TURNING CHALLENGES INTO OPPORTUNITIES: FLEXIBLE LEARNING PATHWAYS IN INDIAN HIGHER EDUCATION
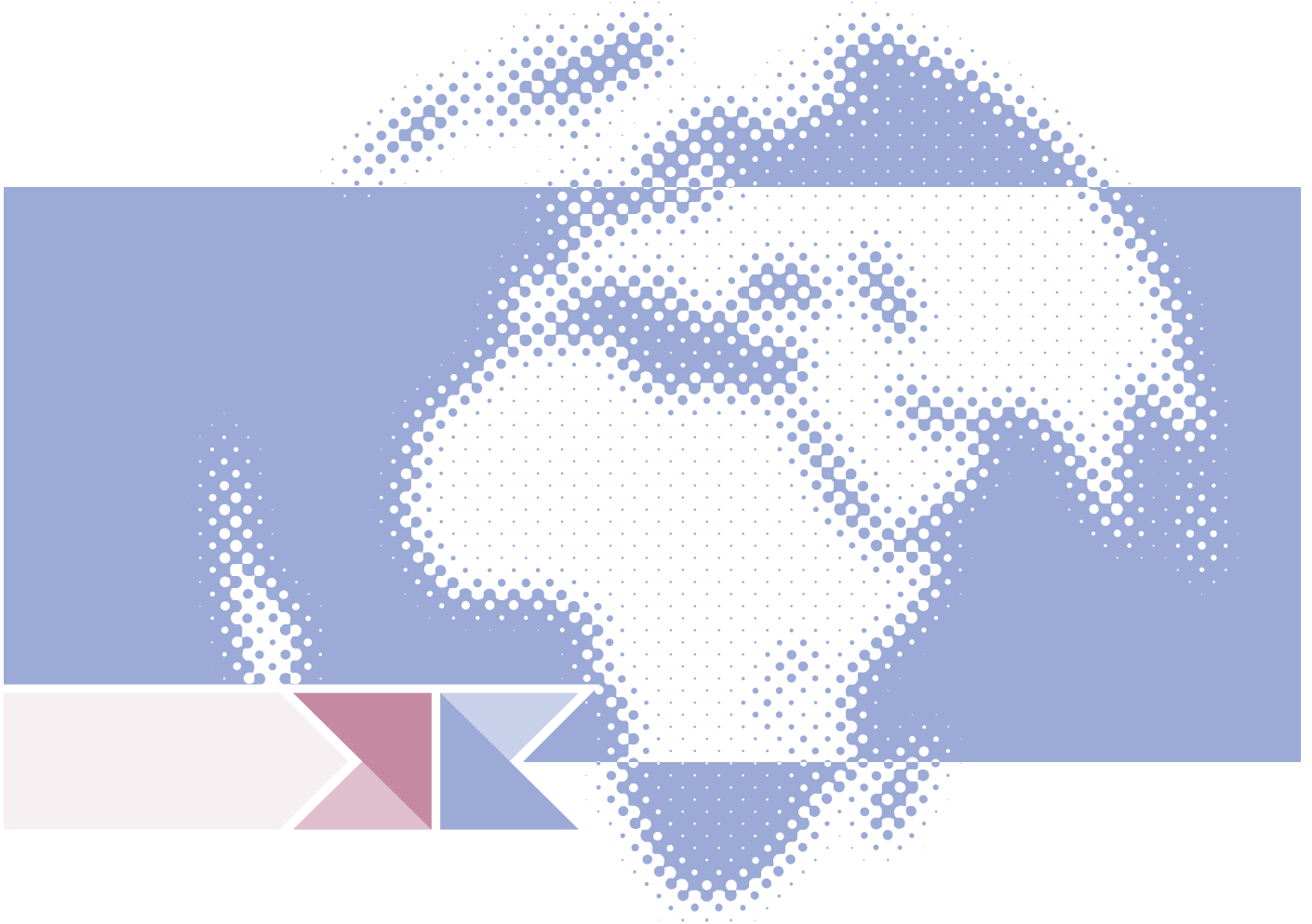
Garima Malik | Narayanan Annalakshmi

**Report for the
IIEP-UNESCO Research
'SDG4: Planning for flexible learning
pathways in higher education'**

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FOREWORD

The fast expansion and massification of higher education in India in this century has posed several challenges. The challenges include maintaining quality in an expanding system, sharing of responsibilities between public and private sector institutions in providing access, producing employable graduates and multiple modes of providing higher learning opportunities. The COVID-19 pandemic has exacerbated the situation both in terms of access and quality of higher education and alternatives to brick and mortar system became the only solution to continue access to higher learning.

The UNESCO International Institute for Educational Planning has launched a project, within the SDG 4 and Education 2030 Agenda, on flexible learning pathways (FLP) in higher education. The present study carried out by NIEPA in collaboration with Bharathiar University, is part of the IIEP-UNESCO initiative. It examines existing FLPs in Indian higher education taking into account the public policies and programmes initiated by the Ministries and regulatory bodies and examining the process in operation at the institutional level. The two institutions studied were an elite technical institution (Indian Institute of Technology-Delhi) and a premier state university (Bharathiar University).

The findings of the possibilities of widening the scope of flexible learning pathways in Indian higher education are extremely relevant in the context of the newly launched National Education Policy (NEP 2020). The NEP 2020 aims to double the enrolment in higher education by 2035 and this target may be achieved only thorough non-traditional modes and flexible learning pathways to higher education.

We are both grateful to the researchers at IIEP, especially Dr. Michaela Martin for launching such a timely global study and to Dr. Garima Malik, CPRHE, NIEPA for initiating and leading the study and Professor Narayanan Annalakshmi, Bharathiar University for a good collaboration.

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Director, IIEP   Vice-Chancellor, NIEPA

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LIST OF ABBREVIATIONS

AI	Accreditation Institutions
AICTE	All India Council for Technical Education
AIIMS	All India Institute of Medical Science
AISHE	All India Survey of Higher Education
AQAR	Annual Quality Assurance Report
BA	Bachelor of Arts
BCI	Bar Council of India
BCom	Bachelor of Commerce
BEd	Bachelor of Education
BE	Bachelor of Engineering
BOS	Board of Studies
BSc	Bachelor of Science
BSkills	Bachelor of Skills
BTech	Bachelor of Engineering
BU	Bharathiar University
BVoc	Bachelor of Vocational Education
BLA	Bachelor of Liberal Arts
BLE	Bachelor of Liberal Education
CBCS	Choice-based credit system
CFTIs	Centrally funded technical institutes
CGPA	Cumulative Grade Point Average
CPOP	Centre for Participatory and Online Programmes
CPP	Centre for Participatory Programme
DE	Distance Education
DEB	Distance Education Bureau
DEC	Distance Education Council
DEI	Distance Education Institutions
DGT	Directorate General of Training
ETSC	Educational Technology Services Centre
EWS	Economically Weaker Section
FGD	Focus Group Discussion
FICCI	Federation of Indian Chambers of Commerce and Industry
FLP	Flexible Learning Pathway
GATE	Graduate Aptitude Test in Engineering Exam
GEC	General Education Council

GER	Gross Enrolment Ratio
GoI	Government of India
HEI	Higher Education Institution
ICAA	Indian Council of Accreditation and Assessment
ICAI	Institute of Chartered Accountants of India
ICAR	Indian Council of Agricultural Research
ICT	Information and communication technology
ID	Identity Cards
IDP	Interdisciplinary Programmes
IGNOU	Indira Gandhi National Open University
IIEP	UNESCO International Institute for Educational Planning
IIMs	Indian Institutes of Management
IIS	Indian Institute of Science
IIT	Indian Institute of Technology
IoE	Institution of Eminence
ISER	Institute for Scientific and Engineering Research
IQAC	Internal Quality Assurance Cell
IQAS	Internal Quality Assurance System
ISCED	International Standard Classification of Education
JAM	Joint Admission Test
JEE	Joint Entrance Exam
LSC	Learner Support Centre
MA	Master of Arts
MDes	Master of Design
MTech	Master of Technology
MBA	Master of Business Administration
MBC	Most Backward Classes
MCA	Master of Computer Applications
MCI	Medical Council of India
MHRD	Ministry of Human Resource Development
MOOCs	Massive Open Online Courses
MoU	Memorandum of Understanding
MPhil	Master of Philosophy
MSc	Master of Science
MSc (R)	Master of Science (Research)
MSkills	Master of Skills
MVoc	Master of Vocational Education
MSDE	Ministry of Skill and Development Entrepreneurship
MSME	Ministry of Micro, Small and Medium Enterprises

NAAC	National Assessment and Accreditation Council
NAC-BANK	National Academic Credit Bank
NAD	National Academic Depository
NC	National Coordinators
NCS	National Career Services
NCTE	National Council for Teacher Education
NEP	National Education Policy
NET	National-level Eligibility Test
NHEQF	National Higher Education Qualification Framework
NHERC	National Higher Education Regulatory Council
NIEPA	National Institute of Educational Planning and Administration
NIRF	National Institutional Ranking Framework
NIT	National Institute of Technology
NPE	National Policy on Education
NPTEL	National Programme on Technology Enhanced Learning
NQF	National Qualifications Frameworks
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSDM	National Skill Development Mission
NSQC	National Skills Qualifications Committee
NSQF	National Skills Qualifications Framework
NTA	National Testing Agency
NKN	National Knowledge Network
NVEQF	National Vocational Educational Qualification Framework
OBC	Other Backward Caste
OBE	Outcome-Based Education
ODL	Open and Distance Learning
OECD	Organisation for Economic Cooperation and Development
OER	Open Educational Resources
PC	Programme Core
PE	Programme Elective
PCI	Pharmacy Council of India
PCPs	Personal Contact Programmes
PCS	Physically Challenged Students
PH	Physically Handicapped
PhD	Doctor of Philosophy
PoA	Programme of Action
Pre-CA	Pre-Chartered Accountant
PwD	Person with Disability
QA	Quality Assurance
QIF	Quality Indicator Framework

RPL	Recognition of Prior Learning
SC	Scheduled Caste
SCAA	Standing Committee of Academic Affairs
SDE	School of Distance Education
SDG	Sustainable Development Goal
SET	State-level Eligibility Test
SHEC	State Higher Education Council
SSCs	Sector Skill Councils
ST	Scheduled Tribe
SWAYAM	Study Webs of Active Learning for Young Aspiring Minds
TANSCHE	Tamil Nadu State Council for Higher Education
TAs	Teaching Assistants
TVET	Technical and Vocational Education and Training
UGC	University Grants Commission
UNESCO	United Nations Educational, Scientific and Cultural Organisation

EXECUTIVE SUMMARY

This national report is part of a broader IIEP-UNESCO research project. It examines the existing flexible learning pathways (FLPs) in Indian higher education and makes recommendations for policy-makers at the national and institutional levels. Two institutions --- one an elite technical institution (IIT Delhi) and the other, a premier state university (Bharathiar University) --- were selected as case studies.

India has moved from elitism to massification in higher education with a Gross Enrolment Ratio (GER) of 27.1 per cent in 2019-20. The present policy focus in education is on skills development. The 2015 Policy on Skill Development and Entrepreneurship emphasises competency-based education, and its standardisation and accreditation based on a National Skills Qualifications Framework (NSQF) and Recognition of Prior Learning (RPL). The 2020 National Education Policy (NEP) of the Union Government aims to increase the GER to 50 per cent by 2035. This implies a doubling of enrolment and increased opportunities of access for students from socio-economically disadvantaged backgrounds and areas. Consequently, there is a need to use technology-based education to further transform the learning experiences with goals of accessibility and equity. Distance education has therefore become a major element of FLPs in Indian higher education.

The Indian higher education system still remains rigid in many respects. There are hardly any opportunities for alternative entry into higher education. There is little articulation between technical and vocational education and training (TVET) and higher education, or between academic and professional higher education institutions (HEIs). The higher education sector is vested with a strong traditional academic culture. NEP 2020 therefore constitutes a major step in the direction of increased flexibility.

With a widening of participation in higher education, increased flexibility will be particularly important for disadvantaged groups. Most of India's population live in rural areas. Thus, FLPs could play a major transformative role in making learning more accessible for India's young population residing in towns and remote rural areas, as disadvantaged students are in need of more flexible study modes and pacing.

There is, therefore, a huge interest in steering changes towards bringing flexibility in learning pathways in India. At this nascent stage of implementation, much of the effort is experimental. This necessitates stocktaking of what has already been achieved, what works, and what does not, in order to refine the system. This study on FLPs in the Indian context is therefore pertinent to the country's priorities, and provides insights on the basis of which appropriate structures and processes can be introduced.

The implementation of existing policies was explored at both national and institutional levels through a series of semi-structured interviews with policy-makers and institutional actors, including students, graduates, and representatives from the labour market. Primary data was complemented through an analysis of national and institutional policy documents and academic literature.

In India, the available flexible learning pathways are Open and Distance Learning (ODL), the Choice-Based Credit System (CBCS), Study Webs of Active Learning for Young Aspiring Minds (SWAYAM), and the National Programme on Technology Enhanced Learning (NPTEL). Moreover, flexible pathways, such as branch transfers across engineering disciplines and part-time master's and PhD programmes, are another element of flexibility.

The analysis confirmed the strong policy interest in selected areas of flexibility, but also the absence of a unifying policy at national level for flexible leaning pathways. Supportive instruments, such as a single NQF for education, are still lacking, as are a national framework for credit transfer and a national policy for student academic counselling and career advice.

Administrative fragmentation of governance in the Indian higher education system prevents a coordinated approach to policy development across the higher education sector. Separate policies are developed for academic and professional higher education. Academic conservatism emerged as an obstacle to the development of the NQF for higher education, although one is currently under development for the TVET sector.

There are also inconsistencies in policy development at national level. While there is a clear policy commitment to the widening of access, with an expectation that ODL would strongly support it, distance education finds itself restrictively regulated in state universities, preventing the expansion of student enrolment.

Indian higher education governance is also struggling to find an appropriate balance between regulation and autonomy. While regulation is often welcomed by institutional managers, as it provides them with guidance and legitimacy for policy implementation, many local actors complain also that rigid regulations prevent the development of locally adapted solutions to problems.

The absence of institutional policy for flexibility was identified by institutional actors as an obstacle to its implementation. There were also issues highlighted linked to the availability of resources (both financial and staff). Resistance by academic staff to alternative entry modes and an enhanced use of technology-based learning were mentioned. Students themselves were found to be not always interested in curriculum flexibility or transfer opportunities, as they felt insufficiently informed of the advantages these offer. Representatives from the labour market argued for a stronger link between higher education and skills development.

The study concludes with a series of recommendations on how to drive flexible learning pathways in Indian higher education. The recommendations are based on findings from the primary interview data and secondary literature review. At national level, the authors recommend: (1) understanding and prioritising FLPs in national policies; (2) balancing regulation and autonomy; (3) providing better financing and educational technology and infrastructure to support FLPs; (4) developing distance education; (5) utilising QA and NQF instruments for coordinated implementation of FLPs; and (6) monitoring and evaluating the FLP policies. At the institutional level, the authors recommend: (1) improving articulation between IITs and higher technical institutes; (2) training teachers for the use of educational technology; (3) improving the infrastructure and creating an enabling culture for SWAYAM; (4) enhancing institutional coordination of CBCS; (5) systematising academic counselling and career advice; and (6) providing better academic support for disadvantaged students.

CHAPTER 1

INTRODUCTION AND METHODOLOGY

1.1. INTRODUCTION

Flexibility in learning means adapting the learning pathway to suit the learner's interests and abilities, including through enabling transition from one learning pathway to another. It also implies flexibility in the delivery and timing of learning opportunities. Those facing barriers to learning or who have had to interrupt their education may benefit from an extended period to complete their studies, the possibility to attend courses on a part-time basis, or an alternative teaching method such as online learning (Cedefop, n.d.).

Sustainable Development Goal (SDG) 4 of the United Nations' 2030 Agenda for Sustainable Development and the Education 2030 implementation agenda emphasises the importance of FLPs in higher education. Education 2030 defines them as 'entry points and re-entry points at all ages and all educational levels, strengthened links between formal and non-formal structures, and recognition, validation and accreditation of the knowledge, skills, and competencies acquired through non-formal and informal education' (UNESCO, 2015: 33).

While higher education in India remains a predominantly rigid sector, several policies and practices are bringing some levels of flexibility. They include ODL, CBCS, and SWAYAM, certain degrees of flexibility in the curriculum (e.g., elective courses for minor degrees), and opportunities for student transfer (e.g., branch transfer in engineering programmes, dual BTech and MTech degree, and part-time MSc and PhD courses).

The National Education Policy 2020 (adopted by the Union Cabinet in July 2020) is aimed at a major expansion, including through distance education. It also has a skills development agenda, emphasising articulation and flexibility. The major thrust of the policy is to break the 'rigid boundaries of disciplines' in higher education and facilitating a move towards broad-based, flexible learning. The national policy requires an exploration of existing opportunities for flexibility to inform its implementation and future policy-making.

The massification of higher education in India has made it essential for the HEIs to cater for students from diverse backgrounds. Some 65.97 per cent of the population of India resides in rural areas (World Bank, 2020). India is witnessing a consistent and constant increase in the number of students from socially marginalised and rural backgrounds pursuing higher education due to affirmative action such as the reservation policy. As part of this policy, a proportion of places are reserved for students who are from socially marginalised backgrounds

entering higher education. Making higher education accessible to the socially disadvantaged and rural populations has become a necessity for the economic development of the country as well as for social advancement.

This kind of research study has not been carried out previously in the Indian context. The rationale for conducting this case study is to fill in this gap. A major aim of this case study is to analyse how policies and practices at the national level impact the realities of HEIs. To do that, the study will examine the national qualifications frameworks, the quality assurance system, recognition/validation of prior learning mechanisms, credit accumulation and transfer systems, and information and guidance services.

1.2. Research Objectives

This research is part of a broader international research programme conducted by the UNESCO International Institute for Educational Planning (IIEP). The objectives of this international research project are to:

Identify the policies, regulatory frameworks, instruments and practices that support flexible learning pathways in higher education, drawing on evidence from an international survey and selected case studies.

Analyse how effective these policies, regulatory frameworks, instruments, and practices are in establishing flexible learning pathways and building closer linkages between and within higher education levels, institutions, and programmes.

Assess how flexible learning pathways influence equity in terms of providing access and ensuring the progression, transfer, and completion of a higher education degree and transition to the labour market of those identified as disadvantaged groups in the case countries.

