from research universities and institutions to help mentor and seed research at State Universities and other universities and colleges where research is currently only in a nascent stage. Growing outstanding existing research cells at State Universities will also be a top priority of the NRF. Finally, providing doctoral and post-doctoral fellowships to outstanding young researchers to join and help lead research programmes around the country will round out NRF's three-pronged approach to building research capacity at universities and colleges.

> **The NRF will seed, grow, and facilitate research at academic institutions; create beneficial linkages between researchers, government and industry and recognise outstanding research.**

P14.3.1. **Encouraging proposals that help build research capacity at State Universities:** A number of specific types of proposals will be sought to help build capacity at State Universities and other universities/colleges that currently have little research capability. These will include:

a. Seeding research at State Universities through Research Mentors: Serving or retired/close to retirement faculty at research universities and institutions who are still active in research may choose to serve as Research Mentors at State Universities. Such a potential Research Mentor would submit to the NRF, in conjunction with a faculty member or a department chair at the desired State institution who would be a co-PI, a detailed research

project proposal that describes how existing and new faculty members at the State institution, as well as new postdoctoral fellows and students, could participate in this project to grow a research cell(s). The proposal would be accompanied by an appropriate commitment from a university authority to suitably host the mentor and the proposed research project.

Successful grants, given for an initial (but renewable) 3-5 year period, will provide Mentors with salaries (over and above their pensions, if applicable, to bring them to up to their original salary level) as well as research funding for the project, including for infrastructure, postdocs, and graduate students. Research Mentors at the State University would work not only on the proposed research project, but would also teach at least one relevant course a year to connect to the university community, and would also advise the university and its departments on growing a culture of research to transform into a research-conducting institution.

b. There will be no age limit for Mentors; they will be permitted to serve as Mentors and apply for funding for as long as they are active and add value to their institutions. The talents of outstanding retired research faculty in the country are currently severely underutilised; this will be an invaluable opportunity to employ their expertise to expand research culture across the country.

c. Growing existing research at State Universities: Outstanding research project proposals will be sought from all institutions of higher education and research across the country. However, special consideration for funding will be given to research being conducted at State Universities. In particular, grants to build infrastructure (especially infrastructure that could be shared across many research groups), to fund travel and collaboration, and to hire doctoral students and postdoctoral fellows, in order to grow existing and promising research programmes or seed new outstanding research programmes at locations where merit and expertise have been established, will be prioritised for State Universities.

d. NRF doctoral and postdoctoral fellowships: Bringing in young research talent will be key to developing research cultures at educational institutions. For this purpose, NRF will launch a large and prestigious system of doctoral and postdoctoral fellowships to be used at State Universities. NRF will maintain a list of doctoral and postdoctoral positions and projects that arise from the successful proposals in (a) and (b) above, and will make a public call for applications for these positions. Outstanding applicants may apply for one or more of these positions based on their areas of interest/expertise.

All selections for (a), (b), and (c) above will be made based on merit, by empowered committees via a rigorous system of peer review and evaluation. In the case of (c), PIs or co-PIs may be consulted on the suitability of potential candidates for their projects.

P14.3.2. **Capacity building through large, long-term, or mega projects:** The NRF will consider funding larger national and international projects, in particular those that help build research, teaching, and other capacities at universities or that have a direct impact on society or fundamental knowledge in other ways. Examples of larger research projects of this type could include:

a. Nationwide projects to clean rivers: universities located near rivers could discuss the latest research on cleaning rivers - in a teaching and/or a research context - and participate on a mass scale in the practical aspects of this research at their own local rivers (leading to both scientific advancement and lessons in social responsibility);

b. Projects to bring clean energy to villages: universities located across the country could discuss the best clean energy solutions for their areas, and help implement these in their localities;

c. Nationwide projects to eliminate diseases such as malaria;

d. Novel methods to teach literacy, or to preserve local languages, arts, or culture, that could be researched, developed and implemented by universities in their local communities across the country;

e. Scientific megaprojects where many universities could participate in analysing and interpreting the large amounts of data produced.

To this end, the NRF may help address the issues of capacity building, creation of new technological capabilities, upgradation of different technologies, boosting fundamental research in university settings, as well as facilitating exchanges of scholars at the international level. The NRF will work alongside all other funding agencies for this purpose.

P14.3.3. **Funding international collaborations:** International research collaborations will be encouraged and supported by the NRF, especially in areas where India does not yet have enough research strength on its own. In particular, special efforts and special schemes will be made to strengthen international collaboration that leverages the Indian diaspora, which is seen as an important asset for research, innovation, and entrepreneurship in the country.

P14.3.4. **Mentoring for grant applications and outcomes:** The NRF will not only provide funds but, as part of capacity building, applicants from institutions where research is only in nascent stages, but who submit research proposals of the level that could potentially be funded by the NRF, will be assisted by one or more mentors at the NRF - who will be specifically commissioned by the NRF for this purpose - to help bring the writing of the research applications up to the quality levels sought by the NRF, before the application is put through the official review process of Subject Committees.

Researchers of the above type that are funded will also be similarly mentored

and supported as needed, to conduct research and to deliver on the desired outcomes. Retired scientists, social scientists and researchers in other disciplines will be called upon to serve as mentors. They will be compensated and appropriately incentivised to contribute. A large, trained, group of experts will be needed to take up this enormous but important task.

P14.3.5. **Role of Academies:** Academics associated with the national science and engineering academies and learned societies in the humanities and social sciences can add considerable value to the efforts of the NRF. The NRF can commission the academies and learned societies to produce expert reports and provide valuable advice on various topics that will help direct government efforts particularly with regard to government policy issues on research and education. Academies can also contribute greatly to capacity building for teachers and for researchers: their members can be mentors to university departments and colleges as these institutions seek to improve the quality of their teaching and research. NRF will aim to facilitate such linkages, especially to State Universities.

14.4. Creating beneficial linkages among government, industry, and researchers

At the current time, there is no direct link between research being conducted in the country and relevant government entities (both Central and State), which makes it much more difficult for breakthroughs in research and innovation to be implemented for the benefit of society. The NRF will help in playing this linking role. The NRF will also help link both researchers and government with industry, in order to increase collaboration and synergy of purpose with respect to research, innovation, and implementation among all three parties. The Governing Board will stay in constant contact with relevant government entities and with industry for this purpose. Furthermore, in addition to the annual grant to the NRF from GoI, NRF may also receive additional funds from various ministries of the GoI and from State governments for funding research. Similarly, Public-Sector Units (PSUs), the private sector, and philanthropic organisations will also be encouraged to fund research of interest to them through the NRF. The infrastructure that will be created by the NRF for end-to-end management of the life-cycle of research projects, covering evaluation of proposals, disbursement of funds, mentoring for helping to achieve project goals, and regular monitoring and assessment of research outcomes, will be invaluable to ministries and other agencies that require research towards their own endeavours. Different models of collaboration between the NRF and ministries and other governmental entities, industry, and philanthropic organisations can be explored.

P14.4.1. **Research requirements of ministries:** Many government ministries have research needs that are not being met at the present time. Several ministries have research cells that are largely not functional. The NRF will offer its expertise to ministries for their research needs. Research of interest to ministries will be funded via the same mechanisms as set up by the NRF, namely, national calls for proposals, peer-review via empowered Subject Committees (a representative from the relevant ministry may also be included on the Committee for this purpose), allocation and disbursement of funds, mentoring, and monitoring of progress. It is likely that, over time, funding from ministries will grow into becoming say 2% or more of their budgets as they see value in their association with and the research work carried out through the NRF.

P14.4.2. **Research requirements of State governments:** The contribution to research spending by State governments has been negligible so far, just 7% of the budget for 2015-16, according to the DST. States may wish to fund areas of research of special interest to their geography through the NRF, e.g. for health and disease control, or for the promotion and preservation of State languages, literature, arts, culture, artifacts, manuscripts, heritage sites, etc. through suitable research (again, a representative from the State could be included on the relevant Subject Committees if so desired).

P14.4.3. **Non-strategic aspects of strategic research establishments:** There are many areas of basic research that strategic departments would find useful to meet their varied requirements. These include basic research on materials, fluid dynamics, cryptography, coding theory, atmospheric sciences, electro-optics, lasers, nanoscience, scientific aspects of hydrogen as a fuel, photo-voltaic, machine learning, basic semi-conductor physics, as well as various areas of study in the social sciences, humanities, and languages. One should see an expanded fundamental research activity coming out of the demands of the strategic departments which could also similarly be carried out through the NRF structure, in addition to research carried out directly by the strategic sector.

P14.4.4. **Research requirements of other government entities:** Other government entities (including from States) may also wish to similarly have research carried out by the NRF for their research needs.

P14.4.5. **Research requirements of industry and other organisations:** Public and private sector enterprises and organisations, including philanthropic organisations, will also be given the opportunity to similarly participate in the NRF's research mechanisms. Providing funds for specific research needs through the NRF will have the advantage of helping enterprises and organisations identify academic groups in the country with the expertise they are looking for. They will also benefit from the peer-review process of the NRF for allocation of projects to specific research groups, and be able to ensure that their research projects receive adequate oversight. The process of funding research through the NRF will also help develop links between academia and the concerned public and

private sector companies and organisations. Subject Committees of the NRF may each contain one representative from the respective organisations during deliberations of funding from these sources.

In any given year, no more than one third of the NRF's funding budget would come from public and private enterprises and other private organisations for specific research requests. All such research requests would be decided on a case-by-case basis by the Governing Board and Divisional Councils of the NRF, based on assessment of the potential for national benefit, funding offered, and the NRF's ability, expertise in, and previous involvement with the general area. General donations to the NRF, even if they are for a given recognised subject, e.g. for Health, Agriculture, Literature, Physics, etc. (but not for a specific research project, need, or request) will have no restriction on amounts donated from any organisation.

P14.4.6. **Donations from industry:** It is suggested that all public and private sector enterprises will contribute a small percentage, say at least 0.1%, of their annual profits to research (such as donations for research to the NRF). This could be done within or outside CSR funds, and such contributions would come with suitable tax incentives.

P14.4.7. **Governing Board as a linking entity among researchers, government entities, and the private sector:** The Governing Board will monitor the functioning of the NRF; in the process, it will receive recommendations from Subject Committees and Divisional Councils on outstanding research progress occurring in the country, which they may convey to relevant government entities for possible implementation of such research by the government or public-private partnerships for national benefit. Conversely, suggestions and requests from government entities as well as industry regarding important directions for the country's research may help guide the NRF.

14.5. Recognising outstanding research funded by the National Research Foundation through awards and national seminars

Receiving funding from the NRF will, by itself, be a prestigious recognition for a researcher. However, one final mandate of the NRF will be to specially recognise particularly outstanding research progress in the nation, on proposals funded by the NRF as well as for other research being conducted around the country. Being a centre for proposals, reports, and updates on research from around the nation, with extensive review by peer-scholars from

across disciplines, the NRF will be in a unique position to assess, recognise, and thereby encourage truly outstanding research in the country, through awards, prizes, and national seminars on prize-winning work.

P14.5.1. **Recognition of truly outstanding research through awards and national seminars:** The NRF will institute a system of awards for truly successful research taking place in the nation, and in particular for research funded by the NRF. The awards will be given across divisions and subjects, and in a number of categories, e.g. for postdoctoral fellows and young un-tenured faculty, and for institutions (and the people involved) for successful efforts in seeding and growing research where it was previously limited.

The NRF will also organise national seminars and public lectures on outstanding research to encourage the award-winning researchers as well as other scholars and members of the public to get involved in the important issues that the research addresses.

Chapter 15

Teacher Education

Objective: Ensure that teachers are given the highest quality training in content, pedagogy, and practice, by moving the teacher education system into multidisciplinary colleges and universities, and establishing the four-year integrated Bachelor's Degree as the minimum qualification for all school teachers.

Teacher education is truly vital in creating the team of teachers that will shape the next generation. The teaching profession, like all high level service professions such as medicine and law - where people's lives are truly at stake and lie in the practitioner's hands - requires the very highest standards for education and training. Teacher preparation is an activity that requires multidisciplinary perspectives and knowledge, the formation of dispositions and values, and the development of practice under the best mentors. Teachers must be grounded in Indian values, ethos, knowledge, and traditions, while also being well-versed in the latest advances in education and pedagogy.

Heartbreakingly, the teacher education sector has been beleaguered with mediocrity as well as rampant corruption due to commercialisation. Most institutions today providing teacher education are small colleges in the private sector that offer only a single narrow programme, and where there is a general lack of commitment to the need for rigour and quality in teacher preparation. Indeed, according to AISHE data for 2015-16, of the 17000+ colleges in India that teach just a single programme, nearly 90% are teacher training institutes! Moreover, according to the Justice J. S. Verma Commission (2012) constituted by the Supreme Court, a majority of these standalone teaching institutes - over 10,000 in number - are not even attempting serious teacher education, but are essentially selling degrees for a price.

Regulatory efforts so far have neither been able to curb the corruption rampant in the system, nor enforce basic standards for quality, and in fact have had the negative effect of curbing the growth of excellence and innovation in the sector. The sector and its regulatory system are therefore in urgent need of revitalisation through radical action, in order to raise standards and restore integrity, credibility, efficacy, and high quality to the teacher education system.

Restoring integrity and credibility to the teacher education system. The integrity and credibility of the teacher education system has unfortunately taken a great hit and witnessed a severe decline due to the thousands of "Teacher Education Institutions" that are solely commercial operations where little if any teacher education is taking place. If teacher education is to improve and reach the levels of integrity and credibility required to restore the prestige of the teaching profession and thereby attain a successful school system, such substandard institutions will have to be closed immediately while good institutions with positive intent strengthened as described in Section 15.1.

Corrupt and substandard "institutions" cannot and must not be allowed to run. They must be shut down. The Policy gives a very clear in the mandate to do this, and it stresses that this action will have to be implemented with energy and will, in the face of every resistance. It must be carried out urgently because the future of the nation is truly at stake on this matter. If we let such fake colleges remain functional, the fundamentals of our schools, and the integrity and credibility of the teacher education system cannot be restored.

Bringing efficacy and high quality to the teacher education system through strong education departments in multidisciplinary colleges and universities. As discussed in Chapter 5, teacher education requires multidisciplinary inputs and a combination of high quality content and pedagogy that can only be truly attained if teacher preparation is conducted within composite multidisciplinary institutions. The importance of providing such a holistic and complete education to our teachers, who will then be asked to impart such holistic and complete educations to our school children, is yet another important reason that all higher education institutions must themselves become places for holistic and multidisciplinary learning, so that such holistic and multidisciplinary learning can, in particular, be attained by teachers.

Integrated programmes of teacher preparation for all levels of education, and in all areas of the curriculum, must be launched across the higher education sector, while single-stream programmes must be phased out. To this end, all large multidisciplinary universities including all public universities as well as all Model Multidisciplinary Colleges must aim to establish, develop, and house outstanding education departments which, aside from carrying out cutting-edge research in various aspects of education, will also run B.Ed. programmes to educate future teachers, in collaboration with other departments such as psychology, philosophy, sociology, neuroscience, Indian languages, arts, history, and literature, as well as various other specialised subjects such as science and mathematics. In addition, all currently existing genuine teacher education institutions must aim to become multidisciplinary higher educational institutions by 2030. This is the major transformation of teacher education that will bring back high quality to the system in accordance with the true multidisciplinary requirements of modern education.

15.1. Restoring integrity to teacher education

P15.1.1. **Closure of substandard and dysfunctional teacher education institutions:** Substandard and dysfunctional TEIs that do not meet basic educational criteria will be closed. This effort will be launched in a mission mode by MHRD with strong political will, positive administrative intent, and an effective implementation strategy. All TEIs will be held accountable for adherence to the basic criteria of approval of their programmes; after giving one year for remedy, if any breaches are found, they will be shut down if the breaches are not remedied. There must be a sound legal approach developed to make sure this enforcement is carried out effectively. By 2023, India should have only educationally sound teacher preparation programmes in operation, developing professionally competent teachers - all others must be shut down.

P15.1.2. **Rigorous monitoring and review of clean up of the teacher education sector:** A quasi-judicial body may be constituted for this mission-mode clean up exercise. Progress on this mission will be reviewed by NHERA every 3 months and by RSA every 6 months.

> **All teacher education will happen in multidisciplinary institutions - teacher education will be an integral part of the higher education system.**

15.2. Moving teacher education into multidisciplinary colleges and universities

Many of the difficulties relating to the quality of education available to students today can be traced to the systemic neglect of teacher education that has taken place over several decades. Most current teacher preparation programmes build very little perspective or capability - curriculum and classroom processes are mostly outdated and distanced from the reality of the schools and the children that they supposedly serve. The faculty members of teacher education institutes are mostly isolated from the larger community of researchers and educators.

Curriculum and pedagogy in teacher education must provide for rigorous theoretical understanding of educational perspectives, subjects, and pedagogy, along with a strong theory-practice connect. Teachers must engage deeply with education - its history, aims, connect with society, and its ethical moorings. They need to have an appreciation of issues around child development and the social context of learning in addition to conceptual understanding of the subject matter and learning how to teach.

Teacher preparation requires sufficient time and space to develop educational perspectives, and understanding of subject and pedagogy, along with developing an identity as a teacher - for this, theory must be integrated with continuous graded practice. This is best done in a true multidisciplinary knowledge environment.

Good teacher education requires expertise across all areas connected to education - specialists in early childhood education, understanding and pedagogy of subjects, assessment, curriculum and material development, school leadership and management along with psychology, philosophy, sociology, knowledge of India, and history of education. Institutions that can provide for faculty across disciplines and offer different programmes besides teacher education are best suited to run teacher preparation programmes.

Currently most teacher education institutions are stand-alone institutions - this has led to both intellectual and professional isolation from the rest of higher education. Stand-alone teacher education institutions cannot build the kind of varied faculty that good teacher education needs. Finally, teacher education faculty cannot simply rote-teach the textbook, as often happens today, but must come with deep disciplinary understanding as well as a strong and positive experience with teaching.

P15.2.1. **Moving all teacher preparation programmes into multidisciplinary higher education institutions; building education departments and connections between HEIs and schools / school complexes:** As described in P5.5.1, the four-year integrated B.Ed. will, by 2030, become the minimal degree qualification for school teachers. All pre-service teacher education programmes will henceforth be offered only in multidisciplinary higher educational institutions to satisfy the modern requirements of the teaching profession, and to give teachers the multidisciplinary exposure and education necessary to become outstanding teachers.

To this end, multidisciplinary higher educational institutions will work towards establishing high quality education departments and teacher education programmes, and will be supported by governments as necessary to achieve this goal. Such HEIs will ensure the availability of a range of experts in education and related disciplines as well as specialised subjects. Each higher educational institution will have a network of government and private schools and school complexes to work with in close proximity, where potential teachers will student-teach (among other synergistic activities between HEIs and school complexes, such as community service, adult and vocational education, etc.). Such HEIs will develop holistic teacher education programmes based on their

academic subject strengths related to education as well as in specialised subjects. Beyond the teaching of cutting-edge pedagogy, the curriculum will include grounding in sociology, history, science, philosophy, psychology, early childhood education, foundational literacy and numeracy, knowledge of India and its values/ethos/art/traditions, and more.

By 2030, every HEI offering a teacher education programme will be multidisciplinary and offer the four-year integrated B.Ed. programme. The four-year integrated B.Ed. will be a dual-major liberal Bachelor's degree, in education as well as a specialised subject (such as a language, or history, music, mathematics, computer science, chemistry, economics, etc.).

All HEIs currently offering the two-year programmes, including the Diploma programmes, will be able to transition into multidisciplinary institutions offering the four-year integrated B.Ed. programme.

Each HEI offering the four-year integrated B.Ed. may also design a two-year B.Ed. on its campus, as described in P5.5.2, for outstanding students who have already received a Bachelor's degree and wish to pursue teaching. Subsequent to such a development, other special and more individualised B.Ed. programmes for unusually highly qualified individuals, with demonstrated experience and disposition towards teaching, to become teachers may be developed by such HEIs.

> **Good teachers are prepared and developed by good teacher educators - faculty of teacher education must be experts in diverse fields, both theoretical and practical.**

P15.2.2. **Admission to pre-service teacher preparation programmes:** Admission to pre-service teacher preparation programmes, like all HEI admissions, will be carried out in large part through subject and aptitude tests as conducted by the National Testing Agency. This is in keeping with the principle of separating Board Examinations from official university entrance examinations, while the full criteria and process for admissions will be left to the universities and colleges offering these programmes.

P15.2.3. **Creation of substantial new teacher preparation capacity:** The fundamental transformation to the four-year integrated teacher preparation programme on one hand and the shutting down of dysfunctional institutions on the other hand, will require the creation of substantial new teacher preparation capacity: substantial public investment will be required for the sector - an

estimate will be made annually every year for the next 10 years and provided on priority. Each Public University (by 2024) and Model Multidisciplinary College (by 2029) will offer a four-year teacher preparation programme. Philanthropic efforts will be encouraged in this sector through special schemes to be designed by the RSA.

P15.2.4. **Conversion of independent teacher education institutions to multidisciplinary institutions:** All independent TEIs will be required to convert to multidisciplinary institutions by 2030, since they will have to offer the four-year integrated teacher preparation programme.

15.3. Departments of Education in universities

Departments of education in universities, in addition to teaching, will need to be strengthened and developed as spaces for research and innovation in education. These are ambitious goals and the Departments of Education in universities will need to be built up to take on the central role of anchoring education programmes in all disciplines through meaningful relationships with all other departments in education. They will cater to pre-service education and in-service CPD of teachers in school education as well as faculty in higher education. They will also prepare faculty for teacher education, a truly onerous responsibility.

The faculty at such departments will be multidisciplinary in nature and have good track records of research and publication, and the departments should be encouraged to offer a range of specialisation at the Master's level and research degrees, to cater to the range of expertise that will be needed. These centres must also be able to offer programmes which are blended and part time to enable practicing teachers to continue their higher education studies and aspire for professional mobility. They must develop courses and activities for in-service CPD of teachers, and offer mentoring programmes to beginning teachers.

P15.3.1. **Departments/Centres of Excellence in Education at universities:** Government funding for teacher education will be increased considerably on a priority basis. Departments of Education/Centres of Excellence in Teacher Education will be set up at interested universities, based on predictive data analysis on the requirements for teachers in school and higher education, and the corresponding faculty for teacher education. These Departments of Education will aim to provide quality teacher preparation programmes, in both pre-service and in-service modes, for school teachers, and research programmes to prepare researchers and faculty in higher education. These Departments of Education will nurture collaborative relationships with all other departments in the university for teacher preparation, and with schools

in their neighbourhood where student-teachers may intern and engage with in order to develop their practice.

P15.3.2. **Capacity planning for teacher education:** A careful and comprehensive planning exercise will be undertaken immediately by the RSA, and then once every five years, at the Centre as well as in the States, to match the demand and supply of teachers and faculty for teacher education. Projections for the number of teachers required will also take into consideration the requirements for subject teachers and special teachers at all schools. The number of universities and autonomous colleges at which the four-year B.Ed. programme will be seeded will be determined accordingly.

P15.3.3. **Faculty in teacher education:** Departments of Education must include diverse faculty who represent the range of expertise required for teacher prepration: knowledge of and experience of teaching, multidisciplinary perspectives on society, aims of education, nature of knowledge and inclusion, and knowledge of pedagogy, curriculum, and evaluation. Faculty must also have good track records of research, publication, field action, and engagement with schools and teaching. Departments must cultivate faculty such that there is a balance of the various specialisations and expertise that are needed to develop all-round teachers who are rooted in Constitutional values, have strong theoretical knowledge and perspectives, and experience of adaptive practice.

P15.3.4. **Online education:** Departments of Education must also be able to offer programmes that are blended and part time, to enable practicing teachers to continue their higher education studies and aspire for professional mobility. They must develop courses and activities for inservice teachers as well as mentoring programmes for beginning teachers. All courses offerings must be available in a range of formats including part time, evening, blended and online, in addition to full time programmes. Working professional teachers need to be seen as an important student clientele of education departments, and programmes that meet their research and higher education interests should be developed and offered in the online as well as face-to-face modes.

P15.3.5. **Research-based teacher preparation:** The Departments of Education will support vibrant research groups that will conduct many field experiments, and all faculty members will be encouraged to engage in research. The last thirty years have seen significant developments in educational research and understanding of how students learn, on teacher preparation, and on how schools can function to achieve quality in learning. These developments have been possible through research internationally, and several innovative field experiments that are uniquely Indian. The discipline of education and the practice of teacher education must draw on the best of these to provide student-teachers with rich understanding and practices that draw from Indian efforts and innovations, and from the contextualised global best. It will be ideal to have teacher preparation take place in centres of research

and field action which offer a vibrant ambience of research and innovation in which knowledge and practice can be formed. Research based teaching and specialisations will ensure that knowledge and practices are contemporary and up-to-date, and relevant to the current contexts of schools and higher education.

P15.3.6. **Inter-departmental collaboration for special subjects:** Departments of art, fine arts, and performing and folk arts at the university will be encouraged to establish or collaborate with Departments of Education, to offer programmes in teacher education. Until this area of teacher education emerges as a specialisation in education, faculty and practitioners of arts and fine arts will need to be involved in shaping and contributing to teacher preparation programmes. Master's in Education programmes as well as specialisation in education within Master's and research programmes in art education will be established. Similar collaborations between departments will be needed for education in other disciplines so that stage-specific preparation of subject teachers, specialist teachers and teachers of special subjects can be taken up. University managements must actively promote these inter-departmental collaborations.

P15.3.7. **Post-graduate and Doctoral Programmes:** Development of knowledge related to teaching, pedagogy, and various aspects of education including equity, issues of marginalisation, economics and financing of education, policy and management and leadership also need to be developed at the University through research and higher academic degrees in education including the M.A. in Education (Research), as well as doctoral programmes of study. The Master's in Education with a range of specialisations would enable the development of professionals and researchers for various areas of education including pedagogic studies in different curricular areas, evaluation and assessment, school leadership and management, policy studies, foundational areas of education psychology, sociology, history and philosophy, financing of education, comparative and international education, and ICT and education.

15.4. Faculty for teacher education

Faculty of teacher education programmes must reflect the range of specialisations from multidisciplinary perspectives that are required for teacher preparation today. Faculty with specialisation in areas of curriculum and pedagogy, foundational areas of education technology, and research in teacher education will be required as core educators. They must be supplemented by faculty with Master's and PhD degrees in various related disciplines such as science education, psychology, cognitive studies, human development, linguistics and many other disciplines. Teaching experience, research experience at field stations, publications in international peer-reviewed journals of education and allied disciplines, are some of the other critical skills and competencies that

will go towards making up a well rounded faculty of a good Department of Education.

P15.4.1. **Preparation of faculty:** The large scope of the teaching programmes required for school teacher preparation across all levels and disciplines points to the need for faculty with a wide range of specific expertise. PhDs in Education and in many related disciplines such as Science Education, Mathematics Education, Psychology, Child Development, Sociology, Linguistics and so on, from reputed institutions that meet international standards, must be encouraged to enter the profession and contribute as faculty of teacher education programmes. Given that some of them may have expertise to teach but are lacking in experience of the practices of teacher preparation, an induction and orientation course will be made available for such faculty before they take up teaching duties. It will be left to the individual departments of education to design such induction programmes for their own faculty, and deliver them through their own experienced faculty.

P15.4.2. **Faculty profile:** The faculty profile in Departments of Education will necessarily have to be diverse. Not everyone would be required to have a PhD, but teaching experience and field research experience will be highly valued. Faculty with training in areas of social sciences that are directly relevant to school education (e.g. psychology, child development, linguistics, sociology, philosophy/political science) as well as from science education, mathematics education, social science education, and language education programmes will be attracted and retained in teacher education institutions, to strengthen multidisciplinary education of teachers and provide rigour in conceptual development. It is desirable to have faculty who have researched/worked with children and teachers, and to ensure that a minimum of at least 50% of faculty come with such experience. It is also desirable for faculty to have at least one degree in Education (M.Ed. or a Master's degree or Doctorate in Education) but this will not be mandatory for faculty. The focus of the Departments of Education will be on creating a well-rounded faculty with a diversity of expertise and experience.

15.5. Faculty in higher education

Faculty members in universities and colleges need to have opportunities to develop their own understanding of the development of education, curriculum, pedagogy and evaluation of their disciplines. They need to be inducted and exposed to contemporary pedagogic practices and the use of resources in teaching.

Some necessary inputs that faculty in higher education will benefit from include: developing a deep understanding of the structure and content of their own disciplines leading to the design of units and lessons; selecting and organising content and learning experiences; incorporating ICT in teaching; gaining experience in collaborative and team teaching; designing

credible evaluations and designing learning experiences that are relevant to their learners.

Faculty members also need an understanding of the social diversity of their own classrooms and develop inclusive pedagogies.

P15.5.1. **Exposure to pedagogy during PhD programmes:** All fresh PhD entrants, irrespective of discipline, will be required to have taken 8-credit courses in teaching/ education/ pedagogy related to their chosen PhD subject, during their doctoral training period. Exposure to pedagogic practices, designing curriculum, credible evaluation systems and so on, is desirable since many research scholars will go on to become faculty. They must also have a minimum number of hours of actual teaching experience gathered through teaching assistantships and other means. PhD programmes at universities around the country must be reoriented for this purpose. Opportunities for PhD students to assist faculty as teaching assistants must be created as part of all PhD programmes.

P15.5.2. **Human Resource Development Centres and Continuous Professional Development of teachers at Departments of Education:** In-service CPD for college and university teachers will continue at HRDCs. However, these centres will be integrated completely into the universities that presently host them, instead of being seen as external entities as they are now. The HRDCs will either be a part of the Department of Education if one already exists, or become the seed for creating such a Department. A coordination mechanism between all HRDCs will be put in place to ensure that all teachers in the university system have access to the courses they aspire to take, at one or other HRDC. The number of HRDCs will be increased after a planning exercise that will be conducted by the RSA. Funding to the HRDCs will be provided in two separate parts: i) funding for the centre and the staff as part of the university budgets, and ii) funding for teacher education programmes. HRDCs will be allowed to cater to the preparation and development of teachers in the private sector.

P15.5.3. **Sustained focus on facilitating the work of teachers and higher education faculty members:** Given that teachers will be expected to lead the reform, and help transform the education system, any concerns or difficulties that teachers have must be immediately addressed. A senior functionary in both Central and all State governments, not below the rank of Joint Secretary, will be made responsible for addressing the concerns of teachers and ensuring their ability to function smoothly. Teachers will be able to escalate grievances to the RSA or to its equivalent in the State. The aim is to ensure that the work of teachers, teacher educators, and all higher education faculty members, which is central to quality education, is never hindered, in order to enable constant innovation and progress in the sector.

Chapter 16

Professional Education

Objective: Build a holistic approach to the preparation of professionals, by ensuring broad-based competencies and 21st century skills, an understanding of the social-human context, and a strong ethical compass, in addition to the highest-quality professional capacities.

Professional education must seek to develop individuals with the capacity to combine a strong foundation of theoretical knowledge and specific competencies; the ability to connect theory to practice; an understanding of how their profession impacts and is impacted by society; generic competencies such as decision making, critical thinking, problem solving, and communication; and an ethical compass and disposition to be constructive, contributing citizens. Achieving such a goal necessitates that professional education be integrated with liberal education.

Professional education in India, in Agriculture, Law, Healthcare, and Technical education is, however, offered largely in silos of individual subjects and separate from general higher education. The practice of setting up separate technical universities, health sciences universities, legal and agriculture universities (AUs) in each State to affiliate colleges offering professional education in their respective disciplines, has resulted in deepening the isolation further. Although the effort in professional education has been focused mainly on making students ready for 'jobs', the outcomes, in terms of employability, leave a lot to be desired.

Professional education must also be separated from professional practice. In the healthcare sector for example, professional practice requires considerable oversight by a body of professionals, with regard to the need for updating the knowledge of doctors and other medical practitioners on a regular basis, and with regards to the various protocols and procedures followed for

treatment. For the same professional councils, such as the MCI, INC, DCI and several others, who regulate professional practice to also specify curriculum and regulate professional education is an undesirable anomaly that must be set right immediately.

- Professional councils must restrict themselves to the role of PSSBs (see 18.3.1), when it comes to education.
- It must be left to the universities and colleges disbursing professional education to work out all the academic aspects such as curriculum, pedagogy and so on.
- The remaining responsibilities of governance, regulation, accreditation, and funding must be aligned with that of general education, with RSA (see Chapter 23), NHERA, NAAC and HEGC extending their roles to also cover professional education (see Chapter 18) .

Professional education will be an integral part of the overall higher education system.

There is a tremendous shortage of professionals in the country, most particularly in the healthcare sector. It is critical that the need for professionals in various disciplines of higher education is mapped on a regular basis, based on careful data gathering, and adequate capacity is created at educational institutions. A separate committee needs be set up to work out a detailed transformation plan for each broad area of professional education, e.g agriculture, law, medical and technical education.
However, the general principles laid out in this Policy, and the overall spirit and approach to reforming higher education will also be applicable to professional education. The Policy initiatives that relate to the interface of professional education with general education, and some domain specific reforms in each area of professional education area listed below.

16.1. Undergraduate education

All professions have elements that are universal and elements that are specific to the contexts in which they are practiced. The impact of professional education on society and on the economy is disproportionate relative to its small size. The contexts in which professions are practiced are being redefined constantly by the changes in our understanding of society, the environment,

human rights and ethics. At the same time, professions are also becoming highly differentiated and are constantly evolving, as developments in science and technology gather pace. Professional undergraduate education must rise to this challenge.

P16.1.1. **Reintegrating professional education into higher education:** Given their huge impact on society and on the economy, the preparation of professionals must involve: (i) an education in the ethic and importance of public purpose; (ii) an education in the specific profession and its role in realising that purpose; and (iii) an education for professional practice. This is best achieved by making institutions offering professional education a part of the larger ecosystem of higher education, instead of remaining as isolated entities. All higher educational institutions including those offering professional education will be empowered to widen the scope of their course offerings so that each of them becomes a large multidisciplinary institution offering a wide selection of courses.

P16.1.2. **Integrated education within professional disciplines:** All new AUs will be integrated universities covering all interrelated aspects of agriculture including horticulture, livestock, agro-forestry, aquaculture, food production systems and so on. Existing AUs must integrate to the extent possible. AUs will also be encouraged to have strong linkages with all relevant national laboratories and other universities, in terms of training, business incubation, start-ups, etc. for broadening the horizons of the graduates in terms of vision and skills. Similar approaches will be adopted with many areas of technical and healthcare education. For instance, the current solution-driven, utilitarian approach to programmes in architecture will be changed into an interdisciplinary approach encompassing urban planning, social sciences and economics, with the intent of preparing future architects who are able to resolve the gap between technological considerations and the need to develop living spaces in consonance with people's aspirations. The scope of education in other disciplines of professional education will be similarly widened.

P16.1.3. **Technical and vocational education and training:** The challenge of providing vocational education to millions of Indian youth is the most pronounced in disciplines related to agriculture, technical and healthcare education. For instance, agriculture education needs to be supplemented with skilled workers in many related areas such as horticulture, fertilizers and pesticides, food processing, fisheries and livestock. Similarly, technical education includes degree and diploma programmes in engineering, technology, management, architecture, town planning, pharmacy, hotel management and catering technology, while healthcare education includes a whole host of allied health staff such as radiologists, laboratory technicians, physiologists, home caregivers for the elderly, and many others that total up to a projected 80 million jobs worldwide by 2030 according to the WHO. Many of these sectors are critical to India's wellbeing and overall development, so the very

large targets for vocational education must be addressed in multiple ways. Governments, employers, the respective Sector Skill Councils (SSCs) and all other stakeholders are working together to address a large part of this target, but as mentioned earlier the role of academic institutions in providing skills will be critical in achieving the stated targets for trained youth.

> **Preparation of professionals must involve an education in the ethic and importance of public purpose, an education in the discipline, and an education for practice - professional education must not happen in the isolation of specialty.**

P16.1.4. **Provision of vocational education at all institutions offering professional education:** As with general education, all universities and autonomous colleges offering professional education will be empowered to offer vocational education in their related disciplines at the undergraduate level through Diploma, Advanced Diploma and B.Voc. degrees that are aligned with NSQF Levels 5, 6 and 7. The respective professional councils and the SSCs will set the professional standards for each occupation in conjunction with the National Skill Development Authority (NSDA), based on the National Occupational Standards-Qualification Packs (NOS-QPs). It will be left to the universities and autonomous colleges to develop syllabus and curriculum for these courses. Funding to educational institutions for the provision of vocational education will remain with the HEGC.

P16.1.5. **Provision of vocational education during senior secondary school stage:** Given that NSQF levels 1-4 will be integrated into school curriculum (see Chapter 20) through the Vocational Education and Skills Board (VESB), it will be up to the SSCs to work with the VESB to create the curriculum for vocational education in disciplines related to agriculture, law, technical and healthcare education. Provision of vocational education integrated with general school education, at secondary and senior-secondary schools, is a new and exciting challenge that will be taken up by the VESB and the NCERT together. Funding for integrating VE into school education will be granted to school complexes through the respective State governments.

P16.1.6. **Multidisciplinary education with multiple entry/exit points:** In order to facilitate the free exchange of ideas across disciplines, pathways for multiple entry points into various disciplines of professional education programmes will be created, including integration of learners with demonstrated competence or work experience in relevant areas. This will require a mechanism for Recognition of Prior Learning (RPL) and their concomitant assessment frameworks to be brought over into professional education. The NSQF, and the equivalent of the NHEQF for each of the professional disciplines, must be brought together to enable this. The RSA will help initiate this activity through the SCCs (see P23.10). Time and age limits for entering and completing programmes will be relaxed to allow learners to take breaks in between their studies, and a system for transferring credits between institutions will be developed.

16.2. Capacity planning for professionals

The professional education sector is plagued by over-capacity of some professions such as engineering graduates and dentists, and severe under-capacity in many other professions such as doctors, nurses, radiologists and agriculture graduates. Scarce educational resources must be channelled better through better planning based on better data gathering.

P16.2.1. **Perspective planning of capacity creation:** The RSA will commission a comprehensive perspective plan for professional education in India, which will be based on comprehensive data gathering and analysis. Such a perspective plan will identify emerging areas in professional education where new institutions or programmes need to be created and will assess the country's projected technical human resource requirements (including regional disparities in supply and demand) in current and emerging areas over the next 15 years.

NHERA will use the information when considering permissions to set up new institutions and State governments will use this perspective plan as inputs into their decision-making. Hence, a long-term mechanism will be devised to ensure that such a perspective plan remains up-to-date and useful for planning.

The CESD (see P6.1.5) within NIEPA will extend its activities to cover data gathering not just for general education, but also in professional education.

Processes shall be put in place to strengthen the annual data collection, analysis and dissemination of information on the various types of degrees being offered, also in new and emerging areas, demand for qualifications from employers, quality of various degrees, etc. This information will be shared with educational institutions and used for planning programmes.

16.3. Postgraduate education and research

Post-graduate education in the professional streams need to be strengthened considerably. The curriculum must ensure that post-graduates acquire knowledge, skills, self-confidence and entrepreneurship training, to enable them to contribute to social and national productivity.