Drawing on the lessons learned, identify the enabling and inhibiting factors in the implementation of flexible learning pathways in higher education.

1.3. Focus and Scope of the Study

This national research report focuses on FLPs in the Indian higher education system. It examines FLPs at both national and institutional levels. At the national level, this entailed an analysis of national policies implemented by the Ministry of Human Resource Development and other regulatory bodies, such as the University Grants Commission and the All India Council for Technical Education. An important objective of the research was to examine their effectiveness in practice.

At the institutional level, we studied FLPs in the chosen HEIs. This covered distance education, SWAYAM courses and the choice-based credit system. It also covered curriculum flexibility and opportunities to transfer from regular to distance-mode provision. Other flexible pathways such as branch changes in engineering, dual degrees, part-time MSc and PhD courses, were

also studied in detail. The research has been concerned with analysing how FLPs affect students from disadvantaged backgrounds.

1.4. CHARACTERISING CASE INSTITUTIONS

This research comprised the analysis of institutional practices related to FLPs in two HEIs, representing major segments of the Indian higher education sector: a technical HEI and a comprehensive state university.

The research studied FLPs within a technical institute located in New Delhi (Indian Institute of Technology or IIT Delhi) and a state university from the Southern part of India – Bharathiar University. IIT-Delhi was declared an Institute of National Importance under the Institutes of Technology Amendment Act (GoI, 1963) and accorded the status of a full university with powers to decide its own academic policy, to conduct its own examinations, and to award its own degrees. IIT-Delhi is known to provide flexibility in terms of allowing students to take credits in courses across streams of engineering. IIT-Delhi also takes part in the National Programme on Technology Enhanced Learning (NPTEL), under the SWAYAM platform. In 2020, IIT-Delhi was third overall and second among engineering institutions in the National Institutional Ranking Framework (NIRF)[1].

Bharathiar University is ranked thirteenth in the country in the NIRF rankings of 2020, and is ranked first among the state universities in South India. It has a well-regarded distance education programme that attracts students from all parts of the country. It also has implemented massive Open Online Courses (MOOCs) in its curriculum. The university has implemented the CBCS since 2005. Bharathiar University was chosen as one of the case study institutions in view of its ranking and the implementation of all of the FLP options.

1.5. METHODOLOGY

The study followed a descriptive, exploratory, and analytical research design. The research attempted to study the effective functioning of FLPs at the national level in India and in the selected case study institutions. The study relied on both primary and secondary sources of data and descriptive statistics. Primary qualitative data was collected through interviews conducted with leaders in regulatory authorities at the national level, as well as decision-makers at the institutional level. Secondary information was collected from documentary analysis to understand the policies in place on FLPs.

At the National level, the Secretary who had been in charge of Higher Education at the Ministry of Human Resource Development was selected for interview. The Vice-Chairman of the University Grants Commission, the Chairman of the All India Council for Technical Education, the Director and Adviser of the National Assessment & Accreditation Council, and the Assistant

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[1]The National Institutional Ranking Framework was launched in 2015 as a national policy. This framework outlines a methodology to rank institutions across the country. The parameters broadly cover the following categories: Teaching, Learning, and Resources; Research and Professional Practices; Graduation Outcomes; Outreach and Inclusivity; and Perception.

Secretary General of the Federation of Indian Chambers of Commerce and Industry were also interviewed.

At IIT-Delhi, the Director as well as the Registrar and Joint Registrar (Academic) were interviewed. The Director (Strategy and Planning) and Dean (Academics) as well as former dean academics were also interviewed. A focus group discussion with students and alumni of IIT-Delhi was held online.

At Bharathiar University, the sample for the interview consisted of the Vice Chancellor, the Director of School of Distance Education, the Coordinator of Internal Quality Assurance Cell (IQAC), the CBCS coordinator, the Dean of Faculty of Social Sciences, the NIRF nodal officer, and the Head of Department of Career Guidance and Extension.

There are six deans in the university: the Dean of Research and the deans of the faculties of Arts, Science, Social Sciences, Commerce, and Education. The present study is confined to master's programmes, and so the Dean of Research was not included as a respondent to the interviews. Further, as there are no differences in the rules and regulations among different faculties, it was decided to interview only one dean for the present study. Among the deans, the Dean of Social Sciences was included in the sample as he volunteered to participate.

The focus groups with students and alumni of the university department had five and six participants respectively. Seven students from the School of Distance Education of the University participated, representing different disciplines such as science, social science, arts, and computer science.

1.6. Outline of the Report

Chapter 1 of the report provides an overview of the project, its rationale, objectives and scope. Chapter 2 presents an overview of the higher education system in India, outlining the massive expansion, diversification of HEIs and programmes and modes of delivery, and diversity of students. It discusses the Indian qualification structure, as well as present modes of governance and finance. Chapter 3 examines the system-related issues in terms of the description of policies for FLPs and their objectives, and also the key instruments and key practices supporting them. It also analyses their implementation in general and their effects on equity groups, in particular. Finally, the chapter discusses national level factors that condition the effectiveness of FLP, the factors that either enable or inhibit their implementation and priorities for the future. Chapter 4 examines FLPs in practice with an in-depth study of the two HEIs. After a general description of the selected HEIs, the policies and practices of FLPs at the institutional level are highlighted. The implementation of FLPs in general and for equity groups, in particular, is outlined, alongside an evaluation of their effectiveness, enabling and inhibiting factors, and a discussion of priorities for the future. Chapter 5 gives a comparative analysis of policies and practices for FLPs, including discrepancies between national policy and local implementation, and presents conclusions and recommendations.

An Overview of Higher Education System in India

The trends that have shaped the existing higher education systems and challenged flexible learning pathways are growth in demand for higher education, growth in providers, diversification, and a more diverse student population (Martin and Godonoga, 2020). This chapter strives to examine the national context, the evolution of the higher education system in India, and the issues of diversification, governance, financing, and equity in Indian higher education in the context of FLPs.

2.1. National Higher Education Context

Before independence in 1947, higher education was in the elitist stage with less than 15 per cent of the school leaver age group enrolled in higher education (Marginson, 2016). In the 1950s and 1960s, the expansion in higher education was mainly through public institutions, and the focus of the government was on establishing high-quality institutions. The entry of the private sector in the 1980s signalled a major policy shift (MHRD, 2019).

Since independence, the growth in enrolment and expansion of HEIs has been very impressive. Currently, the Indian higher education system is the second largest in the world, with 43,386 HEIs (Universities and Colleges) and 38.5 million students (a Gross Enrolment Ratio – or GER – of 27.1 per cent) in 2019-20 (see Figure 1). However, Indian higher education still remains rigid in many respects. There are hardly any opportunities for alternative entry into higher education. There is little articulation between TVET and higher education as well as between academic and professional HEIs. The higher education sector is vested with a strong traditional academic culture. Therefore, the NEP forms a major step in the direction of increased flexibility.

Figure 1. Gross Enrolment Ratio by Year
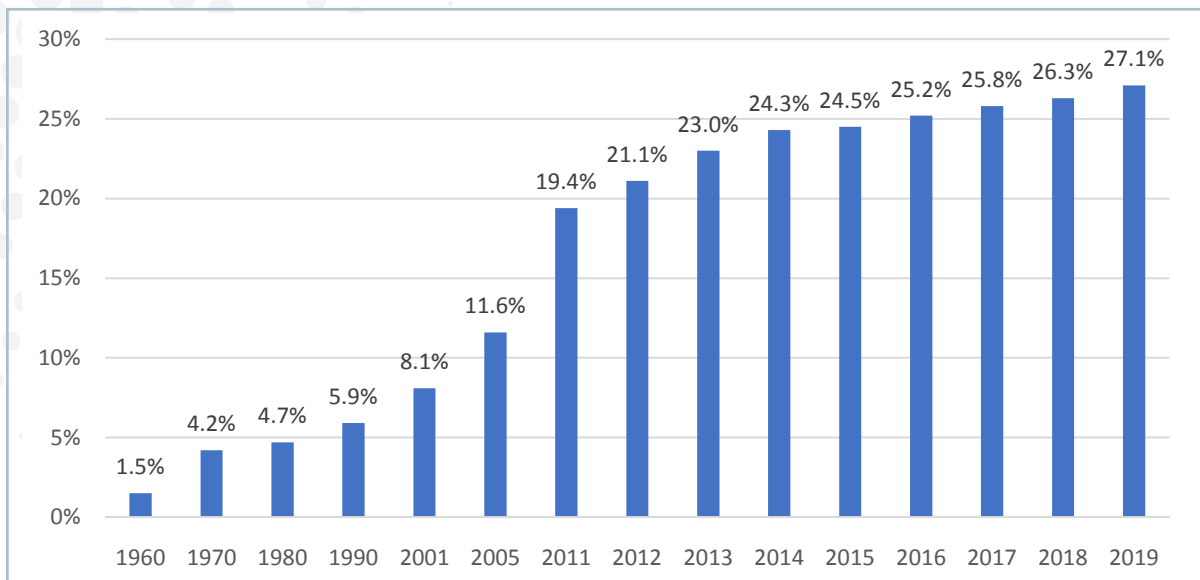
Source: Varghese, 2015; MHRD, 2020. See detailed figures in the Annex.

The present policy's focus in education is on skills development. The 2015 Policy on Skill Development and Entrepreneurship emphasises competency-based education, its standardisation and accreditation based on the NSQF) and RPL. The NEP 2020 aims to complement the previous policy. It focusses on increasing the GER to 50 per cent by 2035. This implies a doubling of enrolment and increasing opportunities of access for students from socio-economically disadvantaged backgrounds.

With a widening of participation in higher education, increased flexibility will be particularly important for disadvantaged groups. The majority of India's population resides in rural areas. Thus, FLPs could play a major transformative role in making learning more accessible for India's young population residing in towns and remote rural areas. Distance education is a viable option for students from rural areas and low-income families who cannot afford the cost of sending youth to colleges to pursue higher education.

Distance education has become a major element in introducing FLPs into Indian higher education. The use of technology-based education to further transform learning experiences with goals of accessibility and equity is emphasised in the NEP. There is therefore a huge interest that is steering changes towards bringing flexibility in learning pathways in India. In addition, the NEP emphasises broad-based curriculum and credit accumulation. It clearly embraces an objective to allow for greater flexibility in terms of curriculum choice, study pace and mode, as well as opportunities for transfer across the higher education sector.

2.1.1. GROWTH IN TYPES OF PROVIDERS

Higher education in India can be pursued through universities, colleges and other institutions of higher education. The 1,043 universities in India offer mostly graduate courses and research programmes. The 42,343 colleges offer mostly undergraduate courses, and the stand-alone institutions mostly offer diploma-level courses in technical institutes such as polytechnics, teacher training institutes, nursing institutes, institutes offering undergraduate and postgraduate diplomas in management. Some of the most prestigious institutions in India, such as the Indian Institutes of Technology (IITs) and Indian Institutes of Management (IIMs), are not part of the university structure as they are declared Institutes of National Importance (INIs) (MHRD, 2019).

Except the 100 colleges affiliated to (or constituent of) a few central universities, e.g., the University of Delhi, Banaras Hindu University, and Aligarh Muslim University, almost all other colleges in India are affiliated to state universities (Tilak, 2017).

Table 1. Higher Education Expansion in India by Institutions

Year	Central universities	State universities	Deemed to be universities	INIs	Private universities	Colleges
1950	3	24	-	-	-	578
1960	4	41	2	2	-	1,819
1970	5	79	9	9	-	3,277
1980	7	105	11	9	-	4,577
1990	10	137	29	9	-	6,627
2001	18	178	52	12	-	11,146
2005	20	205	95	18	7	17,625
2011	42	299	128	59	105	34,908
2012	43	308	127	61	122	35,829
2013	43	322	127	68	154	36,812
2014	44	329	122	75	182	38,498
2015	44	342	122	75	198	39,071
2016	45	358	122	100	234	40,026
2017	46	365	123	101	263	39,050
2018	47	385	124	127	305	39,931
2019	49	400	126	135	328	42,343

Source: Varghese, 2015; MHRD, 2020. Open universities included.

Table 1 shows the trends over the years following independence in 1947 in the number of different types of universities, colleges, and INIs.

Figure 2. College Enrolment by Management Type

Private un-aided (12.2m)   Private aided (5.8m)   Government (9.1m)
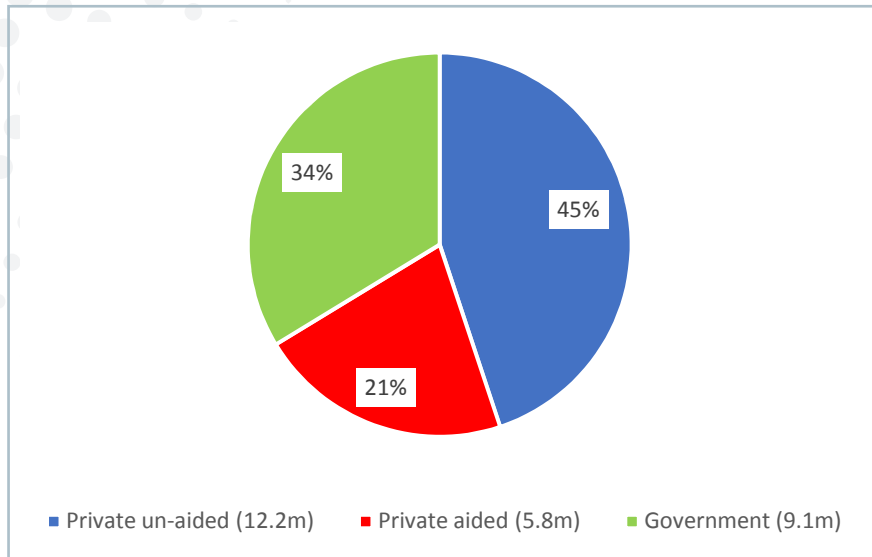
Source: MHRD, 2020. See detailed figures in the Annex.

Figure 2 shows enrolment by management type in 2019/20. The percentage share of enrolment in private colleges (66 per cent) far exceeds that in government colleges (34 per cent).

2.1.2. Diversification of HEIs, Programmes, and Modes of Delivery

The massive expansion of higher education is accompanied by a high degree of diversification in the sector (Varghese, 2014). The diversity is manifested in terms of institutional diversity in provisions, diversity in programmes offered, sources of funding, and the social composition of the student population. This section focusses on higher education opportunities and diversity of institutional and non-institutional structures and pathways to pursue higher education in India.

The expansion of higher education institutions has not been a linear process. The diversification of the education system has occurred through the process of expansion from a unitary structure (universities) towards a system that is flexible and can accommodate the varying demands emerging from different groups and regions. The growing demand for skills, which is different from those developed in traditional university study programmes (Grubb, 2003), has necessitated the creation of alternate modes of delivery, which, in turn, has led to the advent of many different kinds of institutions and a wide variety of providers and study programmes (Sharma, 2016).

Figure 3 provides data on overall enrolments in distance education at undergraduate level. Male enrolment, even in 2019/20, is higher than female enrolment. Overall enrolments rose steadily over this 10-year period.

Figure 3. Enrolment at Undergraduate Level in Distance Mode
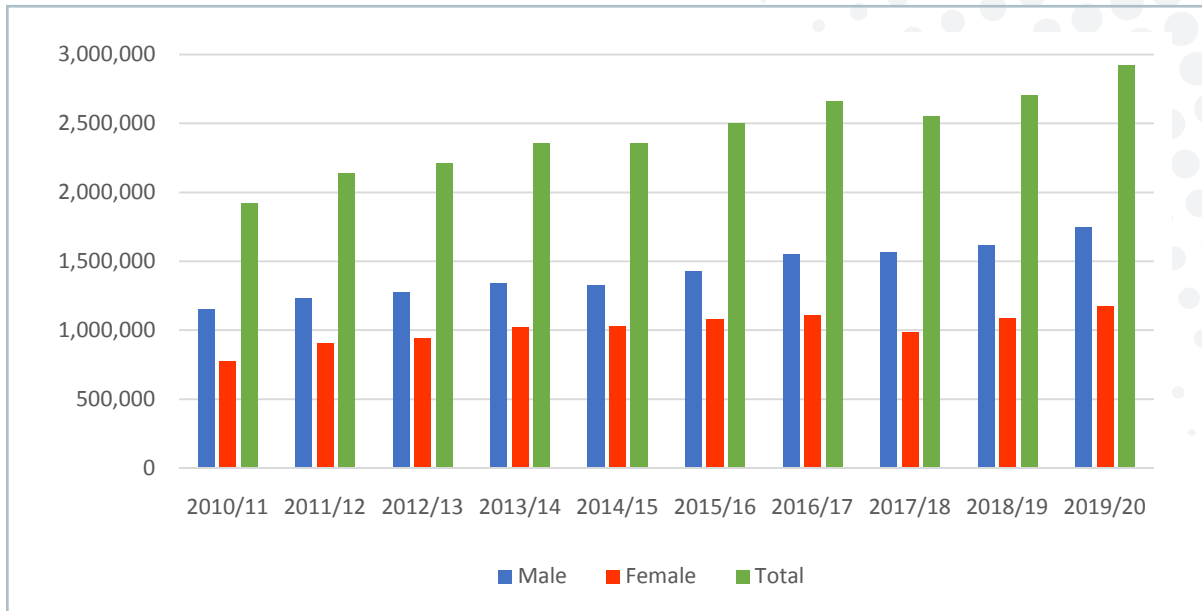
Source: MHRD, 2020. See detailed figures in the Annex.

Figure 4 shows that the enrolment for females in distance education was higher than for males at the postgraduate level in 2019/20 (earlier, the trends showed higher enrolment for males). The total enrolment appears to be fluctuating in sharp contrast to the undergraduate picture where total enrolment is stable and even rising.