Post-graduates either go on to professional practice at higher levels or become educators by taking up teaching, with only a very small fraction continuing into research. In either case, they need to be among the best the profession has to offer so that succeeding generations can get the best possible education.

P16.3.1. **Postgraduate education will be revamped:** Postgraduate education curriculum and pedagogical approach will be revamped to ensure strong exposure to professional practice in the context of each specialisation. This may require tight collaboration between HEIs and different professional institutions (e.g. the healthcare system) in the country.

P16.3.2. **Research:** Many disciplines in professional education such as architecture and fine arts are practice based and research in these areas is in a nascent stage. For instance, several organisations are working on modernisation of indigenous technologies and crafts, an area that needs considerable research support. Borrowing research methodology from other more academic fields is leading to a choice of topics for research that are theoretical and distant from ground realities. At the same time, there are several unresolved issues in each of these fields, particularly in their interfaces with society, and these need to become the starting point for academically rigorous research. Communication between professional practice and educational institutions is an integral part of making research more relevant.

Research in all professional disciplines will be eligible for funding by the NRF. Existing funding agencies such as the ICMR and the ICAR will also continue with their funding. Research will be oriented towards new knowledge generation as well as towards improving the outcomes of professional education. At the National level, it shall provide the basis for policy making and perspective planning, including facilitating decisions around setting up new institutions. At the institutional level, it will facilitate curricular and pedagogical improvement.

16.4. Faculty

Teacher education programmes in professional education, at college and university level, tend to have a wide scope of objectives. These need to be focused and teachers need to be educated to specialise in teaching particular subjects. A heavy dependence on the individual understanding of teachers and their

ability to evolve teaching methods leads not only to highly varying outcomes in students, but also puts undue pressure on teachers. Collaborative and experiential learning methods and an awareness of professional ethics need to be brought in systematically through improved teacher education.

Professional education continues to be a domain where teachers are still largely Master's degree holders and likely to continue to remain so in the foreseeable future. Professional education is also an area in which people with industry/ business/ hospital experience must be invited to come back and teach with appropriate preparation. It must be ensured that new faculty receive induction training and continuous in-service professional development.

P16.4.1. **Setting up Departments of Education for preparing faculty for professional education:** In order to strengthen teacher education in the professional education streams, Departments of Education will be set up, if they don't already exist, at all universities that affiliate colleges offering professional education in any discipline. It is expected that these universities will eventually evolve into multidisciplinary HEIs. These Departments of Education will develop curriculum for teacher education in the respective professions and offer the Master's degree in Teaching and Research, which will be a mandatory qualification for all aspiring teachers, to be taken besides a Master's degree in their subject specialisation. The course will orient aspiring teachers and practitioners on curriculum development, pedagogy, assessment techniques etc., and will be delivered in the part-time, blended, or online mode to enable access to working professionals.

P16.4.2. **Mitigating the shortage of faculty across disciplines:** Universities and institutions will be encouraged and facilitated to address faculty shortage in multiple ways: taking measures to attract and retain faculty; engaging with other institutions in the vicinity to share faculty; inviting rolling faculty of eminent and superannuated scientists/professors/experts from industry; provisioning teaching assistantships for doctoral students; making use of talent from the private sector; inviting overseas researchers, etc.

Given the importance of aptitude and choice of candidates in choosing their career, it is desirable that teachers counsel promising students during their studies and encourage them to take up academic careers. Senior students with academic inclinations maybe given opportunities to mentor juniors and be recognised as teaching assistants in appropriate cases with due academic credits.

P16.4.3. **Professional development of faculty:** The Departments of Education at the respective universities must also offer continuing education programmes for the professional development of faculty. Research will not be mandatory for all teachers in the shorter run, and emphasis will be shifted towards teaching methodology, classroom innovations and student motivation in evaluating teachers. Writing of textbooks, and translation of literature between different languages also needs support and encouragement.

P16.4.4. **Professional Councils for Teachers:** A professional council for faculty in each discipline of professional education is necessary, to take responsibility for ensuring that every faculty member receives refresher courses at regular intervals. For instance, a professional body for teachers at medical colleges will be created so that teachers can upgrade their knowledge every five years. Infrastructure for providing continuing education in all branches of medicine, including nursing, dental and allied health, will be strengthened for this purpose.

16.5. Governance, Regulation and Accreditation

The RSA through appropriate mechanisms will mentor the evolution of professional education in sync with the rest of higher education. The guiding principle shall be one of looking at higher education in a holistic way and not in a piecemeal fashion.

The overall regulatory framework created for higher education will be extended to professional education, and NHERA will remain the sole regulatory authority.

The regulatory role of the 17 or more professional councils such as the BCI, ICAR, MCI (or the proposed National Medical Commission - NMC), INC, VCI and others, with regard to professional education, will be converted to being PSSBs as far as education is concerned. They will not specify curriculum. Instead, they will specify professional standards and / or a curriculum framework, against which educational institutions will prepare their own curricula.

Improvement of academic performance including reforms in curriculum, teaching, and preparation of teachers will be done through providing autonomy to the HEIs themselves. All institutions offering professional education will also be mandatorily accredited once every 5 years, by accreditation agencies empanelled by National Assessment and Accreditation Council (NAAC) in consultation with the professional councils. Independent accreditation agencies with the necessary mandate to accredit all professional streams of education will be empaneled.

P16.5.1. **Fees for professional education:** In line with the spirit of providing autonomy to educational institutions to charter their own course, fees for professional education courses will be left to the management of educational institutions, both public and private. They will however, be required to fulfil their social obligations and provide scholarships to students from the socially and economically weaker sections of society. Up to 50% of students qualifying for admission must receive some degree of scholarships, and a minimum 20% of these must receive full scholarships.

P16.5.2. **Equitable access to quality professional education:** Equitable access shall be the most important principle guiding decisions regarding the setting up of new institutions and of investment in improving infrastructure and learning resources. The different characteristics, and requirements, of each discipline of professional education will be taken into consideration for these decisions.

> **The practice of setting up stand-alone universities for professional education will be discontinued. All institutions offering either professional or general education must organically evolve into institutions offering both seamlessly by 2030.**

16.6. Agriculture and allied disciplines

At present, there are 67 AUs set up on the Land Grants pattern of the USA which involves financial contributions from the State and Centre, as well as resource generation by the university. Although AUs comprise approximately 9% of all universities in the country, enrolment in agriculture and allied sciences is less than 1% of all enrolment in higher education. There is high demand in the government and development sector for agriculture graduates and there is also increasing demand in the private sector in all aspects of agriculture, particularly high-value agro-industry, food processing and specialised knowledge-intensive areas such as water efficiency, food safety and trade. Both general and specialised education in agriculture is needed, in order to increase agricultural productivity through better skilled graduates and technicians, innovative research and market-based extension linked to technologies and practices.

P16.6.1. **Agriculture education:** Undergraduate education in agriculture is presently unable to cope with the demand from industry, and particularly from agri-business, for trained graduates. The demand is well over twice the present capacity of AUs. The capacity to provide integrated undergraduate education, in all the related disciplines of agriculture and veterinary sciences, as well as with general education will be increased sharply, both at existing institutions and by setting up new AUs. Despite the demand, youth are not

attracted to this discipline. It is imperative to present the opportunities that exist in agriculture to both students and parents, to help them make informed choices.

P16.6.2. **Integrated agricultural education:** Farming is an integrated activity and therefore the education provided must also be integrated in all possible ways to make it holistic. Therefore,

a. All new AUs will be integrated, covering all interrelated aspects including agriculture, horticulture, veterinary sciences, agro-forestry, aquaculture and all the food production systems. They will be encouraged to actively interact with national and international agencies and universities through multimode exchange.

b. The initial stage of four-year undergraduate programmes will substantially include basic sciences, humanities and disciplines of social sciences like economics, agribusiness management, marketing and rural sociology, and agricultural ethics and polices. Further, the curriculum will ensure that graduates and postgraduates acquire knowledge, skills and entrepreneurship ability, and self-confidence, thus developing them as enablers of social and national productivity.

c. Agriculture being a composite economic activity, AUs will be encouraged to have strong linkages with all relevant national laboratories and other universities, in terms of training, business incubation, start-ups, etc.

d. An appropriate framework to continuously upgrade and update agriculture education curriculum and syllabi considering aspects of food safety, quality assurance and disciplines of social sciences like economics, agri-business management, marketing and rural sociology, and agricultural ethics and policies will be developed.

P16.6.3. **Professional education and community/extension services:** Educational institutions also have the responsibility to directly benefit their local communities in other ways. For instance, it is critical that AUs help alleviate the lot of the small and marginal farmers to the extent possible.

Every AU must engage with local groups of farmers and provide them with extension services, - e.g. with knowhow to help mitigate their risks (deal with pests, etc.) and ways to increase their income through access to knowhow in agri-processing and other areas by way of short-term courses. AUs must also take an active role in setting up Agricultural Technology Parks to promote technology incubation and dissemination. They will be funded for these activities by the HEGC.

P16.6.4. **Department of Agricultural Research and Education at State/UTs level:** The Policy encourages establishment of appropriate structures and mechanisms (on the lines of DARE at the National level) at State/UT levels for better coordination of the governance of education in agriculture, horticulture, animal husbandry, fisheries, etc., currently administered by separate Ministries/ Departments,

to ensure synergy among all these stakeholders providing for a holistic vision of the sector leading to enhanced productivity, sectoral development, technology innovation, application and widespread dissemination.

P16.6.5. **Enhancing public grants:** In addition to the land grants pattern, the AUs will be supported with sufficient public grants for funding by establishing Centre-State partnerships on a mutually agreed basis.

16.7. Legal Education

India's development in the 21st century and the fulfilment of our dream of taking our rightful place in the global arena will depend crucially on our ability to strengthen institutional frameworks that underpin governance. A key aspect of governance systems is the ability of the State and private interests to adhere to Constitutional values, and establish, support and maintain the rule of the law as envisioned in our founding documents. The maintenance and flourishing of socio-political institutions requires a cadre of professionals in the judicial system, including lawyers, judges, paralegal and administrative staff. All these roles require the continued development of legal education. Further, this Policy envisages a law education that is informed and illuminated with Constitutional values of Justice – Social, Economic and Political – and directed towards national reconstruction through instrumentation of democracy, rule of law and human rights. It recognises that the legal profession has social responsibilities to reach justice to the unreached in rural and tribal areas of the country through community or social justice lawyering. Therefore, legal education is visualised as a public rather than a private good wherein the State, society and markets have distinct interests and reasonable expectations related to their contribution to inclusive and equitable development.

Finally, professional education in law has to be globally competitive, adopting best practices and embracing new technologies for wider access to justice and timely delivery of justice. Hence a new legal education policy is found imperative for assigning direction for future change.

P16.7.1. **Curriculum to reflect socio-cultural contexts:** It is the function of legal education to transmit the foundational values of Indian democracy to learners in order to give legal studies the necessary social relevance and acceptability. In doing so, the law curriculum has to fall back upon the culture and traditions of people, the history of legal institutions and victory of "Dharma" over "Adharma" writ large in Indian literature and mythology. Further, there is growing consensus worldwide that the study and practice of law cannot be independent of the culture of society, including the study of classical law texts. Hence, concerned authorities in universities must ensure that the curriculum reflects, in an evidence-based manner, the history of legal thinking, principles of justice, practice of jurisprudence and other related content appropriately and adequately.

P16.7.2. **Multilingual education:** A new generation of children will grow up to be completely multilingual through the implementation of this Policy. In the meantime, some areas of professional education, such as law education will require innovative solutions to a specific challenge. Legal transactions at the lower courts are conducted in their respective regional languages whereas those at the High Courts and Supreme Court continues to be done in English, in most States in India. This contributes to the considerable delay in legal outcomes as cases can move up only after the documentation has been translated.

State institutions offering law education must consider offering bilingual education for future lawyers and judges - in English and in the language of the State in which the law programme is situated. To facilitate this transition, a host of measures will be undertaken such as, inducting teachers who are well versed in the regional language as well as English, making text books and study materials available in both languages, and allowing examinees to write their examination in either medium. In addition, special cells for translating legal materials from the State language to English and vice-versa will be setup and students who are fluent in both languages will be invited/incentivised to contribute to the work of the translation cells.

16.8. Healthcare Education

There is now a global shift from curative medical practice towards a more holistic approach to healthcare that balances wellness, prevention and cure. This has deep implications for medical education in India. Indians have always exercised pluralistic choices in healthcare, seeking help from different systems of medicine for different needs. This makes it important to impart medical education in an integrative health science framework and replace the current silos in which it is imparted in India. Healthcare education must ensure that that skilled doctors, nurses, and paramedics are trained in a scheme that appreciates pluralistic health education perspectives alongside specific disciplinary foci.

Reforms in medical education must necessarily have a profound impact on the quality of healthcare delivery. The goals and standards for medical education must be derived from the vision of "state of the art, quality, and affordable healthcare for all". Reforms in healthcare education must aim to improve the quality of infrastructure for primary and secondary healthcare, particularly in rural areas.

Improving access to healthcare education for rural students, and lowering the cost of education is key to achieving this goal.

P16.8.1. **Ensuring superior quality of the MBBS degree:** The expectation that society has from a medical doctor is extremely high, more than any other profession. Yet, both the numbers and the quality of MBBS doctors being produced has been deteriorating. All MBBS graduates must necessarily possess: (i) medical skills; (ii) diagnostic skills; (iii) surgical skills; and (iv) emergency skills; and

the revamped education of medical students must ensure this. Curriculum, pedagogy, assessment and opportunities for gaining work experience during the studies must all be improved. Students must be assessed at regular intervals on well-defined parameters primarily for the skills required for working in primary care and in secondary hospitals. The compulsory rotation internship, which has become virtually non-existent, will be reintroduced and made more robust and effective.

P16.8.2. **Pluralistic healthcare education and delivery:** The first year or two of the MBBS course will be designed as a common period for all science graduates after which they can take up MBBS, BDS, Nursing or other specialisations. Common foundational courses based on medical pluralism will be followed by core courses focused on specific systems, and electives that encourage bridging across systems. Graduates from other medical disciplines such as nursing, dental etc., will also be allowed lateral entry into the MBBS course. A medical education qualification framework to achieve this will be developed in conjunction with the NMC.

Given the pluralistic health care legacy of the country, the different health systems such as Ayurveda, Yoga and Naturopathy, Unani, Siddha and Homeopathy (AYUSH) will be mainstreamed, and better access to AYUSH treatment will be provided through co-location in public facilities. The precedent set by the National Rural Health Mission, which leveraged the popularity of AYUSH and the low cost of medicines, by appointing AYUSH physicians at the PHC/CHC levels will be evaluated and adapted as necessary.

P16.8.3. **Centralised exit examination for MBBS education:** Just as the NEET has been introduced as a common entrance examination for the MBBS, a common exit examination for the MBBS will be introduced (as has been suggested in the National Medical Commission Bill) that will play a dual role as also the entrance examination for admission into postgraduate programmes. This exit examination will be administered at the end of the fourth year of the MBBS so that students are relieved of the burden of studying for a separate, competitive entrance examinations at the end of their residency period. With the entrance examination out of the way, they can spend their residency period acquiring valuable skills and competence.

Similar common exit examinations can also be conducted for dental education and other disciplines as needed.

P16.8.4. **Nursing education and career progression of nurses:** In the long term, it is advisable to make BSc Nursing the sole entry-level qualification for nurses. However, given the current shortage of nursing staff, a careful decision of when the GNM course can begin to be phased out, will be made. Quality (specially the curriculum) of nursing education will be improved and strengthened. Institutions providing nursing education will be accredited every five years. A national accreditation body for nursing education and other sub-streams will be created for the purpose.

Nurse Practitioners courses will be introduced and recognised throughout India so that nurses can compensate in part for the non-availability of doctors. Professional development pathways for nurses with different levels of qualifications will be created. Continuing Nursing Education (CNE), and Renewal of License guidelines will be framed by the Indian Nursing Council (INC) for all nurses, including faculty in nursing education. An Indian Nurses Registry will be created. The role of the INC will be reviewed and amended as needed.

P16.8.5. **Allied health education for cost-effective healthcare delivery:** A certificate skills-based training programme (minimum 1 to 2 years with significant on-the-job training) for General Duty Assistants (GDA), Emergency Medical Technicians-Basic (EMT-B) and Laboratory Technicians who can be employed in Primary Health Centres (PHC) and other government set-ups will be introduced to strengthen delivery of healthcare. The syllabus will be standardised pan-India, drawn up in conjunction with Health Universities and State Allied Health Sciences Boards, with inputs from the Healthcare Sector Skill Councils, and reviewed and revised every five years. These training programmes will be hospital-based, at those hospitals that have adequate facilities, including state-of-the-art simulation facilities, and adequate student-patient ratio. These courses will be made accessible and affordable to students from rural backgrounds. Focus will also be given to priority areas like physiotherapy, hospital management, medical engineering and technology, etc.

P16.8.6. **Increasing the intake of students in healthcare education:** The 600 or so district hospitals in the country will be upgraded to teaching hospitals at the earliest by investing in infrastructure for targeted medical specialities and in stationing adequately qualified teaching faculty. Both the teaching institutions and the hospitals will be mandatorily accredited before they can begin functioning. The investment and upgradation plan for the district hospitals will address intake and training requirements not just for MBBS doctors, nurses, dentists, etc., but also for many areas of allied health services that are in short supply and that require clinical training at hospitals. A meticulous exercise in planning for manpower in all branches of medicine, dentistry, nursing, AYUSH and allied health, in all districts in the country will be undertaken on a regular basis, say once every five years by the CESD.

P16.8.7. **Expanding postgraduate education:** There is a shortfall in the number of seats in postgraduate courses in many disciplines, particularly in medical education where the number of seats in postgraduate education is only approximately half the number of MBBS seats. These will be increased as quickly as the available infrastructure in hospitals around the country allows. New medical colleges and hospitals that have an adequate number of patients and well-trained teaching faculty will be allowed to start postgraduate courses and district hospitals will move towards having a medical college attached to them. Diploma courses such as the one being offered by the College of Physicians

and Surgeons, Mumbai, will be promoted throughout the country, to help produce sufficient numbers of intermediate specialists.

16.9. Technical Education

Technical education includes degree and diploma programmes in engineering, technology, management, architecture, town planning, pharmacy, hotel management and catering technology. Many of these sectors are critical to India's overall development. Not only will these sectors continue to demand well-qualified individuals for several decades, but there will be greater need for closer collaboration between industry and institutions to drive innovation and research. Further, as the influence of technology on all human endeavour grows, the silos between technical education and other disciplines are expected to erode.

Teaching learning processes in professional education face specific challenges as these disciplines are neither entirely knowledge based nor are they entirely skill based. They require individual creativity and application of both knowledge and skill on the part of the teachers and the students. Lack of adequate text books in many disciplines further exacerbates the difficulty, and student performances are heavily dependent on the quality of the educational institution and their teachers, leaving a lot to chance.

P16.9.1. **Curriculum to strengthen undergraduate degrees:** Curricula must be renewed with a focus on opportunities to engage deeply with the field and be more inclusive of other disciplines. Engineering and technology programmes will be revised to prepare professionals who are well prepared for both current and future practices, and are able to exploit emerging science and technology while being responsive to changing socio-economic and environmental contexts. The current solution-driven, utilitarian approach informing programmes in architecture will be changed to an interdisciplinary approach encompassing urban planning, social sciences and economics, intended to prepare future architects who are able to resolve the gap between technological considerations and the need to develop a living space in consonance with people's aspirations. The gap between the education and practice of architecture will be removed through a focus on preparing professionals capable of analysing society's problems, with an understanding of rural and urban patterns and infrastructure networks and the ability to develop holistic solutions.

Curricula in all disciplines will be frequently renewed, infused with a set of carefully selected material from other disciplines, connect of theory and practice, collaboration with industry, and opportunities for a variety of internships. Curriculum delivery will focus on giving students the ability to apply their knowledge and skills in different, often unknown, settings, and inculcating professional dispositions and ethics.

P16.9.2. **Strategic thrust on new and emerging disciplines in professional education:** India must take the lead in preparing professionals in cutting-edge areas that are fast gaining prominence such as artificial intelligence, 3-D machining, big data analysis and machine learning among others in technical education, genomic studies, bio-technology, nanotechnology, neuroscience and so on in the sciences. These topics, and many others like them, must be woven into undergraduate education at the earliest with support from the three National Academies of Sciences and the Indian National Academy of Engineering (INAE) to devise appropriate curricula. Retired as well as serving scientists and engineers can be roped in to train the faculty in colleges and universities.

P16.9.3. **Encouraging industry interactions:** Interactions leading to innovation and research need to be strengthened considerably between industry and institutions offering technical education. To encourage such interactions, accreditation/ranking will incentivise:

a. Industry-academic collaborations such as establishing industry centres of excellence and incubation cells in institutions (with joint funding and protections for intellectual property).

b. Appointing faculty with research and industry experience, in addition to academic qualifications; the latter by themselves will not be considered adequate qualifications for technical faculty.

c. Offering positions to selected industry experts on boards of studies and as adjunct faculty.

d. Creating internship opportunities for learners, especially with nearby industries to develop products to address local needs. Industries will report such collaborative activities in their annual reports, under CSR expenditure.

e. Using state-of-the-art resources for educational purposes, particularly by sharing expensive equipment with industries or by using virtual laboratories to access resources located elsewhere.

P16.9.4. **Improving equity and inclusiveness in technical education:** There will be multiple initiatives to increase the enrolment of students from URGs in technical education. These efforts will include ensuring that each district has at least one government-supported accredited institution that offers programmes in technical education; providing merit-based scholarships for students from URGs who are preparing for technical education and those who are studying in high quality technical education institutions; and providing bridge courses for those seeking lateral entry into technical education. In addition, private institutions will be permitted to generate additional funds by utilising resources more efficiently (e.g. institutions may offer executive programmes and use laboratories for carrying out Skill Development Programmes in off-hours) and will be incentivised to use these funds to provide additional support for students from URG.

Chapter 17

Empowered Governance and Effective Leadership for Higher Education Institutions

Objective: Independent, self-governed higher education institutions with capable and ethical leadership.

Leadership and governance deeply influence all aspects of an institutions. All other efforts can be brought together for developing good institutions by strong governance and effective leadership, but the same efforts would be mostly wasted with weak institutional governance and poor leadership.

> **High quality education and research requires intellectual ferment in a nurturing culture - the governance of higher education institutions determines this culture.**

Institutions in India that have been given autonomy with strong self-governance and have had good leadership have grown into world-class institutions. We have had examples of institutions that have sustained excellence over a long period because of the kind of academic and operational leadership that they have had, supported by strong governance mechanisms.

Weak leadership and governance

Unfortunately, governance and leadership of the majority of institutions of higher education in India has been severely compromised. Institutions have been plagued by external interference at both these levels. Such external influence has diluted the independence and effectiveness of the institution, and has often been wielded not for the good of the institution but for serving vested interests.

In addition to the informal exercise of power by external bodies, the governance and leadership of institutions is also disempowered by the formal structures and systems of higher education. Decisions related to many aspects which should be within the purview of institutional governance and leadership are centralised at the level of the UGC or other bodies of the State and Centre. Colleges are unable to chart their own courses, controlled as they are in many significant ways by the affiliating University. Higher education departments of the State and other such bodies often tend to treat Universities and Colleges as an extension of their hierarchy. All this deeply undermines institutional autonomy.

The various bodies of institutional governance (e.g. Executive Council, Academic Council, Court) often mix up the chains of responsibility and accountability in practice, diffusing the overall accountability system of the institution. The appointment or nomination of individuals to these bodies are through processes that do not ensure that competent people with commitment to the good of the institution are in the bodies. Instead such appointments/ nominations are sometimes used as mechanisms to distribute favours.

Leaders of institutions are often not the people who should be in these roles. Too many of them lack the competence to lead organisations and institutions. A shockingly high proportion lack the ethical standards, institutional commitment and public spiritedness that is a must to lead any education institution. This is partly a result of the selection and appointment processes. These processes are often influenced, driven and decided by people who themselves do not have the requisite commitment to the good of the institution, do not have boldness of imagination for good leadership, and are caught in procedures missing the substance. Often seniority is given disproportionate importance rather than leadership capacities and merit. To exacerbate matters these processes are prone to all manner of influence - ranging from political influence to downright corruption in many cases.

17.1. Empowered governance and effective leadership

The special status of universities in society, to award degrees, and as sites of its renewal and development, will receive societal inspiration and consecration through specific offices/roles performed by people of the highest eminence. These roles will be played by the President of India, the Governors of States and people of eminence, in their roles as Visitor or Chancellor to the HEI.

All HEIs will become independent institutions governed by a competent and committed Board. A group of carefully selected individuals, with high capability and ownership of the institution must be empowered to govern institutions so that excellence can be actualised. This group must be free of any kind of political interference, should be unbiased and public spirited, while being capable of providing both academic and administrative leadership. This group will form the Board of the institution. This clear chain of responsibility and accountability of the HEI, with the Board at the apex, will be enabled through relevant legislative actions, since it may require reconfiguring the roles of existing bodies, their powers and reporting structures.

> **Each higher education institution will be governed by an Independent Board - this will ensure a clear chain of responsibility and accountability within.**

There will be clear mechanism for public accountability of HEIs, either by appointment of an adequate number of independent and highly competent public figures in the Board, and where applicable (as detailed later) in the Court of the HEI as a representative of the public.

As we move towards renewing the content and processes of higher education, selection and professional development processes for those in institutional leadership positions must be revamped. Rigorous, impartial, competency-based processes for selection of people in leadership positions needs to be followed, with well-defined guidelines for each position based on the role and the competencies required for that role.

All leadership positions (not only that of the Head) in institutions must be offered to the person most suitable for such a role. It should not be offered on the basis of seniority. Sensibilities and capacities for leadership and

management must be the criterion for choosing and appointing institutional leaders.

This is not the same set of capacities as academic excellence. While educational and academic sensibilities are essential in leaders of HEIs, leadership and management capacities are critical. The appointment processes of HEI leaders should assess all this rigorously and objectively, and should also have the creative energy to make bold bets on people who show promise. Some of India's and the world's best institutions have been built by leaders who showed such promise, but may not have fitted into traditional notions of who should be an institutional leader.

Leaders must demonstrate strong alignment to Constitutional values and the overall vision of the institution, along with attributes such as a strong social commitment, belief in team work, pluralism, ability to work with diverse people and a positive outlook. These attributes and capacities are important for all leadership roles within an HEI, not only that of the head of the institution.

As we move towards institutional autonomy, strong and ethical leadership, both in terms of governing bodies and leaders, becomes even more imperative. While stability of tenure is importance to ensure the development of a suitable culture, at the same time, leadership succession must be planned with care to ensure that good practices that define an institution's processes do not end with a change in leadership. The effort must be to build strong diverse teams, comprising both academic and non-academic members. Coherent, shared plans rather than the decisions made by a few individuals, must be the basis for progress towards institutional goals.

While being provided with adequate funding, academic and administrative autonomy, and legislative enablement, institutions must display commitment to engaging with communities they are located in as well as to larger society, along with financial accountability.

> **Institutional governance will be based on full autonomy - academic, administrative and financial - for all higher education institutions with financial certainty and backing.**

P17.1.1. **Inspiration and consecration from society:** The special status of universities in society, to award degrees, and as sites of its renewal and development, will receive societal inspiration and consecration through specific offices/roles performed by people of the highest eminence.

a. Central Universities/HEIs (Type 1 or 2): The President of India will be the Visitor to the university, who may from time to time review the work of the university and provide advice. The Chancellor of the university will be appointed by the Visitor, who will be a person of high eminence. The Chancellor will preside over the convocation (when present) and chair the Court (see P17.1.3) if it exists in the said university.

b. State Universities/HEIs (Type 1 or 2): The Governor of the State will be the Chancellor of the university, who will preside over the convocation (when present), and may from time to time review the work of the university and provide advice.

c. Private Universities/HEIs (Type 1 or 2): The Governor of the State in which the university has been established shall be the Visitor to the university, and will preside over the convocation (when present). The sponsoring body of the university will appoint a person of high eminence as the Chancellor of the university, who may from time to time review the work of the university and provide advice.

d. Under these offices, all HEIs will have the same governance structures, which are detailed in the rest of this chapter. If there is any difference for any particular kind/type of institution, it has been appropriately detailed within this chapter.

P17.1.2. **Independent Board of Governors:** All HEIs, public and private, shall be governed by an independent BoG, which shall be the apex body for the institution, with complete autonomy.

The independence of the BoG should ensure that external influence (e.g. political, governmental) is eliminated. The BoG must also ensure that the HEI operates as a public-spirited institution striving for excellence and not as a commercial body. The BoG shall be accountable for the educational outcomes, research outcomes, and for good management, including efficiency and productivity, with robust and transparent academic, financial, and administrative processes. The assessment of these outcomes must be on the basis of pre-agreed criteria between the BoG and its sponsoring body (public or private).

P17.1.3. **Mechanisms for public accountability of higher education institutions:** Institutions will have clear mechanisms for public accountability within their governance structure. This can be through one of two approaches:

a. Constitution of a 'Court' (sometimes called 'Senate') headed by a person of high eminence, such as the Chancellor of the institution.

b. The Court may be constituted in the manner as currently in some of the high functioning CUs or CFTIs or as described by the statute of the HEI. Members to the Court will not be elected. It will consist of people of eminence, representing public interest. The Chancellor will lead

the Court and the BoG will each year present before the court the public contribution and progress of the HEI.

c. Not less than 50% of the members of the BoG will be persons representing public interest independently i.e. not being in any functional/administrative/executive role in the government and not having a role within the HEI.

The second approach may be simpler and more efficient in the long term. After 10 years, institutions choosing to exercise option (a) may conduct a review and transition to option (b) if such change is deemed to be suitable.

P17.1.4. **Chairperson (Chair) of Board of Governors:** The BoG shall select a person from amongst themselves as the Chair or invite someone from outside, after a rigorous process of identification (e.g. though a search committee), to join the Board and serve as the Chair of the BoG. The role of the Chair of the BoG will be a non-executive role.

P17.1.5. **Board of Governors as the apex body:** The BoG shall be the apex body of the HEI; there shall be no parallel structure. Internal governance and management structures of all HEIs shall be redesigned and reconstituted to ensure this. All bodies of the HEI will report to the BoG through the Vice Chancellor/Director. The constitution of these redesigned structures should be entirely the prerogative of the BoG. This may require specific legislative enablement (e.g. role of the BoG, change in role of the Court) across universities, as also changes in their statutes.

P17.1.6. **Composition of the Board of Governors:** The constitution and appointment of the BoG will be the lynchpin for the efficacy of the institution. The BoG may have 10-20 members, with one third of the members being from within the HEI (e.g. faculty, administrative leadership). The relevant governments (the government that provides majority of the funding, the State in which the HEI is located, and the Central government) all together may have up to three nominees on the BoG. All other members of the BoG must be carefully selected for their commitment to the institution and capacity to contribute. The BoG should have adequate representation of alumni, local community and experts from fields and disciplines of concern to the HEI.

All new members of the BoG will be identified by a committee formed by the BoG. The BoG may thereafter vote on the membership of the individual. If approved by a majority, the Chair will invite the new member to the BoG. The criterion for the choice of the members of the BoG and its fulfilment in each specific case shall be made public and transparent.

P17.1.7. **Responsibilities of Board of Governors:** The BoG shall be responsible for the institution, in the manner of the responsibilities of all independent board-governed institutions. These responsibilities include upholding the purpose and mission of the institution and their renewal, and organising strategies, resources, programmes, systems, etc., for achieving these purposes and

mission. The responsibility would thus also include the appointment of the Vice Chancellor/Director i.e. the Chief Executive (CE) of the HEI, and through the CE the appointment of the other employees of the HEI, their compensation and service conditions (see P17.1.10-P17.1.14). This includes the selection and appointment of the leadership, faculty and all other administrative staff. The BoG will have the authority to discharge these responsibilities and would be accountable for them.

It shall be concomitantly responsible and accountable for the outcomes of the HEI to the public through transparent disclosure of its review and proceedings records. It will also be responsible for meeting all regulatory guidelines mandated by NHERA.

It shall ensure that effective and robust academic, financial and administrative processes are developed and maintained; this shall be done by the BoG through the CE.

The BoG shall develop a long-term (10-15 year), a medium-term (5 years) and short-term (1-3 years) Institutional Development Plan (IDP), which must enumerate its educational and research outcomes, quality and capacity parameters, financial and human resource development plans, and organisational development plans. The BoG should measure the institution's progress along the IDP, and the IDP and its review should be made publicly available.

P17.1.8. **Board of Governors for public institutions:** All publicly-funded HEIs must form a BoG by 2020. The first such BoG shall be constituted by the existing apex governance body with membership as specified in this Policy. One third of members shall be appointed for a two-year term, one third for a four-year term and one third for a six-year term. Thereafter, all new members shall be appointed for a six-year term. No member shall serve for more than two consecutive terms.

Members of the BoG may retire from the BoG or be removed for cause as determined by the rest of the BoG or removed for non-contribution to the functioning of the BoG by the rest of the BoG, the steps for all of which can be initiated by the Chair.

P17.1.9. **Board of Governors for private institutions:** The sponsoring body of the HEI shall appoint the BoG, while considering a composition similar as that for public institutions. The BoG shall elect the Chair from within itself, who shall have to be approved by the sponsoring body, and the name ratified by the Visitor.

P17.1.10. **Role of Chief Executive of the higher education institution:** The Vice Chancellor/Director shall be the Chief Executive (CE) of the HEI and shall report to the BoG. All bodies/authorities/structures within the HEI shall report to her/him.

The CE must be a person of high competence, integrity and public spirit - this assessment shall be the responsibility of the BoG. The search and selection committee for the CE shall be formed by the Chair. The Chair shall appoint the CE.

The process of appointment will have the provision to invite outstanding achievers to the role of the CE (and similarly for other leadership roles of the HEI), with due endorsement by the BoG, without going through other steps of the process. This provision may be used for both outstanding external candidates and for similar internal candidates who have been developed within the institution, and have been identified as such through the succession planning process of the HEI.

Leadership roles (including that of the CE) in institutions will be offered to the person most suitable for such a role. Sensibilities and capacities for leadership and management will be the criterion for choosing and appointing institutional leaders. While educational and academic sensibilities will be essential, leadership and management capacities will be critical. The appointment processes of HEI leaders will assess all this rigorously and objectively, and should also have the creative energy to make bold bets on people who show promise. There will be no hesitation in appointing leaders who may not fit into traditional notions of who should be an institutional leader.

The CE shall anchor the IDP and be responsible for the HEI and all its aspects as its executive head and leader. The CE, with the approval of the BoG, may decide to form appropriate internal governance structures and mechanisms for various matters, such as the Research Council and Management Board, etc.

The CE, with approval of the BoG, shall be free to close, reconstitute, redefine membership and change structures currently existing within the HEI.

There will be no elected members to any of the bodies/structures within the HEI, other than some bodies of students.

P17.1.11. **Selection for other leadership roles:** People in other academic and operational leadership positions (e.g. Deans, Heads of Departments) shall be chosen in a similar manner as the CE, with care and on the basis of a rigorous, impartial, competency-based process with well-defined guidelines for each position based on the role and the competencies required for that role. Guided by these processes, all these appointments will be done by the CE.

P17.1.12. **Creating a leadership pipeline:** Institutions should identify people with leadership potential early in their careers and put them through capability building experiences (e.g. additional responsibilities, roles that require handling varieties of people, courses on leadership and on legal/financial issues in higher education) that would ensure their readiness at the right time. This should include succession planning for all leadership roles, including for that of the CE. The IDP must have a succession planning process.

P17.1.13. **Stability of tenure and smooth transition:** Stability in leadership positions (minimum of five year tenure) shall be ensured. Transitions from the incumbent to the successor in a leadership role will be planned well and facilitated smoothly, including a reasonable period of overlap.

P17.1.14. **Continuous professional development for heads of institutions and others in leadership roles:** There shall be CPD opportunities made available for those in leadership positions. New leaders must be fully supported through formal and informal mentoring - this will help leaders transition smoothly into their new roles. Other mechanisms like post-appointment professional conferences/seminars with other colleagues in similar positions, professional training programmes or a formal advanced degree must be made available to all those in leadership positions, in relevant areas such as people management, financial management, project management, etc. Forums for Vice Chancellors/Directors to share their experiences and learn from each other will be encouraged and developed.

P17.1.15. **Overall strong operational team in higher education institutions:** There shall be equally strong focus and investment, in selection and development of people for the non-academic roles in higher education institutions. The importance of these roles and their contributions will be recognised. The service conditions and empowerment of non-academic roles will be the same as academic roles.

P17.1.16. **Academic Council for vibrant educational programmes and rigorous academic standards:** The AC of the HEI will ensure that the highest educational and academic standards are maintained in the programmes and processes of the institution. All programme curricula, syllabus, assessment schemes and other matters that have a bearing on academic standards shall be approved by the AC. The AC will be constituted by the CE, with membership norms as approved by the BoG. The AC should have members from the faculty of the HEI and also external members, and will be chaired by the CE.

P17.1.17. **Strong structures and mechanisms for raising resources - Development Office:** Higher education institutions will set up empowered and effective structures for developing and building sustainable methods of raising resources for the institution. Such a 'Development Office' will be resourced adequately and will be facilitated in learning how to undertake resource-raising efforts from global leaders. Appropriate people will be recruited for the Development Office. The funds raised by the Development Office must in no way substitute for public funding; these funds would always be in addition to the public funding made available to the HEIs i.e. public funding will not be reduced with the success of the Development Office.

P17.1.18. **Effective structures and mechanisms for connection with society:** HEIs will set up empowered and effective structures (e.g. Societal Contribution Council or Community Engagement Council) for direct and effective contribution towards service of local communities and broader society. While these structures will be resourced with relevant people, the faculty will be expected to contribute in these efforts through their expertise; this will form a part of their evaluation.

P17.1.19. **Funding of public institutions:** Public funding must be committed to and given to public institutions in the form of block grants based on IDPs. For this there must be an agreement between the HEI (through its BoG) and the relevant government departments/body providing the funding, on the basis of the long and medium-term IDP. This will include long-term commitment for all base costs of running the institution, including compensation costs of all employees, maintenance and upkeep of all facilities (e.g. infrastructure, learning resources), all recurring costs of programmes (e.g. expenditure on laboratories, internships, admissions), etc.

The government must not get involved in micromanagement of spending, nor get involved with the short-term IDP.

The HEI must be accountable to the legislature for good and responsible use of public funds. At the same time, this must not impinge on the autonomy of the HEI, which must be insulated from external interference, and vagaries of financial policy and political economy, while being provided adequate funds. This requires a fine balance, which is currently being achieved by a few successful public HEIs. This Policy is architecting a framework to enable this fine balance for all HEIs, while it will eventually depend on the people who staff the relevant roles.

P17.1.20. **Academic and administrative autonomy:** HEIs will have real and complete autonomy - academic, administrative and financial - to unleash their full potential for excellence. This will be done over a period of time, such that HEIs can develop capacities and systems to operate effectively with autonomy. HEIs will be supported on this developmental path through mentorship by relevant HEIs and other resource institutions. Other kinds of support will also be provided, for example, experienced advisors, collaborative forums to share experiences and experts on matters such as people management systems.

a. Academic autonomy will include freedom to start programmes across fields (including professional) and disciplines, devise and decide the curricula, decide the educational resources required including faculty and their qualifications, develop research programmes and pursue them, decide the criteria and number for student admission, open and run multiple campuses, run ODL programmes, and on all other academic and educational matters. HEIs will transparently and publicly disclose all these academic/educational matters, on which they will have autonomy. HEIs will be exercise their academic autonomy with epistemic, educational and ethical responsibility. They will also ensure that their educational programmes are responsive

to professional standards set by the various PSSBs (see 18.3.1) and the 'learning outcomes from higher education' articulated by the GEC (see 18.3.2).

b. Administrative autonomy will be achieved by HEIs through becoming self-governing independent entities, with an Independent Board at the apex. This Board will appoint the Vice Chancellor/Director/Chief Executive, govern and decide on all matters of the institution, while being accountable to its stakeholders and the general public through transparent disclosures. This will include freedom for appointment and management (including compensation - while decreases will not be permitted) of all its employees, including faculty; setting up of its internal governance and management structures; and control over its own growth and development trajectory. The CE will lead the institution and the Board will operate the management through the CE.

c. Financial autonomy will be achieved by adequate public funds being committed and given to the public HEIs, with stability and certainty. This will be enabled by aligning all stakeholders through long term IDPs. Private HEIs will arrange for their own financial autonomy, but on all other matters private and public HEIs will have identical status and freedoms. All HEIs (private and public) will transparently and publicly disclose their audited financials and other financial matters such as fees. Private HEIs will be free to set the fees for their programmes subject to discharge of social responsibility in the form of scholarships for 50% of students in all their programmes. The financial autonomy will be exercised with the highest degree of probity and fiduciary responsibility by the HEI; any financial impropriety will call for definitive and quick regulatory action, including shutting down the HEI where warranted.

d. Financial autonomy will be devolved as confidence is established on capacity and probity of the institutions. Financial autonomy must not in any way give freedom for arbitrary financial decisions or lack of financial probity - e.g. arbitrary reduction of salaries, embezzlement, laundering, bribing - minor or major.

e. Accountability will flow with autonomy. HEIs will be accountable for their educational outcomes, the probity of their functioning and the public spirited nature of their work.

P17.1.21. **Financial accountability:** All HEIs shall report their audited financial statements and publicly disclose key financial matters; the auditing and financial disclosures shall follow exactly those expected of Section 8 (not-for-profit) companies. There also must be assurance of financial stability of the HEI, since instability on this count can put the future of students at stake. There must be clear markers of the public-spirited nature of the HEI, and clear audited financial evidence that the HEI is not-for-profit.

HEIs shall publicly disclose key matters on fees, educational facilities, including faculty numbers and student ratio, and all other facilities e.g. hostel, library, based on a proforma for disclosure, determined by NHERA. The purpose of the disclosures is to ensure that the HEI is in reality delivering

what it is committing/promising to the students - the proforma will have only categories not any mandates within them.

The HEI must have robust controllership mechanisms to ensure financial probity. NHERA shall take decisive and quick action in cases of financial impropriety, in addition to other actions that may be taken by other relevant bodies.

P17.1.22. **Legislative enablement:** The policies of this chapter and the next in particular, will require comprehensive legislative enablement at the Centre and the States, which will be enabled by the RSA.

Chapter 18

Transforming the Regulatory System

Objective: Effective, enabling and responsive regulation to encourage excellence and public-spiritedness in higher education.

India's higher education system is the third largest in the world, next only to that in the United States and China. In the past few decades, expansion has also been rapid, particularly in the private sector.

Regulation for coordination and growth of higher education

Managing such a large system has inherent challenges which we have been trying to handle, some successfully and others not so successfully. The challenge has been greater due to our pursuit of access, equity and reasonable cost per student in public institutions.

While the inception of the centralised regulatory bodies was essentially based on the need for coordination across the country and for determining regulations based on certain standards, their role was always intended to be facilitative. Autonomy was a non-negotiable fundamental principle to ensure each institution developed its unique culture determined by its mandate, vision and geography.

Regulation must be responsive and minimalistic - light but tight - to ensure public spiritedness, equity, excellence, financial stability and probity, along with good governance.

Current challenge

Over time, the mandate of regulatory bodies has shifted. This is particularly true of the UGC, which has the dual role of regulator as well as grant-giving body.

Decisions that should be the purview of universities - e.g. starting a programme in distance education, opening a new department/school, collaboration with a foreign University - require permission from the UGC. Not only does this undermine autonomy, it also creates an environment of dependency and centralised decision making that does not account for contextualised local factors.

This is fatal for academic growth.

The situation becomes even more complex when we consider the multiple independent bodies which regulate professional courses, and the lack of adequate number of bodies for accreditation. The former has resulted in overlapping regulations within an institute - e.g. for a University offering a programme in technical education, the regulatory body will not be UGC alone but also the relevant regulator for the specific domain of the programme. The latter has resulted in a huge backlog of institutions yet to undergo accreditation, thus making any discussion around quality of higher education purely academic and not comprehensively informed by the situation on ground.

India has some of the toughest requirements for setting up higher education institutions across the world; however, these are largely input-centric, focussing on land norms, endowment funds along with source, and other such requirements. This along with centralised, outdated and rigid requirements with respect to faculty qualifications and implementation of curricula, has developed an inspectorial regime instead of an effective regulatory system. Ironically, this inspectorial regime has a consistent record of enforcement that does not weed out poor practices and institutions.

What must be done

The most basic principle is that the functions of regulation, provision of education, funding, accreditation and standard setting must be performed by independent and empowered bodies. This is essential to create checks-and-

balances in the system, minimise conflicts of interest and eliminate the concentration of power.

There must also be a common regulatory regime for the entire higher education sector, eliminating isolation and disjunction. The regulator should regulate in a "light but tight", and facilitative manner, meaning few important matters must be very effectively regulated, leaving most to the judgment of the HEIs, which is essential for institutional autonomy.

The primary mechanism for such regulation could be accreditation, focussed primarily on outcomes, carried out by an independent ecosystem of Accreditation Institutions (AI). Specialised institutions could set the standards or expectations in a particular field of learning and practice, while they will have no regulatory role. HEIs will decide how their educational programmes respond to these standards, and other considerations; they will also be able to reach out for support if needed. Such a system architecture will bring to life the principle of functional separation; it will empower HEIs - with full autonomy - academic, administrative and financial. This would mean no external interference in HEIs, including from funding agencies. The autonomy of HEIs shall backed with adequate public funding. Responsibility and accountability shall devolve to the HEIs concomitantly. No distinction shall be made between private and public HEIs.

Regulation must be responsive and minimalistic - light but tight - to ensure public spiritedness, equity, excellence, financial stability and probity, along with good governance.

This transformation would require existing structures and institutions to undergo an evolution of sorts. The separation of functions would mean that each one would end up with a new role, which is relevant, meaningful and important in the new scheme of things.

Setting up new HEIs will be made easier, while ensuring with great effectiveness that these are set up with the spirit of public service and with due financial backing for long term stability.

> **The functions of standard setting, funding, accreditation and regulation will be separated and be conducted by independent bodies, eliminating concentration of power and conflicts of interest.**

18.1. Design and architecture of the regulatory system

P18.1.1. Fundamental design and operating principles of the regime, structure, and culture of regulation:

- **Separation of functions:** The functions of regulation, provision of education, funding, accreditation and standard setting will be separated, and will not be performed by the same institution or institutional hierarchy. These will all be dealt with by independent and empowered bodies.
- **Character of regulation:** Regulation shall be responsive and minimalistic, to ensure public spiritedness, financial stability and probity, and good governance. A few meaningful and important things must be regulated effectively, while all else must be decided by the institutions in their best judgement to foster excellence in education. The "court of public opinion" must play a crucial role enabled by the regulatory requirements ensuring full public disclosure of information by the HEIs and by all other institutions in the regulatory system.
- **Design of regulation:** Regulation will be focused on system outcomes and not on inputs, while being transparent and providing intellectual and moral leadership. Public and private HEIs shall be regulated on the same criteria, benchmarks and processes. There will be a single regulator for the entire higher education sector, including professional and vocational education. An independent body will decide accreditation parameters for HEIs. There will be an independent ecosystem of AIs, to accredit HEIs, which will be the primary mechanism for regulation. Accreditation will be the bedrock for ensuring quality.
- **Standard setting:** A set of bodies will set the standards or expectations in a particular field of learning and practice. These bodies will have no regulatory role. HEIs shall be free to take all educational and resource decisions, in response to these standards, and other considerations, such as requirements of the field and their own assessment of societal need.
- **Funding mechanisms:** Funding of public institutions will be handled by bodies that have no regulatory, standard setting, or accreditation roles. There may be specific empowered bodies for this purpose. The funding commitments will be long term, agreed as per the IDP of the HEI.
- **Accountable institutions:** A system shall be established by the RSA to hold all bodies in this system accountable for delivering on their responsibilities. This system will include periodic review by the RSA and public disclosure of the results of the review.

The subsequent Policy points of this chapter detail a full regulatory structure and regime on the basis of these principles. The Policy notes that it is absolutely essential to adhere to the spirit of these principles in the practice of these policies.

The National Higher Education Regulatory Authority will be the only regulator for all higher education including professional education.

P18.1.2. **The regulatory architecture:** NHERA shall be the sole regulator for higher education, including professional education (see P18.1.4). The NAAC shall develop an ecosystem of multiple AIs and oversee the accreditation processes. The HEGC shall be responsible for disbursing developmental grants and fellowships across the entire higher education sector including professional education - the current UGC shall transform to the HEGC (see P18.4.1).

All other current regulatory bodies may transform to PSSBs; this includes NCTE, MCI, BCI and AICTE - they (PSSBs) may set standards for professions (e.g. for teachers, doctors, engineers, nurses, etc.).

The GEC shall set up 'expected learning outcomes' for higher education programmes, also referred to as 'graduate attributes.' In addition, the GEC shall set up facilitative norms for issues like credit transfer, equivalence etc, through the NHEQF (see P18.3.2).

The Policy recognises that these transformative changes to the regulatory regime and structure may take time and effort - some matters may require a transition phase comprising the next 5-7 years - such details are in each section below.

P18.1.3. **Responsibilities of institutions within the new regulatory framework:** The responsibilities of each institution within the new regulatory architecture and framework shall be clearly delineated. The existing Acts under which existing regulatory authorities as well as professional bodies have been created shall be modified as necessary to provide an enabling framework; at the same time they shall be separately and collectively held accountable for the quality of educational outcomes in the country.

Overlaps in jurisdiction shall be avoided, and formal mechanisms for coordination between the bodies worked out by the RSA, which will be the apex body for education in the country (see Chapter 23). For this, each body shall be governed and run by an Independent Board (IB) consisting of people with expertise in relevant areas, integrity, commitment and a demonstrated track record of public service. All the IBs shall be constituted by the RSA, unless specified otherwise, e.g. for PSSBs - even in case of exceptions, the IB may have to be ratified by the RSA. The chairperson and the chief executives of all the bodies shall be appointed by the RSA. These bodies shall be accountable to the RSA through their IBs.

The RSA will conduct a thorough review of the performance of all these bodies and the overall system, through an independent set of experts, every

5 years. The conclusions of this review and the action plans to improve the functioning of the system will be made publicly available.

P18.1.4. **Sole regulator for the higher education sector:** NHERA shall be the sole regulator for all of higher education.

NHERA shall regulate on the basis of the following dimensions: good governance, financial probity and stability, and educational outcomes.

The dimensions and parameters of regulation shall not be mechanical, prescriptive or reductionist; they must be responsive to changes in society, economy, technology, etc. They shall also not be at a level of detail which is not in consonance with the basic principle of empowerment of HEIs. With this overarching approach the principles for each of the three dimensions (the 'Dimensions of Regulation') will be:

- **Good governance:** The objective will be to ensure that there are clear governance mechanisms and that these mechanisms are adhered to in practice by the HEI. There shall be a recommendatory framework for practices in good governance which must draw from global good governance practices of institutions/organisations run by an IB across sectors e.g. higher education, civil society, business. However, the HEI will be free to set up its own mechanisms and practices with these principles of good governance. Regulation will only ensure that these are publicly disclosed along with their implementation. For a list of the principles of good governance refer to the box at the end of this Chapter.
- **Financial probity and stability:** The objectives would be to ensure that all financial affairs of the HEI are conducted lawfully and reported transparently. That, the institution is financially solvent and has financial stability, so that students do not suffer from disruption in academic operations. That, all the financial commitments made by the HEI, including fees and scholarship, are being practiced, as professed. For this the best practices of financial audit, as recommended by the Institute of Chartered Accountants of India may be used.
- **Educational outcomes:** The objective will be to ensure that each HEI has specific educational outcomes as its goals, that these are publicly stated, and there is continual assessment of the HEI's progress on these goals which is publicly reported. Regulation or its processes will not determine any specific outcome or its level that an HEI must have. The educational outcomes may be, for example, number of students and diversity, assessment of learning of various programmes, publication of research papers, etc. These must be focused on the quality of outcomes and shall not be about input, resources, processes, conditions, etc., unless these are impinging on the safety and security of students and the HEI community.

NHERA will set up an ombudsperson mechanism to handle grievances, with adequate number of ombudspersons across the country, to ensure easy access.

NHERA shall have a quasi-judicial status, and shall set up an adjudication body

within for the speedy judicial resolution of matters that require the same. This body may have offices across the country, and shall be fully empowered and authorised to shut down, derecognise, or penalise by any other means, HEIs that fail to comply with regulatory norms.

Till NHERA and its regulatory ecosystem is operational, existing regulatory authorities must be fully empowered through appropriate legislation, so that they can ensure that HEIs within their oversight are fully meeting regulatory norms and there is probity in their conduct. These regulatory authorities must then develop a systematic plan and implement it to ensure that there is no misconduct and corruption in the HEIs, and any such instance must be penalised, including with closure of the institution. This must lead to strong encouragement to good and public spirited institutions, and a shutting down of institutions that lack probity. This plan and its implementation will be reviewed by the RSA.

P18.1.5. **Implementation of the new regulatory regime:** Within 6 months of its formation, NHERA shall develop a detailed plan for the implementation of the new regulatory regime, in collaboration with NAAC and other relevant bodies. This plan should include the details of the roles of all bodies (NHERA, NAAC, PSSBs, GEC, HEGC, AIs, HEIs, etc.), mechanisms and processes of functioning, authorities and responsibilities, and accountability mechanisms. The RSA will review this plan and approve it before it can be implemented.

18.2. Accreditation as the basis for regulation

P18.2.1. **Accreditation of higher education institutions:** Accreditation of HEIs shall be the lynchpin of the regulatory system. NAAC shall be reinvented and separated from the UGC into a completely independent, autonomous body and be given the responsibility of overseeing accreditation of all institutions of higher education, across all disciplines and field.

In its new role, NAAC shall function as the top level accreditor, and will issue licenses to as many AIs, which shall be called AIs, as are needed to cope with the workload of accreditation every HEI in India once every five-seven years. It may also train these agencies, and must resolve disputes between AIs and HEIs.

An Institutional Accreditation Framework (IAF) for use by AIs shall be established by the RSA in consultation with multiple relevant stakeholders, including, NHERA, NAAC, HEIs, AIs, PSSBs, and others. It must be responsive and flexible, not rigid and unimaginative. It must focus on outcomes and their quality, and not inputs or process parameters.

Regulation ('licence' to operate and continue to operate) will be based on the Dimensions of Regulation (see P18.1.4) as detailed earlier; other dimensions or parameters will be for enabling institutions to improve and excel. These Dimensions of Regulation will be a distinct part of accreditation, such that regulation is based on them, while other dimensions used for accreditation may be used by the HEI for improvement and also for public disclosure.

The IAF should be revised with wide public consultation within 7 years of the first implementation. Till the accreditation system is set up and HEIs get their accreditation, they shall be regulated by current relevant regimes, including on starting of various programmes.

For the next 10 years, the graded accreditation (GA) of HEIs with concomitant graded autonomy, as per the system already in place, will continue. This will be reviewed for improvement by 2020. After 10 years (by 2030) there shall only be a "Yes or No" accreditation - Binary Accreditation (BA). It is this step that shall fully empower HEIs and give them autonomy. The BA system should be introduced at the earliest, certainly by 2022. Till 2030, HEIs would be free to choose between the GA or BA regime.

A HEI may choose to have a time gap of between 12-24 months between accreditation and taking up autonomy, and it may take up autonomy in steps within this period. This should form a part of the IDP of the HEI.

All existing HEIs shall be accredited by 2030, those that are not accredited will cease operations. This includes HEIs of all kinds - general, professional and vocational, which award degrees or diplomas to students, through any mode of study. The accreditation of affiliating universities shall account for the educational outcomes of the affiliated colleges.

While accreditation shall be institutional, programme accreditation shall be entirely voluntary for the HEIs. Such programme accreditation may be offered by various bodies, but it shall have no bearing on the HEI running a programme with full curricular autonomy.

The institutional accreditation norms shall pay specific attention to the matter of ODL, which in the past has been marred by inadvertent and advertent misuse, and questionable quality. Accreditation of the HEI shall include an assessment of the capacity of the HEI to offer high quality ODL, which may lead to accreditation without ODL.

An accreditation ecosystem led by a revamped National Accreditation and Assessment Council will be created.

P18.2.2. **Transition plan for accreditation and autonomy:** A phased transition plan for existing colleges to get accredited and become autonomous over a period of a decade shall be put in place. The revamped and strengthened accreditation mechanism shall be the basis on which colleges shall be assessed for quality. Colleges that have already been accredited shall be given appropriate graded autonomy within the next 3 years.

A special fund shall be created to support public HEIs (including 'government colleges') that would like to prepare for autonomy; they will also be provided mentorship. Newly autonomous government colleges and universities shall be given one-time grants so that they can upgrade their infrastructure. State governments must also create a similar fund and provide generous grants to some of their best universities and colleges so that they can make the full use of their autonomy. These plans will be an integral part of the State's plans for establishing the new higher education institutional architecture, and the plans of MN and MT.

P18.2.3. **A new NAAC:** NACC will play a central role in the new higher education system. This shall require a completely new imagination of NAAC, developing the capacity of NAAC to perform these roles and transforming its governance and management, to ensure probity and excellence. The RSA will constitute the committee to plan and enable this transformation.

P18.2.4. **High quality and high integrity ecosystem of Accreditation Institutions:** Setting up a high quality and high integrity ecosystem of adequate number of AIs shall be the most urgent task for NAAC. One AI may be required for every 100-200 HEIs. This estimate must be fine-tuned in the plan of NAAC and reviewed on the basis of the first 2-3 years of experience.

Licenses to function as an AI, called "meta-accreditation", shall be awarded to an appropriate number of public as well as private not-for-profit institutions by NAAC. HEIs and other not for profit bodies can also choose to set up accreditation agencies/ cells, and they can charge for their services to recover cost.

NAAC will set up and operate mechanisms to ensure that the AIs are 'calibrated', i.e. there is a common shared understanding of the accreditation process and its parameters, and that this reflects in the narrow range of variation of the accreditations done by the AIs, of the same HEI.

The performance of the AIs themselves shall be reviewed stringently, every 3-5 years. They shall be held accountable for their work, including tracking the decisions made and the people who made them. Accreditation shall be done in a way that mentors and AIs are known to the public and are required to take responsibility for the quality of the institutions they accredit. Ratings and rankings of HEI shall be left to public opinion and market forces.

The detailed plan for developing the ecosystem and its processes shall be prepared by NAAC by June 2020 for review and approval by RSA. This shall include a system where AIs are assigned through a randomised allotment to

HEIs. All HEIs shall pay an 'accreditation fee' to NEHRA annually - which shall be a modest sum - but adequate to cover for all expenses of AIs. The AIs shall be paid by NHERA for each accreditation.

P18.2.5. **Accreditation institutions as facilitators and mentors:** AIs should also function as facilitators and mentors, by hand-holding institutions to build on their strengths to qualify for accreditation. All future accreditation efforts shall become capacity building exercises for the institutions. The mentoring AI for an HEI cannot be the accreditation AI for that institution.

P18.2.6. **Availability of accreditation-related information in the public domain:** All accreditation related data, processes, assessments, decisions and rationale must be transparently available to the public online and in any other form with easy access. The objective is to have the highest degree of probity by ensuring completely transparency.

18.3. Standard setting bodies

P18.3.1. **Current regulatory bodies shall transform into Professional Standard Setting Bodies:**

All the other current regulatory authorities such as NCTE, AICTE, MCI, BCI, etc. shall transfer their regulatory function to NHERA which shall become the sole regulator for higher education. These bodies may transform themselves into PSSBs.

The PSSBs should become lighthouses of intellectual leadership for their respective professions and so must be staffed as such. The detailed plan for this change shall be developed and implemented by each of the ministries related to these bodies, including their constitution and governance. The PSSBs may develop professional standards for methods and other relevant matters in the field, which may govern that field of practice.

The education system shall be responsive to these standards. The educational response to the professional standards, including all aspects of curriculum, pedagogy, assessment and requirements of teachers, shall be the prerogative of the HEIs, on which they shall have full autonomy. The PSSBs may devise a curricular framework which shall facilitate this process in the HEIs.

Accreditation of programmes/courses may be made available. However any such accreditation shall be entirely voluntary for the HEIs, and shall have no implication on the autonomy of the HEI to design and run any such programme.

Thus, the foundational principle of this Policy (on this matter) is that education for professional fields must be governed and regulated as a part of the education system, while professional bodies should govern and regulate the professional fields themselves.

All higher education qualifications in terms of learning outcomes shall be described by the National Higher Education Qualification Framework.

P18.3.2. **Functions of the General Education Council:** The GEC shall be constituted as an academic leadership institution, to define attributes and learning expected from students who graduate from the higher education system. This would be at the undergraduate, graduate, and doctoral levels, for all disciplines and fields. These 'graduate attributes' must include disciplinary knowledge, and the range of cognitive, social, ethical and emotional capacities and dispositions, which are the outcomes of good education. The RSA will do a rigorous assessment of the higher education system every 5 years, on a sample based evaluation of students for these outcomes.

The NHEQF shall be created by the GEC and it shall be in-sync with the NSQF. Higher education qualifications leading to a degree/diploma/certificate in terms of learning outcomes shall be described by the NHEQF. This will be enabled by expanding the current Indian Standard Classification of Education of the MHRD (InSCED) to include descriptions of the goals and learning outcomes expected from each level of the classification system.

Such descriptions shall enable universities to prepare their own curricular frameworks and curricula with consistency and comparability, nationally and also internationally.

The NHEQF shall permit flexibility - a system of credit transfer shall be put in place, making student mobility possible in the following ways: changes across streams of study (e.g. arts to science, vocational to science), choice across combinations of areas of study (e.g. music and chemistry), flexible entry into and exit from programmes, and transfers across institutions and programmes.

The GEC shall set up national norms for credit transfers, equivalence and the like, to facilitate students to avail of education opportunities without hindrance and discontinuity across the country. A system for RPL shall also be defined. The NHEQF can also become the basis for India to sign pacts with different countries to mutually recognise their degrees.

The GEC shall develop curricular frameworks for programmes and courses, which shall help HEIs to start and run programmes, till they develop full capacity to be completely autonomous on these matters. These frameworks shall be recommendatory and guiding, and shall not be mandatory.

18.4. Role of other bodies

P18.4.1. **Role of the Higher Education Grants Council:** The UGC shall transition into the HEGC, continuing with the responsibility for funding institutions and individuals. Funding norms for institutions shall be re-examined, simplified, and streamlined. The funding role of AICTE may also be transferred to the HEGC. HEGC shall not have any role in setting or indicating salaries for employees (faculty or other staff) in HEIs, nor for setting any other kind of norms for HEIs. It shall also not fund any research, which shall be done entirely by the NRF, including for research infrastructure. HEGC shall focus its energy on scholarships and on developmental funds to start new focus areas in HEIs across fields and disciplines.

P18.4.2. **The State Departments of Higher Education and State Higher Education Councils:** The State Department of Higher Education will play the role of relevant policy formulation, coordination and orchestration of the overall improvement of the higher education system in the State, including the development of the higher education institutional architecture, as envisioned in this Policy. This would include provision of adequate financial support to public HEIs, on the basis of their IDPs. The State Higher Education Councils (SHECs) (in States that they exist) shall transform to become facilitative bodies for best practice sharing and peer support amongst HEIs.

The State Department of Education and SHEC will not have any regulatory role or administrative control over the HEIs.

P18.4.3. **Fine balance in the role of government:** The government shall be responsible overall for creating and developing a vibrant public higher education sector - it must increase its financial commitment to higher education (see P17.1.19). This point is being emphasised here to guard against the tendency of funders (in this case the government) to control what they fund, and to reduce commitments if they cannot control the institutions. The Ministries and Departments currently responsible for funding HEIs shall continue to be their 'financial sponsors.' In turn, their role shall be reviewed by the RSA. The government should specifically help institutions doing well, with acquisition of land, with no detrimental effect on local communities.

P18.4.4. **Role of sponsors of private institutions:** Sponsors of private institutions must ensure financial stability and probity, since without this, institutional governance will be compromised.

18.5. Establishing new higher education institutions

P18.5.1. **Setting up of new higher education institutions:** Any new HEI will only be set up by the Parliament or a State Legislature or with an 'HEI Charter' from NHERA. Setting up new HEIs will be made easier, while ensuring with great effectiveness that these are set up with the spirit of public service and with due financial backing for long term stability.

The 'HEI Charter' shall be awarded on the basis of transparent assessment of certain specified criteria. While the criteria shall have to be detailed by NHERA, they shall cover public spirited nature of the endeavour; sources of financing with long term stability; robustness of governance, including transparent disclosures; and credibility of people involved to assure that a high quality institution is set up. While the initial charter to start and operate an HEI shall be given on the basis of these criterion, mechanisms and processes for periodic review of new HEIs, to assure that they are abiding by the Charter, shall be put in place.

NHERA shall develop a Model Act which may inform any legislative body setting up an HEI. This Model Act shall be entirely consonant with the spirit of this Policy, in terms of empowering the HEI and giving it the greatest possible freedom.

Constituent colleges, off-campuses and multiple campuses may be freely started by (existing or new) HEIs across the country - these shall not require any regulatory approval. Constituent colleges will be integrally a part of the University that starts and runs them.

All newly-constituted HEIs must receive accreditation as mandated by NHERA within 5 years of being established. And they must receive a second accreditation within 10 years from another AI, not the one that gave them their first accreditation.

P18.5.2. **Categories for new higher education institutions:** All new colleges started from 2020 onwards must only be autonomous colleges (Type 3). No new affiliated colleges shall be started after 2020. After 2030 there shall be no affiliated colleges in existence - all colleges must develop to become autonomous degree granting colleges or a university.

18.6. Common regulatory regime

P18.6.1. **Common regulatory regime - private higher education institutions:** All HEIs - public and private - shall be treated on par within this regulatory regime. The regulatory regime shall encourage private philanthropic efforts in education. At the same time it shall eliminate commercialisation of education.

The IDP and audited financial statement of all private HEIs must be made public after due endorsement by the Board.

All private HEIs shall be governed and regulated with norms identical to public institutions, unless otherwise specified. Private HEIs shall not be mandated to adhere to reservation guidelines other than those stated in this Policy and their formative Acts with respect to local State students.

> **Private and public institutions will be treated on par by the regulatory regime.**

P18.6.2. **Guidelines for enablement of private higher education institutions (universities):** The RSA will issue common national guidelines for all legislative Acts that will form private HEIs. These common minimal guidelines will enable all such Acts to establish private HEI while fully reflecting the spirit of this Policy, thus enabling the common regulatory regime for private and public HEIs. These common guidelines will cover Good Governance, Financial Stability and Security, Educational Outcomes, and Transparency of Disclosures as mentioned in this chapter. These guidelines will enable consistency across the country, and will enable Acts to be similar to the 'HEI charter' and the 'model act'. Such an action will ensure that establishment and functioning of such private HEIs is for not-for-profit public spirited purposes and not for commercial purposes.

Public HEIs that are established shall also fully reflect the spirit of this Policy in all their Acts of establishment and their functioning.

P18.6.3. **Fee regime to manifest public spirited nature of private higher education institutions:** Private HEIs with philanthropic and public spirited intent will be encouraged through a progressive regime of fees determination. This regime will empower the private HEIs to set the fees for their programmes independently, while ensuring that a significant proportion of their students get freeships and scholarships. This fee regime will ensure reasonable recovery of cost while ensuring that the HEIs discharge their social obligations.

The fees set by private HEIs for all their programmes, must be transparently and fully disclosed, with no increase during the tenure of the student cohort

in the programme. Fees may be increased only for another student cohort, before they join the programme. The term "fees" includes money collected under any and all heads by the HEI or any of its agencies, including lodging but not including boarding.

Admissions will be done on a 'need blind' basis, and the HEI will make best efforts to arrange funding for all those offered admission, and in need of financial support.

The HEI shall ensure that 50% of students in each of its programme will be given fee waivers ranging from 25%-100%. The fee waivers shall be given to socio-economically disadvantaged students based on the current definition of disadvantage, and the criterion being used by the HEI to determine the applicability of fee waiver must be publicly announced.

- At least 20% students in each programme/course shall have 100% fee waivers.
- At least 30% students in each programme/course shall get between 100% to 25% fee waivers, ensuring that that the fees are affordable for students from families whose income are at the level of the 75th percentile of consumption in the latest NSSO survey.

HEIs shall run all programmes, such that they meet the fee waiver obligations in full, on the average over a rolling four year period. If they do not meet this obligation, they shall have to discontinue the programme.

The fair and ethical implementation of the fee regime will be an integral part of the Financial Probity dimension of regulation, including for accreditation.

Students will have free access to the grievance redressal mechanisms of NHERA for resolution of their issue on all matters related to violation of these policies by any HEI.

P18.6.4. **Common regulatory regime - institutions not classified under higher education institution:** Institutions that are not classified as HEI in the Policy, may also be governed and regulated with principles enumerated in this Policy. This should be done by their relevant regulatory authority.

Principles of good governance:

Principle 1 - The Board plays a key role in approving the vision, purpose and strategies of the institution. It is accountable to the public and the institution's members as a whole and must act in their best interest.

Principle 2 - The Board sets the cultural and ethical tone for the institution.

Principle 3 - All directors should exercise independent judgment and provide independent oversight of management of the institution, while ensuring

autonomy to members to pursue their roles within the larger vision of the institution.

Principle 4 - Taking into consideration the scale and nature of the institution's activities, the Board should comprise an appropriate number of directors who have a relevant and diverse range of skills, expertise, experience and background and who are able to effectively understand the issues arising with respect to both the larger picture and the daily functioning of the institution.

Where practicable, the chairman of the Board should be independent, with the role of the chairman being separate from the role of the CE.

Principle 5 - The Board should have an appropriate system of anticipating potential issues and challenges, and processes for avoiding/managing these should be put in place.

Principle 6 - Directors should act diligently on an appropriately informed basis, and have access to accurate, relevant and evidence-based, timely information.

Principle 7 - The Board would normally delegate certain functions to the management of the institution. Where it does so, there should be a clear statement and understanding as to the functions that have been delegated. In no way must the autonomy, specifically academic, be compromised.

Principle 8 - The Board is responsible for the appointment of the CE and the continuing evaluation of his or her performance based on transparent criteria.

Principle 9 - The Board should ensure that the institution communicates with members of the institution and other stakeholders in a regular and timely manner, so that they have sufficient information to make appropriately informed decisions related to their specific roles within the institution.

Principle 10 - The Board's performance (including the performance of its chair, the individual directors and, where appropriate, the Board's subcommittees), needs to be regularly assessed against criteria specified beforehand, and appropriate actions taken to address any issues identified.

Part III

Additional Key Focus Areas

Chapter 19

Technology in Education

Objective: Appropriate integration of technology into all levels of education - to support teacher preparation and development; improve teaching, learning and evaluation processes; enhance educational access to disadvantaged groups; and streamline educational planning, administration and management.

India is a global leader in ICT and in other cutting-edge domains such as space. The Digital India Campaign is helping to transform the entire nation into a digitally empowered society. Quality education will play a critical role in this transformation, and technology itself will play an important role in the improvement of educational processes and outcomes. Thus, the relationship between technology and education at all levels is bidirectional.

The use of technology in education can be classified broadly into four categories, three of which are concerned directly with students, teachers and classroom processes. The first and most important area is teacher preparation and their CPD. It is essential for teachers to receive adequate training in how to leverage technology to improve educational outcomes. Teacher preparation may itself leverage technology (e.g. through the use of online courses), but the quality of training must be of the highest quality. A second important area where technology can be impactful is in the classroom processes of teaching, learning and evaluation. Technology-based tools must be created in response to challenges in these areas, in a continuous process. The tools must be carefully evaluated to ensure that they address the challenges without creating additional new ones. The third area is the use of technology to improve access to education for disadvantaged groups, including differently-abled students, girls and women, and students living in remote areas. The fourth area is the planning, administration and management of the entire education system.

Since technological change is rapid, it is essential to acknowledge key technology trends in order to identify ways in which education can leverage not just current technologies but emerging technologies as well. The first technology trend of relevance is the increasing access to electricity, partly due to ongoing government initiatives to expand electricity networks, and partly due to falling costs of locally generated power such as solar energy. In view of this trend, this Policy advocates focused electrification of all educational institutions at the earliest, since access to electricity is a basic requirement for all technology-based interventions. The second technology trend is the falling cost of computation, data storage, and data connectivity. This trend is largely driven by market forces, and it enhances the feasability of sophisticated educational applications that can gather, process and share data (as opposed to simpler, stand-alone applications). This immediately links to the third technology trend, namely the increasing importance of data. Not only is it becoming easier to gather and process data, but tools to perform sophisticated data analysis are becoming easier to use. It is therefore important to ensure that data is secured against misuse and that privacy concerns are carefully addressed. A suitable institution must be empowered to analyse this data and this task has been assigned to the CESD that is to be set up at NIEPA (see P6.1.5). Finally, an important technological trend is the accelerated rate at which disruptive technologies are emerging.

In view of these trends, it is worth highlighting their implications for infrastructure, end-user hardware, software development, deployment and data. The use of technology in education is likely to require considerable investment in basic infrastructure such as electricity, hardware and connectivity. The bulk of schools and colleges in remote and rural areas do not have access to the basics (electricity, hardware and reliable connectivity) and, government must ensure that this situation is remedied at the earliest, if not at the level of each individual school then certainly at the level of school complexes.

With regards to end-user hardware, it is important to draw a distinction between institutional devices such as desktop computers, classroom projectors, WiFi routers, etc. and personal devices (such as smartphones and laptops). Educational institutions must be allowed to purchase and maintain institutional devices to support technology-based educational activities such as blended learning and computer-based laboratories. A key area of concern is the non-availability of local expertise to help use and maintain all the relevant hardware and software at these locations. Funding for hiring trained IT staff, at school complexes for instance, must be provided as needed. However, this effort can be complemented imaginatively by stationing trained local youth, either engineers or those with adequate technical training in hardware and software, at these locations. They must be provided with special, named, fellowships lasting two to three years during which time they can be associated with schools, school complexes and other educational institutions in rural areas to help them with the induction and use of technology. [see P19.4.5]

The success of solutions that require institutional devices has been limited, in part due to non-uniform availability of resources for procuring them and in part due the lack of knowhow available locally for maintaining equipment. For

this reason, the increasing availability of personal devices needs to carefully considered. Today, low-cost personal devices provide data communication, computation and multimedia on a single platform, and students generally learn to operate them quickly and effectively. Hence, personal devices have the potential to support technology-based educational interventions. There is a need to recognise however, that access to such devices is not universal, and that they can also be addictive and distracting, and hence detrimental to learning. A well thought out approach to making use of personal devices in educational institutions is needed.

Several models for the creation of software for education exist, ranging from software platforms such as SWAYAM commissioned by the MHRD for use by the entire country, to applications and software developed and tested by educational institutions such as IIT Bombay that need to be scaled, and software applications created by entrepreneurs that need to be evaluated and inducted if found to be useful. Although several innovative software solutions have been created over the past 2-3 decades and are in use, a mechansim to drive the cycle of:

- Identifying stakeholder (student, teacher, administrator) needs,
- Creating technology-based solutions that address these needs,
- Assessing these solutions in meaningful pilots, and
- Deploying them at scale, with government funding as needed,

is missing in the system. This lacuna can be filled by setting up of special body that can be assigned this task (see P19.1.1).

Both top-down and bottom up approaches to software development and induction need to be supported on a continuous basis. The proliferation of cloud computing technologies makes it relatively easy to scale successful software solutions across all educational institutions, either on a State-by-State basis or at the National level. Examples that illustrate this principle well include software created as part of the National Mission on Education through ICT (NMEICT), such as Virtual laboratories that provide remote-access to laboratories in various disciplines of Science and Engineering, and Spoken Tutorials that help students learn and use open source software by listening to audio commentary in Indian languages. Certain types of educational software can be standardised (at State/National levels), which can leverage scale to reduce development and operational costs per person/institution.

Promotion of the use of open source software in education is another area that requires considerable support, and the existing effort of FOSSEE (Free and Open Source Software in Education) needs to become much more widespread. The challenge with the use of free and open source software of course is the higher level of technical competence that is required at each individual institution, and this challenge must be addressed too (see P19.4.5). In addition, there must be active encouragement for faculty in educational institutions, those who are involved in the development of key

pieces of software in education, to incubate companies so as to ensure that these solutions are evaluated and inducted / actively marketed to educational institutions. In the past, entrepreneurship among faculty, in technology or in other areas, has been actively discouraged. This is changing now but much more encouragement is needed for faculty and student teams to engage in entrepreneurship. Faculty must be rewarded for this in their performance appraisals.

While it is natural that many software initiatives are seeded by the Government of India at premier institutions such as IIT Bombay or Homi Bhabha Centre for Science Education (HBCSE), adequate attention needs to also be paid to the task of making these software solutions available to all educational institutions in the country. This can be done in more than one way and the appropriate choice needs to be made based on considerations of the size of the target group, the urgency and the costs:

- They can be popularised by the developers themselves as is being done now, which is best for niche solutions in technology;
- They can be handed over to institutions such as the Centre for Development of Advanced Computing (CDAC) so that they can maintain them with a 24x7 helpdesk that educational institutions can avail of;
- A new company is incubated by the developer institution to actively popularise the solution and provide support for adoption and maintenance to the educational institutions.

PPP models for these can also be explored, and government can also consider paying for solutions created by the private sector to be deployed at scale. Recipient educational institutions can either receive budgetary allocations to evaluate and adopt specific technologies in the 'PULL' model), or have it made available to them through the State or Central government in the 'PUSH' model. The two options are useful in different contexts and need to be used appropriately, else hardware and software will remain unused as it does today in many institutions.