Figure 4. Enrolment at Postgraduate Level in Distance Mode
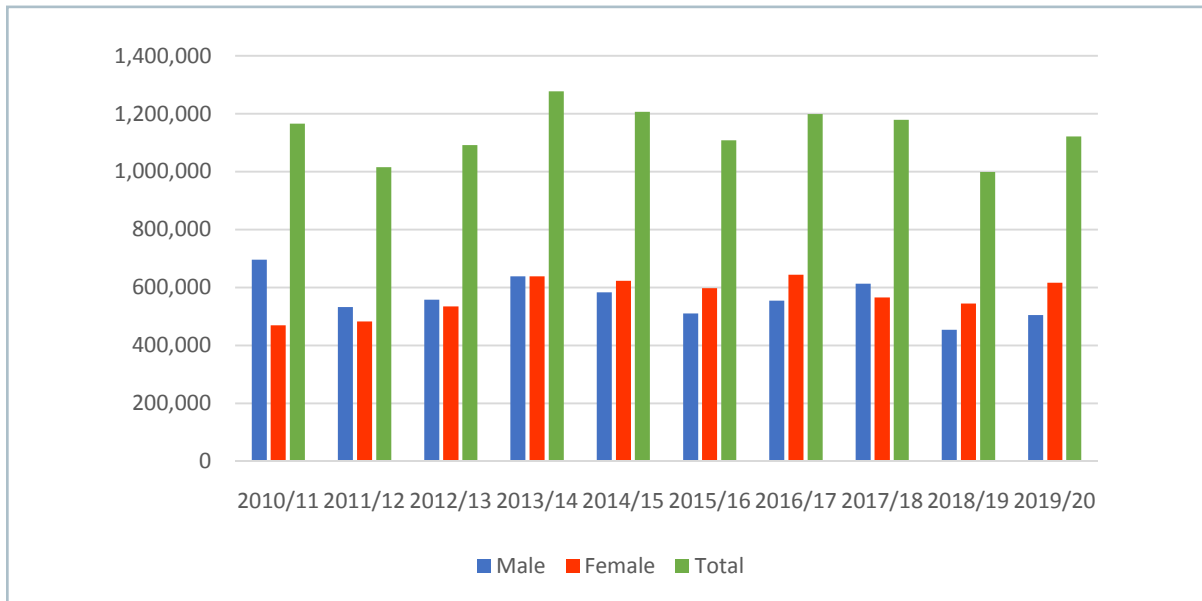
Source: MHRD, 2020. See detailed figures in the Annex.

2.1.3. DEGREE STRUCTURE AND ADMISSION TO EACH LEVEL

There are no paths that flexibly connect the vocational programmes with academic programmes offered by universities in Indian higher education. In particular, there is no possibility to move from TVET beyond the diploma level. Thus, better articulation is needed between the vocational system and the academic programmes offered by HEIs. Figure 5 shows the different educational levels (ISCED 5 to ISCED 8) in the Indian higher education system and the various paths of progression between levels benchmarked with the International Standard Classification of Education (ISCED)[2].

Figure 5. Higher Education Structure in India
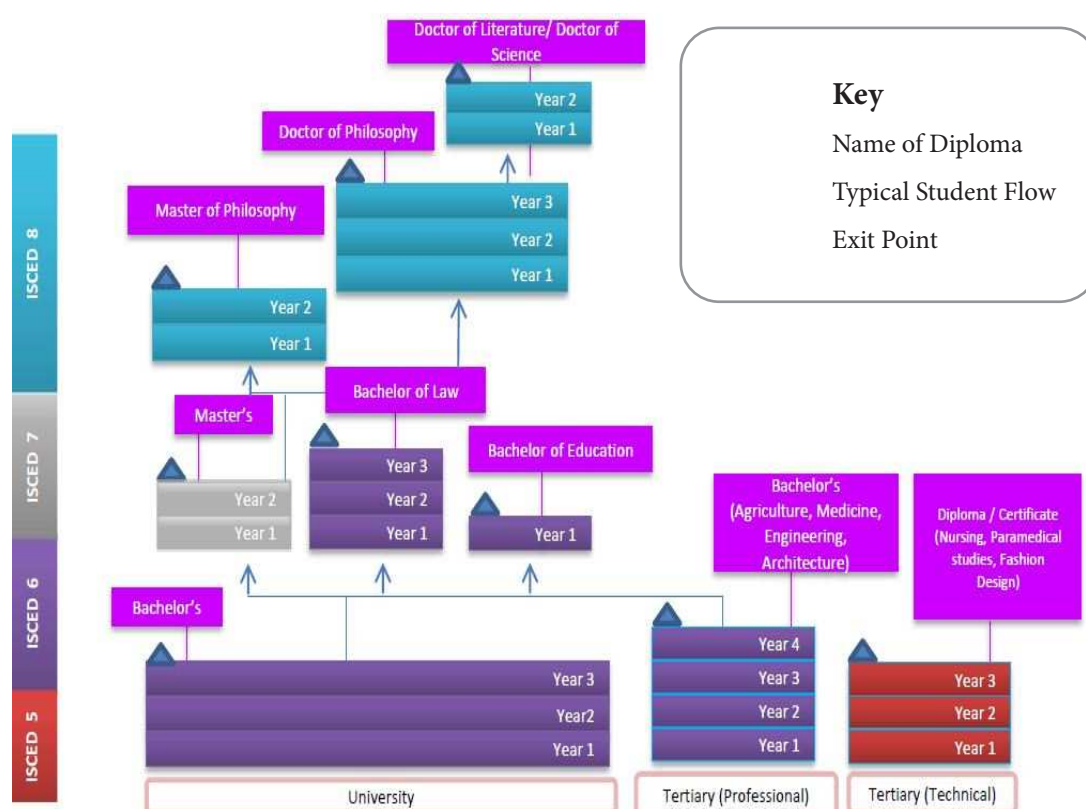
Source: OECD, 2018

The educational structure in India requires 10 years of compulsory education and two years of secondary education before entrance to higher education. Undergraduate degrees are of three years' duration, and postgraduate degrees are the last two years. A 10+2+3 is thus required for entrance to a master's programme. There is an exception for courses such as computer application. A three-year diploma after 10 years of schooling makes one eligible to enter a three-year undergraduate programme in the second year instead of the first. Similarly, students who have completed computer-based undergraduate programmes are eligible to enter the three-year

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[2]ISCED is a framework for organization of data on education maintained by UNESCO. It comprises eight levels. Higher education is defined through levels 4 to 8, and includes 'all types of studies, training or training for research at the post-secondary level, provided by universities or other educational establishments that are approved as institutions of higher education by the competent state authorities' (UNESCO, 1998).

Master's in Computer Applications (MCA) programme in the second year instead of the first, also called lateral entry. However, this option of lateral entry is being discontinued from 2020 because the MCA is now offered as a two-year instead of a three-year programme. Moreover, the 10+2 structure of school curricula is to be replaced by a 5+3+3+4 curricular structure, corresponding to ages 3–8, 8–11, 11–14, and 14–18 years, respectively.

Figure 6 clearly shows that technical tertiary education only leads to the diploma level and there are no articulations with professional and university education. Tertiary professional education through which a bachelor's degree can be obtained in professional fields, articulates with master's-level university education. However, all this is set to change with the implementation of the NEP 2020. The NEP highlights the challenges of providing vocational education to millions of Indian youth, especially in the fields of agriculture and technical and healthcare education. The policy advocates provision of vocational education at all institutions offering professional education. Thus, it is envisaged that all universities and autonomous colleges offering professional education will be empowered to offer vocational education in their related disciplines at undergraduate level through diploma, advanced diploma, and BVoc degrees.

Enrolment by programmes

The growth of the higher education sector has been driven by the increased demand for access to higher education. The sector has, therefore, grown across levels and disciplines. However, the growth has been uneven, and there is a need to examine its implications. We can see below that 10 programmes account for 80 per cent of all enrolments. Bachelor of Arts (BA), Bachelor of Science (BSc), and Bachelor of Commerce (BCom) make up 50 per cent of all enrolments. These programmes are three years' long and are mostly run by affiliated colleges, and the syllabus is prescribed by the affiliating university (see Figure 6).

Figure 6. Top Ten Most Popular Programmes, Enrolment by Millions
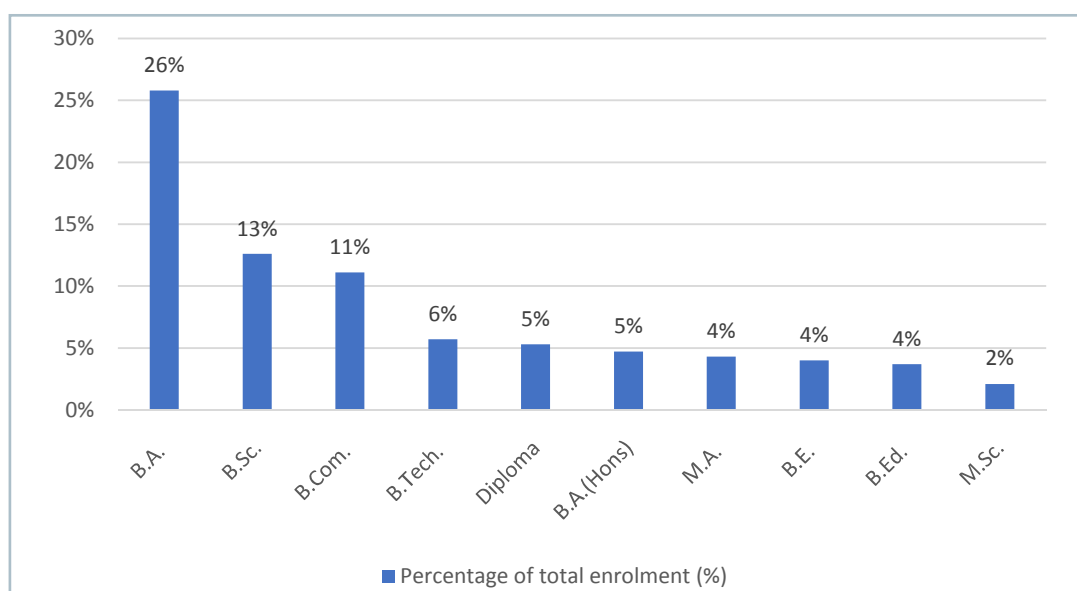
Source: MHRD, 2020. See detailed figures in the Annex.

Professional programmes such as the Bachelor of Engineering (BE) and the Bachelor of Technology (BTech) account for 10 per cent of all enrolments. These professional programmes are mostly run by private institutions, and affordability could be a factor in the reduced demand for professional courses. Diplomas are vocational courses offered in branches of engineering, pharmacy, hotel management, and computer science by polytechnics.

Figures 7 and 8 present the number of undergraduate and postgraduate students enrolled by academic disciplines. When looking at the two graphs, we note that the share of enrolments remains relatively stable across the different disciplines. The reason for a sharp increase in humanities course enrolments from 2015 to 2016 is that, until 2015, the numbers for arts/humanities and social sciences were reported together, but, in 2016, the number of enrolments for humanities and social science were reported separately. The largest enrolment at the undergraduate level is in humanities and arts (35 per cent), followed by business, administration, and law (18 per cent). At the postgraduate level, the maximum enrolment is in business, administration, and law (28 per cent).

Figure 7. Enrolled Undergraduate Students
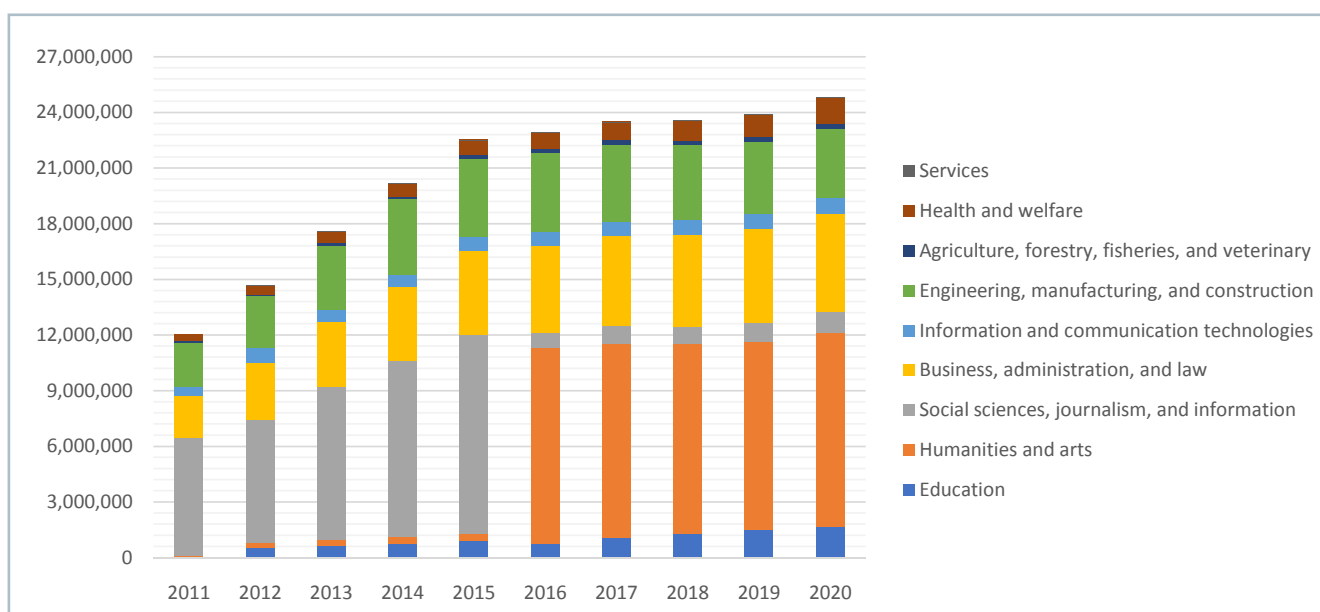
Source: MHRD, 2020. See detailed figures in the Annex

Figure 8. Enrolled Postgraduate Students

Source: MHRD, 2020. See detailed figures in the Annex

Legend (top to bottom):
- Services
- Health and welfare
- Agriculture, forestry, fisheries, and veterinary
- Engineering, manufacturing, and construction
- Information and communication technologies
- Natural sciences
- Business, administration, and law
- Social sciences, journalism, and information
- Humanities and arts
- Education
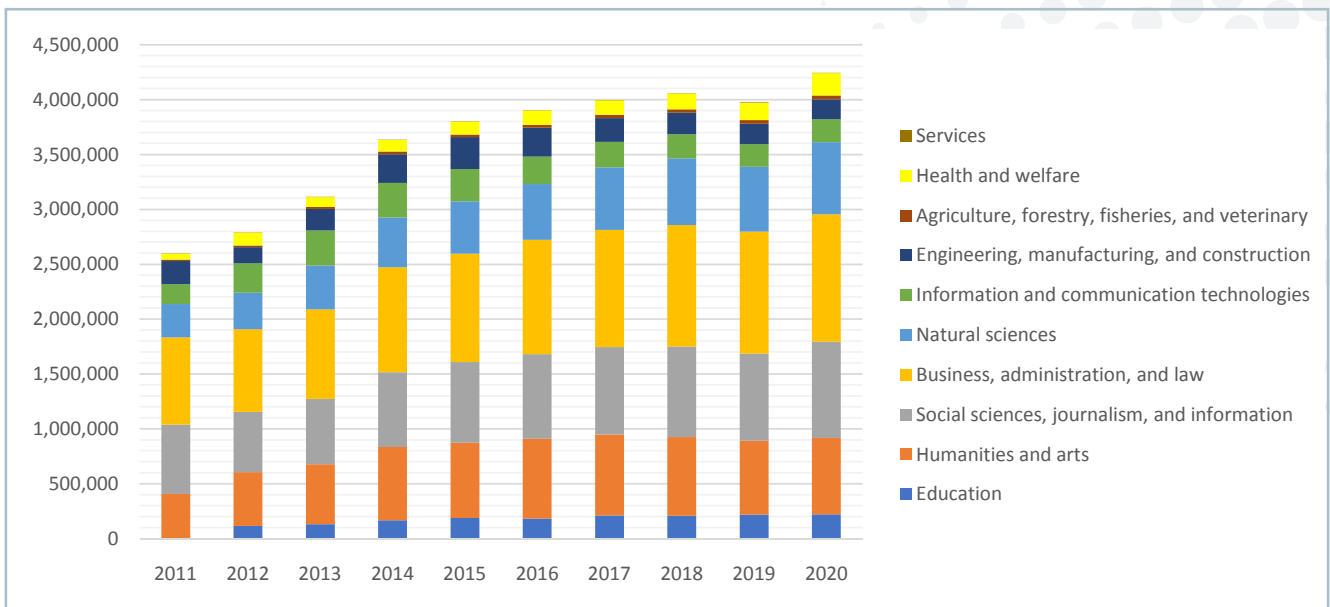
Enrolment by levels

The relative share of ungraduate and postgraduate enrolment has remained relatively stable. Undergraduate programmes make up a clear majority of enrolments in India. According to the All India Survey of Higher Education (MHRD, 2020), undergraduate enrolments account for close to 80 per cent of all enrolments in India. With around 4 million students enrolled, postgraduate programmes constitute 11 per cent of all enrolments. Postgraduate enrolments have more than doubled over a decade since 2008/09.

2.1.4. DIVERSE STUDENT POPULATION

Reservation policy in India is a system of affirmative action that provides representation for historically and currently disadvantaged groups in Indian society in higher education institutions. Thus Articles 15 and 16 of the Indian Constitution enable the Indian government to set quotas to ensure that the 'socially and educationally backward classes of citizens' are properly represented in public life. Reservation is primarily given to three groups: Scheduled Castes (SCs), Scheduled Tribes (STs), and 'Other Backward Classes' (OBCs).[3] These are groups that have faced social and economic discrimination in the past and/or the present and have been severely underrepresented in public life. Originally, reservation was only given to SCs and STs. But it was later extended to OBCs in 1987 after the implementation of the Mandal Commission report. Later, the Union Government tabled the Constitution (One Hundred and Twenty-Fourth Amendment) Bill 2019, which provided 10 per cent additional quota for the Economically Weaker Sections (EWS). However, no income limits exist for members of the SCs

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[3] OBC is a term used by the Government of India to classify castes that experience social or educational disadvantage.

and STs. Thus, 15 per cent of places are reserved for SCs and 7.5 per cent for ST candidates. In addition, 27 per cent of places are reserved for 'non-creamy layer'[4] OBC candidates. Also, 5 per cent of places in the respective categories are reserved for Persons with Disability (PwD).

The Union Government has a responsibility, deriving from Article 46 of the Constitution, to protect the interests of the weaker sections of society and make sure there is equality of opportunity in education. Thus, to correct the historical disadvantages of certain social groups identified by caste categories, the Constitution provides for reservation (quotas) in higher education to groups listed as Scheduled Castes, Scheduled Tribes, and Other Backward Communities (Tilak, 2017).