With regards to data, there are at least three categories to consider. Some data is personal to individuals - teachers and young students. In order to safeguard privacy, the strictest possible privacy regime is necessary to ensure that personal data cannot be shared without the explicit consent of the concerned individuals or their guardians. Some data pertains to groups of individuals (e.g. all students in a particular class, or all teachers in a particular institution), and such data can be shared with appropriate safeguards to ensure privacy. A third category consists of data generated and consumed by educational applications. Such applications increasingly use advances in artificial intelligence to grow in sophistication, and the value of such data is therefore growing. This Policy recognises the need for an evolving set of guidelines related to such data, to ensure that it is not misused.

19.1. Setting up of a new National Educational Technology Forum

Many experiments and pilot studies on the use of technology for improving the quality of education in school as well as higher education have been undertaken all around the country over the last two decades. These need to be reviewed for their outcomes and carefully evaluated for their benefits, risks and effectiveness, as well as their potential to scale, in the different contexts in which they need to be deployed. This is a complex task requiring a wide range of expertise.

> **The National Educational Technology Forum will be a platform for the free exchange of ideas on the use of technology to improve learning, assessment, planning and administration.**

P19.1.1. **The National Educational Technology Forum:** An autonomous body, the National Educational Technology Forum (NETF), will be created to provide a platform for the free exchange of ideas on the use of technology to improve learning, assessment, planning, administration, and so on. The aim of NETF will be to facilitate decision making on the induction, deployment, and use of technology, by providing to the leadership of educational institutions, State and Central governments and other stakeholders the latest knowledge and research as well as the opportunity to consult and share best practices with each other.

P19.1.2. **Role and functioning of the National Educational Technology Forum:** The NETF will have the following roles:

a. Provide independent evidence-based advice to Central and State government agencies on technology-based interventions;

b. Build intellectual and institutional capacities in educational technology;

c. Envision strategic thrust areas in this domain; and

d. Articulate new directions for research and innovation.

To remain relevant in the fast-changing field of educational technology, the NETF will maintain a regular inflow of authentic data from multiple sources including educational technology innovators and practitioners, particularly at the grass-roots level, and will engage with a diverse set of researchers to analyse this data. It will act as a forum for harnessing the distributed energy that democratising technology can unleash, particularly among the youth of the country who continually prove their capacity to innovate and lead, while also bringing a scholarly emphasis to ensure that the overall impact of these efforts is positive.

P19.1.3. **Funding and support to the National Educational Technology Forum:** To ensure deep connectivity with the field of education, NETF may be housed within CIET/ NCERT/ NIEPA or any suitable body determined by the RSA. While NETF will be supported initially with public funding, it should also be able to receive funding from other sources such as memberships, and other neutral technology industry bodies such as NASSCOM among others. The work of NETF will be supported by decentralised institutional structures at the State and District levels, whose specifics may be decided by the RSA, in consultation with the States.

P19.1.4. **Collective assessment and adoption of technology solutions:** To support the development of a vibrant body of knowledge and practice, NETF will organise multiple regional and national conferences, workshops, etc. to solicit inputs from national and international educational technology researchers, entrepreneurs and practitioners. NETF will enable educational technology experts from schools, universities, research institutions and other organisations to evaluate these inputs against current best practices from multiple perspectives, including pedagogical, psychological, social and economic, and distil them into:

a. Necessary interventions, which should complement existing best-practices and be implemented immediately in specific contexts;

b. Promising interventions, which require additional large-scale studies that could, for example, be funded by NRF; and

c. Inappropriate interventions, which ought not be considered.

Such analysis will be regularly and publicly disseminated, and may be used to advise Central and State governmental agencies on all matters related to educational technology, including interventions that may be continued, piloted at scale, or discontinued. NETF may also use this analysis to propose strategic thrust areas and research directions in educational technology for NRF to consider funding.

19.2 Approach to the induction of technology

Global evidence suggests that the effects of technology on classroom processes and educational outcomes, particularly for very young childen, are modest and mixed with multiple sociological and psychological side-effects. However, many other uses of technology, including in teaching, learning and assessment for older children, have tremendous transformative potential. Therefore, a positive yet cautious approach to the induction of technology at scale will be adopted, to ensure that the limited funds available and energies devoted to educational technology are deployed in an optimal manner.

P19.2.1. **Qualified support for educational technology with teachers playing a central role:** All use and integration of technology to improve multiple aspects of education will be supported and adopted, provided these interventions have been rigorously and transparently evaluated in relevant contexts before they are scaled up. Education technology is amongst the most powerful array of tools and methods that a teacher may potentially use in her/his work. Teachers will be completely empowered through adequate training and support to lead the activities and initiatives related to the use of appropriate technologies in classrooms, and for all other uses of technology in educational institutions.

P19.2.2. **Technology use and integration in educational settings:** Technology use and integration will be pursued as an important strategy for improving the overall quality of education. Thus, the focus will not just be on creating and delivering high quality content, but also on using technology to: support translation of content into multiple languages; assist differently-abled learners; improve the quality of pedagogy and learning processes through the use of intelligent tutoring systems and adaptive assessment systems; create new types of interactive and immersive content (e.g. using augmented and virtual reality); strengthen educational planning and management and bring greater transparency and efficiency to the examination system as well as to administrative and governance processes; assist in the management of education such as supporting teacher development programmes; and scale up the ODL system so that it can respond to the growing demand for education from all age groups, across school education, higher education, professional and vocational education, adult education, and lifelong learning.

P19.2.3. **Centres of Excellence in Educational Technology:** Centres of Excellence in Educational Technology will be established at prominent Universities and other institutions to perform research as well as support functions for the uptake of appropriate technology solutions. These Centres of Excellence will be represented at the NETF and they will engage themselves in a two-way interaction with other members of the NETF for sharing of knowledge and knowhow.

P19.2.4. **General guidelines for technology-based interventions:** Three main components will form an integral part of most technology-based interventions: hardware, software and data. In general, the following guidelines will be used. Exceptions to these guidelines, if any, will be carefully and publicly justified.

a. Hardware: Commodity hardware solutions such as cloud-based commercial infrastructure and personal computing devices for end-users will be preferred.

b. Software: Software for educational use will preferably be FOSSEE. Where necessary, the government will pay for professionally developing and maintaining the software, and will acquire the rights to distribute it to learners, teachers and institutions for free-and-unlimited offline usage. Steps will be taken to ensure that this software remains compatible with popular and affordable end-user computing devices.

c. Data: All public data will be owned by the government and will be used for improving educational standards (see Section 19.6). Individuals will retain full ownership of their own data, which may not be used without their explicit permission. In line with the Open Data Initiative, educational data that has been anonymised, as per the best-practice in data security, will be made publicly available on a regular basis for research purposes.

19.3 Teacher preparation and continuous professional development

A very large effort towards the CPD of teachers will be needed if the implementation of this Policy is to succeed. Many online learning experiments do not work very well for first-time student learners who really need a classroom environment that provides oportunities for peer learning, as well as mentoring and guidance from faculty. However, this is not true for existing faculty who are mature enough to be able to make the most of online courses. Most faculty members will require upgradation of their subject knowledge, which can just as well be done through online education.

With regard to school teacher preparation through the four-year integrated B.Ed. programme, the considerations are similar to all undergraduate programmes. Online, open and distance education, can both be used, but extremely judiciously. Teachers will also need to be prepared to use education technology in classrooms.

P19.3.1. **Teacher preparation in the use of educational technology:** To skill teachers at all levels in the use of educational technology, all teacher preparation programmes will include hands-on training in leveraging technology-based resources, including addressing common problems related to connectivity, maintenance of equipment and its safe operation, pedagogical strategies for utilising e-content (including conducting classes effectively in a flipped mode

and leveraging MOOCs), and using appropriate tools to enhance teaching-learning processes (e.g. tools to assist CWSN and tools to help teachers reflect on their pedagogical styles by capturing classroom practices).

Videos in the open educational repository (see P19.5.2) will be used for teacher training discussions in every subject. Appropriate technology-based tools will be developed to assess competencies of teacher trainees, including, but not limited to, competence in the use of educational technology for improving teaching, learning, and evaluation processes.

Initially, a large number of certified master teachers will be trained to provide training to all teacher trainees in a phased manner. Hence, a suitable initiative will be launched and run in a mission mode for 5-6 years by the CIET.

P19.3.2. **Use of educational technology for continuous teacher professional development:** An online training platform - linked to appropriate mechanisms to certify trainees in specific areas - will be developed to empower in-service teachers at all levels of education to stay at the cutting edge of pedagogical techniques.

Since teachers will have increasing access to personal computing devices (e.g. smartphones), all in-service teachers will be provided with sufficient connectivity to access this training platform, explore high quality online educational resources to incorporate into their pedagogy, and participate in online teacher communities where best practices can be shared. The online platform will also allow teachers to share ideas and showcase their pedagogy; teachers with outstanding portfolios will be awarded due recognition, including financial support for participating in national and international training sessions, conferences, workshops, etc., and invitations to present their work at NETF events.

P19.3.3. **Specific technology related policy actions:** The necessary interventions must include customised courses for faculty development programmes on a platform such as SWAYAM. Both for school teachers and for faculty in higher education, SWAYAM can cover the theoretical aspects of learning. At the same time, DIETs and and HRDCs will continue to provide academic support to school teachers and faculty in higher education, respectively. The course contents must be reengineered for the online mode and not be simply recordings of classroom interactions. Similarly, the assessment for certification must be designed in a way that is convenient for teachers, but also rigorous enough to create value.

The development and widespread use of teacher professional learning communities, where teachers can interact with other teachers teaching the same subjects and exchange knowhow, experience, and even educational content is a promising intervention that is already in use in some States with great impact. This must be encouraged and expanded to cover many States and different subjects.

19.4 Improving teaching, learning and evaluation processes

The Internet is a veritable treasure house of text, audio and video that can be used for educational purposes. Availability of an adequate number of access devices (rapidly becoming smart phones or iPads and equivalents) and controlled access (for safety purposes) to the Internet can empower teachers as well as students to make use of these resources and even contribute to creating more. They can engage in many forms of active learning, using the available material to do projects, engage in self as well as group learning methods that can completely transform the delivery of education from the present 'chalk-and-talk' models prevalent in most classrooms in India today.

P19.4.1. **Integrating educational technology into the school curriculum:** To prepare school students for the digital age and bolster efforts in STEAM (Science, Technology, Engineering, Art & Design, and Mathematics) education, the following steps will be taken:

a. From age 6 onwards, computational thinking (the thought processes involved in formulating problems and solutions in ways that computers can effectively execute) will be integrated into the school curriculum. This is a fundamental skill in the digital age, and it can be effectively taught with well-designed paper worksheets.

b. Given the diffusion of devices and their affordability, all students are likely to have access to connected personal computing devices by 2025. The school curriculum will promote digital literacy using these personal devices as well as available digital infrastructure (computer laboratories, tinkering laboratories, makerspaces, etc.).

c. The school curriculum will offer optional subjects focused on programming and other advanced computer-based activities at the late upper primary and secondary stages.

P19.4.2. **Developing educational software:** A rich variety of educational software will be developed and made available for students and teachers at all levels. All such software will be available in all major Indian languages and will be accessible to a wide range of users including CWSN and differently-abled students, and will include:

a. Software to assist learners with disabilities (e.g. text-to-speech software in all major Indian languages for blind/partially sighted students).

b. Intelligent Tutoring Systems to promote numeracy and foundational literacy in all major Indian languages.

c. Educational software in the form of serious games, simulations, and applications using augmented and virtual reality.

d. Software to create personalised learning trajectories for each learner based

on curriculum, with content (readings, videos, interactive worksheets, etc.) arranged in learning ladders.

e. Adaptive assessment tools that provide formative feedback to help learners take remedial steps, such as self-study or learning collaboratively with fellow students.

Software to help teachers create adaptive assessments, formative as well as summative, evaluate the assessments, and provide appropriate feedback to learners. Such assessments will minimise the importance of rote memory, and will instead focus on 21st century skills including critical and creative thinking, communication, and collaboration. Data generated by such tools, that reflects the performance of individual learners and overall institutional performance, will be appropriately recorded in the NRED for subsequent analysis and research (see P6.1.5).

P19.4.3. **Video viewing equipment:** For maximal use of content in the open educational repository, institutions will be supported with inexpensive and portable video viewing equipment (e.g. solar powered video playback and projection devices). Teachers will be encouraged to integrate such videos into teaching-learning processes, along with their own teaching, where ever they add value.

P19.4.4. **Advanced online courses:** Educational institutions will be encouraged to offer course credits to students who complete specified courses (especially advanced electives) online, e.g. via SWAYAM or other such platforms developed in the future. This will include courses on topics such as IT Enabled Services (ITES) and other such areas of vocational education and adult education that can benefit from online courses.

P19.4.5. **Support for appropriate information and communication technology usage:** Most educational institutions have difficulty maintaining and using their hardware and software. This problem can be addressed through the creation of a large number of prestigious 'IT Ambassador' Fellowships for students who have completed their senior secondary courses. They can support school complexes with managing their IT infastructure in a version of rural service that is similar to military service in some countries. Computer hardware and maintenance, as well as training in software installation and maintenance (especially for open-source software) must be taught to these students. As far as possible, local people must be given these Fellowships. This will also help promote entrepreneurship among these Fellows at a later date.

P19.4.6. **Specific technology related policy actions:** These are split into two groups, the necessary interventions and the promising interventions. Some of the necessary interventions in teaching, learning and assessment are the following:

a. **Content repositories in Indian languages for educational content:** along with editorial processes for uploading content, and rating methods that will allow the best content to surface to the top. The content must be made available under the Creative Commons Licensing. The National Repository for Open Educational Resources (NROER) is one such example, but it needs to be supplemented with much more awareness building so that a lot more content comes online and more people find it useful. A suitable financial model to sustain such a repository needs to be selected. The content repository could optionally be integrated with payment systems so that, in time, content creators can be compensated in a small way for contributing content. This will incentivise many teachers to create innovative age appropriate content. The decision to create separate repositories for each State, or hold all content in a single repository, can be made by the NETF based on appropriate financial models.

b. **Machine translation of content uploaded into any content repository:** This should be supplemented with editorial processes to check the quality of translation, so that good quality content in any language can be translated into multiple Indian languages.

Some of the promising interventions are the following:

c. **Publishing software for educational material:** Teachers must be able to compile free content from one or more content repositories to devise interesting courses for which material can be shared with students in pdf form. Many older universities have printing divisions which can be used to print relatively inexpensive hard copies of educational material for students who would like to have them.

d. **Online assessments:** Assessments can be partly online multiple-choice examinations combined with projects and other hands on work that is evaluated separately by teachers. Some app-based multiple-choice examination systems are already available now that make it very easy for faculty to conduct quizzes.

19.5. Enhancing educational access

Appropriate use of ICT can help ensure that no student is left behind, by helping to reach students in remote areas, women, CWSN, students who have dropped out of schools, adults, and many others looking for lifelong education. However, it is critical that educational content for these purposes is developed keeping the specific requirements in mind.

P19.5.1. **Access to technology in remote areas:** School complexes must become the nodal agency for reaching out to the unreached. For this, they must be equipped with electricity, computers/ smart phones or other access devices, and Internet access else the promise of reaching the unreached will not be realised.

P19.5.2. **High quality specialised content to be made available in open educational repositories:** To ensure that all learners have access to high quality educational content, copyright-free educational resources including textbooks, reference books, videos (ideally with subtitles), teaching-learning materials, etc. will be created and curated from national and global sources at all levels of education and in multiple Indian languages, and made available in a single online digital repository e.g. the National Digital Library or NROER. This repository must be organised so that anyone can quickly and easily locate and download all relevant content. In order to reach the maximum number of students and teachers, distributing this content in any form for a nominal fee will be facilitated and encouraged.

P19.5.3. **Maintaining content quality:** It is critical to ensure that the repository in P19.5.2 remains a high quality and up-to-date resource so that it will be of value not only to teachers and students in the formal education system, but will also be a powerful enabler of lifelong learning. Hence a mechanism for creating and reviewing these learning resources will be devised (e.g. through online feedback on quality, relevance, and usefulness of content from users, both teachers and students, as well as competitions leading to national recognition for outstanding content creation). Thus, the platform will showcase the work of the best teachers, teaching in exemplary styles, across the country in every subject, level, and language. The platform itself (as in the case of all shared resources) once piloted and identified to be more widely usable by NETF, must be maintained by specialist organisations such as the CDAC or by private industry. The funding for this kind of professional maintenance of shared resources will be provided by the Central government.

P19.5.4. **Development of tools for automated language translation of educational content:** NRF will prioritise research and development of tools for automated and/or crowd-sourced language translation of educational content into all major Indian languages, so that additional content created in one language can be made rapidly available in other languages.

P19.5.5. **Specific technology related policy actions:** In terms of necessary interventions, software for adaptive learning for children of all ages with special needs must be prepared. Considerable research into pedagogy will be required for this purpose, and this can be funded by NRF at the Departments of Education in universities. Similarly, with intelligent tutoring systems, and many others.

The NRED will maintain all records related to institutions, teachers and students in digital form.

19.6. Streamlining educational planning and management

Arguably, the most important benefits from ICT are in the area of governance and management, where ICT tools can help with data-gathering and analysis, and record-keeping. ICT can also help in mainstreaming education by providing relatively simple and inexpensive solutions to problems that have plagued the sector for a long time, such as the problem of fake degrees among others.

P19.6.1. **National Repository of Educational Data:** ICTs will be fully leveraged for efficient and safe maintenance of educational information. All records related to institutions, teachers, and students will be maintained by a single agency in digital form in the NRED, which may be set up as part of the Digital India programme (see P6.1.5). NRED will be tasked with:

a. Developing appropriate systems for authorised institutional users to enter and update data. Teachers would be asked to enter data at most four times per year, in order to ease the significant burden on teachers in collecting, managing and transmitting data on an ongoing basis. This will be the only mechanism for institutions to disclose data to government agencies (both State and Central) for purposes of monitoring, accreditation, ranking, rating, and eligibility for government schemes.

b. Validating employment records of teachers and credits earned by learners (who will be, e.g. identified by their Aadhar numbers). This will simplify the process for learners and teachers seeking scholarships, employment, transfers between institutions, and re-entry into the education system. It will also minimise the manual effort in tracking details of students and teachers.

c. Complementing efforts to assess learning outcomes (e.g. NAS) by analyzing the performance of individual learners and institutions, and attempting to predict failures to meet outcomes so that proactive assistance measures can be undertaken.

d. Maintaining records while adhering to national norms, best-practices, and laws related to privacy of data. Practices based on "security by obscurity" will be explicitly rejected. This Policy further states that laws be strengthened to preserve the privacy of all individuals at the earliest.

e. Developing appropriate mechanisms to ensure the timeliness and reliability of data, so that policies can be based on high quality data. Current best practices employed by State and Central agencies can be studied and used as a baseline.

f. Alerting concerned governmental agencies about important trends (both positive and negative) as they are developing, for immediate action where necessary, and making these analyses public on an annual basis. These analyses will also include assessments of the quality of school education at the district level.

g. Monitoring migrant learners, and tracking their health and educational progress in order to mitigate the negative impact of disruptions to their well-being due to frequent displacement.

> **The National Repository of Educational Data will maintain all records related to institutions, teachers and students in digital form.**

P19.6.2. **Technology for improving governance and administration:** Educational information management systems for community monitoring will be created and integrated with NRED. These systems will be used to streamline manual processes related to educational planning, admissions, attendance, assessments, etc. Local communities, panchayats, and SMCs will be able to look at the data and make sense of it themselves. ICT-based tools will be used immediately for all administrative tasks where they can improve efficiency and accuracy, including systems related to admissions, scholarships, assessments, counselling, placements, accreditation, etc. ICT will also be used for more efficient information dissemination and data gathering towards decision making. To facilitate information exchange between stakeholders, all educational institutions will provide all relevant stakeholders (students, parents, teachers, staff, etc.) with access to official institutional communication channels (e.g. institutional email).

P19.6.3. **Specific technology related policy actions:** Well over 30 years after the advent of email, many of our educational institutions do not offer institutional email to their faculty and students. The efficiency of communications that can be brought in through institutional email and list servers must be provided to all educational institutions without any further delay.

The problem of fake degrees can now be solved very elegantly by the new Blockchain technology. Each State government must commission its own depository of certificates, like the 'National Academic Depository', for all educational institutions within the States.

A considerable degree of computerisation of the administration and management of education has already taken place, with many aspects such as admissions, student records and even online assesment of examinations taking place in many universities in the State. These need to be scaled out to all educational institutions.

19.7. Disruptive technologies

Technology is increasingly disrupting multiple aspects of human society, including education. Some disruptive technologies will have clear applications to education, and methods to integrate such technologies into the education system through the involvement of the NETF have alredy been discussed. This section focuses on policies to address the broader consequences of disruptive technologies that are relevant to education, namely research, de-skilling, and awareness raising.

When the National Policy on Education 1986/1992 was formulated, it was difficult to predict the disruptive effect that the internet was about to have, particularly in boosting the development rates and impacts of other disruptive technologies. Our present education system's inability to cope with these rapid and disruptive changes places us (individually and nationally) at a perilous disadvantage in an increasingly competitive world. For instance, while computers have largely surpassed humans in leveraging factual and procedural knowledge, our education at all levels excessively burdens students with such knowledge at the expense of developing their higher order competencies.

This Policy comes at a time when the Fourth Industrial Revolution is already underway, and disruptive technologies such as artificial intelligence have emerged. At its core, artificial intelligence lowers the cost of prediction tasks that use existing data (such as, "This patient's symptoms") to fill information gaps (such as, "What disease does this patient have?"). As the cost of artificial intelligence based prediction falls, artificial intelligence will be able to match or outperform even skilled professionals such as doctors in certain predictive tasks and will therefore be a valuable aid to them in their work. Hence, artificial intelligence's disruptive potential is clear.

NITI Aayog recently produced a timely discussion paper entitled "National Strategy for Artificial Intelligence: #AIForAll", drawing on several prior investigations by MHRD and other national and international institutions, to identify challenges in leveraging artificial intelligence in India, and to articulate a national perspective and action agenda for artificial intelligence. This Policy broadly endorses the recommendations of NITI Aayog that pertain to education. It further notes that artificial intelligence provides an excellent example of how the Policy actions related to disruptive technologies can be applied to specific technologies. Thus, each of the Policy actions below is followed by comments on its application to artificial intelligence.

Other disruptive technologies such as Blockchain and Virtual Reality are just two of the many new technologies that are likely to have a sizeable impact on education.

P19.7.1. **Monitoring potentially disruptive technologies:** One of the permanent tasks of the Advisory Council of the RSA (see Chapter 23) will be to categorise emergent technologies based on their potential and estimated timeframe for disruption, and to periodically present this analysis to the RSA. Based on these inputs, the RSA will formally identify those technologies whose emergence

demands responses from the education system. Given the increasing pace of technological development, the traditional cycle of education policy revision may be too slow to respond to such disruptions. The Advisory Council of the RSA will propose technology-specific responses based on national and international perspectives, which will be refined in consultation with academia, industry and the wider public. These responses will be guided by the EC of the RSA. While some agility in the education system is necessary, the need for careful deliberation while assessing a specific technology's disruptive potential is well illustrated by artificial intelligence (which encompasses several distinct technologies). Decades ago, some experts viewed rule-based expert systems as an imminent disruptive artificial intelligence technology. Artificial intelligence's recent gains are in fact based on different techniques developed in the 1990s (multilayer neural networks with feedback) and were primarily triggered by recent advances in computation and the availability of large data-sets. NITI Aayog's discussion paper models one way in which the Advisory Council can propose technology-specific policy changes.

P19.7.2. **Research in disruptive technologies:** In response to the RSA's formal recognition of a new disruptive technology, the NRF will initiate or expand research efforts in appropriate areas including fundamental research in the domain, advancing the technology's development, and assessing the technology's socio-economic impact. For certain disruptive technologies, NRF may fund mega-projects with international collaborations.

In the context of artificial intelligence, the NRF may consider a three-pronged approach:

a) Advancing core artificial intelligence research,

b) Developing and deploying application-based research, and

c) Establishing international research efforts to address global challenges in areas such as healthcare, agriculture, and climate change using artificial intelligence.

P19.7.3. **Skilling and re-skilling:** The new institutional structure in higher education is well suited to skilling students and re-skilling the current workforce rapidly. Type 1 and Type 2 institutions will play an active role not only in conducting research on disruptive technologies, but also in creating initial versions of instructional materials and courses (including online courses) in cutting-edge domains and assessing their impact on specific areas such as professional education. Once the technology has attained a level of maturity, Type III institutions are ideally placed to scale these teaching and skilling efforts, which will include targeted training for job readiness. Disruptive technologies will make certain jobs redundant, and hence approaches to skilling and de-skilling that are both efficient and ensure quality will be of increasing importance to create and sustain employment. Institutions will have autonomy to approve institutional and non-institutional partners to deliver such training, which will be integrated with skills and higher education frameworks.

In the context of artificial intelligence, Type I and Type II institutions may offer PhD and Masters programmes in core areas (such as Machine Learning) as well as multidisciplinary fields ("artificial intelligence + X") and professional areas (healthcare, agriculture and law). They may also develop and disseminate authoritative courses in these areas via platforms such as SWAYAM. For rapid adoption, Type III institutions may initially blend these online courses with traditional teaching in undergraduate and vocational programmes. Type III institutions may also offer targeted training in low-expertise tasks for supporting the artificial intelligence value chain such as data annotation, image classification and speech transcription. In the context of Natural Language Processing (NLP), certain low-expertise tasks (such as translating simple sentences) may also be valuable from a pedagogical standpoint. Thus, efforts to teach languages to school students should be dovetailed with efforts to enhance NLP for India's diverse languages.

P19.7.4. **Raising awareness:** As disruptive technologies emerge, schooling and continuing education will assist in raising the general populace's awareness of their potential disruptive effects, and will also address related issues. This awareness is necessary to have informed public consent on matters related to these technologies. In school, the study of ethical issues (see Section 4.6.8) and current affairs (see Section 4.6.10) will include a discussion on disruptive technologies such as those identified by RSA. Appropriate instructional and discussion materials will also be prepared for continuing education.

Data is a key fuel for artificial intelligence based technologies, and it is critical to raise awareness on issues of privacy, laws and standards associated with data handling and data protection, etc. It is also necessary to highlight ethical issues surrounding the development and deployment of artificial intelligence based technologies. Education will play a key role in these efforts to raise awareness around these issues.

Chapter 20

Vocational Education

Objective: Integrate vocational education into all educational institutions - schools, colleges and universities. Provide access to vocational education to at least 50% of all learners by 2025.

Higher education must play a key role in preparing individuals for the world of work. Undoubtedly, all higher education must lead people to meaningful work roles. However, certain kinds of educational programmes are designed for preparing people for specific occupations. This is referred to as vocational education.

The 12th Five-Year Plan (2012-2017) estimated that less than 5 % of the Indian workforce in the age group of 19-24 received formal vocational education; in comparison, the USA has 52%, Germany has 75%, and South Korea has 96%. These numbers underline the need to hasten the spread of vocational education in India. Inadequate organisational structure for the provision of vocational education is also a serious concern, since the infrastructure set up during the implementation of the National Policy on Education 1986 has either petered out or remained largely stagnant.

Vocational education distinguishes itself from academic education in the close linking of knowledge and skills to specific practical challenges and work situations in the economy. It aims for students to acquire a defined set of practical competences in specific areas of work in the economy that requires knowledge, skills and attitudes relating to that field of work.

A broad definition of vocational education would include professional education as well (e.g. legal education, medical education). Given the current institutional and regulatory structures associated with professional education in India, we discuss it separately in Chapter 18. Also, we use the term 'vocational education' in this Policy though Technical and Vocational Education and Training is the term often used in this regard.

Vocational education must be also distinguished from skills and skilling. Vocational education integrates a complex of knowledge, attitudes and skills, for particular occupations. Thus, skills are a part of vocational education. There are certain occupations that may not require the fullness of vocational education but may just require training in certain skills. Examples can be used to clarify this - being an electrician for domestic services versus being responsible for electrical maintenance of a factory, bricklaying versus being responsible for a construction site project etc. Vocational education is most effective for areas where apprenticeship or emulation alone are not efficient or adequate to prepare for practice.

Certainly, occupations that require skilling and occupations that require vocational education are in a continuum, and individuals can progress from one to the other with requisite development. But it is important to make the distinction between skilling and vocational education for the effective and efficient progress of individuals and the system. This is especially relevant today, since skilling and vocational education have been used somewhat loosely and interchangeably. Vocational education integrates not just the hands-on skilling component but also the theoretical knowledge, attitudes and mindsets, and soft skills that are required for particular occupations, through a broad-based education that is necessary for students to be able to take on a fast-changing world of work.

Vocational education will be an integral part of school and higher education.

Social status hierarchy and vocational education

The matter of social status hierarchy of occupations has vexed higher education in multiple ways. It has significantly influenced the public perception of vocational education and thus the choices that students make in higher education. There is no gainsaying the fact that vocational education has been less desirable to students making these choices.

Other factors have also influenced this perception of vocational education. Notably, the 'hard' separation of vocational education from academic and professional education, most clearly manifested in complete institutional and curricular separation from school onwards, has had a role to play as has the mostly indifferent quality of vocational education institutions.

This situation is in urgent need of change. Vocational education must become an attractive option for students to choose from. This is crucial for the well-being of the millions of people joining and already in the workforce. It is equally important for the national economy. This Policy takes decisive actions - both in the immediate and long term - to address this matter.

A fresh approach to vocational education

As the most basic and important step, implementation of vocational education must be improved. This must be on all dimensions – teacher development and recruitment, curriculum, and infrastructure. Alongside this basic important step, India needs to transform the imagination of vocational education and restore it to its rightful status in all stages of education.

Vocational education must not be developed separately from 'mainstream' education. It must be fully integrated within mainstream education so that all students are exposed to vocational education and have the choice to pursue specific streams of vocational education. There must also be easy mobility across vocational and general academic streams, through clear equivalence of qualifications/certifications and credit structures. This will help in expanding vocational education, will increase its social acceptance and will give all students the opportunity to pursue vocational education alone or a mix of vocational education with professional streams, and academic disciplines.

The lynchpin of this reimagination is offering to all students the flexibility of making a vocational choice at a stage in their academic career, spending the relevant time period pursuing this choice, while benefitting from access to courses that are broader based. This would mean having the choice later to further pursue a higher vocational degree or to pursue a programme in another stream. In essence this flexibility will keep multiple possibilities open for each student, instead of the current situation of rigidity once the first choice is made.

This new imagination of education will contribute to the economic goals of individuals and the nation in multiple ways, developing the capacities and dispositions of individuals for economic independence, including employment and entrepreneurship. It will also contribute to social equalisation of different professions and vocations, by breaking down current rigid hierarchies.

This is the imagination of liberal education in this Policy - deeply and seamlessly integrating 'academic,' 'professional' and 'vocational' education - all being within the 'mainstream.'

Important aspects of this new approach

The National Policy on Skills Development and Entrepreneurship (NPSDE) announced in 2015 specified that 25% of educational institutions would target offering vocational education. We make a major departure from this policy to specify that not just 25%, but all educational institutions - schools, colleges and universities - must integrate vocational education programmes in a phased manner.

All school students must receive vocational education in at least one vocation during Grades 9-12. Students will choose from among a selection of courses

that their schools will offer, on the basis of the availability of hands-on training facilities and job opportunities in the region. They will specialise to varying degrees in their chosen vocations, through the four years of secondary school, depending on their levels of interest.

HEIs will also offer vocational courses that are integrated into the undergraduate education programmes, with course content that combines adequate hands-on experience with the requisite theoretical background, delivered within a general education setting.

However, there are many challenges in the short term, given the involvement of many ministries and numerous other stakeholders in the provision of vocational education currently. Therefore, many aspects of the integration of vocational education will require more detailed study, and also the creation of mechanisms for coordination with all stakeholders, to envision and implement. A separate National Committee for the Integration of Vocational Education (NCIVE) will need to be set up, consisting of members from across ministries, to review the long term goals outlined here and to work out the steps that need to be taken towards achieving them. We will flag some of the issues that NCIVE will need to consider, at various points in this Chapter.

The entire education sector - faculty and management of all schools and school complexes, colleges and universities - backed by their respective State governments, and also by the Central government, must come together to reimagine vocational education in this way. A concerted effort can then be made to deal with the persistent shortcomings that have plagued the sector so far.

Integrating vocational education poses additional challenges for academia. They will also have to work closely with standards bodies within industry and with potential employers, so that the graduates from schools and colleges have adequate employment opportunities at the end of their education. Educational institutions will therefore have to develop considerable expertise to be able to deliver on these expectations from them. Some of the expertise that they will need to develop is capacity among the management, administration, and teachers of all educational institutions to do the following:

- Collaborate with ITIs, polytechnics, local industries and businesses, farms, hospitals, NGOs and all other such facilities where students can receive practical skills training, to build vocational education programmes that can supplement this practical training with the associated theoretical knowledge, integrated into mainstream education. The programmes must include critically important courses in life skills such as communication skills, digital and financial literacy, entrepreneurship, and so on;

- Work with NCERT through the Pandit Sunderlal Sharma Central Institute of Vocational Education (PSSCIVE) and with the SCERTs (through the State Institutes of Vocational Education where they exist) to create curriculum and supplementary educational material for vocational education that are adapted to local needs. This is a mammoth task requiring considerable effort

and capacity. NCVIE will need to create a plan for this in collaboration with all stakeholders;

- Induct many external experts in different vocations, either part time or full time, as faculty and provide them with the necessary orientation for training students. Appropriate training modules for faculty to teach students of different age groups will need to be created.

- Train local teachers in schools and HEIs to contribute towards offering vocational education through supplementing the hand-on training students receive. In the case of schools, this task is presently being handled by PSSCIVE, but a more scalable model of training large numbers of teachers will be needed, that makes use of the capacities of school complexes and DIETs for school teachers and the Departments of Education at Universities for faculty in higher education;

- Conduct assessments of all vocational education courses, jointly with partners that are providing the practical skills training. This again is a very complex and mammoth task requiring capacity building at scale. Educational institutions will need to collaborate with the Sector Skill Councils (SSC) for this task;

- Develop capability to assess youth and adults for prior learning as per NSQF levels and provide them with certification. This activity, known as Recognition of Prior Learning (RPL), is well understood as a concept. However, well thought-out processes for conducting such assessments have not been developed yet. Educational institutions must contribute towards creating and standardising such assessment processes so that students, including dropouts and adults, may be assessed for their expertise and then provided with further opportunities for horizontal and vertical mobility.

State and Central governments must fund these preparatory efforts towards capacity building generously, and provide all possible support to educational institutions to deliver on the national goal of scaling up vocational education. A coordinating body at the Centre and State can gather and record the initial learning from educational institutions and disseminate these widely. Such a body can also bring together all the stakeholders - teachers and practitioners - to share experiences through regular meetings and conferences, to speed up the spread of knowhow regarding provision of quality vocational education. The NCVIE can look into this.

In order to operationalise this fresh approach to vocational education, the Policy envisages the following:

- Relevant and meaningful integration of vocational education into school and higher education through skills analysis and mapping of local opportunities, along with efforts to formalise the capabilities of youth already in the workforce through mechanisms like RPL, adult education, online learning, etc.

- Network of ministries, bodies/agencies and institutions as well as local industries and individuals in an effort to optimise the learning and exposure of students at all stages.

- Adequate investment in developing infrastructure, as well as recruiting, preparing and supporting individuals to transact vocational education effectively.

- Maintenance of databases and study of possible models of vocational education which can be applied in our context.

- Ensuring mobility of learners across institutions and streams, through alignment with international standards, and curricula and assessment aligned to the NHEQF and NSQF.

- Enhanced capacity of vocational education particularly at the higher education stage, and in rural and tribal areas.

- Integration of work of local craftspersons and artisans into the curriculum, along with measures to disseminate their work more widely.

Vocational education will be part of the secondary school curriculum and aligned to the NSQF.

20.1. Integrating vocational education into all schools, colleges and universities

A concerted effort will be needed by all the stakeholders in the system: (i) Ministry of Skill Development and Entrepreneurship (MSDE), MHRD, and all other ministries of the Central and State governments engaged in vocational education; (ii) enablers of vocational education such as the National Skills Development Agency (NSDA), now National Council for Vocational Education and Training (NCVET), State Skill Development Missions (SSDMs), SSCs, financial institutions and others; (iii) implementing bodies such as ITIs, polytechnics, industries, businesses, and other training providers along with schools, colleges, and universities; and (iv) the beneficiaries themselves, youth and adults; in order to tackle the challenge of integrating vocational education into the mainstream in a meaningful manner.

P20.1.1. **Integrating vocational education into all secondary schools and higher education institutions:** All academic institutions will be required to integrate vocational education into their educational offerings in a phased manner over a period of a decade. Towards this, they will collaborate with ITIs, polytechnics, local businesses and industries, hospitals, farms, and NGOs. Each educational institution will make a careful choice of a few areas that they would like to offer, based on an analysis of the jobs available in their regions. The focus will be the development of practical skills as well as the associated theoretical knowledge along with a broad-based education.

P20.1.2. **Facilitating sharing of knowhow and best practices among educational institutions:** Formal mechanisms for mentoring and sharing knowhow will be put in place. A formal body must be dedicated to this task. Such a body can serve schools, colleges and universities, so as to help bring synergies across school and higher education.

P20.1.3. **Skills gap analysis and mapping of local opportunities:** Carrying forward the work already done by the NSDC in various sectors towards determining gross estimates of requirements for trained personnel, State governments will create more fine-grained mappings of training requirements in different regions of their states. Educational institutions can then use the State-level mappings as the basis for conducting further research to select the vocations they would like to offer, based on the projected gap in human resources and the availability and potential requirements for hands-on training facilities.

P20.1.4. **Funding support for the integration of vocational education into all educational institutions:** Curricular integration of vocational education will require funding for teacher preparation and professional development of teachers, for the creation of local infrastructure (equipment and laboratories, etc.) at educational institutions, for sourcing of locally available resources where necessary, hiring of experts in different areas of vocational education at competitive salaries, etc. A separate fund for the integration of vocational education into educational institutions will be set up. The NCIVE will work out the modalities for the disbursement of these funds and the processes for monitoring progress.

P20.1.5. **Coordination between MHRD and MSDE:** Given the crucial role that mainstream academic institutions can play in delivering vocational education to millions of young Indians at the earliest, it is imperative that MHRD and MSDE, and indeed all ministries involved in the provision of skills training, work in close cooperation to facilitate the interaction of academic institutions with other components of the skilling ecosystem managed by the MSDE, such as the NCVET, which is currently the custodian of the NSQF, and the SSCs, which define professional standards and conduct assessments. The RSA through its SCC will play a major role in helping to achieve this, both at the Centre and in the States.

P20.1.6. **Data gathering, MIS and technology support for the rollout of vocational education:** A considerable amount of data gathering and analysis will need to be done on a continuous basis to ensure that rollout of vocational education at educational institutions remains on track. NCVET currently hosts a Labour Market Information System (LMIS) which tracks certified candidates, courses, training providers, trainers, assessors, and so on, which must be extended into the education sector. Considerable use of technology towards: (i) data gathering for determining the types and nature of courses that will be required in particular geographies; (ii) MIS for data on successful courses conducted by all the institutions in various sectors of the economy; and (iii) technology platforms for training of teachers and for end-to-end delivery of vocational education will be needed to successfully achieve the integration at scale. A plan for such data gathering and analysis will be created by NCIVE.