However, a very high degree of inequality in participation in higher education remains between different social groups, men and women, rural and urban populations, and the rich and the poor. While gender inequalities and those with regard to disadvantaged groups have narrowed down over the years, the rural-urban and inter-state inequalities have actually increased (Tilak, 2013). Figure 9 presents the enrolment in Indian higher education by social groups. It shows that while the general enrolment of disadvantaged social groups is increasing, disadvantaged groups such SCs, STs, PwDs, and other minority communities remain vastly below the average enrolment.

Figure 9. Enrolment in Higher Education by Social Groups
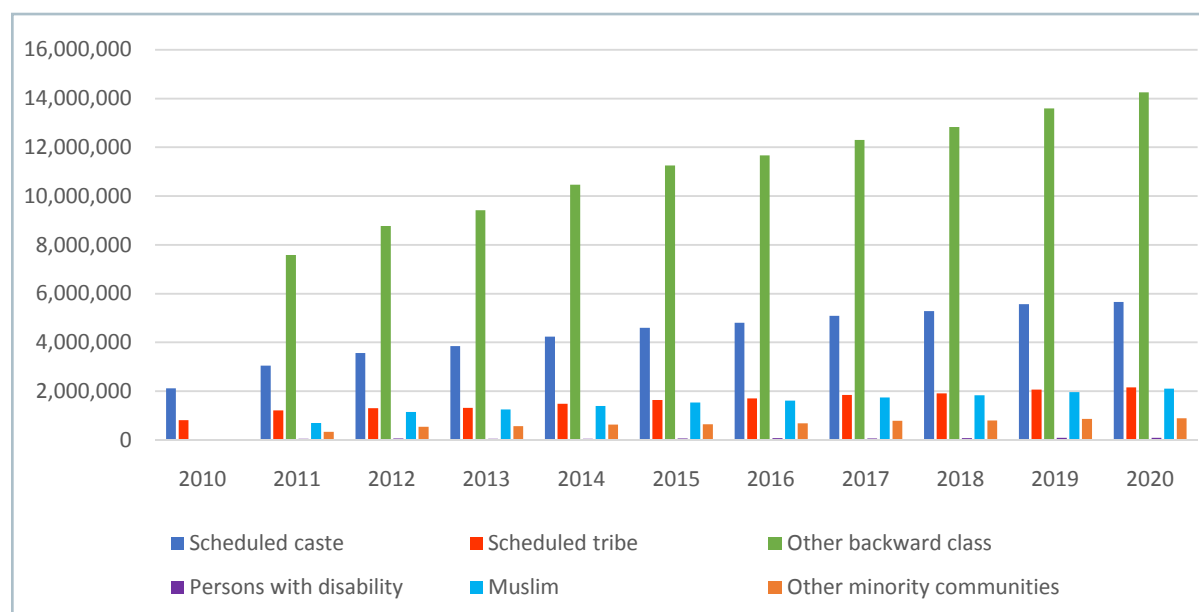
Source: MHRD, 2020. See detailed figures in the Annex.

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[4] 'Non-creamy layer' is used by the Government of India to refer to members of OBC who have not been able to advance socially, economically and educationally.

As mentioned earlier, FLPs and distance education, in particular, have the potential to transform this inequitable distribution, especially in terms of the regional divide. There are far-flung and remote areas where few universities, and particularly colleges, are located, and distance and online learning could enable students in these areas to gain access to higher education.

The Organisation for Economic Cooperation and Development (OECD) defines the term 'digital divide' as 'the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the internet for a wide variety of activities'(OECD, 2001). In India, there remains a digital divide in ICT use despite the widening of internet access (IAMAI, 2019). There are currently 451 million active internet users in India, but the penetration in urban areas is twice that of rural India. Furthermore, the rate of internet use of males (67 per cent) is twice as high as that of females (33 per cent), confirming the persistence of a gender divide (Tapashi, 2018; IAMAI, 2019).

Sabharwal and Malish (2016) theorised the stages of student diversity in higher education to explain its changing nature and how higher education institutions can respond to the challenges of under-represented social groups. Student diversity is classified here into three major stages: Stage I – social diversity; Stage II – academic diversity; and Stage III – social inclusion. Stage I deals with demographic diversity in student bodies and concerns questions of equitable access to higher education opportunities in a vertically and horizontally stratified higher education system. Stage II is concerned with academic integration in classrooms. Finally, Stage III relates to social inclusion in campus life. Interventions to provide access to disadvantaged groups are therefore not enough to guarantee change in academia, and more attention needs to be placed on the development of institutional policies to support and integrate disadvantaged students.

Studies show that HEIs are not well equipped to address the issues of student diversity and equity in education. In reality, institutional responses to diversity and discrimination are often weak. While there are many types of office, such as equal opportunity and anti-ragging[5] offices, most students are not aware of their existence or of their roles (Sabharwal & Malish, 2016). They therefore lack effectiveness.

2.2. Governance of HEIs in India

There are two aspects to higher education governance: the relationship between the state and the HEIs, and governance within HEIs. India is facing significant changes in higher education governance and management. At the time of independence, higher education was an exclusive domain of the public sector. Following the financial crisis of the 1980s, many HEIs diversified their sources of funding. This also led to the growth of self-financing private and public institutions, leading to decisions being taken at the institutional level. This new scenario of

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[5] Ragging involves abuse, humiliation, or harassment of new entrants or junior students by the senior students at higher education institutions

expansion and diversification is becoming increasingly complex and is characterised by a change in the relationship between the state, market, and HEIs. The role of the state has changed from exercising direct control to 'steering from a distance,' and the emphasis has shifted to performance and outcome-based measures as opposed to steering by inputs.

The better-performing universities are currently enjoying greater autonomy, but there is simultaneously a move towards greater centralisation within HEIs. Power has been increasingly concentrated within the offices of Vice Chancellors and there is reduced power among the academic professoriate. This trend has major implications for the governance of universities and systems of research and teaching.

The governance of higher education in India is currently ensured by both the national level (for national universities) and, increasingly, the state level.

2.2.1. GOVERNANCE AT THE NATIONAL LEVEL

At national level, the Department of Higher Education of the Ministry of Education (formerly the Ministry of Human Resource Development) plays a key role in the governance of higher education. The University Grants Commission (UGC) and the All India Council for Technical Education (AICTE) are under the direct supervision of the MHRD. Thus, the MHRD, the UGC, and the NITI Aayog (formerly the Planning Commission) are the bodies taking important decisions on the future of higher education in India.

Each state has a ministry of education or higher education, which is responsible for policymaking. Also, every state has a directorate of higher education, which implements policy decisions. At the state level, there have been important initiatives such as the setting up of the State Higher Education Councils (SHECs). The National Education Policy (NEP) of 1986 recommended the establishment of SHECs in order to strengthen the state-level planning and coordination of higher education. According to the UGC guidelines of 1988, SHECs are entrusted with planning and coordination, academic, advisory, and administrative functions in higher education.

The regulatory functions with regard to distance education programmes in higher education have been vested with the UGC. The Distance Education Council (DEC), the former regulator of distance education programmes, has been dissolved, and all regulatory functions are being undertaken by the Distance Education Bureau (DEB) of UGC.

Figure 10. Regulatory Framework in Indian Higher Education

POLICY-MAKING
- Department of Higher Education, MHRD
- Ministry of Education at state level
- Niti Aayog
- Central Advisory Board of Education
- State Council of Higher Education

REGULATION
University Grants Commission
- Department of Collegiate Education at state level
- AICTE, MCI, PCI, BCI, DEB, NCTE

ACCREDITATION
- National Assessment and Accreditation Council
- National Board of Accreditation and Others

Source: Elaboration by the authors.

2.2.2. GOVERNANCE AT THE STATE LEVEL

The policies related to higher education could differ across different states. UGC provides the guidelines, but the implementation is left to the states. The higher education council also plays a role in guiding practices in the university. Since the course structure differs from one university to the next, the State Higher Education Council – for instance, in the case of Tamil Nadu, the TANSCHE – is now aiming at uniform curricula in all universities to facilitate inter-institution transfer. The TANSCHE is presently involved in providing equivalence and course recognition for various programmes, a role previously undertaken by the UGC. Only once the State Council approves a programme, will it be approved by the Tamil Nadu Recruitment Board for employment in the public sector.

2.2.3. GOVERNANCE AT THE UNIVERSITY LEVEL

In a university, a typical governance structure consists of an elected senate, a syndicate consisting of representatives from teachers and government officials, and a non-elected academic council. The Chancellor of the university is the chair of the university council (or court) and nominates members of the council, presides over the council meetings and convocations to award degrees.

India has an affiliating system wherein many colleges are affiliated to a public university. These colleges have their own governing body, which is influential in deciding the direction of change in the management of college affairs.

The institutions which enjoy a higher degree of autonomy belong to a category where the prestige of the institution is high, the governing body of the institution has fewer members from government, and the head of the institution is frequently academically stronger.

It is also not necessary that government funding is associated with government control. Autonomy does not necessarily imply a functioning totally independent of the government. It implies that government interventions will be based on the legislative authority, as per the relevant acts (Malik, 2017; Varghese and Malik, 2019).

To implement FLPs, institutions need to move from tight regulation to greater academic and financial autonomy. This is true for state universities, which have double layers of control (central government and state) and little autonomy. In India, even though there are twice as many private institutions as government institutions, the model of governance has been slow to change. Moreover, while the central government has taken incremental steps towards granting autonomy, the implementation of it at state level has been far from satisfactory.

2.3. Sources and Allocation of Funding in Higher Education

It is argued that while public institutions and public funding characterised the growth and expansion of higher education in its elite stage of development, the massification of higher education in India has become a market-mediated process facilitated mostly through private institutions and financed by the households (Varghese, 2015). Three indicators can be used to assess governmental priority in the allocation of resources: (i) the share of resources invested in education or higher education as a share of national income; (ii) the share of resources allocated to education as part of the public expenditure or national budgets; and (iii) the share for higher education in education budgets.

The higher education share in the total expenditure of central government declined from 2 per cent in 2000/01 to 1.38 per cent in 2011/12. Moreover, there has been a decline in the share for higher education in the total education budget from 18.8 per cent in 2000/01 to 17 per cent in 2010/11. At institutional level, innovative methods of financing in India, such as the starting of new courses, alumni funds, corpus funds, and carrying out research projects and consultancy activities, have not been exploited much thus far by state-level universities and colleges. There is a tendency to focus on increasing tuition fees and self-financing courses (Varghese & Panigrahi, 2019).

Development and maintenance grants are received by central universities and other institutions of higher education through the UGC, and/or from the MHRD. State universities and (other state institutions, including colleges) receive development grants from the union government through the UGC and maintenance grants directly from state governments. Thus, state universities depend on both the state government and the union government (UGC and other ministries) for their funding, making them subject to regulation by both central and state agencies.

UGC funding is skewed in favour of central universities while state universities receive very small amounts in terms of non-plan grants and small plan grants. While central funding is less, central/UGC intervention in the functioning of the higher education systems in states is found to be significant. This is because state universities are set up through state legislature, but many of their core activities, such as recruitment of faculty, promotions, salary structure, admissions including reservations, curriculum, assessment, and accreditation, are all decided by the UGC. But state universities are primarily accountable to their respective state legislatures and are therefore concerned about the level of central control (Tilak, 2017).

The Indian higher education system is highly complex and fragmented. The presence of multiple regulators with varying quality and standards of monitoring and assessment prevents a coordinated approach to the sector and is an obstacle to the establishment of FLPs. In NEP 2020 it is therefore envisaged that the National Higher Education Regulatory Council will be the only regulator for all higher education, including professional education.

Over the years, HEIs have been micro-managed by the regulators. The absence of articulation and policies on distance/online learning is also compromised to the extent that there is too much centralisation of decision-making. Thus, the NEP advocates radical transformation and erstwhile regulators that diminish autonomy by promoting centralisation of functions need to be negated. It also pushes for adequate funding to 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.

System-Level Approaches to Supporting FLPs

This chapter provides a general description of the systemic factors that support flexible learning pathways (FLPs). It offers a comprehensive description of the FLP-related policies and practices, instruments for implementing them, and the priorities for the future, as defined by national stakeholders. It first presents the methodology that was used to explore system-level policy issues. It then discusses several policies and regulations pertaining to opportunities for flexibility in Indian higher education. They relate to ODL, the more recent skill development agenda, and, in particular, the NEP adopted in 2020.

3.1. Methodological Issues

To explore the system-level approach supporting FLPs, in-person interviews were conducted, and questions were asked from a questionnaire. The interviews were duly recorded and detailed notes of the answers were taken. Subsequently, the recordings were transcribed and the transcriptions studied carefully to obtain the essence of the discussion as well as the key quotations.

Senior officials were interviewed to obtain their viewpoints and identify enablers and barriers at national level. Key interviews were held with those heading apex bodies in the field of higher education. The former Secretary (Higher Education) was interviewed as the most senior official from the Ministry of Human Resource Development (MHRD). Though he had recently been transferred to another ministry he had been Secretary (Higher Education) for many years and had an in-depth knowledge of the policies at the national level. It was therefore decided that he could provide knowledge of various policy dimensions, including about NEP 2020. The questions were based on the instruments of the FLP project, but some questions had to be modified to reflect the country context.

In the case of the University Grants Commission, another apex regulatory body, the interview was arranged with the Vice-Chairman, an academician with a deep understanding of higher education in India. At the time of the interview, the NEP was in a draft stage, but a lot of the answers to the questions asked were centred around it. Same was true of the All India Council for Technical Education (AICTE) where the Chairman was interviewed. He too is an eminent academician, now at the helm of affairs of AICTE. Two more interviews were held in Bangalore at the National Assessment and Accreditation Council (NAAC) office with the Director of NAAC and one of the key advisers of NAAC. Both these senior members of NAAC answered

questions related to accreditation, assessment, and the NEP. They also discussed the revised accreditation framework in detail. The final interview at the national level was held with the Assistant Secretary General of the Federation of Chambers of Commerce and Industry, a senior functionary of the Chambers. She talked of the employment aspects of flexible learning and asserted that more industry-academic collaboration was needed.

Table 2. Interview Summary at the National Level

Body/ Organisation	Date	No.	Role of the interviewee	Type of interview
University Grants Commission (UGC)	1 October 2019	1	Vice-Chairman	In-person interview
National Assessment and Accreditation Council (NAAC)	3 October 2019	1	Director	In-person interview
National Assessment and Accreditation Council (NAAC)	3 October 2019	1	Adviser	In-person interview
All India Council for Technical Education (AICTE)	18 December 2019	1	Chairman	In-person interview
Federation of Indian Chambers of Commerce and Industry (FICCI)	3 January 2020	1	Assistant Secretary General	In-person interview
Ministry of Human Resource Development (MHRD)	6 March 2020	1	Former Secretary of Higher Education	In-person interview

Source: Elaboration by the authors.

3.2. OVERVIEW OF POLICY EVOLUTION WITH REGARD TO FLEXIBILITY

In the previous chapter we found that the Indian higher education system, in its structure and available articulations, but also in its alternative access modes, is relatively rigid. Several policies have been introduced over the years that have provided opportunities for greater flexibility (see Figure 11).

Figure 11. Evolution of National Education Policies since Independence

1968	1986	1992	2020
The first NEP called for a 'radical restructuring' and the equalising of educational opportunities to achieve greater cultural and economic development..	The second NEP expanded the Open University system with IGNOU, which had been created in 1985. The policy also called for the creation of the 'rural university' model to promote economic and social development at grassroots level in rural India.	The 1986 NEP was modified in 1992 as Programme of Action (PoA) and envisaged administration of a common entrance examination on an all-India basis for admission to professional and technical programmes in the country.	The NEP 2020 is aligned with the Sustainable Development Goals and is based on the foundational pillars of access, affordability, equity, quality, and accountability.

Source: MHRD, 2020

The first NEP in 1968 called for a 'radical restructuring' and proposed equal educational opportunities to achieve national integration and greater cultural and economic development. It also called for education spending to increase to 6 per cent of national income.

The 1986 NEP emphasised state-level planning and coordination through Councils of Higher Education. The UGC and the councils were to develop methods jointly to keep a watch on standards. The Open University system got a major boost in the 1986 policy with the goal of democratising education and augmenting opportunities. Thus, there was an emphasis on adult and continuing education, vocationalisation of education, education for mentally and physically challenged persons, non-formal education, open universities and distance learning, and the rural university. Delinking degrees from job was also one of the basic objectives of the 1986 NEP.

More recently, NEP 2020 envisages multi-disciplinary, holistic undergraduate education with flexible curricula, creative combinations of subjects, integration of vocational education and multiple entry and exit points with appropriate certification.

3.3. National Policy and Regulations on ODL

Open and distance learning (ODL) is one of the traditional means to allow for flexibility in Indian higher education. It is contrasted with 'conventional' or 'face-to-face' education described as the form of education which takes place in a classroom. Governments worldwide have introduced distance education to accomplish the following: increase access to learning and training opportunities; provide increased opportunities to update and retain skills; improve the cost-effectiveness of educational resources; and enhance and consolidate capacity. There are added benefits in terms of balancing inequalities between age groups, extending geographical access to education, delivering educational campaigns and other education for large audiences, providing speedy and efficient training for key target groups, expanding the capacity for education in new and multidisciplinary subject areas, offering the combination of education with work and family life, developing multiple competencies through recurrent and continuing education, enhancing the international dimension of educational experience, and improving the quality of existing educational services (UNESCO, 2002).

Today, India has one of the largest distance education systems in the world, second only to China. The following types of institution offer distance education in India:

• National Open University;

• State open universities;

• Distance education institutions (DEIs) as part of Institutions of National Importance, central universities, state universities, state private universities, and other institutions deemed to be universities[6];

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[6] 'Deemed university' or 'deemed to be university' refers to an accreditation status that Indian higher education institutions receive. The accreditation confers the status of a university.

- DEIs as part of standalone institutions (professional associations, government institutions, and private institutions).