20.2. Frameworks and standards

Many countries are in the process of bridging the gap between general and vocational education through qualifications frameworks that define learning outcomes and competencies that students must possess at each level. The number of levels in a framework varies between six and twelve in different countries. The NSQF was notified in 2013 with ten levels. The common parameters used to specify learning outcomes are generally four or five in number, including professional knowledge, skills and aptitude. It was also mandated in the NSQF that the eligibility criteria for all jobs and for admissions to educational institutions would be defined in terms of the NSQF competency levels. This is intended to help students who are currently employed to be able to move seamlessly into higher education at a later date since the necessary competencies can also be acquired over time through a credit-based system.

Specifying learning outcomes allows the learner to better see what they need to know and to see how their knowledge will link to other courses and programmes. Potential employers will also know what to expect from educational institutions and their graduates, thus strengthening the accountability requirements from education providers. Given that competencies can be acquired through multiple means, formal, non-formal and informal education, the NSQF will help integrate not just vocational and mainstream general education but also skills training acquired informally on the job, provided students can be assessed for these competencies independently, on demand, and be certified as having complied with a particular level of the NSQF.

P20.2.1. **Detailing the National Skills Qualifications Framework:** The generic competencies defined at each of the 10 levels by the umbrella framework of the NSQF will be translated into specifics for each of the disciplines/vocations/professions in different sectors. Course content and assessment criteria, and appropriate curricular and assessment frameworks will be standardised by

academic institutions in collaboration with other stakeholders aligned to these levels. The specification of the NSQF levels itself also requires a thorough review along with adjustments based on the experience of educational institutions so far. These tasks can be coordinated by the NCIVE.

P20.2.2. **National Occupational Standards and International compatibility of standards:** Indian standards must be aligned with the International Standard Classification of Occupations (ISCO) that is maintained by the International Labour Organiastion (ILO); on this basis, the Qualification Packs - National Occupational Standards (QPs-NOS) must be reviewed to ensure alignment with international standards. Once this is done, employers can proceed to specify the most appropriate standards for each of the job roles within their organisation and educators can train to the same standards.

The Ministry of Labour and Employment has announced the National Classification of Occupations 2015 (NCO-2015), in alignment with ISCO 2008. The NCO-2015 claims to be also mapped to the QPs-NOS. However, in the light of the mandate to all educational institutions to offer vocational education, it is critical that the NCIVE re-examine all the standards for vocational education and training across all ministries, and align them with each other and with the relevant international standards.

> **All higher education institutions will offer vocational education courses and programmes.**

P20.2.3. **National Qualifications Register:** Managed by the NCVET, the NQR is designed to be the official national public record of all qualifications aligned to the NSQF. Educational institutions offering an NSQF-aligned qualification can enter details of their training programmes on the NQR portal that can then be used by other institutions. Policies for sharing and widespread reuse of course content and material in the NQR, such as the use of 'Creative Commons' type licenses, will be put in place. Also, a robust and more responsive mechanism to review and publish course content on the NQR will be made available. The NCIVE can evolve the modalities for this, in consultation with MSDE and MHRD.

20.3. Vocational education in secondary school

The integration of vocational education into educational institutions will ensure that every student receives training in at least one vocation, and more if they are interested. The entire four-year period in secondary school, Grades 9-12, can be used to not just expose a student to different vocations but to help him/her to progressively build a considerable degree of expertise in his/her vocation of choice. However, the choice of the vocation and the degree of expertise (number of courses) that a particular student takes will be left entirely to them. The introduction of school complexes will help to leverage the synergies between schools and institutions that have facilities for the provision of practical skills. Students must be enabled to spend part of their time gaining work/ practical experience at these facilities while they are still in school.

The reimagination envisaged for the last four years of schooling, in Grades 9-12, by introducing the liberal approach and a semester system in which students can take courses of their choice from subject groups such as languages, mathematics, vocational education and so on (See P4.1.1), and the easing of norms for board examinations will facilitate the introduction of vocational education. Students must receive exposure and orientation to vocations in more than one sector during Grades 6-8, with preliminary hands on training provided at the school premises, so that they can make informed choices in Grades 9-12.

P20.3.1. **High/ Secondary school - Grades 9-12:** School complexes must build expertise in curriculum delivery that is aligned to NSQF levels 1 to 4, with accompanying practical training being provided either at school or outside, in conjunction with external partners. The ability to sign on appropriate training partners in the role of 'Skills Knowledge Providers (SKP)' will influence the choice of vocations that the school complexes can offer their students. The use of local SKPs will also help ensure that students are trained for vocations of relevance in the local area, and improve the likelihood of them finding jobs locally after Grade 12. Students must also receive assistance with selecting their vocations through counselors stationed at school complexes.

Schools must also ensure that all students continue to remain in school till the completion of grade 12 so that they can receive supplementary broad based general education, as well as courses in entrepreneurship, soft skills such as communication skills, courses on digital and financial literacy, entrepreneurship, and so on. Part-time apprenticeships and skills training can be supplemented with education at school during the remaining time. The use of evening/night classes can also be explored. It should be possible for students to exit from Grade 12 with a holistic education that allows them to enter the world of work.

P20.3.2. **Curriculum and assessment:** The curriculum must be adapted to local environments, which also points to a distributed model of curriculum creation. Assessment of vocational education must necessarily be split into two parts, with the experiential component being assessed by the SKP, and the remaining by the educational institution and/or the BOA (see P8.1.8). A suitable framework for this needs to be created by the NCIVE, working in conjunction with PSSCIVE and with State-level institutions and BOA.

P20.3.3. **Teachers and trainers:** Apart from regular teachers who are trained in imparting vocational education, a large number of trainers will have to be drawn from different sections of society for their expertise in different vocations. They can be brought in as guest faculty and can either impart knowledge of both theory and practice in their respective vocations or provide only practical training, as the case may be. In cases where specialised practical training is being provided to students outside schools, external trainers can also be brought in to teach the theoretical aspects. School complexes must assist these trainers to become comfortable in an academic environment, to handle students, and to comply with broader definitions of curricular and assessment frameworks in their work, through short term training courses provided at the DIETs.

P20.3.4. **Teacher training:** The shortage of teachers trained in providing vocational education along with capacity to provide teacher support must be addressed. PSSCIVE must be assisted in developing teacher training modules and teacher handbooks by the Departments of Education within universities that are engaged in teacher preparation, and by the State governments through SCERTs, DIETs, SIVEs and the schools themselves, in order to train the requisite numbers of teachers. Short term training courses for this purpose must be designed and prepared by leading educational institutions and shared widely, both online and offline, through the SCERTs and the DIETs. External trainers, who are experts in their vocations, can also be invited to train local teachers at CRCs, BRCs and DIETs. The NCIVE can explore options to cater to the training needs of large numbers of external, part-time faculty as well as regular teachers.

P20.3.5. **Strengthening PSSCIVE and the State level infrastructure for the provision of vocational education:** The PSSCIVE will need considerable strengthening, through heavy investments in human resources and infrastructure, including technology, so that it is able to play the major role that it has in proliferating vocational education. Similarly, strengthening of State-level institutions by the individual State governments is also critical given that SIVEs are not active in many States and that it is often the Directorate of Technical Education that oversees vocational education. A new, more coherent, strategy involving all relevant institutions, and new institutions where needed, must be created in each State by the NCIVE, in coordination with the SCC (see P23.10) of the RSA (see Chapter 23) as part of the implementation plan.

20.4. Vocational education as an integral part of higher education

Smooth integration of vocational education into colleges and universities is an imperative, if the acceptance of vocational education is to grow rapidly and achieve the targets set in this policy. The new B.Voc degrees must continue to exist, but vocational courses must also be available to students enrolled in all Bachelors' degree programmes, including the four-year liberal arts programmes. Individual institutions that are early adopters must innovate to find models and practices that work and then share these with other institutions through mechanisms set up by the NCIVE, to help extend the reach of vocational education.

An appropriate mechanism for assessment and Recognition of Prior Learning will be developed.

P20.4.1. **Expansion of vocational education at undergraduate level:** Vocational education at the undergraduate level will be expanded and targeted to offer enrolment to all interested learners (up to 50% of the total enrollment) by 2025, up from the present level of enrollment of well below 10%. Vocational education in several sectors is already being integrated into the undergraduate curriculum through the B.Voc programmes. All interested HEIs, beginning with premier universities and autonomous colleges will be supported by the HEGC (see P18.4.1), through a specially created fund, to offer vocational education at the undergraduate level through Diploma, Advanced Diploma and B.Voc degrees that are aligned with NSQF levels 5-7. HEIs can establish a school/department of vocational education and offer vocational education that is completely integrated with higher education, either on their own or in partnership with industry, and work towards ensuring seamless mobility of students across both streams. The choice of sectors, types and duration of courses etc., will be left to each autonomous institution, but they will submit data regarding their courses and its content to NQR and/or other bodies suggested by the NCIVE, for sharing and analytics purposes.

P20.4.2. **Student mobility across general and vocational education:** Undergraduate programmes in the liberal arts will also offer majors and minors in vocations. Autonomous HEIs offering the four-year undergraduate degrees can choose to include a wide range of vocational courses among their offerings. Some of the best institutions will be expected to develop innovative curricula and

implement them within about five years, and then mentor other institutions and help to train faculty. The NHEQF will be made compatible with the NSQF (see P12.1.3) in order to further assist the cause of student mobility across general and vocational education streams.

P20.4.3. **Work integrated training and other models:** Several models of vocational education have been used by other countries. However, a thorough study of the various models must be undertaken before any model, or blend of models can be recommended for use. NCIVE could take the responsibility of coordinating such a study.

P20.4.4. **Incentivising apprenticeships:** A policy for creating more apprenticeships, and other opportunities for work-integrated training for students must be explored by the NCIVE. The cooperation of SKPs is critical in achieving the ambitious targets set for vocational education, and the NCIVE must explore ways to incentivise them to provide more and better training opportunities for students. The NCIVE must prescribe similar norms for apprenticeships under the programmes/schemes of various ministries so that student movement can be facilitated. The possibility of giving some freedom to academic institutions to determine policies based on the requirements of each sector, and of the specific course, must also be explored.

P20.4.5. **Certificate courses for students in mainstream education:** The transition to a fully integrated higher education system that includes vocational education will take several years to achieve, and short term certificate courses, in soft skills and life skills such as communication skills, computer literacy, digital literacy, basic financial literacy, entrepreneurship, and many other such topics, can benefit students greatly in the interim. A choice of such courses must be made available to students in all institutions, so as to help them become more confident and employable. Technology can be used in various ways to help achieve these goals.

P20.4.6. **Curriculum and trainers:** HEIs will have autonomy on curriculum in vocational education, and they must develop innovative curriculum and delivery methods, and assessment practices. Many students will require bridge courses that will facilitate their horizontal or vertical mobility across fields/disciplines. Other short and long term certificate courses that do not have a work-integrated training component, must rely on internships and other methods of learning by doing, practices that educational institutions must establish in collaboration with their industry partners. The NCIVE can assist with these efforts by creating a blueprint.

The qualifications of trainers required in vocational education will necessarily cover a very broad range of expertise. Trainers will have to be drawn from many different sections of society, and their work experience must be treated on par with academic qualifications. They can be hired either part time or full time by the HEIs. A short term induction training for such trainers can be conceived and designed by some leading HEIs and shared widely online.

P20.4.7. **Incubation centres and centres of excellence:** To support the goal of nurturing the ideas of students and developing an entrepreneurial culture among them, universities and colleges will be encouraged to set up incubation centres. Universities will also be encouraged to create one or more centres of excellence in specific skills that are characteristic of the communities they serve, in partnership with industry. A good example of this would be jewelry design in Rajasthan. Such centres will become a hub of interaction between the HEIs and their local communities and will also bring in revenue for the HEI.

20.5. Vocational education for adults and youth

Expertise must be built in creating curriculum that is aligned with NSQF and QPs-NOS at the earliest, and combining this with the RPL assessment mechanism so that all youth and adults can get access to tertiary education irrespective of their prior educational experience.

P20.5.1. **Reintegrating dropouts:** The data on the uptake of vocational education in the NIOS must be studied and the vocational component strengthened as needed. State governments that have not already done so will be encouraged to open State Institutes of Open Schooling (SIOS) to deliver on the goal of educating every child till grade 12. Students who have dropped out from school can also be brought back into regular schools by giving them bridge courses, post assessment of their prior learning and RPL certification. They must be provided with vocational counseling, and access to additional vocational courses integrated with general education courses, designed by PSSCIVE or another body set up as a result of the work of the NCIVE.

P20.5.2. **Assessment and Recognition of Prior Learning:** An assessment framework to evaluate the existing skills of the current workforce will enable youth and adults who have not had any formal training in their vocations, and are self taught, to receive appropriate RPL certification. Such a mechanism of assessment on demand and certification will complement the detailed specification of the competencies associated with the levels of the NSQF, when completed, and will help provide horizontal and vertical mobility to youth. All educational institutions including those providing adult education, and those handling dropouts that are active in vocational education will be required to develop the capacity to conduct assessment in their areas of interest, on demand, to provide RPL certification to incoming students.

P20.5.3. **Upskilling and reskilling requirements:** The projected requirement for upskilling and reskilling youth is several times larger than that of training fresh candidates. HEIs can consider ways to address this requirement, through evening courses, online courses, and so on that can bring in additional revenue for them. These will largely be in the form of short courses. Once an educational

institution has worked out the curriculum and delivery including the practical component, and assessment practices for their own students, they can offer it to members of the community for additional revenue. Faculty can be incentivised to do this through revenue sharing arrangements with the institution. This task will also require projections of the need for such skilling in various sectors (e.g. skills gap analysis).

P20.5.4. **Vocational education for the unorganised sector:** A large percentage of India's workforce is in the unorganised sector and in small businesses. They must have the option of moving from being hired as unskilled or semi-skilled labour to becoming skilled labour instead and being paid correspondingly higher wages. Many of them would also benefit greatly from receiving training in areas like entrepreneurship, financial and digital literacy. HEIs must be incentivised to look for models to address this need. The infrastructure for adult education as well as online education must also be used to provide opportunities for them to get trained during off work hours.

P20.5.5. **Certificate courses through online education:** Online education can be used to handle the theoretical aspects of vocational courses since students can access them either after work or during weekends. School complexes and HEIs can develop such short modules and make them available through an online platform that can be hosted by an appropriate body identified by the NCIVE. This can be combined with online testing towards certification, benefitting large numbers of students, youth and adults. Students should be able to complete their practical training locally and also be evaluated for it locally by their training provider. For the theory component and for other courses that are mandatory for them, they can take the online versions.

20.6. Areas of special focus

There is millennia worth of learning embodied in the systems and knowledge that have developed in India for the production, development and management of various goods and services. These range from the finest, most intricately designed, textiles and embroidery to the grand architecture of historic buildings; from the development of local knowledge systems in medicine to myriad varieties of art and handicrafts; and water conservation, among many others. The immense value of these capacities, referred to as 'Lok Vidya,' must also be nurtured as vocations, be fully leveraged for the economic wellbeing of its practitioners, and be passed on to future generations in a systematic fashion. This is important not only for sustaining India's socio-cultural legacy but also for the benefit of millions of Indian artisans.

P20.6.1. **Enhancing the work of local crafts persons and artisans:** Lok Vidya has enormous economic potential and must therefore be integrated into appropriately designed courses in vocational education and made more widely accessible. Technologies such as computer-aided design and computer-aided manufacturing must be pressed into service to help preserve, nurture, and enhance this knowledge, and extend its scope and reach.

> **Lok Vidya - knowledge developed in India - will be an integral part of vocational education programmes.**

P20.6.2. **Special focus on rural areas:** Each educationally disadvantaged district will have an HEI offering high quality vocational education integrated with undergraduate programmes (see P11.1.3). These HEIs must also work with schools, ITIs and/or polytechnics within their regions to support the vocational education being provided in secondary schools, and ensure that every student receives quality education until Grade 12.

P20.6.3. **Special focus on tribal areas:** The model of integrated higher education is of particular importance in tribal areas since the aspiration of tribal youth for a mainstream education can be combined with vocational education in the elements of their local economy such as a Bamboo Research Centre or a Centre for Wildlife Conservation, or even a Centre for Traditional Medicine. School complexes as well as HEIs in the region must be supported and funded to engage in developing curriculum for these, and assisting with the delivery of such courses.

Chapter 21

Adult Education

Objective: Achieve 100% youth and adult literacy rates by 2030, and significantly expand adult and continuing education programmes.

The abilities to attain foundational literacy, obtain an education, and pursue a livelihood must be viewed as fundamental rights of every citizen. Quality access to adult education is therefore critical to ensure that all citizens are able to fulfil this right. Adult education provides mature learners with opportunities to increase their knowledge, develop new skills, gain helpful qualifications and credentials, enhance career prospects, and thereby truly enrich their lives. At the level of the country, a fully literate and educated workforce will naturally lead to a huge increase in productivity and a more enlightened nation, with corresponding increases in health, justice and equality, and a much higher per capita income and GDP.

Over the past three decades, India has achieved substantial progress towards improving access to adult education and learning, through initiatives such as the National Literacy Mission (NLM) (1988-2009), Sakshar Bharat (2009-2017), Scheme of Support to Voluntary Agencies for Adult Education and Skill Development, and most recently the Padhna Likhna Abhiyaan (2018 onwards). These initiatives have aimed to provide opportunities for adults to obtain not only foundational literacy and numeracy, i.e. the ability to read, write, and perform basic arithmetic operations, but also other education such as financial, digital, electoral, environmental and legal literacy, and skill development. In particular, the overall literacy rate in India increased by 9% to 74% over the period 2001-2011.

However, according to data from the last census, India still had over 3.26 crore youth non-literates (15-24 years of age) and a total of 26.5 crore adult non-literates (15 years and above) - a number comparable to the entire population

of students in the school and higher education sectors taken together - and representing one third of the world's non-literate people.

The NLM, when it launched in 1988, was largely based on the voluntary involvement and support of the people. As a consequence, the literacy mission was able to achieve not only improvement in basic literacy and numeracy skills, but also initiated dialogue and discussions on pertinent social issues of the day such as alcoholism. The Total Literacy Campaigns (TLC), a principal strategy of the NLM, were highly successful, as evidenced by the growth of literacy during the decades of 1991-2011. The TLC were area-specific, volunteer-based, and outcome-oriented programmes dedicated to adult literacy; schools and community organisations were also actively involved in adult literacy efforts. A greater proportion of the population was thus covered during the volunteer-based period of the TLC - particularly women. Unfortunately, towards the end of the mission, the voluntary nature of the mission got diluted, and the mission lost efficacy.

Indeed, extensive field studies and analyses, both in India and across the world (e.g. in China and Brazil), clearly demonstrate that volunteerism and community mobilisation are key success factors of adult literacy programmes, in conjunction with political will, organisational structure, proper planning, adequate financial support, and high quality capacity building of volunteers. Successful volunteer-based literacy programmes result not only in the growth of literacy among adults in the community, but also result in increased demand for education for all children in the community, as well as greater community contributions to positive social change and justice.

Results on the vast scale desired cannot be achieved by government actions alone; rather they require commitment from the whole nation and vast community volunteerism and mobilisation, with solid commitment and support from the government. Voluntary and community involvement on this all-important mission must thus be restored as soon as possible to truly expedite this all-important aim of achieving 100% literacy in the nation.

It is therefore imperative that India's literacy programmes be significantly strengthened and expanded across the country, with widespread governmental support and strong provisions for community, NGO, and volunteer involvement, in order to ensure 100% literacy among youth and adults by 2030. Adult education programmes will also ensure ample and robust opportunities for lifelong learning for all adults to help enrich their lives and increase their productivity and earning potential. All these of these initiatives will be key in unleashing India's vast potential.

The importance of adult education

Being a non-literate member of a community has innumerable disadvantages, including the inability to: carry out basic financial transactions; compare the quality / quantity of goods purchased against the price charged; fill out forms to apply for jobs, loans, services, etc.; comprehend public circulars and articles in

the news media; use conventional and electronic mail to communicate and conduct business; make use of the internet and other technology to improve one's life and profession; comprehend directions and safety directives on the street, on medicines, etc.; help children with their education; be aware of one's basic rights and responsibilities as a citizen of India; appreciate works of literature; and pursue employment in medium- or high-productivity sectors that require literacy.

Thus, literacy and basic education open up a whole new world of personal, civic, economic, and lifelong-learning opportunities for the individual that enable one to progress personally and professionally. At the level of society and the nation, literacy and basic education are powerful force multipliers which greatly enhance, the success of all other developmental efforts. Worldwide data on nations indicate extremely high correlations between literacy rates and per capita income / GDP.

Unfortunately, our past failures over generations to universalise education has resulted in the large number of adults today who never had the opportunity to attend or complete school. The only means of compensating for this lack of access in the past is through a robust and effective system of adult education.

What can be done to make adult education effective and widely accessible?

Developing an adult education curriculum framework: An outstanding curriculum framework for adult education must be developed, keeping in view what would be most useful and enriching for various types and levels of mature learners. The framework must be flexible enough to adjust to local needs, and include at least five types of programmes:

- Foundational literacy and numeracy;
- Critical life skills (including financial literacy, digital literacy, commercial skills, health care and awareness, child care and education, and family welfare);
- Vocational skills development (with a view towards obtaining local employment);
- Basic education (including preparatory, middle, and secondary stage equivalency); and
- Continuing education (including engaging liberal adult education courses in arts, sciences, technology, culture, sports, and recreation, as well as other topics of interest or use to local learners, such as more advanced material on critical life skills).

The adult education curriculum framework would ideally be developed by a new and well-supported constituent body of the NCERT, dedicated to adult education, so as to develop synergy with and build upon NCERT's existing expertise in establishing outstanding curricula for literacy, numeracy, basic education, vocational skills, and beyond, while at the same recognise the differences that exist along the 'pedagogy-androgogy continuum' (i.e. adults in many cases require rather different teaching-learning methods and materials than those designed for children).

Building and making use of shared infrastructure to ensure access: Suitable infrastructure will be imperative to ensure that all interested adults have access to adult education. A key initiative in this direction will be to use schools (after school hours and on weekends) and public library spaces for adult education courses, which will be ICT-equipped when possible. The sharing of infrastructure for school, adult, and vocational education will be critical for ensuring efficient use of both physical and human resources as well as for creating synergy among these three types of education. For these reasons, AECs will also be included as an integral part of school complexes. The existing well-equipped ICT-enabled Adult Education and Skill Development Centres (AESDCs) and Jan Shikshan Sansthans must, in particular, be strengthened across the country, and new ones set up in various regions and school complexes where they are currently needed but do not exist, and co-located with schools, public libraries, or other vocational training centres whenever possible.

Effectively training instructors for adult education: A cadre of excellent instructors / educators / preraks will be required to deliver the curriculum framework to mature learners. Instructors for all five types of adult education as described in the adult education curriculum framework will be trained by the national, state, and district level resource support institutions to organise and lead learning activities at AECs, as well as coordinate with volunteer instructors and tutors. Qualified community members will be encouraged and welcomed to take a short training course and volunteer, on a large scale, as adult literacy instructors, or to serve as one-on-one volunteer tutors, and will be recognised for their critical service to the nation.

Ensuring participation: All adults who may benefit from or be interested in local adult education programmes must be made aware of and encouraged to participate in these programmes. Social workers travelling through their communities to track and ensure participation of non-enrolled students and dropouts (see P6.6.2) will also be requested, during their travels, to gather data of parents, adolescents, and others interested in adult education opportunities (both as learners and as teachers/tutors); the social workers will then connect them and provide their information to local AECs. Opportunities for adult education will also be widely publicised through events and initiatives of NGOs and other local organisations.

Mobilising the community: Any national literacy mission must mobilise community organisations and volunteers in order to achieve large-scale adult literacy and education outcomes. Qualified community members who wish to volunteer as adult education instructors or as one-on-one tutors - as a service to their communities and to the nation - will be welcomed to teach foundational

literacy and numeracy, and other adult education course material, under the guidance and coordination of AECs. Governments will work closely with NGOs and other community organisations, and support them as necessary, in order to enhance efforts towards literacy and adult education.

As mentioned in Chapter 2: *If every literate member of the community could commit to help/teach one person how to read, it would change the country's landscape very quickly; this mission will be highly encouraged and supported.* With its large and highly talented population, India would experience unimagined productivity and prosperity if all her citizens were literate. Achieving this goal must be a highest priority for all of India's people.

A National Curriculum Framework for Adult Education will be developed to cover five broad areas - foundational literacy and numeracy, critical life skills, vocational skills, basic education and continuing education.

21.1. Developing a curriculum framework for adult education

P21.1.1. **Establishment of a technical and resource support structure for adult education, research, and training:** An autonomous Central Institute of Adult Education (CIAE) will be established as a constituent unit of NCERT, consisting of experts in adult education, tasked to develop a National Curriculum Framework for Adult Education (NCFAE), prepare effective teaching-learning materials for adult education, and support planning, implementation, and monitoring of adult education programmes. A separate Adult Education Department/Unit will be set up in each SCERT and DIET to suitably adjust the work of the CIAE as required for local needs in order to carry out the analogous tasks at the state and district levels, including the development of State Curriculum Frameworks for Adult Education, the preparation of associated teaching-learning materials, and the effective planning, implementation, and monitoring of adult education programmes at the state and district levels.

P21.1.2. **National Curriculum Framework for Adult Education:** A revised NCFAE will be prepared by the CIAE for adult education in at least five broad areas: (i) foundational literacy and numeracy; (ii) critical life skills; (iii) vocational skills; (iv) basic education, and (v) continuing education. A national curricular framework was formulated by a committee of experts under the MHRD in 2011. This will be made relevant for the current time and updated periodically, especially with regards to digital literacy, by the CIAE, in consultation with the Directorate of Adult Education as well as other organisations (including NGOs) dedicated to adult literacy and education. All parts of the framework will be flexible enough to accommodate local needs (including employment needs), with a clear view also to incorporate local art, literature, language, culture, knowledge, interests, and customs.

a. **Foundational literacy and numeracy:** The material in this programme will initially cover basic reading and writing (including of numbers) so that the learner may successfully carry out essential daily activities outside of the home, including reading signs, price tags, receipts, license plates, etc., as well as filling out forms, addressing envelopes to mail, etc. It will then move into foundational literacy and numeracy, so that the learner can also then read basic instructions, safety directives, booklets, newspapers, books, etc., and read and write letters, fill out survey forms, and more. In contrast with the school-level foundational and literacy curriculum, reading and writing in adult education will focus more on issues of interest to adults, including stories from great literature, parenting stories, lessons from the Indian Constitution, or enlightening discussions regarding social issues of the day such as parenting, child marriage, women's rights, or alcoholism.

b. **Critical life skills:** This programme will be intended for neo-literates to learn essential life skills for modern times: how to open a bank account and carry out basic financial transactions; how to use a computer or tablet/smartphone to connect to the internet in order to send e-mails, learn (e.g. via NIOS or other websites), or conduct business; how to be wary of the misuses and dangers of the internet (especially for children and adolescents); how to help in children's education, and other useful parenting skills for the 21st century; how to manage accounts for home and commercial purposes; basic health care and nutritional awareness; and family welfare. The essential skills taught will of course also depend on the local region and its needs, such as any local health or economic issues.

c. **Basic education:** The thrust of the Basic Education Programme will be to enable neo-literates to continue learning beyond basic literacy and numeracy, and acquire education equivalent to the Preparatory, Middle and Secondary stages of education through either the formal education system or the open learning system. The competency levels developed by the NLM Authority for flexible basic education at Level I, Level II and Level III, which are and shall be roughly equivalent to finishing the Preparatory, Middle, and Secondary stages of formal schooling, will form the basis for organisation of the programme as well as for certification.

d. **Vocational skills development:** The Vocational Skills Development Programme will aim at equipping non- and neo-literate adults with vocational skills to improve their living conditions and earning capabilities. Under the programme, skill development training may relate to vocations such as carpentry, plumbing, electrical and electronics, tailoring and embroidery, cosmetology and beauty, health care, fashion design, computer support, automobile repair, agriculture, cottage industry and handicrafts, textile technology, construction, transportation, bookkeeping and accounting, food services, etc. The Vocational Skills Programme courses in each local region will be guided by a study of local demand for each vocation and the employment needs of the region.

e. **Continuing education:** The Continuing Education Programme (CEP) will provide lifelong-learning opportunities to neo-literates and other targeted beneficiaries. The programme will involve short-term thematic courses on, e.g.: health awareness/care; food and nutrition; water conservation and drinking water; sanitation; education; AIDS/STD; consumer awareness/rights; legal literacy; group discussions on various social issues of the day; vocational and skill development; readings and discussions of great literature (including local literature such as poetry in the local language); sports, recreation, and cultural activities; teaching of music; technology demonstration and use; electoral literacy and voting; and other topics (such as continuations of material in (a)-(d) above) that may be of interest to local learners.

P21.1.3. **Quality teaching-learning materials:** Textbooks, workbooks, and other teaching-learning materials for adult literacy and critical life skills in Hindi and English will be developed by the proposed CIAE, and analogues in other languages will be developed by the adult literacy units of SCERTs, with help from NGOs and volunteers as needed. As in the case of textbooks for schools (see Section 4.8), these teaching-learning materials will be sold at the cost of preparation to make them maximally affordable. School textbooks will also be available at the cost of printing for adults enrolled in the basic education programme.

P21.1.4. **Assessment of learning outcomes and objective criteria for certification:** The criteria and materials developed under the NLM, the Saakshar Bharat mission, and NIOS to assess learning outcomes relating to functional literacy and numeracy, skill development, prior learning, and equivalency will be improved and built upon by CIAE, and its state and district analogues, and will used by AECs for the assessment and certification of the achievement levels of adult learners and to certify them on the successful completion of chosen programmes, particularly literacy programmes.

21.2. Ensuring infrastructure and universal access

P21.2.1. **Creating appropriate infrastructure and resource support:** To ensure access to adult education programmes (of all five varieties as in P21.1.2) for all adults, and to attain 100% literacy in the country at the earliest, support will be provided to create appropriate institutional structures and infrastructure across the country for adult education. The sharing of infrastructure, ICT, learning supplies, and human resources across school, vocational, and adult education will form a key strategy for efficient financing, and will help to create synergy among these three types of education.

AECs will be included within school complexes to facilitate a beneficial sharing of material and human resources. Already established schools and library/reading rooms in these school complexes will be strengthened and further equipped, by Central and State government authorities, to serve as multi-purpose AECs to meet the local needs of both youth and adults. The existing well-equipped ICT-enabled AESDCs and Jan Shikshan Sansthans will also be strengthened across the country, and new ones set up in various regions and school complexes as needed, and will be co-located with schools, public libraries, or vocational training centres whenever possible to enable the desired synergy and resource sharing.

All AECs will be stocked with relevant learning supplies, textbooks, and workbooks, for suitable use by adult education teachers. High quality textbooks and workbooks will be sold, at the cost of printing, to interested adults.

P21.2.2. **Multiple pathways to learning:** An important thrust will be to ensure lifelong learning opportunities by enabling and strengthening various pathways to learning involving formal and non-formal education modes - including one-on-one tutoring, ODLs, and smartphone apps - with a view to enabling all young people and adults to be literate and to acquire knowledge needed to respond to the fast transforming economy and skills requirements of the nation.

In particular, NIOS will be strengthened to provide opportunities to interested learners by making available courses/programmes of study through ODL relevant for youth and adults (particularly, with respect to vocational skills development, basic education, and continuing education). The SIOS's will develop analogous programmes in regional languages, with NIOS offering technical and academic support.

In anticipation of AECs being equipped with ICT devices, a wide range of digital material for adult education will be designed and available for use in AECs and on individual smartphones. Competitions to develop outstanding smartphone apps and other digital material for imparting functional literacy and other knowledge/skills to adults will be established in all Indian languages. A major goal will be to have a range of outstanding apps available for download to smartphones by adults (at minimal or no cost) to enhance literacy and other learning opportunities.

21.3. Training a cadre of adult education volunteers

P21.3.1. **Creating a cadre of Adult Education Centre managers and instructors:** A cadre of qualified and certified preraks (who manage and teach at the AECs) and adult education instructors (who teach at the AECs) will be created via special training modules conducted by special units dedicated to adult education in BITEs, DIETs, BRCs, and CRCs. Preraks and other teachers will be educated volunteers from the local area. Social workers, community organisations, NGOs, volunteers, and panchayats will be heavily involved in identifying such educated people from the local area who are interested in helping their communities on this most important mission of achieving 100% adult literacy. All preraks and adult education instructors will be given certificates of recognition by the State indicating their service roles, classroom hours taught, and/or the number of people they helped bring into literacy.

The modules for training preraks and adult education teachers would include material on: managing AECs and adult learners; working with social workers and community organisations and volunteers; the NCFAE; how to deliver literacy and adult education through teaching classes, one-on-one tutoring, and the use of technology; teaching-learning resources including textbooks, workbooks, smartphone apps, and other learning supplies; and techniques for developmental assessment.

> **A cadre of Adult Education Centre managers and instructors, as well as a large team of one-on-one tutors created through the National Adult Education Tutors Programme will be capacitated to deliver adult education.**

P21.3.2. **Creating a large team of one-on-one tutors through a newly-established National Adult Tutors Programme (NATP):** Like the NTP programme at the school level as in P2.5, literate and educated adults will also be recruited on a wide scale and given the opportunity to tutor and impart literacy to fellow adults through the NATP. Volunteers for the NATP will be managed by AECs, and will be connected to non-literate adults who would like to be tutored through the NATP programme. All tutors in the NATP will be given

certificates by the State recognising their service to their communities and the nation, and the number of hours taught and/or the number of people they helped bring into literacy.

21.4. Ensuring widespread participation in adult education

P21.4.1. **Locating and inviting persons in the community to join adult education programmes as both learners and instructors:** The location of adults / adolescents in the community who could benefit from, or teach in, adult education programmes will work in tandem with locating school dropouts in communities as in P3.7 and P3.8.

Namely, social workers traveling through their communities to identify and locate school dropouts and other children not attending school will also be commissioned (in collaboration with volunteers, NGOs, community organisations, and Zilla Saksharta Samitis wherever they exist) to locate and identify adults in the community who would benefit from adult education opportunities, particularly regarding literacy. This data will be recorded (with the permission of the beneficiaries) and shared with preraks/AECs in order to connect these adults to relevant adult education programmes. Parents of school children will be especially encouraged by social workers to join adult education programmes so that they naturally can be more involved in their children's education. Teenagers between 14 and 18 years of age, who are identified as non-literate, will be given the option to either join adult literacy programmes or re-enter formal education by joining remedial education programmes such as the NTP and RIAP.

Social workers, community organisations, and public service announcements will also invite enthusiastic literate adults to join adult education programmes as volunteer tutors or certified adult education instructors, and will connect them to preraks and AECs for this all-important mission of achieving 100% literacy in their community.

Encouraging every literate member of the nation to teach at least one person to read - as an AEC manager (prerak), adult education instructor, or as a one-on-one tutor - will be a key strategy in eliminating illiteracy in the country.

P21.4.2. **Convergence and partnerships with States and community organisations for adult literacy and education:** Convergence and partnerships will be forged with States and with various agencies and community organisations for establishing adult literacy and education programmes at AECs covering the five types of programmes as in P21.1.2. States, community social/social-service organisations, local industry, higher education institutions, and NGOs will be encouraged to participate in and help lead adult literacy and education programmes in their localities by locating volunteers, identifying adults in their communities who may benefit from these programmes, and helping to plan and develop relevant education programmes according to local needs.

In particular, the Government of India will establish a "Fund for Literacy" to support States, community organisations, and NGOs dedicated to the cause of adult literacy. The fund will authorise two funding streams - formula and discretionary grants. Formula grants will be available directly to States to implement the development of adult education programmes.

Discretionary funds will enable States to support and scale effective community-based interventions that address localised youth and adult literacy and education needs. A portion of these discretionary funds will be used to conduct due diligence on community-based organisations and to provide them with targeted technical assistance to enhance their capacity to deliver programming.

Community volunteers will be encouraged - each literate member of the community to teach at least one person to read will be a key strategy.

P21.4.3. **Involvement of higher education institutions:** Higher education institutions, through their community service initiatives, will also support local adult education efforts. In particular, students may be involved in local adult education initiatives as part of their social service requirements or their internships. Higher education institutions will also be encouraged to pursue research in adult education and establish Departments of Adult Education / Lifelong Learning. In the long term, once 100% literacy is achieved and there is universal access to quality school education, much of adult education, in the form of vocational and continuing education / lifelong learning, will be handled by universities.

P21.4.4. **Emphasis on women, and on socially and economically disadvantaged groups and regions:** Since literacy rates among women and among youth and adults belonging to SC/ST, some minority groups, and other disadvantaged groups continue to lag behind overall literacy rates, all initiatives for adult education will receive special emphasis and support for women and groups having relatively lower youth and adult literacy rates.Special emphasis will be placed on achieving substantial increases in youth and adult literacy rates in rural areas, and in States and districts currently having lower literacy rates.

P21.4.5. **Large-scale public awareness of literacy mission:** The public must be made aware of the national mission to attain 100% literacy, and of the resulting opportunities available for community and volunteer involvement. Large-scale public service announcements, media campaigns, and direct

communications between AECs and their communities will be prioritised in this direction, in conjunction with the initiatives for youth literacy discussed in Chapter 2. The goal will be to attain widespread enrolments in adult literacy and education programmes, and to recruit community members and volunteers as teachers for both adult and school education initiatives (including the NATP, RIAP, and NTP programmes). The principle that every literate citizen commit to teaching at least one adult or child how to read will be highly publicised, encouraged, facilitated, and supported.

P21.4.6. **Revival and rejuvenation of support and resource institutions for adult education:** Support and resource institutions for adult education at the Centre, State, and local levels - such as the Directorate of Adult Education, State Directorates of Adult Education, and Zilla Saksharta Samitis - will be reformed and rejuvenated as nodal agencies for coordination and support of all initiatives for adult education, with the express goal of attaining 100% literacy by 2030.

Chapter 22

Promotion of Indian Languages

Objective: Ensure the preservation, growth, and vibrancy of all Indian languages.

Indian languages are some of the most expressive and scientific in the world, containing much of the world's great literature and knowledge. They are also truly functional languages, many spoken by lakhs if not crores of people, and represent the culture and heritage of entire regions and generations, and of centuries if not millennia. True inclusion and preservation of culture and traditions of each region, and true understanding by all students in schools, can be achieved only when suitable respect is given to all Indian languages, including tribal languages. It is thus absolutely critical to preserve the truly rich languages and literatures of India, just as other technologically advanced countries (such as South Korea, Japan, France, Germany, Holland, etc.) have so deftly preserved their languages in the face of internationalisation.

While India has an extremely rich repository of literature as part of its cultural heritage, academic literature and textbooks in Indian languages are currently not of the highest quality, to the detriment of students whose mother tongues are among these various Indian languages. Where original textbooks and work exist in Indian languages, only a few schools, teachers, and students have access to them due to a lack of appropriate processes for dissemination. This deprives most of our students of the opportunity to engage with thought, research, and interpretations in their home/local languages.

While translations of textbooks and academic work are important, there is an urgent need to develop original materials as well. This must not be left to individuals - processes to create a rich repository of original textbooks,

storybooks, and other academic material in Indian languages must be institutionalised through government and philanthropic efforts.

Furthermore, as knowledge develops and is acquired from across the world, there needs to be adequate vocabulary across Indian languages to keep pace with these developments. This must be coordinated well for (at least) the languages in the Eighth Schedule. Other countries, such as France, have academies of experts at the Centre and State levels that help their languages keep pace, grow, and be preserved for posterity - while preserving the integrity of local variations; India must do the same with its languages.

Educational institutions must aim to offer rich programmes in Indian languages - at both the school and higher education levels. For this, school, college, and university teachers must have capacities in Indian languages. Thus, departments in Indian languages and their rich literary traditions must be set up at all higher educational institutions; these departments will help train language teachers who would then be deployed in schools across the country, in order for our children to learn well their own mother tongues as well as other Indian languages for the purposes of national unity and integration. This cycle will form the basis of the education system's contribution to the vibrancy and growth of all Indian languages, and India's rich cultural heritage and traditions. For our current children and for posterity, Indian languages must be rejuvenated and preserved in a way that they simply have not been for decades.

A National Institute for Pali, Persian and Prakrit will be set up.

P22.1. **Highly capable and strong Indian language and literature programmes across higher education institutions:** Universities shall be supported to set up and revive Indian language programmes and capabilities across the country. This must happen across Types 1, 2 and 3 HEIs. This will include but not be limited to Schedule 8 languages, and would include also, e.g. tribal languages wherever suitable. This will enable strong Indian language components in all teacher education programmes for school education. The four-year integrated B.Ed. programmes must integrate these language programmes adequately.

P22.2. **Recruitment of teachers and faculty:** All HEIs must recruit high quality faculty for at least three Indian languages, in addition to the local Indian language. All States will recruit at least one teacher of a non-local Indian language at each school complex.

P22.3. **Research on Indian languages, literature, language education, and related cultural areas:** Research on Indian languages, literature, language education, and related cultural areas will be supported by the NRF with adequate funds.

> **The mandate of the Commission for Scientific and Technical Terminology will be renewed and expanded to include all disciplines and fields, not just the physical sciences.**

P22.4. **Classical languages:** Specific plans for the promotion of classical Indian languages and literature must be developed by HEIs. The existing institutions, including National Institutes, for these languages will be strengthened and expanded. A National Institute for Pali, Persian and Prakrit will also be set up. All institutes supporting language programmes will be affiliated with and preferably located in universities, and will be funded to study comparative literature.

P22.5. **Vocabulary in Indian languages:** The mandate of the Commission for Scientific and Technical Terminology (CSTT) will be renewed and vastly expanded to include all disciplines and fields, and not just the physical sciences. This will require adequate staffing, regular meetings of experts, and funding to ensure its objectives are met.

Regional bodies/academies with a similar mandate will be set up to coordinate efforts at State/UT levels, for each of the 22 Schedule 8 languages. Both the CSTT and the regional bodies will coordinate with scholars and experts at universities for both coining and standardisation of terminology and related linguistic matters. While languages such as Hindi and Sanskrit, which are not primarily tied to one State, could be handled at the Central level in consultation with States, other languages would primarily be taken care of at the State level, with suitable Centre/States coordination to ensure maximal terminology in common.

Each of these bodies will publish the comprehensive updated dictionary of their respective languages every 3 years.

All curricula in both schools and universities will use the same standardised terminology that is developed by these institutions.

The efforts towards dissemination in the form of dictionaries, glossaries, etc. must be supplemented through facilitating extensive use by teachers and faculty of higher education, newspapers, magazines, books, etc.

Part IV

Transforming Education

Chapter 23

Rashtriya Shiksha Aayog

Objective: Synergistic functioning of India's education system, to deliver equity and excellence at all levels, from vision to implementation, led by a new Rashtriya Shiksha Aayog.

A good education system is central to realizing the ambitious socio-economic development goals of new India. On the other hand, education is also an extraordinarily complex field by its very nature and goals. India's vibrant diversity exacerbates this complexity. Furthermore this Policy, as is evident from the foregoing chapters, emphasises the creation of a knowledge society which recognises the multiple dimensions of education as well as its holistic nature.

The current governance of education in this country falls far short of being able to achieve this goal. This, in turn, will create additional complexities and challenges in the implementation of this Policy. Against this backdrop, there is a need to revisit the existing system of governance, its structures and leadership mechanisms. In particular, for example, one should recognise the need to bring in synergy and coordination between different ministries, departments and agencies among others to make this Policy work given the multiple linkages and also the need to address the dynamic nature of the educational environment. Achieving successful implementation of this Policy thus demands a long-term vision, availability of expertise on a sustained basis, and concerted action from all concerned actors, encompassing national, state, institutional and individual levels. In this context, the Policy envisages the creation of a National Education Commission (NEC)/RSA as an apex body for Indian education. As the highest level functionary of the government, the Prime Minister (PM) will chair this body and bring to bear the vision of education and the authority of the office in directing the educational endeavour. Also, such a step would ensure the necessary

cohesion and synergy between the multiple dimensions of education in the country.

The collective vision, under the leadership of the PM, of a body of eminent educationists, researchers, and professionals, with their holistic understanding of the complex demands of the knowledge society will provide an effective high level direction to the national education endeavour. This will also ensure that the NEC/RSA is flexible, responsive and adaptive to the imperatives of a dynamic fast changing environment. Educational governance as a standalone effort will not achieve the desired success unless the rest of the components of the society have the appropriate attitude and culture. This Policy, for its realisation in the coming years, would certainly call for extraordinary steps in governance, which are unprecedented, and in a sense will precede similar action that India would have to adopt in other national endeavours, in the context of realizing the totality of development.

A new apex body, the Rashtriya Shiksha Aayog or National Education Commission, will be constituted. It will be headed by the Prime Minister.

P23.1. **A new apex body for education - the Rashtriya Shiksha Aayog:** A new apex body, designated as the RSA / NEC, will be constituted. The RSA will be responsible for developing, articulating, implementing, evaluating, and revising the vision of education in the country on a continuous and sustained basis. It will also create and oversee the institutional frameworks that will help achieve this vision.

P23.2. **Ministry of Education:** In order to bring the focus back on education and learning, the MHRD will be redesignated as the Ministry of Education (MoE).

P23.3. **Chairperson of the Rashtriya Shiksha Aayog:** The PM of India will be the Chairperson of the RSA. The PM will convene a meeting of the RSA at least once a year, or as often as is deemed necessary, to review the progress of education in India in its totality, and to appropriately empower and motivate the RSA as needed through his/her authority.

P23.4. **Vice Chairperson of the Rashtriya Shiksha Aayog:** The Union Minister for Education (UME) will be the Vice Chairperson of the RSA. The UME will provide leadership and chair key operating bodies of the RSA, as detailed in the following.

P23.5. **Membership of the Rashtriya Shiksha Aayog:** The RSA will consist of approximately 20-30 members. Membership will include some of the Union Ministers, in rotation, whose ministries impact education directly (e.g. health, woman and child development, finance), as well as a few Chief Ministers of States, in rotation, the Principal Secretary to the Prime Minister, the Cabinet Secretary, Vice-Chairperson of the Niti Aayog, the senior-most Secretary in the Ministry of Education, and other such senior bureaucrats/administrators as the government may deem appropriate. At least 50% of the members will be eminent educationists, researchers and leading professionals from various fields such as arts, business, health , agriculture and social work. All these members will be people of high expertise, unimpeachable integrity and independence.

P23.6. **Rashtriya Shiksha Aayog Appointment Committee:** A RSA Appointment Committee (RSAAC), consisting of the PM, the Chief Justice of India, the Speaker of the Lok Sabha, the leader of the opposition in Parliament, and the UME, will be constituted to enable the appointments to the RSA and to other key related roles and structures.

P23.7. **Executive Council of the Rashtriya Shiksha Aayog:** The RSA will have an EC that will be chaired by the UME in his capacity as the Vice-Chairperson of the RSA. The EC will be charged with translating the vision of the RSA into action, driving the day-to-day work involved in ensuring that the school, higher education and related sectors are evolving in the desired direction, assessing progress through continually analysing data, and taking corrective actions as needed. The UME as chairperson of the EC will enable the functioning of the RSA, by garnering appropriate support for it across the legislature, the executive, and the judiciary, as well as across the States and Union Territories.

> **The Rashtriya Shiksha Aayog will be responsible for developing, articulating, implementing, evaluating and revising the vision of education in the country.**

P23.8. **Executive Director of the Rashtriya Shiksha Aayog:** The executive head of the RSA will be the Executive Director (ED), who will also be the Vice-Chairperson of the EC and a member of both the Standing Committees on Coordination (SCCs; see P23.10). The ED will be appointed by the RSAAC

and will have the rank of Minister of State. The ED will be a person of eminence in education, with deep understanding of India's education system, a record of stellar public contribution, and broad experience of administration and leadership. The ED will have a five-year term of appointment, which will be renewable one time.

P23.9. **Membership of the Executive Council:** The EC will have 10-15 members who will be nominated by the RSA for five-year terms which will be renewable just once. All members of the EC will be people with expertise, integrity, and distinction in their respective fields. Two-thirds of the members of the EC will be people from education and research. One-third of the members of the EC will be people who have significant leadership roles in administration, policy, and other fields of development. This will also include senior bureaucrats from the Ministry of Education, the Secretary from the Ministry of Finance, and the Chief Executive Officer of the Niti Aayog.

States may set up apex State level bodies called the Rajya Shiksha Aayog or the State Education Commission.

P23.10. **Standing Committees on Coordination:** The Vice Chairperson of RSA will also chair two SCCs. The first will consist of the Ministers of Education from all the States. The second will consist of Union Ministers from all the relevant ministries connected with education. They will be supported by the Joint Review and Monitoring Board (JRMB) (see P.23.14) to ensure timely coordination and implementation of goals and targets associated with the vision for education articulated by the RSA.

P23.11. **Complementary roles of the Rashtriya Shiksha Aayog and the Ministry of Education:** The existing functions and roles within the present MHRD (and related ministries) will be reviewed, mapped, and harmonised with the RSA for complementarity, including the roles and responsibilities of its support structures and teams. A committee chaired by the UME and consisting of the ED and a few members appointed by the UME will be constituted for this purpose at the earliest. Over a period of time, as the roles and functions stabilise, the RSA will be given Constitutional status through an Act of the Parliament.

P23.12. **Advisory Council of the Rashtriya Shiksha Aayog:** The RSA will also be supported by an Advisory Council (AC) consisting of a diverse group of 20-30 people including some of the foremost national and international experts in

education. The AC will serve as a think tank for the RSA. It will work in close coordination with the NITI Aayog, with the States, and with other bodies at the Centre as well as the States. It will work with the EC to analyse data, commission field research, and make appropriate policy recommendations. The Advisory Council will be chaired by an eminent educationist from the RSA and will have the ED as its member.

P23.13. **Membership of the Advisory Council:** The RSA will nominate the members of the AC and appoint its chair. The AC will consist of members from the following groups:

a. Eminent educationists from India and from across the world, and

b. Members from civil society and other fields related to education and research. All members will have five-year terms. The AC will be convened a few times a year, and both the EC and the RSA will take up its recommendations for consideration.

P23.14. **Joint Review and Monitoring Board:** A JRMB will be instituted by the RSA to review the performance of the various schemes of both the Central and State governments, and to ensure proper educational development and timely implementation of goals and targets. The JRMB will be a standing board with a term of two years. The JRMB will support all the bodies of the RSA to discharge their functions effectively, including the EC, SCCs and the AC.

P23.15. **Secretariat of the Rashtriya Shiksha Aayog:** The RSA will be supported by a strong secretariat, consisting of several layers of bureaucrats and technocrats, who will work on efficiently and effectively progressing the various decisions of the RSA. The Secretariat of the RSA will be adequately staffed and resourced, and housed within the premises of the RSA/MoE.

P23.16. **Coordination with regulatory bodies:** The following National level apex bodies will report to the RSA, which will oversee their smooth and effective functioning. The RSA will appoint the chairpersons, chief executives, and members of the Board of all the bodies that report to it:

- (Proposed) National Higher Education Regulatory Authority
- National Accreditation and Assessment Council
- (Proposed) General Education Council
- (Proposed) Higher Education Grants Council
- National Council of Educational Research and Training
- National Institute of Educational Planning and Administration
- (Proposed) National Research Foundation

P23.17. **Mechanism for conflict resolution:** In the event of conflicts in the functioning of the different components of the regulatory bodies, it will be the responsibility of the ED to resolve the same through the setting up of appropriate mechanisms.

P23.18. **Review of budgets:** Budgets and their utilisation by all agencies of the Government of India related to education in any way will be reviewed and approved by the RSA. Spending will be prioritised accordingly, in order to ensure coordination and sustained efforts in the direction of the educational vision.

P23.19. **Rajya Shiksha Aayogs / State Education Commissions:** Similar to the RSA, a RjSA/State Education Commission (SEC) may be constituted in each State, chaired by the Chief Minister with the Minister of Education, nominated by the chair, as Vice-Chair. The respective SECs can have as its members the ministers of education, ministers of other stakeholder ministries related to education, eminent educationists and professionals, and a senior representative from the RSA. The creation of the SECs in the States will facilitate better coordination with the Centre.

Terminology: "RSA"/ "NEC", when used in this Policy document, refer to the RSA itself and any of the other structures or roles supporting the RSA as duly authorised by it. The details of such authorisations will be determined subsequent to the constitution of the RSA.

Addendum

Making It Happen

Addendum 1

Financing

Education will be vital to individual, social and national development in the 21st century. To build and run an equitable and high quality education system, which enables such development, substantial investments will be required. These investments will require expertise, energy, time, and money.

This Policy unequivocally commits to raising investment in education substantially - including a significant increase in public financial investment, as also in philanthropic investment.

It needs to be noted that this Policy considers all financial support and spend on education as investment', and not as 'expenditure'. Clearly, monies spent on education are all investment into the future of our nation.

A1.1. Education - perhaps the best investment for a society

The nature of education is what economists call a 'quasi-public good'. In other words, the benefits of education accrue not only to the individuals who are educated, but more broadly to society as a whole. And this is without even considering many of the most important aims and benefits of education, which cannot be viewed in economic terms at all, e.g. robust democracy, an equitable society and cultural vibrancy.

While fully recognizing that all the benefits of education cannot be viewed from an economic perspective, the points that follow enumerate the strong economic case for investment in education.

From an economic perspective, the benefits of investing in education are often viewed in terms of 'return on investment' (ROI). Such ROI in education must be considered at many levels, even within the economic perspective.

- At the most basic level, education has ROI for the individual who is educated, in the form of increased earnings (wages) over a life time. This is referred to as 'private or individual return'.
- The next level is benefit to the individual who is educated in other forms of well-being, referred to as 'externalities' in economic literature, e.g. better health, increased life expectancy, and more productive professional and social networks. These benefits are not in money terms, but some part of these benefits can be monetised. Illustratively, better health would result in less cost to the individual and the system. It must be explicitly stated that such 'monetisation' captures only a part of these benefits, e.g. money alone cannot capture the overall effect of better health on the individual and their families.
- The societal level benefits of education are, again, only partly measurable in money terms (referred to as 'social return'). These accrue from many sources, e.g. the greater productive capacity of an educated workforce, the technological boost to economic activity, innovation driven by research and knowledge development, greater participation of women in more productive work, better public health outcomes, lower rates of incarceration, reduced infant mortality, improved family planning, and enhanced life expectancy, among many others.

There are many other important nuances within the economic perspective of education. Some of these are:

- Higher ROI in education across demographic/social groups, e.g. for women, for those in poverty, and for disadvantaged regions.
- ROI of various stages of education, e.g. on early childhood education, on secondary education, on tertiary education.

An overview of ROIs at these different levels and nuances follows - this is not an exhaustive list. There is an enormous body of research evidence across decades and across the world on these matters. It must be noted that there is inadequate research on these matters in India, as on most other matters. Therefore, the numbers below are reflective of global evidence from a range of economies, including those economically less developed to those which are more developed. These ROIs mentioned are in the standard way that they are measured and stated, i.e. as '%', which denotes percent return on investment for each year of education, up to college education.

- Each year of education yields a return of around 6-12% to earnings of individuals. The ROI is particularly large for women and for disadvantaged groups: ROI for women are, on average, one percentage point more than those of men. Particularly for early childhood education, the returns are larger at about 13% on an average, and range from 7%-18%; this is due to the larger advantages gained by individuals with early childhood care and education (ECCE), both in terms of overall health as well as education as the inputs are in the early years of growth.

- While there are a host of ways in which education confers other economic benefits to individuals which are hard to monetise, even single 'externalities' as achieving better health through education can yield an additional 3-4% to earnings of individuals.
- A very small part of the societal level benefits are quantifiable in monetary terms. One measure is the correlation between differences in years of education and output per capita across countries in the world. An estimate based on this measure suggests that societal level returns of education could measure up-to 3-4 times higher than private returns. In other words, they yield 25%-30% rates of social return over and above the 6-12% private rates of return. It is important to note again that this estimated return does not include the many other social goods being created, which cannot be monetised.

The numbers above must be viewed in comparison to other economic investment. For comparison, a long term study suggests that the global average returns on 'stocks' of publicly listed companies is around 5% while the return on financial instruments of debt such as 'bonds' is only 1.8%.

It is quite clear that there is a resounding case for investment in education, even when viewed with the narrow lens of economic returns. In fact, it is harder to find any better investment in a society.

And this is when some of the most important benefits of education cannot be monetised and hence are not considered in economic analyses. These benefits range from more equal societies and better environment to better human rights and more robust democracies.

For the sake of abundant clarity the use of the word 'return' in this chapter is in the way it used in economic literature for measuring benefits of investment in education, it in no way refers to 'profits'. This Policy is unambiguous and explicit that education must be a not-for-profit activity and enterprise in society.

A1.1.1. Criticality of public education

The extremely high overall benefits to society of investment in education - both economic returns and benefits that cannot be monetised - are quite clear. It is also clear that benefits are over and above individual benefits (private returns) on education. Thus, it is absolutely critical that the basis of education in a society be investment in public education. Such public education investment also has direct equity outcomes - those who benefit most from investment in education often do not have the capital to invest into education.

In summary, investment in education is the perhaps the best investment for a nation. This Policy envisions an outstanding education system in India, fully backed by the investment that is required to make that happen.

A1.2. Inadequate investment and other financial issues

On matters related to money, Indian education has faced multiple issues and challenges. Some of the key ones are listed in the following section, along with the Policy's approach to addressing these issues.

A1.2.1. Inadequate investment

Public expenditure on education in India was 2.7% of GDP in 2017-18. This was about 10% of the total government (Centre and States) spending (Economic Survey 2017-18). Public spending on education has never attained the 6% of GDP envisaged in the 1968 Policy, reiterated in the Policy of 1986, and which was further reaffirmed in the 1992 Programme of Action.

Countries across the world make substantially higher public investment (expenditure) in education than India does. This is true for countries across the spectrum of economic development and of size. The annual public investment in education in India over the last 5 years has been hovering around 3% of GDP. And (illustratively) the corresponding figures stand at 7.5% for Bhutan, Zimbabwe and Sweden; 7% for Costa Rica and Finland; 6% for Kyrgyzstan, South Africa and Brazil; 5.5% for U.K, Netherlands and Palestine; and 5% for Malaysia, Kenya, Mongolia, Korea & USA.(OECD & UNESCO, 2017)

It is also worth noting that many of these countries, particularly the OECD countries and the middle-income countries, are in a phase where expansion of education requires little public investment since their education systems are well established and provide complete access often with high quality outcomes. So, the allocation is mostly to merely run their systems. As against this, India still needs to make substantial investments in capacity expansion along with the expenditure to run the system.

Equally important is the fact that we need to make substantial additional investments to improve our education outcomes.

The large deficit in the public financing that is required versus what has been made available eventually manifests in compromised quality of educational outcomes and lack of improvement. A large proportion of public expenditure on education comprises salaries of people (including teachers) existing in the system, with grossly inadequate amounts allocated for other matters, e.g. learning resources, school maintenance, laboratories, midday meals, etc. Even lesser amounts are allocated for real changes and development of the system, which are necessary for improvement of key educational outcomes. Also, urgently needed manpower (e.g. teachers, support staff) is not added, or added with temporary contracts and low salaries. All of this is directly a result of inadequate financial resources being made available.

A1.2.2. Approach of the Policy on investment in education

The Policy envisions significant increase in public investment in education. This would go up from the current 10% of overall public expenditure in education to 20%, over a 10-year period. This gradual increase will ensure that as all the actions of this Policy come on stream, adequate funding is made available, while giving the government room to plan and accommodate these increases.

Two important trends of the Indian economy will support these increased investments. First, the rapid pace of economic growth will increase the size of the Indian economy, making it the world's third largest economy by 2030-32. The estimated size of the Indian economy (according to NITI Aayog, 2016) then is USD 10 trillion, up from the current USD 2.8 trillion. Second, driven by the systematic measures of the government, the tax-to-GDP ratio is likely to improve, continuing the trend of the past 4 years where it has improved by 1.5%.

Thus, the Policy is confident of the rising public investment in education, which will be appropriately allocated as per the directions of this Policy. An indicative summary of the use of these increased funding is in Section A1.4 of this chapter.

A1.2.3. Operational problems and leakage

The inefficiencies and operational problems within the financing system of education eventually affect the operations of schools and colleges.

The public system is plagued by lack of timely disbursement of funds. For example, salaries for college faculty are delayed by months in many States, schools get the funds for midday meals late, and facility maintenance funds are disbursed after long intervals while the requirement is on a daily and monthly basis.

Often the funds are released to the users, towards the end of the financial year. This leads to one of two problems. Either the funds are not utilied, since adequate time is not there to use the funds effectively, for example, to assess and buy the right learning resources or conduct high quality training. Or the funds are spent for the sake of spending, with no genuine educational impact. These problems are exacerbated because the next years budgets are dependent substantially on utilisation of funds in the current year.

An even more fundamental problem is that the investment in creating and developing human capacity is highly inadequate. This has a cascading effect across the education chain through many pathways, deeply affecting educational outcomes. From a financial perspective, this drives suboptimal utilisation of funds. For example, the District Institutes of Education and Training (DIETs) have about 45% vacancies (Concept Paper on Strengthening

District Institutes of Education and Training, MHRD, 2017) against their approved manpower, and are often staffed with people who are not appropriate for these roles; this leads to the DIET allocations not being used or being used ineffectively.

The importance of integrity and probity cannot be overemphasised. The education system is afflicted by the same kind of maladies on this matter, as most other things in the country. This leads to leakage of funds, eventually depriving students of resources that should have been deployed for their benefit and development.

A1.2.4. Approach of the Policy to operational problems and leakage in the financial system of education

The overall governance and management structures envisaged by this Policy will focus on the smooth, timely and appropriate flow of funds, and their usage with probity. This will be enabled by the clear separation of roles (e.g. of 'running the school system' by Directorate of School Education (DSE) and regulation by State School Regulatory Authority (SSRA), empowerment and autonomy to institutions (e.g. to Higher Education Institutions [HEIs] and school complexes), appointment of people to leadership roles who have the relevant capacity (e.g. as Block Education Officers [BEOs] and Directors), mechanisms for public spirited oversight (e.g. empowered School Management Committees [SMCs] for schools and Board of Governors [BoGs] for HEIs), rigorous planning processes (e.g School Development Plans [SDPs] for schools), and enlightened oversight thorough the Rajya Shiksha Aayog (RjSA) and Rashtriya Shiksha RSA. Also, the Policy gives top priority to the creation and development of human capacity at all levels.

The details of this approach are in the respective chapters (see Chapters 7, 8, 17 and 18); this Chapter has a few brief directional points.

A1.2.5. Role for non-public sources of funds

While India has had a long history of private philanthropic educational activity and direct institutional intervention in education, this impetus was lost after the first half century post-Independence. This was probably due to the mistrust of private activity over time that was seen to have become profit-seeking, and also the resurgence of increasing government control over education that happened in the 1960-80 period. Many private institutions became dependent on government financial support, as in the case of aided schools and colleges all over the country, and the distinction between private and public activity became blurred.

The resurgence of private educational provision that began gathering momentum after the economic liberalisation of the 1990s is arguably different from that in the past. It is evident, at least for a large segment of private providers, that education became de facto a commercial profit-seeking exercise. The tight control of the government on the allocation of licences for starting schools, colleges and universities resulted in individuals and organisations with political connections being able to dominate the new institutional space.

Governments, in an effort to control profit-seeking, have tended to introduce tighter regulatory controls and restrictions, thereby robbing institutions of autonomy and preventing innovation. The control of teacher education through a plethora of rules is a cautionary tale of such overzealous regulation, which has neither succeeded in checking expansion of profiteering poor quality institutions nor in encouraging good public-spirited institutions and overall improvement of system outcomes.

Public spirited not-for-profit initiatives in education have faced other hurdles. For example, the operational obstacles in collaborating with public systems, absence of clear mechanisms for contributions to find good use, and the absence of an enthusiastic response on the part of many public officials. While it is clear from India's own experience, as in other countries', that such philanthropic capital has a significant role to play in education, we are far from leveraging its full potential. For example, some of the best universities in the world are philanthropically funded, while we have very few such instances in India. The current situation is a function of both the hurdles that philanthropic initiatives face, and the philanthropic intent of the public, especially the wealthy.

A1.2.6. Approach of the Policy to encourage not-for-profit, public-spirited private funding in education

This Policy calls for the rejuvenation, active promotion and support for private philanthropic activity in the education sector. All sources of philanthropic activity will be encouraged through these mechanisms such as the 'development office' in the HEIs, funding for research through the National Research Foundation (NRF), etc. 'Philanthropic' is used by the Policy in it broadest sense to include public spirited funding on a not-for-profit basis for any educational endeavour. This includes philanthropy by individuals (whether large or small scale), corporate social responsibility (CSR) funds of corporates, and community mobilisation of funds. The Policy also suggests an equitable method for charging fees to those students who have the capacity to pay in higher education, while fully recognizing that such fees cannot support financial viability of any HEI; private philanthropic (or public) support will be required (see P18.6.3).

The matter of commercialisation of education has been dealt by the Policy through multiple relevant fronts, including the 'light but tight' regulatory approach, the substantial investment in public education, and by mechanisms for good governance including transparent public disclosure. These matters are dealt with in detail in Chapters 8, 17 and 18 of the Policy.

A1.3. Policy for higher investment to improve quality and equity of education

The overall public investment on education (by both Central and State governments) will be scaled up substantially in the coming years to realise the goals of education that the nation requires. Along with this, other sources of financing will also have to be scaled up.

A1.3.1. Public investment to improve quality and equity of education

While this Policy reaffirms the national commitment of 6% of GDP as public investment in education, it recognises that this would only be possible as India's tax-to-GDP ratio improves. Given the recent decisive actions and encouraging outcomes in this regard, it would certainly be possible to reach the 6% number in the mid-to-long term.

It is more effective (and actionable) in the short-to-medium term to consider goals of public investment in education as a proportion of overall public expenditure. On this count, the policy envisions that the overall public expenditure on education must increase to 20% of all public expenditure - Central and State governments combined - for the appropriate Policy actions to be undertaken.

There must be a gradual but sure increase of resource allocations. This must happen in the face of other existing claims on government finances. The growth rate of GDP will not be a constraint, given the overall increasing size of the Indian economy. Such increases may be helped by dedicating specific revenue streams (such as cesses) to education or by gradually reserving a larger share of a 'growing pie' of revenues to education.

A1.3.1.1. **Incremental increase in public investment till it reaches 20% of total public expenditure:** At an overall level, e.g. a 1% increase every year, will take public expenditure to 20% in 10 years from the current 10%. Funds must be strategically deployed to improve access to quality education at all levels, from early childhood education to higher education. Additional one-time expenditure will also be required for all levels of education. This will require adequate autonomy with fiduciary accountability at different levels, including

the school, to utilise the allocated funds effectively. A directional estimate of resources that may be required to implement key areas in this Policy is appended at the end of this chapter.

A1.3.1.2. **Multiple sources of funding - complementary to public funding:** Within the public and private sectors, there are multiple sources of finance which includes the government revenue- based funds as well as philanthropy and business-related funds. For example, public expenditure is not restricted to funds allocated by Central and State governments from their revenue but also includes funds deployed by public sector corporations as a part of their mandated CSR efforts in line with the Companies Act, 2013. These different sources of funds must be seen together as complementary sources of financing that can provide the required financial impetus to meet all the policy actions envisaged.

A1.3.1.3. **Central government expenditure on education has to double:** The current investment from the Central government will have to increase proportionately, for overall public investment on education to rise to 20% of overall public expenditure. The primary source of funds will be from tax receipts. The recent trends reported and projections are optimistic in terms of the tax collections; e.g. if trends such as 'a 50% increase in unique indirect taxpayers under the GST' and 'additional 1.8 million individual income tax filers since November 2016' (Economic Survey 2017-18) continue, the increased allocation can happen at a faster pace.

A1.3.1.4. **State government expenditure will have to increase significantly in some States:** The States support a substantial part of the overall education investment in the country, around 75% of the overall education spends are by the States. Some State governments have been able to spend a substantial proportion of their total expenditure on education, showing that the allocation is not always linked to the economic status of the State. Comparatively economically disadvantaged States have incurred larger expenditure on education in order to provide adequately for envisioned education projects. Some UTs / States spend nearly a quarter of their expenditure or up to a fifth on education, while others spend only around 11-12% of their total expenditure. All State governments have to prioritise education and increase allocation, thereby driving the national education agenda as in this Policy. It is recommended that all States allocate at least 20% of their overall spends to education.

A1.3.1.5. **Appropriate allocations for all matters:** Required sums will be allocated for all heads, and special care will be taken that financial support is not in any way compromised for important components e.g. learning resources, matters of student safety and well-being, nutritional support, adequate staffing, teacher development and support. These allocations will ensure that full and adequate support is provided for all initiatives to ensure equitable high quality education for underprivileged and underrepresented groups.

A1.3.2. Efficient disbursal and use of public funds - addressing operational issues

The structural, governance and regulatory mechanisms to enable efficient management of the public education system along with a high degree of probity are detailed in other chapters (e.g. See Section 18.6). This improved system will enable sound financial management and smooth funds flow by tackling the current hurdles, which will be eliminated systematically. This financial system will ensure transparency and integrity, and support the effective functioning of the education system, by providing adequate funds in a timely manner, without uncertainties, and empowerment for usage.

A1.3.2.1. **Funds flow - on time:** It is critical that all allocated funds are released on time by the Central and State governments, and disbursed such that the flow of funds aids on-time utilisation. Once the budgets are approved, there should not be any reason for withholding any part of the allocated funds.

The fund release will be done completely and as per agreed upon in the institutional development plans (IDPs). This is essential for actionizing the plans and implementing this Policy, hence should not be violated. Post the release, the funds will be disbursed without delay at any level till they reach the last unit where they are to be spent. The processes of fund disbursal will be made completely transparent such that they can be easily monitored and accountability can be fixed at all levels.

A1.3.2.2. **Utilizing allocated funds:** Complete and on-time utilisation of disbursed funds is a crucial aspect of education finance. The allocated funds will be released and disbursed to the respective account at the beginning of the financial year as per the IDPs and the utilisation of the amount will be spread across the year or at given points of time as per the IDP. Deviations to this plan will be allowed within the financial year in order to encourage the execution of the plan; however, lump sum utilisation of funds towards the end of the financial year will be discouraged.

A1.3.2.3. **Genuine utilisation of funds:** Funds that are allocated based on the IDPs submitted should be completely utilised, and this Policy encourages stakeholders at all levels to facilitate this process. It provides for the required autonomy at all levels with accountability only against the submitted plans; while allowing for deviations to some extent due to change of plans and external circumstances.

While funds must be disbursed and not withheld, the utilisation must be genuine, and the culture of utilisation for utilisation's sake must be stopped. At different levels of the governance structure, stakeholders will be encouraged to utilise all the funds without any fear as long as it is honestly done. Integrity in this matter will be measured, including against the plan and in the processes adhered to. Therefore, the processes should be made transparent such that, for

all honest stakeholders, it is easy to utilise any funds and at the same time all concerned stakeholders can be aware of the expenditure incurred.

A1.3.2.4. **Capacity development for optimal utilisation of funds:** Substantial and adequate investment will be made to develop human and institutional capacity to utilise funds appropriately.

A1.3.3. Systematic encouragement and opportunity for 'philanthropic' support to education from multiple sources

The emphasis of this policy is to ensure adequate public funding for education, however this increased public funding does not have to be at the cost of public-spirited private activity.

Public and private activity are not at odds, but need to complement each other. Private investment in provision of education, that is truly not-for-profit and philanthropic in nature, must be encouraged and facilitated. Along with this, profiteering must be checked and scrupulously pushed back using existing laws diligently. This section describes the manner in which not-for-profit private activity such as philanthropy, CSR, etc., can be encouraged and supported to aid the improvement of the education system.

A1.3.3.1. **Supporting a philanthropic culture:** State and Central governments will develop mechanisms and a culture to support philanthropy. On the ground response and support by the public system are often most important for such efforts to succeed or fail; hence, culture and capacity for this would be developed within the public system - especially at the levels concerned with the operational handling of these matters. This support must be available to both small and large philanthropic efforts.

A1.3.3.2. **A new class of grant-making private institutions as part of the enabling mechanism:** A new class of private institutions purely for grant-making with impeccable integrity, which pool smaller private funding for both new institutions and also for supporting existing institutions, may be established. The government may facilitate the establishment of such institutions by using the good offices of large private donors, both individuals and existing Trusts, and also creating the necessary regulatory enablers. In other words, this can be operationalised through the private philanthropic trusts model which already has precedence in the country.

A1.3.3.3. **Qualitative shift in the focus of regulation:** Truly not-for-profit private initiatives through philanthropic funding must be actively encouraged, enabled and sought out. Philanthropic funding that would enable this may

be prioritised towards "direct intervention". Direct intervention works at two levels:

a. Setting up high quality institutions that improve both quality and equity of provision; and

b. Reaching ultimate beneficiaries directly through existing institutions. For-profit educational activity must be completely stopped.

A1.3.3.4. **Facilitating setting of up of high quality philanthropic institutions committed to inclusion:** Every State government may set up processes of fast-track regulatory permission for obtaining licences for starting institutions, including for obtaining permission for establishing infrastructure, entirely on a not-for-profit basis. The funders must have proven financial capacity for not just beginning operations, but ensuring long-term sustainability with strong corpus/endowment funds.

In order to enable such initiatives, the Central government must enable such funders through removing obstacles for national operations. At the same time, there must be clear financial guidelines that ensure that such institutions meet educational and financial norms for quality. For example, all such new institutions must not depend on fees for more than 25% of expenses; the student-faculty ratio must not exceed 30:1 in schools and 20:1 in higher education institutions; they must have a presence in small towns and Special Education Zones (see Chapter 6).

Every such new institution must have a long-term commitment to inclusion of socio-economically disadvantaged students, and supporting them till graduation through adequate bridge programmes, mentoring and other systematic academic support initiatives. At the same time, these institutions must have complete financial and curricular autonomy as described in Section 17.1 on 'Empowered governance and effective leadership' (See P17.1.20 and P17.1.21). This encouragement to set up new high quality institutions would focus on priority areas; e.g. early childhood education in underserved geographies and for excluded populations, in higher education leading to liberal undergraduate degrees, in teacher education and in preparation of medical professionals. Involvement of industry bodies in the improvement of quality of technical education is also to be promoted.

A1.3.3.5. **Thrust areas to channelise private funding for existing institutions:** Private philanthropic funding will also be channelised towards critical needs of existing institutions. This policy identifies four key thrust areas for private funding to support existing educational work. Such funding will be made available to all institutions, both public and private. This list is not exhaustive and more such avenues would be added as and when required.

a. **The first thrust area to channelise private funding is scholarships:** A large nation-wide initiative for drawing private funding to award both need-based and achievement- based scholarships at all levels of education must be initiated. The initiative can be administered by the grant-making institutions mentioned in the foregoing paragraphs. The organisational mechanism for

administering the funds must be transparent, low on bureaucracy and managed by private philanthropic groups with impeccable track record and integrity. Grants for doctoral programmes that prepare teachers in higher education will be an important element of this initiative.

b. **The second thrust area to channelise private funding is infrastructure funding:** Many existing institutions need significant funding for adding to physical infrastructure. A global fund-raising initiative that allows the grant-making institutions to create an infrastructure fund is important. National and international financial institutions could play an important part in this. Infrastructure requires substantial one-time funding, which large national banks and international financial institutions should be encouraged to contribute to.

c. **The third thrust area to channelise private funding is faculty recruitment and development in technical and other areas of tertiary education:** Existing institutions will be supported to fill faculty positions through grants specifically directed for this. Many existing institutions have not been able to improve the quality of their teaching and research because faculty have not been supported for continued professional development. Supporting institutions for faculty development programmes, and hiring of temporary faculty to replace those on professional development leave can be funded under this initiative. A tried and tested approach in this regard is to establish Chairs in HEIs. Several types of Chairs supported by various national and international philanthropic initiatives should be established in this regard across all the major HEIs in the country.

d. **The fourth thrust area is teacher professional development and organisational funding in school education:** Professional development of teachers through existing public systems is under-funded and also relatively ineffective. This is an area for significant public-private partnerships. In addition, private initiatives are needed in areas like creation of computing platforms, apps and tools that help institutions manage their infrastructure, operations and communication effectively.

   State governments may consider creating independent trusts, governed by eminent educationists, which can help channel funds donated by philanthropists to public schools, for various purposes, e.g. creating infrastructure, improving meals, purchase of books. Such trusts will enable philanthropists to deploy their funds in an optimal manner in the service of public education.

A1.3.3.6. **Encouraging philanthropic activity for research and innovation:** Philanthropy will be encouraged in domains and areas which require research and innovation. For this, NRF will offer opportunities for research funding.

This encouragement will also be given in areas that involve taking risks, which large public systems take time to engage with and find hard to make a success of. This would include matters that require attracting and building

teams that do cutting edge and/or difficult work. Such efforts would be used for learning and eventually scaled up by the public systems.

A1.3.4. Some specific sources of philanthropic funding

All sources of philanthropic funds, including individuals, corporations and communities will be encouraged. Individuals who do large scale philanthropy and those who are equally (or even more) committed, but may be able to offer a lower quantum of funding because of their relatively lower income and wealth, will be equally encouraged. While all the mechanisms and actions discussed in A1.3.3. will be available to all sources of philanthropic funds, some other matters are relevant in the context of corporations and specific communities.