3.3.1. POLICY DEVELOPMENT FOR ODL

India has a longstanding policy for the development of distance education. As enrolment at elementary and secondary education levels increased, demand for higher education also increased. The Ministry of Education, Government of India, appointed in August 1961 a Committee on Correspondence Courses and Evening Colleges. The committee submitted its report in two parts, one dealing with 'correspondence courses' and the other with 'evening colleges and evening classes. (MoE, 1963) The Planning Commission in the third Five-Year Plan also mentioned the need for the introduction of correspondence education in the country. The Central Advisory Board on Education recommended setting up an expert committee to look into the proposal of introducing correspondence courses. The committee recommended that the institutions offering correspondence courses keep in mind flexibility, accessibility, and innovative methods of imparting education. The committee also suggested that correspondence courses in India should be administered by the universities only and, in the first instance, by one university, the University of Delhi, as a pilot project. Thus, the University of Delhi established the School of Correspondence Courses and Continuing Education in 1962 as a pilot project. Andhra Pradesh, a southern state, established the first Open University in India as Andhra Pradesh Open University in 1982. Later, Andhra Pradesh Open University was renamed Dr. B. R. Ambedkar Open University. The Government of India established Indira Gandhi National Open University (IGNOU) in 1985. The Distance Education Council (DEC) was established in 1991 under the IGNOU Act passed by the Indian Parliament. DEC was responsible for the promotion, coordination, and maintenance of standards of the ODL system.

As pointed out by Panda and Garg (2019), the establishment of single-mode open universities, especially IGNOU, brought about significant reforms. These included:

- Pressuring and guiding dual-mode institutions to improve quality in terms of curriculum, self-learning materials, use of ICT, learner support, and assessment and evaluation.

- Initiating new national and regional development programmes and continuing professional development/training programmes in open universities.

- Initiating reforms in curriculum and instructional design, integration of ICT in teaching and learning, extended networks of tutors and course-writer academics, and learner-based student support services.

- Developing and digitising learning resources (print, audio, video, interactive multimedia, teleconferencing, PowerPoint, etc.) through a national resource repository of open educational resources (OERs).

- Providing a network of facilities, such as teleconferencing centres, satellite studios, well-trained educational media professionals, and a national satellite dedicated to education and

training. Enabling accreditation and quality assurance mechanisms in the DE system and programmes through the statutory Distance Education Council (DEC) of IGNOU.

IGNOU was given the distinctive additional responsibility of funding, maintaining quality, and accrediting distance-education programmes and systems in the country through DEC until 2012. In 2012, the MHRD withdrew DEC from IGNOU's act and attached it to a separate Distance Education Bureau (DEB) in UGC.

The National government funded the capital and operating expenditure of the university until 1991. After 1991, the source of income was mainly from tuition fees. In view of this, the Government of India reduced its grant to IGNOU by about 15 per cent of its total income. It is therefore not surprising that the income from student fees as a percentage of its gross operating costs has increased. The government did not develop any funding policy for open universities. It has also been observed that most dual-mode distance-teaching institutions in India are generating revenue for their respective universities because of the budget deficit of these universities. It means distance-learner pays a subsidy to the formal learner of the same institution since the amount generated from these students in the form of tuitions fees was not spent for their services. Moreover, the quality of distance education programmes continues to be an issue (Gaba and Li, 2015).

3.3.2. UGC Regulations for ODL

Under the UGC, the Distance Education Bureau (DEB) frames and provides the guidelines for running distance education. In 2017, new regulations were enacted for ODL. The regulations specify the eligibility criteria an institution must meet to be recognised as an official provider of online courses, the process of seeking approval from UGC by an institution offering online courses or programmes, and their operation. Further, the course or programme monitoring and renewal process, and quality assurance, as well as faculty and staff requirements for running online programmes, are also specified in the guidelines.

The first four amendments in the UGC's ODL Regulations 2017 indicate the minimum standards of instruction for the granting of degree at undergraduate and postgraduate levels through ODL. It was specified that programmes in engineering, medicine, dentistry, pharmacy, nursing, architecture, physiotherapy, agriculture, hotel management, and culinary management cannot be conducted by the HEIs in the ODL mode.

The guidelines of the DEB 2018 further specify the criteria for an institution to be eligible to offer programmes in the ODL mode. Only HEIs that have been operating for at least five years and have a NAAC score of 3.26 on a four-point scale before the end of the academic year 2019/20 can offer ODL programmes. Further, only universities that follow the relevant regulations by the UGC and are found adequate after inspection of the ODL centres or study centres, are recognised by the UGC to run ODL courses. Any institution that has a NAAC score of 3.5 or

above can run an ODL programme. Universities ranked in the top 50 of NIRF can also offer distance education programmes.

Category I universities may offer courses in the ODL mode without the approval of the UGC, as long as they satisfy all the conditions laid down under UGC ODL regulations and amendments. Category II and II need the UGC's approval.[7] According to the UGC's Grant of Graded Autonomy Regulations 2018, a Category I HEI needs to fulfil one or more of the following requirements to offer courses in ODL:

– It has been accredited by NAAC with a score of 3.51 or above.

– It has received a corresponding accreditation grade/score from a reputed accreditation agency empanelled by the UGC.

– It has been ranked about the top 500 of reputed world rankings, such as Times Higher Education or QS.

DEB has set guidelines also for admission and the evaluation of students. The guidelines specify the deployment of staff and other support at study or learner support centres (LSCs). These centres are headed by a coordinator, not below the rank of an assistant professor, and are augmented with academic and non-academic staff depending on the number of learners assigned and their support needs. There is no restriction in the capacity of intake in ODL at the LSCs and the main campus. The capacity of intake per programme should be commensurate with the availability of qualified faculty in relevant areas, laboratory and library capacity, online connectivity, ICT facilities, and appropriate infrastructure.

The DEB guidelines are very specific and put forward a number of norms. The number of qualified counsellors to the number of students should be 1:100 per course, in theory. The number of qualified supervisors per practical course of two credits should be one or more. The laboratory should belong to a recognised HEIs running a similar course in the conventional mode for a period of not less than three years. Regulations regarding the location of LSCs that can offer distance programmes and the maximum number of students per batch are also stipulated by the UGC. Sixty is the maximum number of students per batch for one study centre, but a centre can run as many batches as it wishes.

Table 3 presents the quality framework that serves as the basis for assessment of open universities and dual mode universities to distinguish them from regular universities. The key indicators are further delineated as metrics, which actually elicit responses from the HEIs.

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[7] A university is deemed a Category II university if it has been accredited by NAAC with a score of 3.26 or above, up to 3.50; or it has received a corresponding accreditation grade/score from a reputed accreditation agency empanelled by the UGC. A university is deemed Category III if it does not fall under either Category I or Category II.

Table 3. Quality Indicator Framework (QIF)

Criterion	Key indicators
Curricular Aspects	1.1*(U) Curriculum Design and Development 1.1*(A) Curriculum Planning and Implementation 1.1*(O) Curriculum Planning, Design and Development 1.2 Academic Flexibility 1.3 Curriculum Enrichment 1.4 Feedback System *(U) Applicable only to universities and autonomous colleges *(A) Applicable only to affiliated/constituent colleges *(O) Applicable to open universities
Teaching-Learning and Evaluation	2.1 Student Enrolment and Profile 2.2 Catering to Student Diversity 2.3 Teaching-Learning Process 2.4 Teacher Profile and Quality 2.5 Evaluation Process and Reforms 2.6 Student Performance and Learning Outcomes 2.7 Student Satisfaction Survey
Research, Innovations, and Extension	3.1 *Promotion of Research and Facilities 3.2 Resource Mobilisation for Research 3.3 Innovation Ecosystem 3.4 Research Publications and Awards 3.5 *Consultancy 3.6 Extension Activities 3.7 Collaboration *Not applicable to affiliated colleges
Infrastructure and Learning Resources	4.1 Physical Facilities 4.2 Library as a Learning Resource 4.2*(O) Learning Resource 4.3 IT Infrastructure 4.4*Maintenance of Campus Infrastructure *Not applicable to open universities *(O) Applicable to open universities
Student Support and Progression	5.1 Student Support 5.2 Student Progression 5.3*Student Participation and Activities 5.4 Alumni Engagement * Not applicable to open universities
Governance, Leadership, and Management	6.1 Institutional Vision and Leadership 6.2 Strategy Development and Deployment 6.3 Faculty Development/Empowerment Strategies 6.4 Financial Management and Resource Mobilisation 6.5 Internal Quality Assurance System (IQAS)
Institutional Values and Best Practices	7.1 Institutional Values and Social Responsibilities 7.2 Best Practices 7.3 Institutional Distinctiveness

Source: Compiled from NAAC, 2019, 2020a, 2020b. Note: Replace the word 'student' with 'learner' in the case of open universities.

The final result of the assessment and accreditation exercise will be an ICT-based score, which is a combination of evaluation of qualitative and quantitative metrics.

The UGC's ODL regulations 2017, Part III, Section 4, read: "A University established or incorporated by or under a State Act shall operate only within the territory of the state of its location" (UGC, 2017: 6). This regulation obliged all state dual-mode universities offering programmes beyond their jurisdiction to close these programmes. In the next chapter, we will discuss how this regulation has affected one of the case institutions in our research, the School of Distance Education at Bharathiar University.

NEP 2020 insists that state universities can offer distance programmes only within their own state. The UGC justifies this, stating that when the study centres are located in distant places away from the university, the quality is compromised, and monitoring of the centres is not up to the mark. Interestingly, this restriction to the geographical location of study centres applied only to state universities and not to central universities. Any central university can run distance education anywhere in the country. However, regional universities can run distance education only within their jurisdiction. The UGC policy provided guidelines related to the jurisdiction and content structure in 2014/15. These were reinforced in 2017 with more strictures, and had been amended twice by 2018.

Now, DEB recognises individual courses and not the institution, as before. Courses run at the university departments and the affiliated colleges are basically the courses that are recognised by UGC because the university has the required expertise. The regulatory body of the university has the authority to approve diploma courses (postgraduate diploma, advanced diploma, certificate).

NEP 2020 stipulates that both distance and regular programmes have the same course content and credits so that the in-class and distance education programmes are consistent. 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. Norms, standards, and guidelines for regulation and accreditation of ODL will be prepared by the National Higher Education Regulatory Council (NHERC), and a voluntary framework for quality of ODL for all HEIs will be developed by the General Education Council (GEC).

Judgements related to the degrees awarded through distance mode by the Supreme Court and Calcutta High Court, in 2009 and 2013, respectively, have raised questions concerning the credibility of ODL programmes in the country (Varghese, 2018). The observation of the courts confirmed serious concerns among academia and experts that the ODL system is not qualitatively on par with the conventional system due to deteriorating quality and lack of a strong regulatory mechanism.

3.3.3. UGC Regulations for Online Education

UGC (Online Courses) Regulations 2018 stipulated that HEIs can offer certificates, diplomas, and degree programmes in fulfledged online mode in line with their regular programmes. Thus, HEIs will be eligible to offer online programmes if they have been in existence for at least five years and are accredited by the National Assessment and Accreditation Council (NAAC) with a minimum score of 3.26 on a four-point scale. They should also have been in the top 100 overall in the National Institutional Ranking Framework (NIRF) for at least two of the previous three years. However, online programmes requiring practical/laboratory courses as a curricular requirement shall not be permitted. Moreover, the modalities entail that online learning shall have minimum four quadrants: video lectures, e-content, self-assessment, and discussion fora to clarify doubts.

3.4. National Policy for Skill Development and Entrepreneurship

The National Policy for Skill Development and Entrepreneurship (NPSDE), enacted in 2015, is the first national education policy that focuses explicitly on empowering the individual through lifelong learning where competencies are accumulated via instruments such as credible certifications, credit accumulation, and transfer. NPSDE aims to make quality vocational training aspirational for youth and employers. It also aims to ensure both vertical and horizontal pathways to the skilled workforce for further growth by providing integration of skills training with formal education. The policy mainly focuses on vocational education, but there is also a focus on skills in the higher education sector. The Ministry of Skill Development and Entrepreneurship (MSDE), set up in 2014, recognises and certifies skills acquired by informal means through its RPL programme.

NPSDE has been structured as an outcome-oriented policy, and it was envisaged that there would be regular monitoring and evaluation of the initiatives to ensure that best practice can be scaled and corrective measures can be introduced. This robust monitoring and evaluation mechanism was intended to ensure the successful implementation of the policy initiatives.

NPSDE 2015 supersedes the policy of 2009, and the major objective is to meet the challenge of skilling at scale with speed, standard (quality), and sustainability. Apart from laying out the objectives and expected outcomes, the policy also identified the overall institutional framework needed reach the expected outcomes. Thus, skills development is the shared responsibility of the key stakeholders, i.e., the government, the corporate sector, community-based organisations, industry and trade organisations, and other stakeholders. The policy connects skills development to improved employability and productivity in order to achieve inclusive growth in the country.

3.4.1. Sector Skill Councils

To make sure that skills development efforts are in line with the actual needs of industry, Sector Skills Councils (SSC) were set up. SSCs are industry-led and industry-governed bodies, which

link the requirements of industry with an appropriately trained workforce. They discharge the following functions:

- Identification of skills development needs, including preparing a catalogue of types of skills, range, and depth of skills to help individuals choose from themselves.

- Development of a sector skills development plan and maintenance of a skills inventory.

- Determination of skills/competency standards and qualifications and getting them notified as per the NSQF.

- Standardisation of affiliation, accreditation, examination, and certification processes in accordance with the NSQF.

- Participation in setting up of affiliation, accreditation, examination, and certification norms for their respective sectors.

- Planning and facilitatation of the execution of training of trainers along with NSDC and states.

- Promotion of academies of excellence.

- Emphasis on the skilling needs of STs/SCs, people with disabilities, and minority populations.

India needs to develop the skills of a large labour force, so the policy aims at developing skills with scale and speed while retaining the quality of skills provision to ensure sustainability. Partly building on the implementation of FLPs, the policy objectives include: (i) to make vocational training inspirational for young people; (ii) to ensure vertical and horizontal pathways for seamless integration of skills training with formal education; (iii) to improve employability of youth through skills development; (iv) to increase the capacity and quality of training infrastructure and trainers; (v) to address the workforce-industry linkage by aligning the supply of skilled workers with sectoral requirements; (vi) to establish an IT-based information system for aggregating demand and supply of skilled workforce which can help in matching and connecting supply with demand; and (vii) to raise the standards in the skills space to international levels.

Moreover, the policy proposes to bring about inclusivity by making sure that the skills needs of socially disadvantaged and marginalised groups are taken into account. Thus, the policy of better integration of formal learning and skills education is a major step forward and also provides employment/livelihood opportunities for school dropouts, adolescent girls, housewives, and rural youth. However, while the policy has been in place since 2015, implementation has been slow. Reasons include the lack of industry interface, the lack of proper infrastructure at training centres, inadequately formulated course curricula for skills courses, and a lack of finances. A report by the Committee for Rationalisation and Optimisation of the functioning of the Sector Skills Councils in 2017 stated that India's goal for skills development is overly ambitious and there may be challenges with its implementation.

3.5. National Education Policy 2020

NEP 2020 envisages that, among other initiatives, ODL will be further developed, and the GER will be raised to a planned 50 per cent by 2035. It further prescribes that the learning outcomes of all higher education qualifications shall be described by the National Higher Education Qualification Framework (NHEQF). The GEC will be in charge of creating the NHEQF, and it will be coordinated with the National Skills Qualifications Framework (NSQF).

The GEC shall set up national norms for credit transfers and study equivalencies to facilitate student transfer and RPL. Regulation and accreditation of ODL will be prepared by the NHERA.

The NHEQF shall allow flexibility. For this reason, a system of credit transfer shall be put in place for:

- transfers across streams of study;
- choice across combinations of areas of study;
- flexible entry into and exit from programmes;
- transfers across institutions and programmes.

An appropriate mechanism for assessment and RPL will be developed. Emphasis will be placed on ensuring 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.

Imaginative and flexible curricular structures will enable creative combinations of disciplines for students to study, and offer multiple useful entry and exit points, thus dismantling prevailing rigid boundaries and enabling lifelong learning.

3.5.1. Flexible Bachelor's Degree Options

In order to facilitate liberal education, NEP 2020 advocates a four-year Bachelor of Liberal Arts (BLA) or Bachelor of Liberal Education (BLE) degree (or BLA/BLE with Research) to be offered by those institutions which are ready to run programmes consisting of a broad-based liberal education together with a rigorous specialisation in a field. There will be at least one high-quality HEI offering the four-year undergraduate BLA programme in every district. The design of these programmes will also offer an option for students to exit after three years with a BA, BSc, BVoc, or other relevant undergraduate degree.

The traditional three-year BA, BSc, and BVoc degrees will continue for those institutions that wish to continue such programmes, but there will be a transition for all bachelor's degree to take a more comprehensive liberal education approach. It will be left to individual education institutions to decide the duration (three or four years) of the undergraduate programmes that they offer in various disciplines.

The UGC Vice-Chairman insisted that learning should be student-centric, not institution-centric. This policy would ensure multiple entry and exit arrangements for the students. The Vice Chair also said of the current practice of rote learning:

> We are also not giving them [the students] any opportunity to think or innovate because we have given them the curriculum, we have given them [the] question bank, and we have given them model answers as well. So, we expect that students should blindly follow what we are telling them, and this is against the principle of learning. (UGC, Vice Chairman, in-person interview)

NEP 2020 aims at a synergistic functioning of India's education system, to deliver equity and excellence at all levels. While the policy is very forward looking with many instruments supporting FLPs, some difficulties are anticipated. These are likely to be at the national level where there is administrative fragmentation with too many regulatory agencies, organised by sub-sector (i.e., academic and professional higher education), involved. Moreover, higher education institutions will need to work on statutes and processes to build a flexible learning curriculum and programme. It is thus going to be crucial for universities to work with their teaching and non-teaching staff in developing the new capabilities that are required to manage the flexible environment. Unless technology is leveraged effectively, and the administrative hurdles are removed, the policy will face many stumbling blocks.

NEP 2020 envisages that accreditation will become mandatory. It will be binary instead of graded, and it will be focused primarily on outcomes, carried out in an independent ecosystem of accreditation institutions working with NAAC. According to the NAAC Adviser:

> There is a need to map learning outcomes. UGC has given learning outcomes, but it's very top-down. Nevertheless, it's a facilitating tool. Affiliated colleges need to have learning outcomes, and there need to be ways devised to measure learning outcomes. (NAAC, Adviser, in-person interview)

There are, therefore, important quality-assurance concerns when discussing FLPs. We have attempted here to document the various quality-assurance practices as well as the diverse challenges they pose in different learning contexts. Quality assurance in distance education today is entrenched in national and institutional policies and practices. However, there need to be stronger linkages between quality assurance and the regulatory framework, and collectively they need to be more supportive of the development of FLP.

3.6. Description of the Key Instruments Supporting FLPs

This section will look at the role of key national instruments that support FLPs in India: the National Skills Qualifications Framework (NSQF), the National Higher Education Qualification Framework (NHQF), and the National Academic Credit Bank (NACB).

3.6.1. National Skills Qualifications Framework

The Government of India announced the NSQF in 2013. The aim of the NSQF is to ensure that, over a lifetime, individuals can move from the lower levels of qualification to higher levels or across levels. The NSQF organises skills qualifications according to a series of 10 levels of knowledge and skills. These levels are defined in terms of learning outcomes that learners must possess to perform a job successfully, irrespective of whether it was acquired through formal, non-formal, or informal learning. The NSQF is thus a competency-based framework, and all other frameworks, including the National Vocational Educational Qualification Framework (NVEQF), are superseded by the NSQF.

The NSQF is anchored in the National Skill Development Agency (NSDA) and implemented through the National Skill Qualifications Committee (NSQC), the functions of which include approving accreditation norms, prescribing guidelines to address the needs of disadvantaged sections, reviewing inter-agency disputes, and alignment of the NSQF with international qualification frameworks. It was expected that the implementation of the NSQF would lead to the following: mobility between vocational and general education by the alignment of degrees with the NSQF; RPL, allowing transition from the non-formal sector to the organised job market; standardised, consistent, nationally acceptable outcomes of training across the country through a national quality assurance framework; global mobility of skilled workforce from India, through international equivalence of the NSQF; and mapping of progression pathways within sectors and across sectors.

The MSDE had previously given guidelines on setting up skills universities in India. Thus, skills universities will award degrees, diplomas, certificates, and other distinctions that conform to the NSQF. It is envisaged that the universities, in collaboration with industry, will develop centres of excellence. They will have specialised skills training labs and studios and the universities will also have a counselling cell to assess the aptitude of students prior to their enrolment in a skills-based programme. Programmes will include bachelor's degrees in skills (BSkills) and vocations (BVoc), as well as master's in skills (MSkills) and vocations (MVoc). Skills universities have already been established in some states.

On the role of skills universities, the UGC Vice-Chairman argued that regular universities should have courses in skills development instead of creating separate skills universities. This would make skills development courses a part of mainstream universities. He further added:

> That is one structural part, because skill university, as such, gives a very different signal, so that structural thing is not necessary at all, and more than structural, there is a mindset issue or perception issue, and there is a need to bring in skill in mainstream universities and not have a separate university for skills. (UGC, Vice Chairman, in-person interview)

The MSDE is responsible for all skills efforts in the country and has a well-developed organisational structure. The ministry will soon come up with a demand-driven skills portal to will provide an opportunity for workers to demand the kind of skilling, upskilling and re-skilling they need. Up until now, the focus has been on identifying the skills needs of young people and providing training for them accordingly. But with this soon-to-be-launched portal those who want to learn a new skill or develop an existing one can demand the kind of provision they require.

The National Skill Development Mission (NSDM) was launched by the MSDE in 2015 as a national campaign to seek integration across the higher education sector and states' skills and training activities. The mission was envisaged to operationalise and implement the NSQF and also to establish and operationalise a quality-assurance (QA) framework embedded in the NSQF to improve consistency of outcomes in the skills landscape, which will include laying down a framework for training, assessment and certification processes and agencies in the country.

Figure 12. Organisational Structure of NSDM
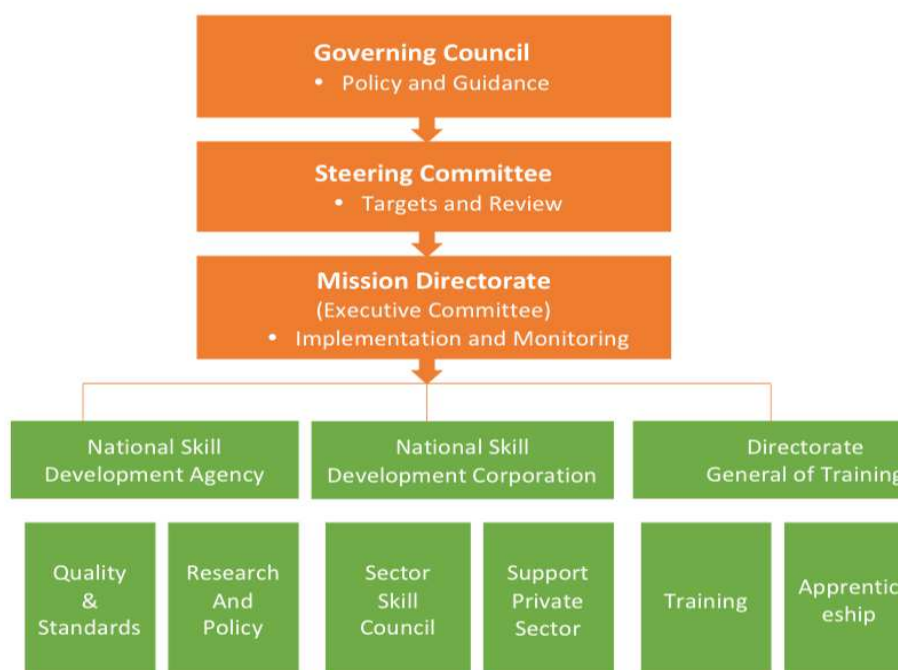
Source: MSDE, 2015

Figure 12 demonstrates the mission's organisational structure. The mission is managed by three bodies: the National Skill Development Agency, the National Skill Development Corporation and the Directorate General of Training (DGT). These bodies oversee activities related to the implementation of the mission's objectives.

3.6.2. National Higher Education Qualifications Framework

The UGC envisages a comprehensive National Higher Education Qualification Framework (NHEQF) for transparency and comparability. The purpose of the NHEQF is to provide a

framework within which HEIs can exercise academic autonomy while facilitating the horizontal and vertical mobility of students. It will provide a basis for monitoring and regulating the quality and comparability of HEIs. The NHEQF would outline the learning outcomes associated with degree/diploma/certification. Moreover, this framework will be formulated by GEC and, in the case of vocational subjects, correspondence between the NSQF and NHEQF should be established in order to enable equivalences and mobility.

However, the NHEQF is not yet fully developed, and the UGC Vice-Chairman and former Secretary (Higher Education) argued that too much of bureaucratisation should be avoided in implementing it. The UGC Vice Chair stated:

> I think we should not bureaucratise these things too much, and the qualification framework we are designing should not differentiate between formal or non-formal, traditional or professional and skills. (UGC, Vice Chairman, in-person interview)

The UGC constituted a committee to formulate the NHEQF. Its mandate is to evolve the descriptors, competencies, and testing protocols for various qualifications for easy transition and mobility of students within India and abroad. The issues related to the mechanism through which the competencies can be translated into credits and/or hours, while bringing together the formal and non-formal modes of earning credits and fixing the minimum credits for certification, were discussed extensively.

The NHEQF is absolutely necessary in the context of globalisation. Even smaller and developing countries have their own qualifications frameworks, but India has yet to evolve one. It has, therefore, become critical for India to frame its NHEQF and align it with international benchmarks.

3.6.3. National Academic Credit Bank

A national academic credit bank is currently under discussion at the UGC and will bring much-needed flexibility for students. The UGC's Vice-Chair and former Secretary (Higher Education) both alluded to the national academic credit bank (NAC-BANK), which, they felt, would transform the higher education landscape, allowing students to transfer across institutions and programmes. The concept of NAC-BANK is a digital one; it will operate as an online storehouse of students' data and their credits earned. NAC-BANK will help students move between different education systems, where they can use the credits accumulated by them at another point in time. The credits can then be used by the students to fulfil the partial requirement of a degree programme.

It is at a conceptual stage, and the UGC has invited views and suggestions from all the stakeholders within HEIs, including students, teachers, educationists, and the public. The NAC-BANK has the potential to facilitate student mobility across different learning systems through

integration of campuses through inter- and intra-university systems. It will be linked to the National Academic Depository (NAD)[8] and work on the principle of multiple entries: multiple exits anytime, anywhere, and at any level of learning.

The goal of NAC-BANK is to integrate the skills and experience of a student through a credit-based formal system. Under the bank, students will have a credit recognition system that can be used by them across different platforms. Furthermore, the bank will act as a commercial bank with students as customers/account holders who can deposit their credits with the bank. The bank, in turn, will act as the credit-verification and degree-authentication agency.

The NAC-BANK is also expected to prove invaluable for the employers and academic institutions that students join. The bank will recognise the earned credits of students through the credit recognition system. Thus, the credits awarded to students will be verified through the NAC-BANK educational transcript. The transcript will mention specific grades and mark the performance level of the student.

The UGC Vice-Chairman affirmed that the NAC-BANK could become a very powerful instrument to increase flexibility. It would give students ample choice while ensuring validity and RPL. He further stated:

> This will bring in flexibility for students and liberate them from the kind of rigid framework which exists today that if you take admission in one college, your lifeline is attached to that college… So, we are saying that there is no need for all this because every student is different and we have to respect that capacity of the student because if the student is not able to complete a course in three years for some reason we label the best student as a failure or if some bright student wants to complete it in two years, we don't allow it. (UGC, Vice Chairman, in-person interview)

3.7. Description of Key Practices Supporting FLPs

The following sub-section will describe the key practices that support implementation of FLPs in India: SWAYAM, NPTEL, and CBCS.

3.7.1. SWAYAM and NPTEL

The Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) Central is a programme of the MHRD, with eight national coordinators (NCs) designated by the ministry and assigned a specific sector for preparation of online courses for SWAYAM. The development and design of the SWAYAM platform for hosting MOOCs, blending academic study with

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[8] NAD is a national system set up by the government as a 24/7 online store house of all academic awards, including certificates, diplomas, degrees, and mark-sheets, duly digitized and lodged by academic institutions/boards/eligibility assessment bodies. NAD ensures easy access to and retrieval of an academic award and also validates and guarantees its authenticity and safe storage.

technology, has been a major step in integrating distance learning into higher education provision. SWAYAM is a locally developed IT platform, initiated by the Government of India, which provides opportunities for lifelong learning. On receipt of a MOOC completion certificate from a host institute, a university can give equivalent credit weighting for the credits earned through SWAYAM. Thus, a university can now allow up to 40 per cent of total courses in a semester to be taken through the SWAYAM platform as per UGC guidelines in 2021.

> Whatever we teach in the colleges becomes outdated in next four-five years and in some of the areas of high-level science and technology, such as computer science or in physics, from such courses things get outdated in some other subjects and in the process if you got the degree you may not know so many things by the time you graduate. Therefore, flexible pathways for relearning those new things are also important, and SWAYAM is one of the platforms to do so as well, even if you graduate and go out if something new has happened that will come on to the SWAYAM platform and, you can learn yourself. It covers the important process of learning, re-learning, and self-learning. (AICTE, Chairman, in-person interview)

The courses hosted on SWAYAM are in four quadrants: (1) video lecture, (2) specially prepared reading material that can be downloaded/printed, (3) self-assessment through tests and quizzes, and (4) an online discussion forum for clearing up any questions.

The National Programme on Technology Enhanced Learning (NPTEL) is one of the eight national coordinators of SWAYAM. The NPTEL courses feature on the SWAYAM platform. NPTEL is a project of the MHRD initiated by seven Indian Institutes of Technology (IITs), from Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati, and Roorkee, along with the Indian Institute of Science (IIS) from Bangalore, in 2003.

The NPTEL programme funded by the MHRD aims to design courses in technical/engineering disciplines for undergraduate and postgraduate programmes. The course coordinators, in consultation with other subject domains, are contributing to the development of web-based and video-based educational material for all levels. Phase II of NPTEL has since been completed. The courses developed are available through the various servers authorised by NPTEL, as web-based access.

Its aim is essentially to improve the quality of engineering education in the country by providing free online courseware. NPTEL has been offering self-study courses in more than 20 disciplines in the engineering, humanities, and science streams for more than a decade now. From March 2014, NPTEL has been offering online certification for its courses, the highlight being the certification exam through which the student gets an opportunity to earn a certificate from IIT. The e-learning courses on NPTEL can be useful for a very wide audience, ranging from schools, universities, and technical institutes, to people working in industry, having rich utility and long-term reach. There are two high-level motivations for giving the courses: (i) to get lots

of people excited about technology, and (ii) to bridge the wide gap between the knowledge that universities usually supply, and the technology skills that industry normally demands.

The objective of enabling students to obtain certificates for courses is to make students employable in industry or prepared to pursue a suitable higher education programme. Thus, through an online portal, 4-, 8-, or 12-week online courses, typically on topics relevant to students in all years of higher education, along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are offered. The enrolment to and learning from these courses involves no cost. Following these online courses, an in-person, invigilated certification exam is conducted, and a certificate is provided through the participating institutions and industry, when applicable. Every week, around three hours of video content is released along with an assignment, which is evaluated and provides the student with a score. Teaching assistants (TAs) and the faculty members support the discussion forum – answering questions and answering questions.

If someone wants to get a certificate from the IITs/IIS after doing the course, he/she should register for the in-person invigilated certification exam that is conducted in more than 100 cities across India in collaboration with an exam partner. The certification exam is not free but has a nominal fee. The final score equals 25 per cent of the assignment score and 75 per cent of the exam score. These certificates are envisioned for use in credit transfer to universities, for making the student more employable, or for enhancing growth at work. Moreover, courses are in English, with written transcripts provided for many courses in regional languages as well.

NPTEL recently embarked on an initiative called NPTEL Industry Associate to bridge the gap with industry in order to co-offer courses in their area of expertise, conduct workshops for NPTEL-certified students in niche domains, and offer internships, jobs, etc. Course high-achievers are provided with an opportunity to undertake an internship with industry/course instructor.

Moreover, NPTEL partners with more than 3,700 colleges through its NPTEL Local Chapters, and each college has a coordinator with whom NPTEL works closely. The experience has been quite satisfying for the students. There is a feedback section which provides videos of students narrating their experience with NPTEL courses. In total, 90 video-based lectures and 37 web-based lectures have since been recorded and made available on the NPTEL site, presented by the IIT-Delhi faculty.

Thus, NPTEL enables the student to directly engage with and learn from the best faculty in the country in that particular subject. This strengthens the fundamentals for the student on the course. It gives students opportunities to explore new areas of interest – which are not possible in regular college environment. Also, it gives students the opportunity to learn in greater depth the subjects they wish to study. These courses serve also as faculty development programmes (15 to 20 per cent of enrolments are by faculty in different colleges). The audience includes

students spanning the length and breadth of India and a small number of foreign students. This peer-group mix gives Indian students a chance to assess where they stand with respect international students.

While IITs are heavily involved in the development of NPTEL courses, they do not use them widely for their own teaching. In principle, under SWAYAM guidelines now up to 40 per cent of credits can be earned from online courses. In the Indian context, however, only IIT Madras allows NPTEL courses to be taken for credit. As each IIT has its own independent academic council, what is followed in one IIT is not necessarily followed in another. It therefore seems that the role of NPTEL is more geared towards taking engineering education to far flung rural areas and students from outside the IIT system. In fact, mainly AICTE-approved colleges offer NPTEL courses for fulfilling credit requirements. While for the students in the IIT system they already have access to in-class teaching, so NPTEL only supplements that and is not seen as a replacement.

3.7.2. Choice-Based Credit System

The choice-based credit system (CBCS) introduced by UGC in 2015 was an attempt to encourage a more interdisciplinary approach to education and offer more flexibility and choice to students. CBCS follows a credit system which is attached to course components offered to students. It measures various parameters such as student performance, outcomes, entrepreneurship skills, contact hours, innovation, and creativity.

CBCS provides choice for students to select from prescribed courses (core, elective, or minor or soft skills courses). CBCS offers a 'cafeteria' approach to education, in which students can choose their own courses and learn at their own pace. The credit system allows students to study what they prefer, in their preferred sequence, and according to their own interests. They can opt for additional courses and can achieve more than the required credits. Each course is assigned a certain number of credits granted to the student upon successful completion.

A student has to earn 90 credits to qualify for a master's degree. For example, for a master's degree in psychology, the student has to complete 15 core courses, three elective courses, and three supportive courses, in addition to an internship/clinical practicum. This combination might vary marginally between disciplines. The entire programme is offered through CBCS. Though the core courses are mandatory, a student can choose elective courses and supportive courses. The elective and supportive courses cover approximately 28 per cent of the entire programme.

CBCS not only offers opportunities to learn core subjects but also to explore additional avenues of learning beyond the core subjects for holistic development. CBCS allows students to choose inter-disciplinary or intra-disciplinary courses, and skills-oriented papers (even from other disciplines according to their learning needs, interests and aptitude). This introduces more

flexibility for students. Unique combinations, such as physics with economics, microbiology with chemistry or environment science, are all possible now.

The conventional system of higher education did not give much scope to students. The course and content were predefined, so a disconnect between courses and future labour market outcomes emerged. Thus, the importance of CBCS lies in opening flexible pathways for learning opportunities and also for manifesting learning goals and objectives.

3.8. Enablers and Barriers to the Implementation of FLPs

Introducing flexibility in terms of delivery mode, credit accumulation, and curriculum choice has been an aim of various national policies, but has not been an explicit focus or priority of policy-making until recently. According to the Secretary (Higher Education) and Vice-Chair, UGC, NEP 2020 clearly focusses on flexibility, and recognises it as a key enabler. However, it remains to be seen how the implementation of the policy will unfold and what will be the stumbling blocks. Accordingly, they cited political will as an important enabler of the policy-making process. According to them, if the will is strong enough, the resources are there for the implementation of the policy. However, the effectiveness of the policy remains to be seen. The same views were expressed by the Assistant Secretary General of the Federation of Indian Chambers of Commerce and Industry (FICCI).