A1.3.4.1. Business and industrial corporations

The Companies Act, 2013 is a landmark legislation and one of its kind in the world wherein there is an attempt to guide and quantify CSR expenditure. The Act, as it came into effect from April 1, 2014, mandated every company, 'private limited or public limited, which either has a net worth of ₹500 crore or a turnover of ₹1000 crore or net profit of ₹5 crore', to spend at least '2% of its average net profit for the immediately preceding three financial years on Corporate Social Responsibility activities'. One of the important areas listed for CSR is 'promoting education, including special education and employment, enhancing vocation skills especially among children, women, elderly, and the differently abled and livelihood enhancement projects.' This aspect should be further strengthened with mechanisms to channel the CSR funds into specific areas prioritised in this Policy.

a. Corporate social responsibility should bring in substantial funds for education: Large business houses and industries should be encouraged to contribute to the national agenda on education. Appropriate pathways will be created to enable this.

b. Corporate social responsibility of Public Sector Undertakings: CSR activity of PSUs could focus substantially on education, especially in disadvantaged communities and areas close to their areas of operation.

A1.3.4.2. Alumni and local communities

A largely untapped source of funds is the alumni of our educational institutions. Anecdotal references indicate that many alumni are keen to fund various initiatives in the institutions they have studied in, but do not find appropriate means to do so. Efforts to engage and seek the support of local communities have also been inadequate across the education system. In both these cases,

there are successful exemplars available across the country, which can be learnt from.

a. **Facilitating contribution of alumni and local communities:** Appropriate measures should be taken up in order to facilitate the aspirations of alumni and the local community to contribute to education.

   Transparency is the key principle in this regard and, if people are assured that their contributions will be utilised well, it can become a regular source of funds, particularly for the many old and well-established institutions, which in most cases are public ones.

   Institutions will be encouraged to set up mechanisms to enable these contributions. In the case of the HEIs the 'Development Office' will play a key role in enabling this (See P17.1.17. Strong structures and mechanisms for raising resources - Development Office). One of the first steps in this regard will be to develop a dossier with relevant information about the alumni of HEIs. Creating and maintaining a dossier on alumni should become a part of the culture in all educational institutions in the country.

b. **Encouraging the continued involvement of religious institutions in national educational activities:** Hindu Mutts and Ashrams, Christian Missionary Institutions, Islamic trusts, Buddhist and Jain community initiatives, Gurudwaras, etc. have contributed to various educational initiatives throughout our history. They have also eagerly participated in the national educational initiatives which should be acknowledged and strengthened in a manner that the overall objectives of this policy received further support.

A1.4. Where will the additional resources be required?

The implementation of this Policy will require additional resources. Some of the additional investment will be of 'one-time' nature (See A1.5; table A1.9), and some will be of continuing/recurring nature (See tables A1.1 to A1.8). The increase in public expenditure on education from the current 10% of the overall public expenditure in the country to 20% over a period of time will support the Policy implementation.

This section has a very high level estimate on additional resources required for different areas of the Policy. These estimates are only directional indicators, the

actual requirements may vary significantly on the basis of several factors such as timing, prevailing economic conditions, and demographic trends. These estimates are only for public funds; private philanthropic funds will be invested in addition to these estimates.

A1.4.1. Overview of additional continuing/ recurring expenditure

The percentage figures indicate the estimated additional expenditure for that particular head as a proportion of the total public (government) expenditure that may be required. These are estimated on the basis of 2017-18 (Budget Estimate) public expenditure figures - ***the actual figures in terms of rupees will grow with the growth in public finance over time.***

Allocation items	Annual* expenditure- % to total expenditure by the government#	Relevant sections in this Policy Document
A. Early childhood education - expansion / improvements	1.4	Chapter 1 (P1.2.)
B. Foundational literacy and numeracy - NTP / RIAP / Libraries	0.2	Chapter 2 (P2.5., P2.6. and P2.15.)
C. Schools - additional teacher costs / complex resources	2.0	Chapter 7 (7.1. and 7.2.)
D. Food / nutrition (MDM+) - Breakfast / enhanced nutrition component	1.3	Chapter 2 (P2.1.)
E. Teacher education and continuing professional development of teachers	0.6	Chapter 5 (5.3. and 5.5.)
F. Universities and colleges - Quality / faculty /operations	5.0	Chapter 10 (10.3., 10.7. and 10.11.)
G. Research - NRF funding	0.4	Chapter 14 (P.14.1.3.)
Total additional expenditure as % of overall public expenditure (per annum)	10.9	
Current proportion of public expenditure on education (per annum)	10	
Overall proportion of Public Expenditure on Education (per annum)	20.9	

*recurring / will grow with the public finance growth
#all percentages are rounded off to the closest first decimal
NTP: National Tutors Programme
RIAP: Remedial Instructional Aides Programme

Table A1.1

The high-level explanation and approximate workings for each of the items in Table A1.1 are presented in the sections that follow.

A1.4.2. Expansion and improving early childhood education

Early childhood education will be improved and will become an integral part of school education, and also be included in the RTE Act.

Additional expenditure required for:	% to Total Government Expenditure*
1. Universalisation of early childhood education - Catering to all children in the age group 3-6 years	1.3
2. Capacity development of teachers & helpers - 20 days of annual in-service programme	0.1
Total additional expenditure required for Early Childhood Education *all % are rounded off to the closest first decimal	1.4

Table A1.2

The investments in early childhood education will be on creating adequate infrastructure, developing learning resources, building teacher capacity and ensuring nutrition.

Infrastructure has to be improved on two fronts. Existing Anganwadis have to be improved and on the other hand, new infrastructure has to be created wherever early childhood education groups will be added to existing schools.

All early childhood education centres have to be adequately and substantially resourced, including for safety, creating a cheerful environment and providing comfort. Learning resources have to enhanced and improved.

The current Anganwadi workers will require substantial training to develop as early childhood educators. Subsequently, they will need continuous

professional development like other school teachers. Additional teachers have to be appointed to have an adequate number of teachers at this level. Also, the service conditions of Anganwadi staff will have to be improved.

Nutrition has to be improved for all children, for which early childhood centres are important. The nutritional related aspects the current Anganwadi system focusses on are a bare minimum, and need to be enhanced considerably.

A1.4.3. Foundational literacy and numeracy

Basic literacy and numeracy require immediate attention, as currently there is a huge deficit of learning. In this regard, it is important to actionize the NTP and RIAP; these two programmes with their large teams of well trained volunteers will help teachers in schools bridge the gap on an immediate basis.

Additional expenditure required for:	% to Total Government Expenditure*
1. National Tutors programme (NTP) for all public schools.	0.04
2. Remedial Instructional Aides programme (RIAP) - Aid Instructors (AI) for every school complex	0.03
3. Capacity building of WAIs	0.01
4. Libraries - creating print rich environment in each class	0.09
Total additional expenditure for Foundational Literacy-Numeracy *all % are rounded off to the closest second decimal and the total to the first decimal	0.2

Table A1.3

The NTP and RIAP are part of the short mid-term measure. The tutors and aid instructors will have to go through adequate training on a regular basis till the goal of foundational literacy and numeracy is achieved.

Suitable reading material is critical in enhancing foundational literacy and numeracy. It is, therefore, crucial that all learning spaces are converted into print rich environments with library corners, class libraries and school libraries. The investment will be on resources, which include books, journals and magazines. These reading materials will not only be teaching learning materials for the classroom but will also excite children about learning during the Foundational years.

A1.4.4. Adequate and appropriate resources at all schools, leveraging the efficiency of school complexes

All schools will be adequately and appropriately resourced, including physical infrastructure, learning resources, and human resources, including teachers. For this, school complexes will be looked at as the basic unit of educational administration, so that maximum efficiencies can be obtained.

Additional expenditure required for:	% to Total Government Expenditure*
1. Additional staff resourcing	
- Filling all teacher vacancies - salary impact	0.5
- Teachers for special education, theatre, arts, sports, etc. for every school complex	0.5
- Social workers for school complex	0.05
2. Increase in maintenance budget for Schools	0.7
3. Recurring expenditure on learning resources	0.3
Total additional expenditure required for adequate Resourcing of Schools *all % are rounded off to the closest first decimal, except item 3	2.0

Table A1.4

All teacher vacancies will be filled, with appropriate pupil teacher ratio and for full coverage of subjects. Teachers will be appointed for areas such as special education, art, theatre, yoga etc. The appointments will be made so as to adequately resource the entire school complex, fully staffing the primary schools, and cross leveraging subject teachers and other special area teachers across the complex. Social workers will be appointed the school complexes. Also, adequate support staff will be provided to the school complex.

Learning resources of various kinds, including digital resources, books, and laboratory material will be provided and will need continuous renewal. This will also include material for children to work with, including for vocational education, sports, music.

Adequate funds for maintaining all facilities in the schools will be provided, including for electricity, water and general infrastructure upkeep.

A1.4.5. Food and nutrition

The importance of adequate nutrition cannot be overemphasised. The mid-day meal in public schools has played a critical role in the well-being of children, however it has over time become very insufficient because of inadequate financial allocation. Food at all levels of the school will be improved to provide full and adequate nutrition to all students.

Additional expenditure required for:	% to Total Government Expenditure*
1. Adding Breakfast 2. Increasing per meal allotment for nutritional adequacy	0.6 0.7
Total additional expenditure required for Breakfast and MDM+ *all % are rounded off to the closest first decimal	1.3

Table A1.5

The per-meal allotment will be increased to provide nutritionally adequate food to all students, appropriate to their age. This allotment will also be linked to food inflation, so that there is a continuing increase to maintain nutritional adequacy. Breakfast will be added to the meals provided in schools. The school-based meal programme will be extended up to Grade 12. All food choices will be made judiciously on the basis of nutrition content, fresh local sourcing, and diversity. Safety and quality of food will be paramount; adequate investments will be made to ensure this.

1.4.6. Teacher education and continuing professional development of teachers

The improvements in the teacher education system and effective continuous professional development of teachers will require significant specific support.

Additional expenditure required for:	% to Total Government Expenditure*
1. High quality four-year integrated B.Ed. programmes across the country - investment in faculty, learning resources, operations	0.3
2. Reimagined continuous professional development for over 8 million teachers.	0.3

Total additional expenditure required for Teacher Development	0.6
*all % are rounded off to the closest first decimal	

Table A 1.6

Teacher education in the country will move towards a high quality four-year integrated B.Ed. programme. This will require substantial investment and capacity creation. To enable these high quality teacher education programmes, significant investment will be required in facilities, as also in the development of teacher educators. The approach of continuous professional development of teachers will be changed completely to provide effective, multimodal and high quality professional development opportunities. This will be very important in the short- and mid-term improvement of educational outcomes.

A1.4.7. Universities and Colleges

The new institutional architecture of higher education with large multidisciplinary institutions, with a liberal education approach, will require significant investment. This will range from faculty, learning resources, infrastructure, maintenance, etc.

Additional expenditure required for:	**% to Total Government Expenditure***
1. Type 1: 150-300 HEIs (research universities)	1.0
2. Type 2: 1000-2000 HEIs (teaching universities)	3.5
3. Type 3: 5000-10000 HEIs (colleges)	0.5
Total additional expenditure required for Higher Education	5.0
*all % are rounded off to the closest first decimal	

Table A1.7

The consolidation of smaller HEIs and development of large multidisciplinary institutions will offer possibilities of resource efficiency. However, overall significant support will be required for ensuring availability of adequate facilities, learning resources, and faculty. This will also include factoring for appropriate staffing of faculty, to support research along with teaching in Type 1 and 2 institutions.

The development of high quality vocational programmes within mainstream education will also require substantial support.

A1.4.8. Research

Funding for research has to be accessible and broad-based across disciplines. High quality research will require the development of an overall vibrant system.

Additional expenditure required for:	% to Total Government Expenditure*
Support for NRF	0.4
Total additional expenditure required for Research activities *all % are rounded off to the closest first decimal	0.4

Table A1.8

The NRF will be a new apex body set up to facilitate research. The NRF will be an autonomous body that will establish mechanisms to fund and mentor research capacity creation.

A1.5. One time expenditure

In addition to the above recurring investments across various segments, there will be one-time expenditure as well on some things. These one-time expenditures will primarily be for resources, which includes infrastructure related work.

Allocation items	% to Total Government Expenditure*
	One-time
A. Expansion and improvement of ECCE centres	0.6
B. Strengthening school infrastructure	0.3
C. Digital resources	0.1
D. HEI teaching infrastructure and residences	1.4
E. Scholarships endowments	0.6
Total Additional Expenditure required *all % are rounded off to the closest first decimal	3.0

Table A1.9

Addendum 2

Way Forward

Objective: Ensure that the Policy is fully implemented in its spirit and intent, through coherence in planning and synergy across all bodies involved in education.

Any policy is only as good as its implementation. The National Education Policy 2019 needs to be implemented true to its spirit for India's education to be transformed. This implementation will require multiple initiatives and actions, which will have to be taken by multiple bodies in a synchronised and systematic manner. Further, the strategy of implementation would involve setting appropriate timelines and priorities.

A2.1. Policy implementation

India has a history of well-thought out and well-intentioned policy initiatives, guided by principles of access, equity and quality, and implemented with thought and care. However, the challenge of implementation of initiatives, which involve multiple bodies and multiple stakeholders, remains. To add to this complexity are issues such as investment, reviews and mid-course corrections, communication, contextualisation, advocacy, etc.

These issues lead to challenges such as incoherence between policy and implementation, partial implementation, a fragmented and/or a programmatic and short-term approach, overlap and/or lack of synergy between programmes and activities designed to reach a common goal, inadequate or inappropriate distribution of resources, inadequate monitoring mechanisms, and so on.

A few key guiding principles for implementing this Policy, along with a broad road map of actions to be initiated by the appropriate bodies/authorities is enumerated in this chapter. It is quite clear that these principles and

roadmap are a 'high level' guide; much more detailed planning will have to be done by the bodies in charge of the implementation.

A2.2. Principles to guide implementation of National Education Policy 2019

In order to ensure the Policy is realised, implementation must be guided by the following principles:

A2.2.1. **Spirit and intent:** Implementation of the spirit and intent of the Policy is the most critical matter. While the Policy has much detail, the real intent and the spirit of the Policy must be the most important consideration.

A2.2.2. **Phased implementation:** It is important to implement the Policy initiatives in a phased manner

a. Each policy point has many steps

b. Phases are critical as they lay the foundation for the next level of implementation

c. Phased implementation provides for better overall integrity of the Policy

A2.2.3. **Prioritisation:** Prioritisation is important to appropriately sequence the policy initiatives

a. Though the Policy aims to transform education comprehensively, it requires a step-by-step approach which includes prioritisation of action

b. Prioritisation will help in sequencing the action in a manner that the most critical and urgent actions are taken up first, enabling a strong base

A2.2.4. **Comprehensiveness:** Comprehensiveness of implementation - not piecemeal; addressing the entire education system as a whole will be the approach

a. This Policy is focused on transforming education in the country and hence it takes a comprehensive look; there is a totality about the Policy

b. The approach therefore has to be a full-fledged one in order to achieve the objectives

A2.2.5. **Building on existing structures when possible:** The focus will be to build on existing structures - to revive and invigorate existing structures wherever possible will be the priority; building new ones is a second priority and will be within the existing structures

a. The strength of any good Policy lies in building on what already exists - particularly the structures and institutions; therefore this Policy will prioritise on strengthening what exists

b. New structures and institutions will aid in further streamlining and consolidating the education sector

A2.2.6. **Joint monitoring and cohesive implementation:** Since education is a concurrent subject, it needs careful planning, joint monitoring and cohesive implementation.

A2.2.7. **Appropriate resourcing:** Timely infusion of requisite resources - human, infrastructural, and financial - will be key for the satisfactory execution.

A2.2.8. **Analysis and review:** Careful analysis and review of the linkages between multiple implementation steps will be necessary in order to ensure effective dovetailing of all initiatives. This will also include early investment in some of the specific actions that will be imperative to ensuring a strong base and a smooth progression for all subsequent programmes and actions.

A2.3. Approach to road map for implementation: Key actions led by various bodies

The section below outlines the broad timelines and responsibility for policy initiatives stated in the National Education Policy 2019.

The end date for implementation, which indicates that the policy initiative has been implemented completely as envisaged and is in steady state, has been stated for each action (in bold within square brackets).

Responsibility for anchoring a policy initiative is assigned to a body/bodies which will be central to implementation in terms of driving the reform. This would imply that all bodies which report to the anchoring body, as well as all others which will contribute towards attaining the same goals will also be involved and accountable for the end result. For example, while regulation of higher education will be done by NHERA, it will also require NAAC and AIs working in tandem.

The roadmap identifies key policy initiatives at a systemic level. The actual implementation of the Policy will require a much greater level of detail. It is up to the body/bodies leading the specific policy areas to undertake planning of implementation in much greater detail, in adherence to the principles mentioned above.

Actions by Ministry of Human Resource Development

The establishment of the Rashtriya Shiksha Aayog (RSA) / National Education Commission (NEC) will be a first priority to help in comprehensively and holistically implementing this Policy.

MHRD.1 The RSA / NEC will be established. All relevant initiatives for its formation will be facilitated by the Ministry of Human Resource Development. [**2019**]

MHRD.2 The RSA Appointment Committee (RSAAC), consisting of the Prime Minister (PM), the Chief Justice of India, the Speaker of the Lok Sabha, the Leader of the Opposition in Parliament, and the Union Minister for Education, will be constituted to enable the appointments to the RSA and to other key related roles. [**2019**]

MHRD.3 The MHRD will be re-designated as the Ministry of Education (MoE). [**2019**]

Actions by the Rashtriya Shiksha Aayog and Ministry of Education

The following actions will ideally be taken by the RSA and MoE once MHRD.1-3 are completed.

RSA-MOE.1 The RSA and its bodies will be constituted and relevant appointments will be made by the RSAAC. This will include the Executive Council, the Standing Committees on Coordination, and the Advisory Council. It will also include the appointment of the Executive Director of the RSA. The transition, as outlined in the Policy, will include formalising the roles and responsibilities of MoE, the RSA, and its bodies. [**2020**]

RSA-MOE.2 The entire higher education regulatory system will be transformed with a single regulatory body, and the existing multiple regulatory bodies will evolve into playing new roles. The National Higher Education Regulatory Authority (NHERA) will be set up as the single regulatory body for the entire HE sector. The UGC and existing regulatory bodies will be transformed into the Higher Education Grants Council (HEGC) and Professional Standard Setting Bodies (PSSBs), respectively. The General Education Council (GEC) will be constituted as an academic leadership institution. [**2020**]

RSA-MOE.3 Early childhood education will be integrated with school education in all aspects as outlined in MoE-SDoE.1. In keeping with this change, oversight of early childhood education will be the responsibility of MoE, while MWCD and MHFW will continue to be responsible for their mandates. MoE will coordinate with MWCD, RSA, and State level equivalents to fulfil this responsibility. [**2020**]

RSA-MOE.4 The RTE Act will be reviewed comprehensively to enable the Policy. Availability of free and compulsory quality pre-primary education will be included as an integral part of the RTE Act. Availability of free and compulsory quality education for Grades 9-12 will also be made an integral part of the RTE Act. [**2020**]

RSA-MOE.5 Indian Institutes of Liberal Arts (IILAs) or Multidisciplinary Education and Research Universities (MERUs) will be set up as models of the liberal education approach, with specific focus on integration of vocational and professional education into mainstream higher education. [**2025**]

RSA-MOE.6 At least one high quality HEI offering multidisciplinary education, including liberal arts programmes will be set up in each district; the effort will start with educationally backward districts. This action will be aligned with MoE-SDoE.6. [**2025**]

RSA-MOE.7 A significant number of high quality HEIs of all three Types will be distributed equitably across the country, with special emphasis on disadvantaged districts, to achieve a GER target of 50% by 2035. Access to quality higher education will be made possible through the Nalanda and Takshashila missions. [**2035**]

RSA-MOE.8 The National Research Foundation (NRF) will be established with the intent to strengthen research capacities and catalyze vibrant research primarily focusing on the higher education system. [**2020**]

RSA-MOE.9 An autonomous National Educational Technology Forum (NETF) will be set up to facilitate review of initiatives related to the use of technology in education along with sharing of best practices. [**2020**]

RSA-MOE.10 The potential of technology for improving governance and management will be facilitated by setting up the National Repository of Educational Data (NRED). [**2020**]

Actions by Rashtriya Shiksha Aayog and State Departments of Education

RSA-SDOE.1 Once PMO-MHRD.1-3 and RSA-MoE.1 are completed, interface mechanisms will be established between the States and the RSA. A Rajya Shiksha Aayog (RjSA)/ State Education Commission (SEC) may be constituted in each State, chaired by the Chief Minister with the Minister of Education (nominated by the chair) as the vice-chair. These bodies may have structure, constitution, and norms similar to those of the RSA, and perform similar functions within the State. [**2020**]

Actions by State Governments and State Departments of Education

SG-SDOE.1 Individual State governments along with State Departments of Education will develop comprehensive plans to resource all schools adequately, and group schools into school complexes according to the population distribution, connectivity, and other local considerations.

While the size and specific composition of the school complexes will vary, the grouping will ensure convenience of access/support for safe access for students and families, administrative ease and a support system for teachers and principals.

The resourcing plan will ensure adequate teachers, physical infrastructure, learning resources and support facilities. This plan will also include a strategy for consolidating schools that have very small student numbers (<20). Such consolidation will be done only if it does not impact access to the school. [**2020**]

SG-SDOE.2 The plan in SG-SDoE.1 will be implemented. Teacher recruitment and deployment will be carried out on the basis of detailed planning and assessment of requirements at the school and school complex levels to ensure that each school within the complex has the desired number of teachers across subjects. Due focus will be on teacher professional development, service conditions, and performance management. While resources may be shared across schools in a complex, it will be ensured that each individual school has adequate resources to deliver on the requirements of the Policy. [**2022**]

SG-SDOE.3 The curricular reforms in SCERT.1-3 will also be accompanied by the creation of enabling environments and the provision of relevant learning resources across all schools to deliver on the new curricular, pedagogical, and assessment paradigms. [**2023**]

Actions by the Ministry of Education and State Departments of Education

MOE-SDOE.1 With the help of MWCD, RSA, and their State equivalents, early childhood education will be integrated with school education in all aspects - governance, regulation, curriculum, and pedagogy; however, physical integration of existing structures will not be attempted. This action will be aligned with RSA-MoE.3. [**2020**]

MOE-SDOE.2 Once MoE-SDoE.1 is completed, delivery of early childhood education at the institutional level will be planned for all States via a four pronged approach contingent on local needs, and feasibility of geography and infrastructure. A comprehensive plan for each State for implementation of suitable infrastructure and delivery of early childhood education curriculum as in NCERT.1 and SCERT.1 will be developed by 2022 and fully implemented by 2028. This action will be aligned with SG-SDoE.2. [**2022-2028**]

MOE-SDOE.3 School curriculum and pedagogy will be restructured in the following stages, with internal coherence and integrity, appropriate to the relevant age groups:

- 5 years of the Foundational Stage: 3 years of pre-primary school and Grades 1-2.
- 3 years of the Preparatory (or Latter Primary) Stage: Grades 3-5
- 3 years of the Middle (or Upper Primary) Stage: Grades 6-8
- 4 years of the High (or Secondary) Stage: Grades 9-12

The secondary stage will comprise four years of study from Grade 9 to Grade 12, where each year is divided into 2 semesters, for a total of 8 semesters. [**2022**]

MOE-SDOE.4 Foundational literacy and numeracy will be addressed urgently and with unconventional measures as will be necessary. Large-scale mobilisation and engagement

of the community will be leveraged for this purpose. The Remedial Instructional Aides Programme (RIAP) and the National Tutors programme (NTP) will be launched to suitably support school teachers.

School teachers will be trained to lead the RIAP and NTP, and will also undergo specific capacity development to ensure foundational literacy and numeracy amongst all students. All public school teachers will be covered. [**2022**]

MOE-SDOE.5 The actions in MoE-SDoE.3-4, NCERT.1-2, and SCERT.1-3 will be accompanied by creating enabling environments and providing relevant learning resources across all schools to deliver the new curricular, pedagogical, and assessment paradigms. [**2023**]

MOE-SDOE.6 The new institutional architecture for higher education will comprise three Types of institutions: Type 1 institutions focusing equally on research and teaching, Type 2 focusing primarily on teaching but conducting significant research as well, and Type 3 focusing only on teaching. Plans will be developed for this transformation into three Types of HEIs based on a careful evaluation of current status. These plans will inform RSA-MoE.6. [**2020**]

MOE-SDOE.7 All academic and non-academic posts in HEIs will be filled in permanent (tenure) track. Processes for professional development of faculty will be institutionalised both at the level of the HEI and at the National level. MoE and State Departments of Education will coordinate with NHERA to fulfil this responsibility. [**2023**]

MOE-SDOE.8 Initiatives to include educationally disadvantaged and underrepresented groups at all stages of education will include Special Education Zones in educationally disadvantaged regions across the country with targeted funding. This will be applicable to both school and higher education. Funds at the National level will be created for providing scholarships to students at both school and higher education level. These funds will also be used for research on improving inclusion. Targeted support and programmes to address specific URGs as per their particular needs will be provided. These actions will be aligned with RSA-MoE.7 and SG-SDoE.2. [**2025**]

MOE-SDOE.9 Initiatives to protect the rights of the child will include generating awareness through online programmes for students, teachers and parents, and formalising processes for enforcement in schools. The latter will inform SSRA.1. [**2020**]

MOE-SDOE.10 Programmes will be initiated to focus on functional literacy and numeracy, and follow up through basic education, skill development and continuing education programmes. Programmes will particularly target women, and individuals from socially and economically disadvantaged groups. [**2020**]

MOE-SDOE.11 High quality resources, including translations between various Indian languages, and between Indian and foreign languages will be made available through online repositories for a range of educational materials. Original texts will be commissioned and developed in all Indian languages, beginning with the Schedule 8 languages but not limited to them. [**2030**]

MOE-SDOE.12 The teacher education system will be overhauled completely. Teacher preparation for all school stages will be offered only in multidisciplinary universities through a four year programme, with the curricula and processes being revamped to address current issues with teacher preparation. Institutions currently offering the two year programme will either transition to this mode or be phased out; no new two year programmes will be given recognition. MoE and State Departments of Education will coordinate with NHERA and NCTE as PSSBs to fulfil this responsibility. [**2030**]

Actions by State Departments of Education

SDOE.1 The State School Regulatory Authority (SSRA), an independent state-wide body with quasi-judicial status, will be set up as the sole regulator for the entire school education (including early childhood education), with responsibility also for oversight of the system and implementation of accreditation. Both public and private schools will be treated in the same manner to encourage private philanthropic efforts and to ensure the public-good nature of education. The DSE will handle operations. Operations of the public schooling system of the whole state will be handled by the DSE. [**2020**]

SDOE.2 Processes for teacher recruitment and management will be changed and improved. [**2023**]

SDOE.3 School complexes will be formed. [**2023**]

Actions by State School Regulatory Authority

SSRA.1 The School Quality Assessment and Accreditation System (SQAAS) for the State, developed in collaboration with NIEPA, will be used by the SSRA for its regulatory practice, and will be the basis for the requirements and criterion for LSS. [**2023**]

Actions by Directorate of School Education

DSE.1 Decentralisation of governance will be enabled through the constitution of District Education Councils/Zila Shiksha Parishad (headed by the Collector/District Magistrate), and through participation of teachers, school leadership and the community in the governance mechanisms of the school/school complex through the School Management Committee/School Complex Management Committee. [**2023**]

DSE.2 All school leaders will be appointed on the basis of their capacity of leadership and suitability for the roles, not on the basis of seniority. Continuous Professional Development support shall be made available to school leaders. [**2023**]

Actions by National Council of Educational Research and Training

NCERT.1 A National Curricular Framework for all school stages, from early childhood education to Grade 12, will be developed in accordance with the Policy - in particular, with the new pedagogical structure in **MOE-SDOE.3.** The framework will have an integrated and flexible approach, keeping the focus on essential learning and critical thinking, flexibility, multilingualism, languages and literature, communication, quantitative reasoning, creativity, physical wellness, vocational exposure, ethical and moral reasoning, digital literacy, and knowledge of India and current affairs. The mandate of NCERT will be expanded to include the role of early childhood education. [**2020**]

NCERT.2 A new assessment paradigm will be put in place, aligned with NCERT.1, that focuses on the assessment of core concepts and skills along with higher order capacities. Formative assessment will be carried out in a variety of modes in order to optimise learning. Guidelines will be provided for

assessment for learning and development in each area of the National Curricular Framework in accordance with this new paradigm. [**2021**]

Actions by State Council of Educational Research and Training (or equivalent organisations) in each State

SCERT.1 Once NCERT.1 is completed, SCERTs (or equivalent organisations) will develop State Curricular Frameworks aligned with the National Curriculum Framework. [**2021**]

SCERT.2 State assessment paradigms will be developed that are aligned with NCERT.2 and SCERT.1. [**2022**]

SCERT.3 Textbooks and materials will be developed in a variety of languages for all curricular areas in accordance with the State Curricular Frameworks and assessment paradigms in SCERT.1-2. [**2023**]

Actions by National Council of Educational Research and Training and by State Council of Educational Research and Training (or equivalent organisations) in each State

N/SCERT.1 The Continuous Professional Development system for teachers will be redesigned across all States. CRCs, BRCs, BITEs, DIETs and SCERTs will be rejuvenated by appointing adequate number of high quality people, improving infrastructure and empowerment; it will be ensured that they do not get caught up in administrative tasks. NCERT will support SCERTs in fulfilling this responsibility. [**2023**]

N/SCERT.2 Teachers and institutional leaders will be oriented towards the effective use of technology in pedagogy, other curricular matters, and management of education. [**2025**]

Actions by Central Boards and State Boards of Assessment

CB-SB.1 Certificate examinations of Central Boards and State Boards will be redesigned in keeping with the curricular and assessment reforms in NCERT.1-2 and SCERT.1-2,

respectively. In particular, the comprehensive Grade 10 and 12 Board Examinations will be eliminated, and replaced with modular assessments for each subject that can be taken anytime between Grade 9 and Grade 12.

The certification requirements for the end of the middle stage and for Grades 10 and 12 will be redesigned. In particular, certificate examinations for Grades 10 and 12 will reflect the semester and modular examination-based scheme.

While certification of competencies of students at the school-leaving stage will be handled by the Boards of Assessment, the Boards will have no role in determining the curricula (including textbooks). [**2023**]

Actions by the Ministry of Education and the National Testing Agency

MOE-NTA.1 The autonomous National Testing Agency (NTA) will administer aptitude tests and tests in various subjects, which can be taken on multiple occasions during the year. [**2023**]

Actions by National Assessment and Accreditation Council

NAAC.1 NAAC will create a fully developed accreditation ecosystem, comprising around 100-150 Accreditation Institutes, within which all HEIs are accredited on an ongoing basis. [**2032**]

Actions by National Higher Education Regulatory Authority

NHERA.1 All HEIs will have complete administrative, academic and financial autonomy, with empowered and independent Boards of Governors, after having been accredited. The system of affiliating universities will be stopped. NHERA will work with NAAC to fulfil this responsibility. [**2030**]

NHERA.2 Poorly performing teacher education institutions, not adhering to basic norms, will be shut down. [**2023**]

Actions by Higher Education Grants Council

HEGC.1 A fair and transparent system for determining public funding based on criteria aligned with accreditation norms will be put in place. [**2023**]

Actions by General Education Council

GEC.1 A National Higher Education Qualifications Framework (NHEQF) outlining the learning outcomes associated with degree/diploma/certification will be developed as the guiding document for curricula across all disciplines and fields, that do not have their individual Professional Standard Setting Bodies. In case of vocational streams, correspondence between the National Skills Qualifications Framework shall be established to the NHEQF to enable equivalences and mobility. [**2023**]

Actions by National Higher Education Regulatory Authority and General Education Council

NHERA-GEC.1 Norms, standards and guidelines for systemic development and regulation of open and distance learning (ODL) will be prepared by NHERA, and a framework for quality of ODL that will be recommendatory for all HEIs will be developed by the GEC. [**2023**]

Actions by Higher Education Institutions

HEI.1 All undergraduate programmes, including professional and vocational, will offer liberal education programmes with rigorous specialisation through a multidisciplinary approach. These programmes will have multiple exit options; all undergraduate programmes will be redesigned with these principles. The transformation will be demonstrated through RSA-MoE.5. [**2023**]

HEI.2 Professional and vocational areas of studies (e.g. engineering, medicine, legal, teacher education) will be completely integrated into higher education and follow the same liberal education approach. This responsibility will be facilitated by the regulatory system, the GEC and PSSBs. [**2023**]

HEI.3 Innovative, vibrant, rigorous and responsive curricula

will guide the design of stimulating learning experiences and assessment for development, based on the NFHEQ. This action will be aligned with GEC.1. An effective and enriching learning environment will be in place across all HEIs.

HEIs will be supported by GEC and the respective PSSBs in fulfilling this responsibility. [**2030**]

HEI.4 In order to ensure equitable access to all desirous of HE, curriculum and pedagogy of ODL programmes will be strengthened, so that their quality is better or equivalent to the best in-class programmes. HEIs will be facilitated by NHERA in fulfilling this responsibility. This action will be aligned to NHERA-GEC.1 [**2030**]

HEI.5 Student support will be provided in HEIs not only to succeed academically; students will also be provided care, to support their well-being and holistic development. This will be aligned with MoE-SDoE.8. [**2030**]

Actions by relevant appointing body/committee

ALL.1 Appointment of people in leadership roles in all bodies and institutions - the RSA, NHERA, NCERT, NIEPA, SCERT, BITE, DIET, school leaders, etc - shall be through rigorous and transparent processes, shared in the public domain for scrutiny. Only persons with a strong academic and personal record of the highest integrity will be placed in leadership positions, and will perform their responsibilities with commitment and transparency. [**2020**]

Actions by the Union Government and all State Governments

UG-SG.1 An incremental increase in public investment will be made progressively till it reaches around 20% of total public expenditure. [**2030**]

A2.4. Conclusion

Yearly joint reviews of the progress of implementation of the Policy, in accordance with the targets set for each action, will be conducted by the designated team constituted by RSA and the corresponding State body.

There will be provisions for rescheduling certain State targets, after due identification of the reasons leading to non-adherence with set timelines; remedial measures will be taken immediately to resolve issues.

By 2030, it is expected that the past decade would have provided ample opportunities for evaluation, fine tuning as well as major changes, if called for, to be effected. Therefore, a comprehensive review of the status of the implementation of the Policy in its entirety will be undertaken.

In the decade of 2030-40, the entire Policy will be in an operational mode, following which another comprehensive review will be undertaken. It is, of course, expected that annual reviews will continue.

Appendices: Part 1

Appendix I

Drafting Committee for Draft National Education Policy

1	**Manjul Bhargava** R. Brandon Fradd Professor of Mathematics, Princeton University Princeton, U.S.A.
2	**K. Ramachandran** Advisor, IAIEPA National Institute of Educational Planning and Administration New Delhi
3	**Anurag Behar** CEO, Azim Premji Foundation & Vice Chancellor, Azim Premji University Bengaluru
4	**Leena Chandran Wadia** Observer Research Foundation Mumbai

Appendix II

Peer Reviewers of the Draft National Education Policy

1	**Jayaprakash Narayan** General Secretary Foundation for Democratic Reforms Hyderabad
2	**P. Rama Rao** Chairman Governing Council Indian Institute of Science Bengaluru
3	**J.S. Rajput** India's representative to the Executive Board of UNESCO Former Director, NCERT, New Delhi
4	**Vijay Kelkar** Former Chairman National Institute of Public Finance and Policy New Delhi
5	**Aniruddha Deshpande** Former Principal Bruhan Maharashtra College of Commerce Pune
6	**Dinesh Singh** Former Vice-Chancellor Delhi University, New Delhi
7	**Mohandas Pai** Chairman Manipal Global Education Bengaluru

Appendix III

Secretariat to the Committee for Draft National Education Policy

The University Grants Commission (UGC), New Delhi was the Secretariat to the Committee, which provided all administrative and secretarial assistance as well as logistical support for conduct of meetings, hospitality, travel and stay arrangements.

1.	**Dev Swarup** Joint Secretary (Admn.) University Grants Commission
2.	**Jitendra K. Tripathi** Joint Secretary (Admn.) University Grants Commission
3.	**Tirath Ram** Under Secretary University Grants Commission
4.	**Hitesh Manik** University Grants Commission
5.	**Dwarka Prasad** University Grants Commission

Appendix IV

Technical Secretariat to the Committee for Draft National Education Policy

The University Grants Commission (UGC) set up a Technical Secretariat in the National Assessment and Accreditation Council (NAAC), Bengaluru with office space and basic facilities for the smooth day to day functioning of the Committee. M. K. Sridhar, Member, headed the same. A team of Chief Consultants were inducted to assist the Committee in data analysis and research. Two consultants on the National Education Policy from the Ministry also assisted the Technical Secretariat.

1	**Leena Chandran Wadia** Observer Research Foundation Mumbai
2	**Viraj Kumar** Visiting Professor Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru
3	**Vinayachandra** Director Veda Vignana Shodha Samsthanam, Bengaluru
4	**Chetan B. Singai** Assistant Profesor Ramaiah College of Law, Bengaluru Deputy Director, Ramaiah Public Policy Centre, Bengaluru
5	**Gowrisha** Head New Initiatives, Centre for Educational and Social Studies, Bengaluru
6	**Hem Raj** Assistant Section Officer (ASO), MHRD
7	**Shakeel Ahemed Quereshi** Consultant (NEP), MHRD
8	**Ramanand Pandey** Consultant (NEP), MHRD
9	**Soumya Prakash B.S.** Researcher

NAAC, Bengaluru, as the agency nominated by UGC, provided the space and other logistics for the Technical Secretariat. For ensuring smooth facilitation, the following NAAC officials played a critical supportive role.

1	**Vishnukant S. Chatpalli** Advisor
2	**M. Arun** Administrative Officer
3	**V. Uma Shankar** Finance Officer
4	**V. Lakshman** Senior Facilitation cum Liaison Officer

Appendix V

Consultation Process: A Walkthrough

The National Education Policy is the outcome of an extensive, highly participatory and inclusive, multipronged consultation process. The task of this Committee was daunting in so far as it is a culmination of the ongoing exercise that the Ministry of Human Resource Development (MHRD) has undertaken since January 2015. The Committee had the onerous task of analysing and examining a humungous volume of suggestions, inputs, reports, and outcome documents that preceded its own efforts.

The underlying spirit that dictated the Committee's own course of crafting this significant document was primarily to bring out a vision document which will hold the test of time for at least another 20 years. Hence, the Committee felt it extremely important that its recommendations must judiciously address the diverse needs of multiple stakeholders in a harmonious manner, moving towards a common minimum goal of providing quality education to all.

To achieve this overarching goal, notwithstanding the elaborate consultations that happened earlier, this Committee also had separate deliberations and discussions with different stakeholders. These range from autonomous bodies, such as the University Grants Commission (UGC), All India Council for Technical Education (AICTE), National Council for Teacher Education (NCTE), National Council of Educational Research and Training (NCERT), Association of Indian Universities (AIU), National Institute of Educational Planning and Administration (NIEPA), National Assessment and Accreditation Council (NAAC); premier educational institutions across the sector; public, private and non-governmental educational institutions and organisations; eminent personalities from various walks of life; professional education groups, namely technical education, medical education, legal education, skill based education and agriculture education, along with early childhood education. It held meetings with Ministries of the Government of India, viz. Human Resource Development, Health and Family Welfare, Women and Child Development, Skill Development and Entrepreneurship, Legal Affairs, and Science and Technology, along with NITI Aayog, and international organisations like the United Nations Children's Fund (UNICEF). The Committee also interacted with national level science, social sciences, liberal arts and humanities, and language academies, as well as think tanks.

Being sensitive to the diversity in the country, the Committee sought views and inputs from representatives of different minority organisations (including Muslims, Christians, Sikhs, Jains, Parsis and Buddhists), and differently-abled, scheduled caste, scheduled tribe, other backward classes, transgender and other marginalised groups. These consultations were aimed at capturing the needs and challenges of each of these sections, so that equal opportunities for participation and a level playing field was assured.

Another major segment consulted was a wide range of industry associations/bodies, which made detailed presentations on improving the quality of higher education, enhancing employability through skill development as well as promoting research and innovation.

Given the federal nature of our country and the fact that education is a subject under the Concurrent List, the Committee supplemented earlier consultations with State governments with actual interactions with ground level institutions, namely elementary and secondary schools, private and government schools, State public and private universities, and NGO-run education institutions.

The work of this Committee is seen as a continuum to the ongoing exercise of formulating the National Education Policy, which was initiated by MHRD in January, 2015. For this purpose, 33 themes were identified with 20 themes from higher education and 13 themes from school education. The consultation process has been quite different from earlier efforts, which adopted a top down approach with an Education Commission giving recommendations based on reports from its own internal working groups. The current exercise was more participatory and democratic, involving bottom up consultations aimed at giving each citizen an opportunity to participate in policy making. A multipronged approach was adopted, which included online consultations through the MyGov portal, thematic and expert consultations by a varied set of institutions/organisations, and Ministry-driven and State-led grassroots consultations through Panchayats upto the State level, using a technology platform.

To ensure the spirit of cooperative federalism, the consultation process was discussed in the 63rd meeting of the Central Advisory Board on Education (CABE) held in August 2015. Six Zonal Meetings were held by MHRD in Eastern, Central, North-Eastern, Western, Southern and Northern Zones, covering all States and Union Territories during September and October 2015. These Zonal Meetings were attended by Education Ministers and officials of the respective States/Union Territories. The New Education Policy was also discussed in the 64th CABE meeting held in October 2016. The grassroots consultations, covering 2.5 lakh Gram Panchayats, 6600 Blocks, 6000 Urban Local Bodies (ULBs), 676 districts and 36 States/Union Territories were carried out between the period from May to October 2015. Finally, 110623 villages, 3250 blocks, 962 ULBs , 406 districts, and 21 States uploaded the result of the consultations on survey.mygov.in. The number of suggestions, inputs and comments received included around 35,000 online suggestions from a cross-section of the population, 31 Government of India Ministries, 29 States and Union Territories, 76 Members of Parliament, 305 from Very Important Persons (VIPs), 324 Organisations/Institutions, 485 letters from individuals, 7613 electronic communications, and inputs from the Prime Minister's Office and the President's Secretariat.

The MHRD constituted a five member Committee for the Evolution of the National Education Policy headed by the Former Cabinet Secretary Late Shri TSR Subramanian on 31 October 2015, which submitted its Report in May 2016. This was followed by an internal exercise in the Ministry which resulted in a document titled 'Some Inputs for Draft National Education Policy, 2016'. Both the Report of the TSR Subramanian Committee as well as the MHRD document have been treated as inputs for the current Committee. Under rule 176, a short duration discussion was taken up in the Rajya Sabha on the Draft National Education Policy 2016 during the Monsoon session of Parliament on 10 August 2016. An 'Education Dialogue' to discuss the New Education Policy with Members of Parliament was held in November 2016.

The voluminous and numerous inputs posed a major opportunity as well as a challenge for the Committee, which identified key words to decide on its thematic thrusts. This Committee has not only benefitted from its own consultations and stakeholder engagements

but has also greatly drawn its Policy actions from the wide range of suggestions and reports. This Committee met 12 times, and its thinking evolved from identifying critical themes to actually translating these into a Policy document, after several layers of iterations, for furthering the goals of access, equity, quality, accountability and affordability. The details of the consultations are given at Appendix VII.

Shakila Shamsu
OSD (NEP) and Secretary to the Committee
MHRD

Appendix VI

Meetings of the Committee for Draft National Education Policy

S. No.	Details	Date & Venue
1	First Meeting	11 July 2017 – UGC, New Delhi
2	Second Meeting	16-18 August 2017 – NAAC, Bengaluru
3	Third Meeting	21-22 September 2017 – NAAC, Bengaluru
4	Fourth Meeting	10-12 October 2017 – UGC, New Delhi
5	Fifth Meeting	14-15 November 2017 – NAAC, Bengaluru
6	Sixth Meeting	30 November-1 December 2017 – NAAC, Bengaluru
7	Seventh Meeting	22-23 December 2017 – NAAC, Bengaluru
8	Eighth Meeting	30-31 January 2018 – NAAC, Bengaluru
9	Ninth Meeting	19-20 February 2018 – NAAC, Bengaluru
10	Tenth Meeting	26 March 2018 – Raman Research Institute, Bengaluru
11	Informal Meeting of the Committee Members with the Chairman	29 May 2018 – UGC, New Delhi
12	Eleventh Meeting	4 June 2018 – UGC, New Delhi
13	Committee Briefing Meeting	17 August 2018 – UGC, New Delhi
14	Informal Meeting of the Committee	20 October 2018 – NAAC, Bengaluru

Appendix VII

Details of Consultations by the Committee for Draft National Education Policy (July 2017 onwards)

The following is an inventory of various organizations, autonomous bodies, institutions, ministries, eminent persons and individuals with whom the Committee or any member has met and interacted. It is to be noted that under the first category, only institutions/ organizations have been listed which were represented by several functionaries and officials, whose individual names have not been included.

I. Ministries / Institutions / Associations / Organizations

1. *Aga Khan Foundation*
2. *Akhil Bharatiya Vidyarthi Parishad*
3. *Akshay Patra Foundation*
4. *All India Council for Technical Education*
5. *All India Management Association*
6. *All India Secondary Teachers Association*
7. *Anjuman-I-Islam*
8. *Associated Chambers of Commerce of India*
9. *Association of Healthcare Providers India, Bengaluru*
10. *Association of Indian Universities, New Delhi*
11. *Azim Premji University*
12. *Bharath Shikshana Mandal*
13. *Bharatiya Shiksha Shodh Sansthan, Lucknow*
14. *Catholic Bishops' Conference of India*
15. *Center for Contemporary Studies – Indian Institute of Science, Bengaluru*
16. *Confederation of Indian Industry*
17. *Consortium of Christian Minority Higher Education Institutions*
18. *Darul Uloom Deoband*
19. *Department of Higher Education, MHRD*
20. *Department of Legal Affairs, New Delhi*

21. *Department of School Education and Literacy, MHRD*
22. *Education Promotion Society of India, New Delhi*
23. *Federation of Indian Chambers of Commerce & Industry*
24. *Indian Academy of Sciences*
25. *Indian Council of Agricultural Research, New Delhi*
26. *Indian Council of Historical Research*
27. *Indian Council of Philosophical Research*
28. *Indian Institute of Management, Ahmedabad*
29. *Indian Institute of Science, Bengaluru*
30. *Indian National Academy of Engineering*
31. *Indian National Science Academy*
32. *Indian Society for Training and Development*
33. *Institute of Chinese Studies*
34. *International Conference on Harmonisation*
35. *International Institute of Information Technology, Bengaluru*
36. *Librarians from leading Institutions, Bengaluru*
37. *Maharashtra Cosmopolitan Education Society, Pune*
38. *Maulana Azad National Urdu University, Hyderabad*
39. *Ministry of Agriculture, New Delhi*
40. *Ministry of Health and Family Welfare, New Delhi*
41. *Ministry of Science and Technology, New Delhi*
42. *Ministry of Skill Development and Entrepreneurship, New Delhi*
43. *Ministry of Women and Child Development, New Delhi*
44. *Muslim Educational Society*
45. *National Academy of Sciences*
46. *National Assessment and Accreditation Council, New Delhi*
47. *National Association of Software and Services Companies*
48. *National Council of Educational Research and Training*
49. *National HRD Network*
50. *National Institute of Educational Planning and Administration, New Delhi*
51. *National Institute of Labour Economics Research, New Delhi*
52. *National Institute of Personnel Management*
53. *National Law School of India University, Bengaluru*
54. *National Social Science Association*

55. *New Delhi Institute of Management*
56. *NITI Aayog, New Delhi*
57. *Osmania University, Hyderabad*
58. *PHD Chamber of Commerce and Industry*
59. *Prime Minister's Office, Government of India*
60. *Pune International Centre, Pune*
61. *R V College of Engineering, Bengaluru*
62. *R V Institute of Management, Bengaluru*
63. *Rahmani Foundation, Bihar*
64. *Rashtrotthana Parishat, Bengaluru*
65. *Representatives from Transgender groups*
66. *Shanthilal Mutha Foundation*
67. *Shiksha Sankul, Bengaluru*
68. *Shiromani Gurdwara Parbandhak Committee*
69. *Sri Guru Tegh Bahadur Khalsa College*
70. *Tata Trusts*
71. *Technology Information Forecasting and Assessment Council*
72. *UNICEF*
73. *University Grants Commission*
74. *University of Mysore*

II. Eminent Persons

1. *Bharat Ratna, C.N.R. Rao, JNCASR, Bengaluru*
2. *Acharya Vidyasagarji Maharaj, Jain Muni, Pratibhasthali, Near Raipur*
3. *Alexander Thomas, Association of Health Care Providers, Bengaluru*
4. *Anantha Kumar Duraiappah, UNESCO, New Delhi*
5. *Anil Kakodkar, TIFAC, Former Chairman, Atomic Energy Commission, GOI*
6. *Anil D Sahasrabuddhe, Chairman, AICTE*
7. *Anurag Behar, Vice- Chancellor, Azim Premji University, Bengaluru*
8. *Anuradha Bakshi, Head Department of Human Development, Nirmala Niketan, Mumbai*
9. *Anuradha Deshmukh, Director (collaborations and special initiatives), YCMOU, Nashik*
10. *Ajay Seth, Additional Chief Secretary, Government of Karnataka*
11. *Anindya Gupta, American India Foundation, New Delhi*

12. *A.K. Sengupta, Higher Education Forum, Mumbai*
13. *Antara Sengupta, ORF Mumbai*
14. *Arman Ali, National Centre for Promotion of Employment for Disabled People, New Delhi*
15. *Asha Thomas, The Samhita Academy, Bengaluru*
16. *Ashish Dhawan, Co-founder, Ashoka University, Sonipat*
17. *Ashish Jain, CEO, Healthcare Sector Skill Council, New Delhi*
18. *Ashwini Chandrashekhar, Embibe, Bengaluru*
19. *Arun Aggarwal, Former Dean Maulana Azad Medical College, New Delhi*
20. *Anna Pulimood, Principal, CMC Vellore*
21. *Ajay Srivastava, Department of Radiology & Radiotherapy, UCMS & GTB Hospital, New Delhi*
22. *Balakrishna Pisupathi, former VC, Trans Disciplinary University, Bengaluru*
23. *Late Baldev Raj, National Institute of Advanced Studies, Bengaluru*
24. *Bhanumati Narsimhan, Art of Living Foundation, Bengaluru*
25. *Bhaskar Ramamurthi, Director, IIT Madras*
26. *Bhimaraya Metri, Director, IIM Trichy*
27. *Bikramjit Basu, IISc, Bengaluru*
28. *Binaifer Chogga, Principal Udayachal School, Mumbai*
29. *B.N. Suresh, ISRO, Bengaluru*
30. *Bhushan Patwardhan, Vice Chairman, UGC*
31. *Bhabatosh Biswas, Former Vice President, NBE*
32. *B.P. Sable, Former VC, YCMOU, Nashik*
33. *B.V. Ravishakar, Vice-Principal, BMS College of Engineering, Bengaluru*
34. *B N Gangadhar, Director, NIMHANS, Bengaluru*
35. *Camille Framroze, Holland and Knight LLP, Boston, USA*
36. *CBS Venkataramana, Former IAS, ASCI*
37. *Chandrashekar, Education Consultant*
38. *Chadrashekaran Nair, Professor Emeritus*
39. *C. Siva Ram Murthy, IIT Madras*
40. *Late Dada J.P. Vaswani, Sadhu Vaswani Mission, Mumbai*
41. *Damodar Pujari, UNDP, Pune*
42. *David Gross, Nobel Laureate, University of California at Santa Barbara, USA*
43. *Darshan Shankar - Vice Chancellor, Trans Disciplinary University, Bengaluru*
44. *Deviprasad Shetty, Founder Narayana Health, Bengaluru*

45. *Divya Balagopal, Mundkur Law Partners, Bengaluru*
46. *D. V. Jagadish, IIT-Bombay, Mumbai*
47. *Dwiti Vikramaditya, Kalinga Institute of Social Sciences, Bhubaneshwar*
48. *Dymphena Dias, Muktangan, Mumbai*
49. *Dilip Kumar, President, Indian Nursing Council, New Delhi*
50. *D.G. Kanhere, University of Pune*
51. *Elizabeth Mehta, Founder-Director of the Muktangan Schools Network, Mumbai*
52. *Elizabeth John, Former Additional Director Training, General Military Nursing Services, New Delhi*
53. *Farida Lambay, Co-Founder Pratham, Mumbai*
54. *Frazer Mascarenhas Former Principal St Xaviers College, Mumbai*
55. *Furqan Qamar, Secretary-General , Association of Indian Universities, New Delhi*
56. *Geeta Singh, Director, UGC-HRDC, University of Delhi*
57. *Gadadhar Misra, Indian Institute of Science, Bengaluru*
58. *Geeta Gandhi Kingdon, University College London, UK*
59. *G. Chandrashekhar Indian Merchants Chamber, Mumbai*
60. *G. Nagarjuna, Homi Bhabha Centre for Science Education-TIFR, Mumbai*
61. *Govindaraju, Project Head, CESS, Bengaluru*
62. *Gurumurthy Kasinathan, IT for Change, Bengaluru*
63. *Guna Magesan, VC, Institute of Advanced Research, Gandhinagar*
64. *G.Raghuram, Director, Indian Institute of Management Bengaluru*
65. *Girish Maindarkar, President, College of Physicians, Mumbai*
66. *G. Vishwanathan, Chancellor, VIT, Vellore*
67. *Hrishikesh Senapaty, Director NCERT, New Delhi*
68. *H.S. Nagaraj, BASE Educational Services, Bengaluru*
69. *H.R Nagendra, Chancellor, SVYASA, Bengaluru*
70. *Hemlata Bagla, K.C. College, Mumbai*
71. *Indranil Manna , Director, IIT Kanpur*
72. *Indu Prasad, Azim Premji University, Bengaluru*
73. *I.P. Sharma, Ex. Additional Director, Secondary Education, Allahabad*
74. *J.B.G. Tilak, Former Vice Chancellor, NUEPA, New Delhi*
75. *Jyotsna Jha, Centre for Budget and Policy Research, Bengaluru*
76. *J.S. Rajput, Former Director, NCERT, New Delhi*
77. *Jayakar Shetty, Vice President, Dental Council of India, New Delhi*

78. *J.A.K Tareen, Former Vice Chancellor, Kashmir University*
79. *Jayaprakash Narayan, Foundation for Democratic Reforms, Hyderabad*
80. *Jayashree Shinde, Head, Department of Educational Technology, SNDT Women's University, Mumbai*
81. *John Kurrien, RTE Forum, Pune*
82. *Joy Chakraborty, Chief Operating Officer, P D Hinduja Hospital & MRC , Mumbai*
83. *Venerable Kabir Saxena Bhikkhu Sumati Sasana, Buddhist Monk, New Delhi*
84. *Kamini Kapadia, UNICEF Consultant, Maharashtra*
85. *K. Ramachandran, National Institute of Educational Planning and Administration, New Delhi*
86. *K.S. Venkatesh, Tata Institute of Social Sciences, Mumbai*
87. *K.S. Misra, Allahabad University*
88. *Kumaraswamy T, CCL-NLSIU Bengaluru*
89. *Kadey Soren, Orissa Tribal Council, Bhubaneshwar*
90. *K Vijay Raghavan, NCBS-TIFR; PSA, Govt. of India*
91. *Karthik Muralidharan, University of California, San Diego, USA*
92. *K Sadashiva Shetty, Principal, Bapuji Dental College and Hospital, Davangere*
93. *Lalit M Patnaik, Former Vice Chancellor, DIAT, Pune*
94. *L.S. Shashidhara, IISER Pune*
95. *L. Subramaniam, Founder, Subramaniam Academy of Performing Arts, Bengaluru*
96. *Latha Venkatesan, Principal, Apollo College of Nursing, Chennai*
97. *M. Sasikumar, Centre for Development of Advanced Computing, Mumbai*
98. *M.R. Jayaram, Chairman, Gokula Education Foundation, Bengaluru*
99. *Madhav Menon, Founder National Law School of India University Bengaluru*
100. *Manjula Rao, British Council, New Delhi*
101. *Maya Menon, The Teacher Foundation, Bengaluru*
102. *M.A. Balasubramanya, Director, Swami Vivekananda Youth Movement, Bengaluru*
103. *Milind Mhaske, Praja, Pune*
104. *Michel Danino, IIT Gandhinagar*
105. *M. D. Srinivas, Chairman, Centre for Policy Studies, Chennai*
106. *M.M. Salunkhe, Vice Chancellor, Bharati Vidyapeeth, Pune,*
107. *Mohd. Akhtar Siddiqui, I.A.S.E, Faculty of Education, Jamia Milia Islamia, New Delhi*
108. *Mufti Abul Qasim Sahab, Mohtamim of Darul Uloom Deoband, Uttar Pradesh*
109. *Mohammed Ashraf Dar, University of Kashmir*

110. *M. R. N. Murthy, Indian Institute of Science, Bengaluru*
111. *M.S. Ananth, Former Director IIT Madras*
112. *M S Hegde, Indian Institute of Science, Bengaluru*
113. *M.S. Raghunathan, IIT Bombay*
114. *Nachiketa Tiwari, Prof. IIT Kanpur*
115. *Narasimha Murthy, Bengaluru University*
116. *Nagaraju H. N*
117. *Nalini Chugani, President, Association for Education and Development, Mumbai*
118. *Neela Dabir, Dean, School of Vocational Education, TISS, Mumbai*
119. *N.V. Satyanarayana, Informatics India Ltd, Bengaluru*
120. *N.V. Varghese, Vice-Chancellor NIEPA, New Delhi*
121. *Neelima, ISKCON, Bengaluru*
122. *Nirmala Raja*
123. *N Sathyamurthy, IISER, Mohali*
124. *N. Mukunda, Indian Academy of Sciences, Bengaluru*
125. *Om Pathak, Chairman at Delhi Public School Ghaziabad Society, New Delhi*
126. *Padma Sarangapani, Tata Institute of Social Sciences (TISS), Bengaluru*
127. *Pankaj Chandra, Ahmedabad University*
128. *Parth Shah, Centre for Civil Society, New Delhi*
129. *Paul Ravindran, CMC Vellore*
130. *Pavnesh Kumar, CBSE, New Delhi*
131. *Piyush Swami, Professor of Education, University of Cincinnati (USA)*
132. *Poornima Contractor, Secretary, Association for Education and Development, Mumbai*
133. *Pradeep Ramavath, NLSIU, Bengaluru*
134. *Prakash Padukone, co-founder of Olympic Gold Quest, Mumbai*
135. *Pratap Bhanu Mehta, Vice-Chancellor, Ashoka University, Sonipat*
136. *P.J. Lavakare, International Advisory Board at Asian Institute of Technology*
137. *Prasad, Principal KLE Ayurveda College, Belgaum.*
138. *Purnendu Ghosh, Executive Director , Birla Institute of Scientific Research, Jaipur*
139. *P.S. Goel, NIAS, Bengaluru*
140. *Pawan Kapoor, DGMS (Air), New Delhi*
141. *Prem Vrat, Northcap University, Gurgaon*
142. *Radhika Prabhu, India Research Group, Washington D.C.*
143. *Rajendra K, Samarthanam*

144. *Raj K. Kaushal, SM, VSM (Retd.)*
145. *Rajan Saxena, NMIMS, Mumbai*
146. *Rajani Konantambigi, TISS, Mumbai*
147. *Rajesh Khambayat, Central Institute of Vocational Education, Bhopal*
148. *Ravi Narayan, Advisor, Centre for Public Health and Equity, Bengaluru*
149. *Ramasubramanian K., IIT Bombay*
150. *Rajaram Nityananda, Azim Premji University, Bengaluru*
151. *Ravi Subramaniam, Homi Bhabha Centre for Science Education, TIFR, Mumbai*
152. *Rajiv Yeravdekar, Symbiosis Institute of Health Sciences, Pune*
153. *Renuka Gupta, Pardada Pardadi, New Delhi*
154. *Renuka Raju, CMD, Kovida Limited, Hyderabad*
155. *Reeta Sonawat, Head, Department of Human Development, SNDT Women's University, Mumbai*
156. *Ribhu Vohra*
157. *R. Karthikeyan, Indian Society for Training and Development, New Delhi*
158. *Rohini Paul, Nursing Head, Corporate, Narayana Health, Bengaluru*
159. *S Ayyappan, Former Secretary, Department of Agricultural Research and Education, New Delhi*
160. *Sadhana Nair, Air Officer Commanding, Medical Training Center, IAF.*
161. *Sabyasachi Bhattacharya, Former Director TIFR, Ashoka University, Sonipat*
162. *Saikat Majumdar, Ashoka University, Sonipat*
163. *Sampath Kumar, Tata Motors, Jharkhand*
164. *Sandip Trivedi, Director, Tata Institute of Fundamental Research, Mumbai*
165. *Sanjay Awasthi, Member-Secretary, NCTE, New Delhi*
166. *Sanjay Inamdar, Member Board of Governors, College of Engineering, Pune*
167. *Sanjay Salunkhe, CEO, Jaro Institute of Technology Management & Research Pvt. Ltd., Mumbai*
168. *Sanchayan Bhattacharjee, ORF Mumbai*
169. *Sandeep Shastri, Pro Vice-Chancellor, Jain University, Bengaluru*
170. *Sanjay Mittal, IIT Kanpur*
171. *Santosh Mehrotra, Human Development Economist, JNU, New Delhi*
172. *Sankaran Valiathan, National Research Professor, GOI*
173. *Satish Modh, Director, IMSR, Mumbai*
174. *Satyajit Mayor, Director, National Centre for Biological Sciences-TIFR, Bengaluru*
175. *Saumen Chattopadhyay, Jawaharlal Nehru University*

176. *Shail Kumar, Author, Building Golden India, USA*
177. *Shanti Satish, R'eussir Trust, Bengaluru*
178. *Sharath Ananthamurthy , University of Hyderabad*
179. *Shobha Bharat, P.N. Doshi College of Home Science, Mumbai*
180. *Spenta R. Wadia, Founding Director, International Centre for Theoretical Sciences-TIFR, Bengaluru*
181. *Srikanth Sastry, JNCASR, Bengaluru*
182. *Srinath Sridharan, South Indian Education Society, Mumbai*
183. *Srinivasan Ramani, founding Director, National Centre for Software Technology (now CDAC), Mumbai*
184. *Srinivas Murthy, former Additional Chief Secretary Finance, Government of Karnataka*
185. *Subramanya, Principal, R.V.Engineering College, Bengaluru*
186. *Subhash Khuntia, Former Secretary SE&L, MHRD*
187. *Subodh Kumar, University of Lucknow*
188. *Suja Koshy, SVT College of Home Science, SNDTWU, Mumbai*
189. *Sujata Sriram, Professor Human Ecology, TISS, Mumbai*
190. *Suman Sharma, Principal, Lady Shri Ram College for Women, New Delhi*
191. *Sunil Mehta, Muktangan, Managing Trustee of the Muktangan Schools Network, Mumbai*
192. *Sujaya Rathi, Center for Study of Science, Technology and Policy, Bengaluru*
193. *Sudheendra Kulkarni, Observer Research Foundation, Mumbai*
194. *Sunil Kumar Pandey, Professor, Department of Statistics, University of Lucknow*
195. *Surendra Prasad, Former Director, IIT Delhi*
196. *Suvrat Raju, International Centre for Theoretical Sciences-TIFR, Bengaluru.*
197. *S.V. Ranganath, Former Chief Secretary, Government of Karnataka*
198. *S. Kannan, Director, UGC Human Resource Development Centre, Madurai Kamaraj University*
199. *Sunil Koshy, Formerly at Vydehi Institute of Medical Sciences, Bengaluru*
200. *Selva Titus, Dean, College of Nursing, CMC Vellore*
201. *T.J. Mathew, Pillai College of Engineering and Technology, Mumbai*
202. *Late T.S.R. Subramanian, Former Cabinet Secretary, GOI, New Delhi*
203. *T.D. Kemparaju, Vice Chancellor, Bengaluru North University*
204. *Tanil Kilachand, Indian Merchant Chambers, Mumbai*
205. *Tushar Kanti Senapati, Kalinga Institute of Social Sciences, Bhubaneshwar*
206. *Uma Mahadevan, Principal Secretary, Government of Karnataka*
207. *Uday Salunkhe, Group Director, WE School, Mumbai*

208. Venita Kaul, Professor Emeritus, Ambedkar University, New Delhi

209. Vidushi Sharma, Fulbright Scholar, Princeton University, USA

210. Vijay Khole, VC, Amity University, Maharashtra

211. Vikram Sampath, Nehru Memorial Museum and Library, New Delhi

212. Vincent G Furtado, Institute of Philosophy and Religion, Mysore

213. V.S. Basavaraju, DNA, Bengaluru

214. V.S. Chauhan, former Chairman, NAAC, New Delhi

215. V. S. Prasad, Former PVC, IGNOU, New Delhi

216. V. C. Shanmuganandan, Coordinator, Joint Director, AHPI, Bengaluru

217. Vishal Dang, Manav Rachna Dental College, Faridabad, UP

Appendix VIII

Acknowledgements

The Committee for Draft National Education Policy would like to acknowledge several organisations, institutions, associations as well as individuals, without whose contributions and support we may not have effectively and efficiently achieved what was mandated by the Ministry of Human Resource Development, Government of India.

The order of mention does not in any way enhance or reduce the role or significance of contribution. Similarly, it may be unfair to specify anyone by name as it would be tantamount to discriminating against those not named, purely due to the need for brevity. While doing so, we would not like to risk belittling anyone who has either directly or indirectly helped the Committee in accomplishing its onerous responsibility.

At the outset, it is only appropriate to thank the Ministry of Human Resource Development and, in particular, the Secretary, Higher Education, and the Joint Secretary, Policy Bureau along with officials and staff for providing continuous administrative cooperation. The support extended by officials of the University Grants Commission, the Director and staff of the National Assessment and Accreditation Council, the Director and his team at the International Centre for Theoretical Sciences, the Director and his team at the Raman Research Institute, the personal staff of Dr K Kasturirangan as well as the Vice Chancellor and his team from Azim Premji University needs to be acknowledged wholeheartedly. The authorities of Rashtreeya Shikshana Samithi Trust, PES University, Ramaiah College of Law and Veda Vignana Shodha Samsthanam deserve our special thanks for having deputed their faculty to work for the Technical Secretariat.

We sincerely thank each and every one of the listed organisations and their representatives as well as numerous individuals for their constructive and informative inputs, which have enriched us in this exercise. We are overwhelmed by the sincerity and eagerness that marked each very valuable contribution. We also express our appreciation to each and every person who sent in their views, suggestions, and inputs through various ways, such as emails, letters, and documents, either directly or channelled through different offices. The inundating response by the general public and citizens across all age groups, from all parts of the country and various segments of the society, in several languages, is indeed worthy to note.

The office of the Union Minister for Human Resource Development has from the inception maintained a hands-off policy, but ensured ease of communication whenever necessary. We are grateful to the senior officials of the Prime Minister's Office for giving us dedicated time for focussed discussions.

Last but not the least, we would like to thank all those involved in the important Policy formulation exercise which preceded our work, that helped pave our way to the holistic and comprehensive development of this Draft Policy.

Shakila Shamsu
Secretary to the Committee

Appendices: Part 2

Appendix IX

F. No. 7-48/2015-PN-II
Government of India
Ministry of Human Resource Development
Department of Higher Education
(PN-II Section)

New Delhi, Dated 24th June, 2017

Sub: Constitution of the Committee for the draft National Education Policy.

*****

The National Policy on Education formulated in 1986 and modified in 1992 is the extant policy in the education sector. The Government has initiated the process of formulating a New Education Policy for which an exhaustive democratic exercise was carried for the last 30 months.

2. It has been decided to constitute a Committee for preparation of the draft National Education Policy under the Chairmanship of eminent scientist **Padma Vibhushan Dr. K. Kasturirangan**. The other members of the Committee are:-

(i) **Dr. Vasudha Kamat**, former Vice-Chancellor of SNDT University, Mumbai

(ii) **Shri K.J. Alphonse,** former IAS.

(iii) **Dr. Manjul Bhargava**, Professor of Mathematics, Princeton University USA, Fields Medalist in Mathematics.

(iv) **Dr. Ram Shankar Kureel**, Vice Chancellor of Baba Saheb Ambedkar University of Social Sciences, Madhya Pradesh.

(v) **Prof. T.V. Kattimani**, Vice Chancellor Indira Gandhi National Tribal University, Amarkantak.

(vi) **Shri Krishna Mohan Tripathy,** former Chairperson of Uttar Pradesh High School and Intermediate Examination Board.

(vii) **Dr. Mazhar Asif,** Professor, Department of Persian, Gauhati University, Guwahati.

(viii) **Dr. M.K.Sridhar,** former Member Secretary Karnataka Innovation Council and Karnataka Knowledge Commission, CABE member.

3. Dr. Shakila T. Shamsu, OSD (New Education Policy) will act as the Secretary to the Committee and will maintain the records of the meeting.

4. The University Grants Commission (UGC), New Delhi will be the Secretariat and will provide all administrative / secretarial assistance and logistic support to the Committee. The Members of the Committee will be paid TA/DA as per extant rules of the Government of India. UGC will appoint a nodal officer who will make all necessary arrangements for the Committee and its meetings, including travel, boarding and lodging of its members.

5. Suggestions/ Recommendations received in the Ministry of Human Resource Development will be handed over by the Policy Division of MHRD to the Committee. The Committee will examine various suggestions and inputs emerged during the consultations for formulating New Education Policy and prepare the Draft National Education Policy. The Committee may co-opt members and hold further consultations with experts, if that is felt necessary by them. The Committee will submit its report by 31st December 2017.

(Rakesh Ranjan)
Joint Secretary to the Government of India
Tel: 011-23071486

1. Dr K. Kasturirangan
2. Dr. Vasudha Kamat
3. Shri K.J. Alphonse
4. Dr. Manjul Bhargava
5. Dr Ram Shankar Kureel
6. Dr. T.V. Kattimani
7. Shri Krishna Mohan Tripathy
8. Dr. Mazhar Asif
9. Dr. M.K. Sridhar

Copy for kind information to:

1. Secretary, UGC
2. OSD (NEP)
3. PS to HRM
4. PS to MoS (UK) and PS to MoS (MNP)
5. PPS to Secretary (HE)
6. PPS to Secretary (SE&L)
7. PS to AS(TE) / AS (SE), MHRD
8. PS to JS(P), OSD (NEP), MHRD
9. PN-II Section, MHRD
10. CMIS – with the request to upload the same on MHRD's website

Appendix X

F. No. 7-48/2015-PN-II
Government of India
Ministry of Human Resource Development
Department of Higher Education
(PN-II Section)

Shastri Bhawan, New Delhi,
Dated 27th December, 2017

Sub : Extension of tenure of the Committee for Drafting National Education Policy.

*****

Reference is invited to the letter dated 18.12.2017 of the Chairman of the Committee for Draft National Education Policy addressed to the Hon'ble Minister seeking extension of the Committee's tenure till 31st March 2018.

2. Approval of the Government of India is hereby conveyed for extending the tenure of the Committee upto 31st March 2018 for submission of the Draft National Education Policy.

3. The University Grants Commission (UGC), New Delhi will continue to be the Secretariat and provide all possible logistic support to the Committee.

4. This issues with the approval of the Hon'ble Human Resource Development Minister.

(A K Chattopadhyay)
Under Secretary to the Government of India
Tel: 011-23381434

1. Dr K. Kasturirangan
2. Dr. Vasudha Kamat
3. Dr. Manjul Bhargava
4. Shri K.J. Alphonse
5. Dr Ram Shankar Kureel
6. Dr. T.V. Kattimani
7. Shri Krishna Mohan Tripathy
8. Dr. Mazhar Asif
9. Dr. M.K. Sridhar
10. Shri Rajendra Pratap Gupta

Copy for kind information to:

1. Chairman, UGC
2. Secretary, UGC
3. JS (Admn), UGC
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7. PPS to Secretary (HE)
8. PPS to Secretary (SE&L)
9. PS to SS(T) / SS (SE), PS to JS(P), MHRD
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Appendix XI

F.No.7-48/2015-PN-II
Government of India
Ministry of Human Resource Development
Department of Higher Education
(PN-II Section)

Room No. 111-C, Shastri Bhawan,
New Delhi, dated the 6th April, 2018

Subject: Extension of the Committee for Draft National Education Policy for post-submission work and for completion of procedural formalities.

****

With reference to this Department's earlier communications of even number dated 24.06.2017 regarding Constitution of the Committee for the draft National Education Policy and extension of the tenure of the above said Committee dated 27.12.2017, the Committee has informed that the draft National Education Policy has been prepared within the given time.

However, as informed by the Committee, the stage between Pre-Final Draft Policy and formal submission of Final Draft Policy involves some procedural formalities. Therefore, for carrying on with the interim activities as also the continuation of administrative and secretariat services of the UGC & NAAC during this period, the Government of India has extended the period of the Committee for undertaking interim procedural activities till 30th June, 2018.

(N. Saravana Kumar)
Joint Secretary to the Government of India
Tel: 011-23071486

1. Dr K. Kasturirangan
2. Dr. Vasudha Kamat
3. Dr. Manjul Bhargava
4. Shri K.J. Alphonse
5. Dr. Ram Shankar Kureel
6. Dr. T.V. Kattimani
7. Shri Krishna Mohan Tripathy
8. Dr. Mazhar Asif
9. Dr. M.K. Sridhar

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9. PPS to Secretary (SE&L)
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Appendix XII

F. No. 7-48/2015-PN-II
Government of India
Ministry of Human Resource Development
Department of Higher Education
(PN-II Section)

Room No. 111-C, Shastri Bhawan
New Delhi, dated the 20th June, 2018

Subject: Extension of the tenure of the Committee to Draft National Education Policy upto 31.08.2018.

*****

With reference to this Department's earlier communications of even number dated 24.06.2017 regarding Constitution of the Committee to draft National Education Policy and extensions of the tenure of the above said Committee dated 27.12.2017 and 6th April 2018, it has now been decided to extend the term of the Committee to draft National Education Policy for further two months i.e. 31.08.2018.

2. Approval of the Govt of India is hereby conveyed for extending the tenure of the Committee upto 31st August, 2018 for submission of the Draft National Education Policy.

3. The University Grants Commission (UGC), New Delhi will continue to be the Secretariat and provide all possible logistical support to the Committee.

4. This issues with the approval of the Hon'ble Human Resource Development Minister.

(N. Saravana Kumar)
Joint Secretary to the Government of India
Tel: 011-23071486

1. Dr K. Kasturirangan
2. Prof. Vasudha Kamat
3. Dr. Manjul Bhargava
4. Shri Krishna Mohan Tripathy
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6. Dr. Mazhar Asif
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10. PN-II Section, MHRD
11. CMIS – with the request to upload the same on MHRD's website

Appendix XIII

F. No. 7-48/2015-PN-II
Government of India
Ministry of Human Resource Development
Department of Higher Education
(PN-II Section)

Room No. 111-C, Shastri Bhawan
New Delhi, dated the 28th August, 2018

Subject: Extension of the tenure of the Committee to Draft National Education Policy upto 31.10.2018.

*****

With reference to this Department's earlier communications of even number dated 24.06.2017 regarding Constitution of the Committee to draft National Education Policy and extensions of the tenure of the above said Committee dated 27th December, 2017, 6th April 2018 and 20th June 2018, the Committee is considering to interact with State Education Ministers before submitting the final draft policy to the Ministry. Hence, it has now been decided to extend the term of the Committee to draft National Education Policy for further two months i.e. 31.10.2018.

2. Approval of the Govt of India is hereby conveyed for extending the tenure of the Committee upto 31st October, 2018 for submission of the Draft National Education Policy.

3. The University Grants Commission (UGC), New Delhi will continue to be the Secretariat and provide all possible logistical support to the Committee.

4. This issues with the approval of the Hon'ble Human Resource Development Minister.

(N. Saravana Kumar)
Joint Secretary to the Government of India
Tel: 011-23071486

1. Dr K. Kasturirangan
2. Prof. Vasudha Kamat
3. Dr. Manjul Bhargava
4. Shri Krishna Mohan Tripathy
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11. CMIS – with the request to upload the same on MHRD's website

Appendix XIV

F. No. 7-48/2015-PN-II
Government of India
Ministry of Human Resource Development
Department of Higher Education
(PN-II Section)

Room No. 111-C, Shastri Bhawan
New Delhi, dated the 31st October, 2018

Subject: Extension of the tenure of the Committee to Draft National Education Policy upto 15.12.2018.

*****

With reference to this Department's earlier communications of even number dated 24.06.2017 regarding Constitution of the Committee to draft National Education Policy and extensions of the tenure of the above said Committee dated 27th December, 2017, 6th April 2018, 20th June 2018 and 28th August 2018, the Committee has informed that the draft Policy/Report is ready. However, due to the code of conduct of the Election Commission being in force, it has been decided to extend the term of the Committee to draft National Education Policy upto 15.12.2018.

2. Approval of the Govt of India is hereby conveyed for extending the tenure of the Committee upto 15th December, 2018 for submission of the Draft National Education Policy.

3. The University Grants Commission (UGC), New Delhi will continue to be the Secretariat and provide all possible logistical support to the Committee.

4. This issues with the approval of the Hon'ble Human Resource Development Minister.

31/10/18

(N. Saravana Kumar)
Joint Secretary to the Government of India
Tel: 011-23071486

1. Dr K. Kasturirangan
2. Prof. Vasudha Kamat
3. Dr. Manjul Bhargava
4. Shri Krishna Mohan Tripathy
5. Prof. T.V. Kattimani
6. Dr. Mazhar Asif
7. Dr Ram Shankar Kureel
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9. PS to AS(TE) / AS (SE), PS to JS(P), MHRD
10. PN-II Section, MHRD
11. CMIS – with the request to upload the same on MHRD's website

In every epoch of humankind, knowledge represents the sum of what is created by all previous generations, to which the present generation adds its own.

The motif of the Mobius strip symbolizes the perpetual, developing and live nature of knowledge - that which has no beginning and that which has no end.

This Policy envisages creation, transmission, use and dissemination of knowledge as a part of this continuum.

Draft

National Education Policy

2019