The FICCI Assistant Secretary General said that the higher education landscape in India is confusing. According to her, there are hardly any flexible learning pathways in Indian higher education due to the lack of capacity in HEIs right now:

> There is a reason as you may have made the policies, but the institutions and universities need to have the capacity. The major challenge has been the lack of quality faculty. Today we were talking about 2041 vision, and we were writing things that need to be done, but where is the faculty that is actually going to deliver? So, harnessing and developing quality faculty, attracting the top talent who would actually contribute and facilitate the implementation. But that is missing in the public sector, where vacancies are there, but are not getting filled. In the private sector, if the vacancy is filled, they are filled by the people who probably won't get the job anywhere else. (FICCI, Assistant Secretary General, in-person interview)

The FICCI interviewee mentioned that harmonisation of all the pathways needs to take place. Small and medium-sized enterprises represent the largest target sector, but only now is the Ministry of Skill Development working with the Ministry of Micro, Small and Medium Enterprises (MSME), because that is where a majority of graduates are absorbed, and there is absolutely no harmonisation. Thus, according to FICCI Assistant Secretary General,

> Those things have to be through cluster-based approaches. One single small enterprise can't do anything, so you have to have those kinds of ecosystems, infrastructure in place. Chambers can play a role in it, but the chamber also needs funds, and the government always feels that industry should put in the money, but if you look at it globally, the initiation is always by the government and industry comes in later. (FICCI, Assistant Secretary General, in-person interview)

Using open educational resources and MOOCs can play a significant role in increasing the flexibility of Indian higher education. Flexibility can lead to increased equity. However, some interviewees were concerned that online programmes and online degrees do not have the same quality. This would explain why employers often do not want to hire graduates from distance education programmes. The UGC Vice Chair mentioned that MOOCs' quality needs drastic improvement, and it comes down to the quality of training of the faculty. He was of the opinion that this is the real impediment, and it is not so much financing or the resources accorded to higher education in India. Therefore, there is a need for proper training of faculty to meet higher education challenges, he said.

The former Secretary (Higher Education) was also of the view that it is debatable whether the flexibility will automatically lead to quality. He stated that:

> There is a faith that flexibility will lead to quality. We do not know if it will lead to quality or not. It's still a faith, especially in the Indian context. Lots of change in management is required, as it is a revolutionary concept. It is possible that there are many implementation (reluctance, resistance) issues of flexible learning pathways. It's a good concept, but for its implementation, we need many cross territories of people who are used to do things one way. (GoI, former Secretary of Higher Education, in-person interview)

In the earlier section on quality assurance, it was pointed out that dual-mode universities and open universities are subject to the same rigorous quality benchmarking as regular universities. Soon, the entire accreditation ecosystem will go through drastic changes, and this will also affect the regulation and quality assurance of distance education.

Interviewees were also of the opinion that universities can play a crucial role in enabling the recognition of prior learning (RPL) and developing capacity-building programmes for those who have skills but no recognition or certification. With regard to alternative entry modes, the Assistant Secretary General from FICCI noted:

> We have talked to various industries to see how recognition of prior learning can be done, but it's a two-way process because, as an individual company, if I go and get a certification done for my worker, my worker will [ask] what does he get out of this. Either the worker will expect me to give a raise, or he will go out where he gets a better wage. So, a lot of companies are not very keen on doing it, unless those companies [are] more evolved, visionary, and [see] the larger picture. So, there is a huge challenge in that sense. A lot of work needs to be done. A lot of sensitisation, of communication needs to be carried out year after year. (FICCI, Assistant Secretary General, in-person interview)

According to the National Assessment and Accreditation Council (NAAC) Adviser, the key aspect that can enable implementation of more flexibility at HEIs is more institutional autonomy and active engagement of teachers and faculty members in the FLP processes.

3.9. Monitoring and Evaluation of the Implementation of FLPs

The UGC is deeply involved in monitoring and evaluation regarding the implementation of FLPs. Feedback from students of distance education courses and centres that conduct distance education classes are sent to the UGC directly, and the UGC sends questions based on such feedback to the university to which the university must respond. The role of the university is restricted to responding to the queries of the UGC, and the university does not necessarily participate in policy-making. Thew UGC sends queries based on the feedback received from students to the university, if they point to any concerns, for the university's response. The feedback is not shared in any formal way with a wider public. Thus, for distance education, the DEB of UGC provides the guidelines for implementing the programmes under the School of Distance Education (SDE).

NAAC is involved in monitoring FLP interventions such as the implementation of CBCS and MOOCs. The NAAC framework specifies scores for implementation of CBCS and provides weightage to MOOCs under curricular aspects, particularly academic flexibility. Thus, the implementation of CBCS and MOOCs has implications for NAAC scores.

3.10. PRIORITIES FOR THE FUTURE

The former Secretary (Higher Education) stated:

> Future is only online education and there is a limit for physical institutions we can establish. Whether we can mobilise faculty with the capacity to transact the curriculum, whether you allow them to go online for greater reach, we have brought in online education, and under that, many institutions are permitted. IIT Madras has started with a very good online programme on artificial intelligence. All these are going to gather speed because there is a need to double our GER in the next 10 years. (GoI, former Secretary of Higher Education, in-person interview)

The governance of distance education programmes is an important concern and is actually more of an issue than curriculum design and the choice of appropriate technology. There is a need for well-defined governance structures to be in place to avoid the proliferation of institutions and programmes that do not have the requisite credentials. Danley and Fetzner (1998) point out how governance of distance education cannot limit itself to academic governance but must cover several other areas. Some of these areas in India include fiscal issues, such as fees and cost of technology. But there are also issues related to jurisdiction, staff training, accreditation, and student support services. Legal issues, such as those concerning the use of copyrighted material and liabilities of stakeholders, would need to be solved as well.

Furthermore, flexible learning pathways have a broader scope than distance and online programmes. Indian policy until recently has been directed mainly at distance and online programmes. There is a need to widen the scope and bring in other modes of flexibilities, such as those mentioned in NEP 2020.

Moreover, regulations are not consistent and clear in guiding the development of distance education. Often there has been confusion about the purpose of distance education. Distance education was intended to meet the increasing expectations of those candidates who had insufficient resources to pursue higher education through regular methods. Thus, distance learning has become popular in India, as there existed a lot of boundaries in the formal education system, which a lot of students are not able to overcome.

However, there are also concerns about quality. Employers, for instance, do not see distance programmes as a viable alternative to traditional face-to-face programmes. FICCI's Assistant Secretary General expressed concern about the equivalence of online and distance education with regular programmes. There is a need to change the mindset of employers and other stakeholders in terms of the wider acceptability of online and distance education in India.

When you talk about flexible learning pathways, again in terms of the policy, we have been talking about it that there should be flexible pathways, credit transfers, and so forth. We are also part of the skill development ecosystem. Also, recognition of prior learning is something that is very important. We have an assessment wing also, which does the training that happens outside the formal education system. I won't say that we have done humongous work in this area, but the intent is always there. (FICCI, Assistant Secretary General, in-person interview)

Indian higher education is standing at a threshold of change and transformation. NEP 2020 advocates radical restructuring and proposes to make higher education as student-centric as possible. It intends to give students more flexibility and choice to pursue degree programmes. There is also a renewed emphasis on skills development in order to improve employment and employability among higher education graduates. The focus of the present policy is on a rigorous, and responsive curriculum, engaging and effective pedagogy, and caring support to optimise the learning process. The policy further advocates that curriculum, pedagogy, and student support are the main requirements for quality learning: infrastructure, resources, and technology, while considered important, are merely the means for supporting these initiatives. The initiatives already taken, mainly in the open and distance learning sphere, provide pathways to increase access to high-quality education for all students and particularly students from disadvantaged sections.

FLEXIBLE LEARNING PATHWAYS IN PRACTICE: AN INDEPTH STUDY OF TWO HEIs

This chapter looks at available practices related to flexible learning pathways (FLPs) at institutional level, in order to analyse both the implementation of national policies and institutional initiatives to support this. It offers first a description of the methodology used to collect qualitative information through interviews. It then offers a general description of the case study institutions. The chapter presents a lucid description of the policies and practices of FLPs, the monitoring and evaluation of such practices, and the priorities for the future as defined by the respective institutions.

4.1. METHODOLOGICAL ISSUES

The national case report studied FLPs in one technical institute — Indian Institute of Technology-Delhi that is centrally funded and located in New Delhi, and another state-funded arts and science university, Bharathiar University, from the southern part of India. The institutions were chosen to reflect two diverse kinds of institutions to help understand the difference in provisions for FLPs.

Interviews and focus groups were held with senior administrators, faculty, and students of the institutions, which are reported in this chapter in detail. The details of the methodology used for the interviews are presented below.

The most senior functionaries at IIT-Delhi and Bharathiar University, the Director and Vice Chancellor, respectively, were interviewed to get the overall institutional policy perspective. Additionally, other senior institutional leaders, namely the Registrar, deans, and the Director (Strategy and Planning), were interviewed at IIT-Delhi. At Bharathiar University, the person in charge of distance education, the CBCS coordinator, the former coordinator of IQAC, the NIRF coordinator, and the person in charge of career guidance were interviewed.

Students were included as part of focus group discussions (FGDs) held face-to-face and online at both institutions. The interviews were recorded and duly transcribed and analysed to identify major themes that emerged from the interviews and discussions.

Table 4. Interview Summary from IIT-Delhi

Body/Organisation	Date	*No.	Role of the interviewee	Type of interview
Centrally funded technical institution	5 December 2019	1	Director	In-person interview
Centrally funded technical institution	10 December 2019	1	Registrar	In-person interview
Centrally funded technical institution	11 December 2019	1	Ex-Director of Strategy and Planning & Professor in Computer Applications	In-person interview
Centrally funded technical institution	12 December 2019	1	Joint Registrar (Academics)	In-person interview
Centrally funded technical institution	19 December 2019	1	Dean (Academics) and Professor of Chemical Engineering	In-person interview
Centrally funded technical institution	30 December 2019	1	Former Dean (Academics) and Professor of Physics	In-person interview
Centrally funded technical institution	27 May 2020	5	Current students (regular programme) and alumni	Focus group (Online)

*Source: Elaboration by authors. *Number of persons interviewed.*

Table 5. Interview Summary from Bharathiar University

Body/Organisation	Date	*No.	Role of the interviewee	Type of interview
State-funded institution	3 March 2020	1	Vice Chancellor	In-person interview
State-funded institution	2 March 2020	1	Person in charge of distance education	In-person interview
State-funded institution	21 January 2020	1	CBCS coordinator	In-person interview
State-funded institution	3 March 2020	1	Former coordinator, IQAC	In-person interview
State-funded institution	14 January 2020	1	NIRF coordinator	In-person interview
State-funded institution	14 January 2020	1	Person in charge of career guidance	In-person interview
State-funded institution	3 January 2020	1	Dean, Faculty of Social Sciences	In-person interview
State-funded institution	7 February 2020	5	Current students (regular programme)	Focus group
State-funded institution	29 February 2020	7	Current students (distance programme)	Focus group
State-funded institution	14 February 2020	6	Alumni	Focus group

*Source: Elaboration by authors. *Number of persons interviewed.*

4.2. PRACTICES OF FLPS AT IIT-DELHI

This sub-section covers available practices at IIT-Delhi. Initially, the authors describe the institutional profile, followed by the practices of FLPs related to flexibility in the curriculum, and provision of flexible study options, through transfer, online programmes, and other means. Finally, the authors present the enablers and inhibitors of implementation of FLPs at IIT-Delhi, as well as some priorities for the future.

4.2.1. DESCRIPTION OF IIT-DELHI

The Indian Parliament designated Indian Institutes of Technology (IITs) as Institutes of National Importance that are publicly funded and enjoy maximum academic and managerial freedom. IITs offer programmes and degrees of high quality and relevance in engineering, technology, applied sciences, and management, at undergraduate, master's, and doctoral levels. Student admissions are made strictly according to merit through a highly competitive common entrance test. Today, the IITs attract the best students interested in a career in engineering and applied sciences. The IITs' main strength has been their sustained ability to attract the best students and turn them into 'creative engineers' or 'engineer entrepreneurs.' IITs are administered centrally by the IIT Council, an apex body established by the government.

The Indian Institute of Technology-Delhi (IIT-Delhi) is a higher technical institute, a prestigious IIT, which, as such, benefits from a particular status in the Indian higher education landscape. IIT-Delhi was declared an Institute of National Importance under the Institutes of Technology Amendment Act 1963, and accorded the status of an autonomous institute with powers to decide its own academic policy, to conduct its own examinations, and to award its own degrees. In 2018, IIT-Delhi was given the status of Institution of Eminence by the Government of India, which granted it almost full autonomy, leaving this institute to make its own decisions.

IIT-Delhi was chosen for this study as it provides flexible study options for students, including courses from NPTEL, branch transfer, curriculum choice, and others.

4.2.2. FLEXIBILITY IN THE CURRICULUM AT IIT DELHI

IIT-Delhi is known to provide flexibility in terms of allowing students to take credits in courses across streams of engineering. The BTech degree at undergraduate level is the most popular degree at IIT-Delhi. Through a Joint Entrance Examination (JEE) (Advanced), IITs offer admission to undergraduate courses leading to a bachelor's, integrated master's, or bachelor-master dual degree in engineering, sciences, or architecture. Admission to the master's programme is through the qualifying Graduate Aptitude Test in Engineering Exam (GATE). In the case of admission to MSc (Research), the requirement of qualification in GATE is waived for the following categories: (i) currently registered students in centrally funded technical institutes (CFTIs) having a cumulative grade point average (CGPA) of 8.00 or above; (ii) graduates of

CFTIs with a final graduation CGPA of more than 8.00; and (iii) MA or MSc graduates from IITs with a CGPA of 8.00 or above.

IIT-Delhi, with its 29 PhD programmes, 40 MTechs, 13 MScs (by research), five MScs, three MBAs, and one MDesign (MDes), offers extensive choices of specialisation. At IIT-Delhi, most of the academic departments/centres/schools offer MTech and PhD programmes, while some also offer an MSc (Research) programme. A student can switch from one programme to another any time one semester after joining, once they have completed12 credits of courses with a minimum CGPA of 8.0. IIT-Delhi is engaged in two joint PhD programmes — one with the University of Queensland, Australia, the other with National Chiao Tung University, Taiwan.

IIT-Delhi offers a broad curriculum. In undergraduate programmes, the first year is common for all programmes. Students at this level need to do compulsory foundation courses in basic sciences, humanities, social sciences, and engineering sciences, in addition to departmental requirements in their core engineering discipline. Departmental courses (core and electives) constitute around half of the total curriculum. Apart from this, students do open category electives to develop an interdisciplinary knowledge base or to specialise significantly in an area outside their parent discipline.

At postgraduate level, students are encouraged to look beyond their area of specialisation to broaden their horizons through open electives and self-learning. These tend to be more flexible in the third and fourth years, and students can even select some courses from postgraduate-level programmes.

During the discussion, one of the students remarked about the system of FLPS in IIT-Delhi: 'The system we are currently having is evolved through multiple changes over the years. Whenever a need for change was felt, that change has been accommodated. So, as of now, I feel this is a good system' (IIT-Delhi, regular student #1, online FGD).

IIT-Delhi is also committed to interdisciplinary in the curriculum. The MTech and MSc(R) programmes, for instance, differ in the fraction of course and project/thesis credits. MTech programmes may have up to two-thirds of credits for course work, while MSc(R) programmes have two-thirds of the credits for the thesis component. Some of these programmes are interdisciplinary programmes (IDP), where multiple academic units are involved. In these IDPs, students with different backgrounds are eligible to be admitted to the programme. IIT-Delhi also offers a number of industry-sponsored programmes. In these programmes, either industry supports full-time students recruited by IIT-Delhi or sponsors their employees for the programme. Regular industry feedback is obtained to adopt and improve the curriculum to the needs of the industry. Industry sponsors also play a significant role in defining the projects.

IIT-Delhi also offers many pathways across specialisations. At IIT-Delhi, easy mobility of students from MTech to PhD, MTech to MSc(R), MSc(R) to MTech, and MSc(R) to PhD is

possible. It is possible for a student to join MTech/MSc(R) at IIT-Delhi, and subsequently, apply for a change to another research programme if they feel confident. In this process, they save a considerable amount of time for completing the PhD degree.

IIT-Delhi is also committed to continuous professional development opportunities. It offers most of its MTech/MSc(R) programmes in part-time mode for working professionals who are expected to complete their credit requirements in six semesters (maximum of 10 semesters). Departments, centres, and schools of the IIT offer most of the core courses between 8:00 and 10:00 to enable these working professionals to attend classes as well as continue with their full-time employment. IIT-Delhi is introducing two new programmes, an MSc in Economics and an MSc in Cognitive Science (two-year full time), at the Department of Humanities and Social Sciences from July 2020. In the case of an MSc in Economics, all eligible applicants must appear in the written admission test and interview. Admission to the other three existing MSc programmes (physics, chemistry, maths) is through the Joint Admission Test for MSc (JAM).

Conducting interviews with institutional actors allowed the identification of several practices related to both curriculum flexibility (through NPTEL, dual degrees, etc.) and opportunities for transfer (branch changes). The next parts are dedicated to these practices.

4.2.3. NPTEL

In mentioned in Chapter 3, the National Programme on Technology Enhanced Learning (NPTEL) is a joint initiative of IITs and the Indian Institute of Science (IIS), funded by the MHRD. Through information communication technology, it provides e-learning through online web and video-based courses in engineering, science, and humanities streams. Its aim is essentially to improve the quality of engineering education in the country by providing free online courseware. More than 20 disciplines are covered, ranging from nanotechnology to textile engineering.

For such course dissemination, besides facilities in the library, IIT-Delhi also has state-of-the-art audio-visual facilities, designated for classrooms, and a new lecture theatre complex. For active interaction in the classroom, the facilities include live video recording of lectures, tablets, PCs for projection of written lectures on screens, document visualisation, graphics, and a 2D/3D animation facility, microphones and speakers, etc.

As mentioned in Chapter 3, NPTEL courses aim at reaching students beyond the realm of IIT-Delhi and beyond all IITs. In the focus group discussion (FGD), one student remarked about NPTEL:

> NPTEL came up with the objective that whatever is taught at IITs should reach the masses. By the term 'masses' I mean the students who belong to Tier II cities, colleges, and universities. It has been a very successful initiative of the Government of India and IITs. (IIT-Delhi, alumni #1, online FGD)

The Registrar of IIT-Delhi further remarked when asked about the implementation of NPTEL:

> It is possible for anyone outside the IIT system to be able to do an online certification course from NPTEL and get a certificate from the IITs. IITs are reaching out and taking education to the homes of people through this initiative. (IIT-Delhi, Registrar, follow-up telephone interview)

As regards the students of IIT-Delhi, while IIT Delhi faculty have provided NPTEL lectures, no credits can be currently gained for NPTEL lectures at IIT-Delhi. The students can listen/watch the lectures, while some faculty members even prescribe that as a requirement in their courses. However, at IIT Delhi, NPTEL courses are not used as an alternative to in-class teaching, but rather as a repository of courses. This could have something to do with the nature of the courses in engineering and technology, where in-class teaching has been found to be the most effective mode of transacting.

The NPTEL's courses are also differentiated on the basis of the diversity of the courseware offered, and while some courses on computer science, Indian philosophy, quantum physics, and design get thousands of enrolments, there are some that get just hundreds. However, as faculty do not only teach popular courses, a range of courses is offered. The NPTEL also influences, indirectly, the quality of teaching and technical skills of college faculty in the country, as around 15 per cent of NPTEL's enrolments come from faculty members. Around 127 NPTEL courses are offered by IIT Delhi faculty in video and web format in engineering, humanities, and sciences, as well as in management. Most of the video lectures are of a duration of around one hour and a single course contains around 40–50 lectures covering a one-semester course syllabus. It provides an opportunity for students to ask questions and get clarification from the faculties. These lectures utilise a multitude of facilities in video medium, such as chalk-and-talk, tablet writing, PowerPoint, two- and three-dimensional animations, and interactive codes.

These courses also bring out the self-learning initiative of the students – where their own motivation, and not external requirements, drives them to complete the course. This fosters the habit of keeping oneself updated always by means of self-study. The availability of best faculty, audio-video arrangements, recording in ongoing lecture or separately, and a dedicated Educational Technology Services Centre (ETSC), helps the faculty or resource person to plan such activity. The faculty is encouraged to produce and record such lectures. The recordings are widely used and satisfaction with them is high.

4.2.4. Branch Transfer in IIT-Delhi

The Dean (Academics), the Director (Strategy and Planning), and the former Dean (Academics) all stated that branch transfer is based on the first-year performance, though probably less than 5 per cent of students benefit from branch change. The idea was to allow students to have more opportunities for choice to some extent at least, as the branch is pre-determined.

During the FGD, one of the students, who had switched from mechanical engineering to computer science, remarked that there is such a transfer provision at IIT-Delhi. If a student is not interested in his or her branch, then, after the first year, they can change the branch of engineering. It benefits students who develop an interest in a specific branch after studying a variety of courses from all the branches during the first year. Transferring from one branch to another is only possible if you attain a prescribed CGPA after the first year. Furthermore, for BTech students, it is easier to use this option because every student studies the same subjects during the first year, irrespective of the branch. At IITs, 15 per cent of places are available for students who want a branch transfer. According to the students, the system of branch transfer is working efficiently. Some branches are more popular than others and the demand remains high for these branches.

> Yes, there is a hierarchy of branches. Computer science and electrical engineering is more attractive for the students because of the good salary package after graduation. It should not be there but it is there. (IIT-Delhi, regular student #2, online FGD)

And according to the former Dean (Academics), opportunities for branch transfer help to rectify wrong study choices:

> The students are coming at a very young age and, in fact, why they are choosing a particular branch could be peer pressure or family pressure or which branch is available depending upon their rank. So, the idea was to provide some flexible ways so that they can pursue what they liked to some extent and not entirely because the branch has been decided. (IIT-Delhi, former Dean [Academics], in-person interview)

In addition, IIT-Delhi has an Inter-IIT Student Exchange Programme. Faculty and students can do exchanges or benefit from the National Knowledge Network (NKN) and e-resources shared between IITs. This opportunity has made inter-IIT learning more flexible. However, students would rather go to foreign institutes, which give them an international learning perspective as there isn't much difference in learning throughout all the IITs.

4.2.5. Curriculum Choice

IIT-Delhi offers undergraduate and dual-degree programmes, which are credit based, a discipline-specific degree is conferred on completing the graduating requirements. The programme in general is divided into two categories: the programme core and the programme elective. The minimum credit requirements for the duration of the programme (in semesters) must be completed in the given classification of programme major, i.e., core and electives. For choice or credit flexibility, each department or centre offers elective courses, which are pre-announced in each semester to which students have to register. The requirements or pre-

requisite, if any, and the right choice of courses (within and outside the department) for the achievement of a programme/discipline major or minor is facilitated through the department faculty advisor.

A student has all choice for the subjects or courses in which he or she has to major through choice of department electives and open electives (outside department), which is more flexible at third- and fourth-year levels, and can include some courses from postgraduate level. For such flexible learning, the pre-requisites are to be observed. Such an approach is grounded in the objective of getting the degree in the major discipline in which the student is enrolled, while simultaneously opting to aim at a minor in an allied or separate discipline, which can broaden their knowledge base or enhance placement opportunities or even spur the entrepreneur spirit to kindle the required skill sets for creativity, design, business, or innovation, etc. Any extra credit earned or audits within permissible limits are always encouraged, which adds to the capabilities and knowledge vista of the student.

There have been occasions when students have preferred to travel abroad to complete a semester for a dissertation/thesis or project, under the collaboration protocol with other universities, and sought equivalence for such courses or credits earned, as per terms of the students exchange agreement. Engagement in research-based courses at postgraduate level has also been preferred by those aiming to pursue a research and scientific career.

The selection of courses has made a meaningful impact on the overall competency and skills levels of the students, who, through innovative thinking, start-up, or business-incubation mode, are taking up industry problems in relation to technology innovation and solving problems of public importance, both for rural and urban areas. It is usually done by working in partnership with industry, academia, and government, focusing on the application of practical skills within learning and career life cycles, driving innovation and thought leadership through high-impact sectors.

Minor degree

After completing the first year, if students do not have a good enough CGPA for branch transfer, they can also complete a minor degree in the branch of their interest and a major degree in the branch in which they are already enrolled. In order to be eligible, a student needs to have 7.00 and above CGPA score.

The former Dean (Academics) stated that the broad idea was to introduce the minor first. So, if a student is doing a major in a particular branch, they can also do a minor in a different branch. A 20-credit package is defined, and each department decides a package in which there is some flexibility, some electives, and some core.

There is also a process by which one could choose to do a minor in another area. This is particularly open to students who are doing well in the sense that they have to demonstrate not

only that they can do their own degree, but also that they can handle another one, within a four-year period. There is no extra time given for this. Also, a student can specialise in the sub-area of that department.

__Dual degree__

IIT-Delhi also offers a dual degree, which is a five-year programme where a student could do a BTech and an MTech in the same department. During the FGD, a student who has benefited from the dual degree provision remarked that it was working very well and that, while he had started in a typical BTech programme, he had decided to pursue the dual degree later, and IIT-Delhi had allowed him. Thus, while his BTech was in engineering physics, he pursued a dual BTech and MTech degree in solid-state material. This is a master's with advance standing, and he was able to continue in that programme. Thus, the student benefited immensely from this dual provision of degrees and subsequently secured a good placement.

4.2.6. Admission Pathways into IIT-Delhi

In undergraduate programmes, students are admitted after 10+2 years of schooling, while, for all postgraduate programmes, students are admitted after they have obtained at least a college degree. So the former Dean (Academics) at IIT Delhi insisted that this kind of flexibility in terms of alternative admission pathways simply does not exist.

IIT-Delhi tried to experiment in terms of alternative admission criteria but found that the students were not able to cope if they had not been put through the rigor of the IIT JEE. The former Dean (Academics) shared the same opinion. He stated that:

> We found that students who qualify JEE in terms of aptitude and knowledge-wise have been found to be much better than those coming in through any other alternative pathway, and those students who came in without giving the entrance had a huge problem once they have entered. So that has not worked, general wisdom has been JEE is the one and only pathway for coming in. (IIT-Delhi, Former Dean [Academics], in-person interview)

In a diverse and large academic system such as India, a common entrance exam seems to be the only answer to enabling admission to elite institutions like IIT-Delhi.

However, the IIT-Delhi practices affirmative action and offers reservations to the 'backward sections' of the society – scheduled castes (SCs), scheduled tribes (STs), and other backward classes (OBCs). These candidates are offered lower admission cut-offs for selection in the IIT via reservations. However, all candidates, including SC, ST, and OBC candidates, must meet IIT's stringent admission standards with certain relaxations.

For direct admission of the SC, ST, and persons with disability (PwDs) categories of student, minimum performance in the qualifying degree is relaxed from 75 per cent to 70 per cent

(CGPA 7.50 to 7.00). In the case of admission with an interview of SC, ST, and PwD categories of student, minimum performance in the qualifying degree is relaxed from 60 per cent to 55 per cent (CGPA 6.00 to 5.50).

IIT-Delhi also has a supernumerary quota, giving female students preference in admission policy. In order to create gender diversity and take a step towards affirmative action, which is designed to increase the opportunity for women by compensating for social disadvantage, it was decided that places should be increased to encourage the participation of female candidates in central technical institutes, through the supernumerary quota. It was indicated that places for male students would not be reduced, and the supernumerary places would be created only if the percentage of female students falls below 14 per cent of its present total places in any IIT. It was proposed that this percentage would gradually move in a phased manner to a maximum 20 per cent in 2024. It was expected that it would enhance the chances of female candidates being admitted to technical institutes across the country from the academic year 2018/19 onwards. Usually, if an IIT, hypothetically, offers 100 places, based on the merit list of JEE Advanced, eight females and 92 males would be admitted to the institute. Currently, as per the 14 per cent IIT reservation for females, six more females are to be admitted. These six females are selected from a separate female-only merit list. The number of males given admission, however, remains unchanged. So, there is no reduction in the number of places for males.

According to the order, statutory reservation for SC, OBC, and PwD categories will be applicable in the supernumerary places in the same manner as for the sanctioned places. In the FGD, it emerged that, as far as gender parity is concerned, IIT-Delhi had taken initiatives to ensure the smooth progression of females in advanced programmes.

4.2.7. Academic Counselling

Provisions for academic counselling were discussed in the FGDs. Initially, when a student enters the programme, there is a four-day orientation programme to guide the students. After these four days, each student is provided with a mentor to share any kind of problem they have, whether academic or personal. For emotional wellness, there is an office where students can go for guidance and assistance. There is also a 'women's cell' for female students to address any problems and grievances. One of the alumni students indicated that 'there are a lot of [female] students at PhD level who are coming up and are working hard' (IIT Delhi, alumni #1, online FGD).

4.2.8. Monitoring the Implementation of FLP and Equity Groups

Monitoring is undertaken through a real-time recording in a database of student data, academic lifecycle, offer of admission, registration, semester performance, cumulative grading, and results. The data is maintained in a relational database management system, supporting large applications with an integrated approach. Some time ago, IIT Delhi adopted Ingres Database

to support critical administrative functions, including student admission data, grading, graduation, and other functions, such as human resources, finance, procurement, and health care. Basic information or statistics and other flat-file data is also reflected in the annual reports of the institute, on a calendar-year or financial-year basis, which is a mandatory requirement for any publicly funded institution.

The Senate decides the academic policy of the institute, and approves curriculum, courses, and examination results. It appoints committees to look into academic matters that arise from time to time. The teaching, training, and research activities of various departments at the institute are constantly under review to improve both facilities and standards. The Director of the institute is the Chair of the Senate. Moreover, financial advice to the institute is rendered by the Finance Committee. These committees are appointed by the Board of Governors. In addition, a number of other committees, such as the Board of Academic Programmes and the Board of Educational Research and Planning, are appointed by the Senate to help the administration in the running of the institute.

According to the Registrar (IIT-Delhi), it emerged from the discussions that, as Secretary to the Senate, he takes care of the implementation of policies, and that approvals are secured in the shortest possible period of time. In terms of flexible learning, the faculty discusses undergraduate and postgraduate level courses at faculty board meetings. Decisions then go to the board of academic programmes or to the board of research programmes, depending on the level. A programme is then recommended to the senate and in 15 days meetings are held. Thus, it is a very quick process to approve new courses.

The Chair of the Senate is encouraging Senate members and members of the Executive Committee to the Senate to develop more courses on artificial intelligence and machine learning, with data analysis. There are also discussions on having a separate elective in industrial manufacturing, for instance, separate courses for intellectual property rights, entrepreneurship, and start-up culture.

4.2.9. Evaluation of Effectiveness, Enablers, and Factors Lacking

Enablers

As mentioned earlier, IIT-Delhi is an autonomous statutory organisation. Autonomy was regarded as an enabler by a number of interviewees. For IIT-Delhi, receiving the status of IoE in 2018 meant more independence from the IIT Council, which is the highest decision-making body for all IITs. Headed by the HRD Minister, the IIT Council provides advice on the duration of courses, and lays down policies regarding methods of recruitment, fee structures, and scholarships. According to the Joint Registrar (Academic), there is institutional autonomy to start new courses, admit foreign students, hire foreign faculty, and collaborate with foreign educational institutions without the need for government approval.

The most important enabler cited by the interviewees was institutional leadership and management. IIT-Delhi has a Board of Governors responsible for overall administration, and the Senate, which decides the academic policy of the institute, and approves curriculum, courses and examination results, as well as appointing committees for academic issues. New leadership has been crucial in generating new funding streams for the institute. For example:

> Funding is constrained as compared to other universities around the globe. With time, the support from the government is decreasing, and we have been asked to generate our own funds. Recently there was a launch of IIT Delhi Endowment fund in which we seek funds from the alumni. (IIT-Delhi, Joint Registrar [Academic], in-person interview)

Under the new leadership, the institute has recently started new departments, new programmes, and joint degree programmes that have not happened in the past. Support of management in setting up these new structures was very important according to the Joint Registrar. The guidance of leadership and effective implementation of management allow the institute to regularly revisit old curricula and offer new ones, including more flexible ways to organise learning. According to the former Dean (Academics):

> At IIT-Delhi, we revise our curriculum every 10 years in a major way. Otherwise, in any case, we keep on adding and modifying courses, which is a continuous process, but we look at the entire curriculum structure as a whole every 10 years. Last time it was implemented in 2013, before that, it was done in 2003, and hopefully, in 2023, there will be a new curriculum. We have already started thinking, and it takes about two years to think about it and look at how internationally things are done and what are the changes to be made, in a particular subject, in pedagogy and technology available. (IIT-Delhi, former Dean (Academics), in-person interview)

Another important enabler at IIT-Delhi was its flexible study provision. It offers a broad-based curriculum and many opportunities for curriculum choice. In undergraduate programmes, the first year is common to all programmes. At the end of the first year, depending on the merit performance and if places are vacant in other programmes, students can apply for a branch transfer. Places in the programmes are created in addition to the sanctioned ones. Students are given choices if they want to transfer, and as per their preference, and, on the basis of their merit, the branch is decided. The Inter-IIT Student Exchange Programme is also an enabler as it offers flexibility for students and faculty in their studies. Flexibility is also available in postgraduate programmes. Students can flexibly move from one programme to another if they meet certain criteria for the transfer and after the internal evaluation in the department. The student can convert their MSc(R) to an MTech, MTech to PhD, MTech to MSc(R), and so forth. If the student is enrolled in PhD and is unable to perform, then he can get the degree of MSc(R)

provided he or she fulfils the MSc(R) requirement, the coursework and project work. Students unable to complete the MTech can still qualify for the diploma.

Barriers

While opportunities for transfer exist, in fact, only a small number of students benefit from the branch transfer and even fewer from inter-IIT transfer. The Inter-IIT Student Exchange Programme is not very popular among IIT students. Due to similarity in the curriculum between IITs, students prefer to do their studies aboard.

While there is flexibility in the transfer during postgraduate studies. If a student is admitted to an MTech course (which lasts six semesters) and is not able to obtain the required CGPA or complete the credits, they can request a diploma after completing the course work. However, there is no early exit as such. The students have to exhaust their semesters, and the same happens in the case of the BTech. During the FGDs, some of the alumni suggested that IIT-Delhi should have some provision for an intermediary degree when students are unable to complete the PhD programme for various reasons and thus facilitate an early exit. One former student gave the example of IIT-Bombay that gives an MPhil degree for those who leave the PhD programme early. However, every IIT is an autonomous body, and therefore IIT-Delhi should review the best practices in flexible learning pathways in other IITs and adopt those.

4.2.10. Priorities for the Future

Collaborations with other organisations

IIT-Delhi has signed memorandum of understanding (MoU) with a wide variety of different organisations to expand their areas of research and development. Various areas of engagement include students and faculty exchanges, and joint research and fellowships at undergraduate, postgraduate, doctoral, and post-doctoral levels. IIT-Delhi recently signed an MoU with the Indian Space Research Organisation, the All India Institute of Medical Science (AIIMS), the Indian Institute of Ayurveda Sciences, and the Indian Council of Agricultural Research (ICAR). It is important to build on such inter-agency collaborations to allow for student exchanges or internships that widen opportunities for work-based learning and, therefore, available pathways to the labour market.

Internationalisation

IIT-Delhi is particularly keen on forging internationalisation further and bringing in more foreign students while enlarging the possibilities for its own students to study abroad. In 2018, IIT-Delhi was given the status of IoE by the government, which granted almost total autonomy, leaving this institute to make its own decisions. This gives the institution greater autonomy in that they will be able to admit foreign students, up to 30 per cent of the admitted total, and recruit foreign faculty, up to 25 per cent of the faculty strength, with enhanced research funding.

The former Dean (Academics) stated that the system is very flexible in IIT-Delhi. They have exchange programmes with universities abroad, and students spend the fifth semester abroad, while many students from abroad study at IIT. IIT-Delhi has very good programme cooperation with France, Taiwan, Canada, and many other countries, even if financial support remains an issue as it is not available for every exchange programme. This makes it difficult for some students to participate. For international exchange programmes, IIT-Delhi has credit transfers or other adjustment mechanisms in place.

Inter-IIT coordination

In the FGD, the students and alumni suggested that there should be more inter-IIT coordination to allow students to move across the different IITs. There should be a provision, and students should be encouraged to spend one semester in another IIT, they argued. It also emerged from the discussion that there is an international semester exchange programme wherein students can complete credits from universities abroad, as there is flexibility related to the duration and time of the semester.

Strengthening interdisciplinarity and entrepreneurship

IIT-Delhi is also looking at more interdisciplinary degree programmes. According to the Director of IIT-Delhi, they want their students to become entrepreneurs and create jobs, not just get them. That is a major change in perception and attitude. The Entrepreneurship Development Cell of IIT-Delhi was set up in 2007 with a mission to promote and nurture entrepreneurship among the student community and help aspiring student-entrepreneurs achieve their entrepreneurial aspirations. This was backed by a strong belief that entrepreneurship holds the potential to transform not just India but the entire world. IIT-Delhi has many alumni who have made their mark in the entrepreneurial sphere. Thus, IIT-Delhi is continuously working towards facilitating entrepreneurship education and developing a comprehensive resource pool.

4.3. PRACTICES RELATING TO FLEXIBLE LEARNING PATHWAYS AT BHARATHIAR UNIVERSITY

This sub-section covers available practices at Bharathiar University. Initially, a general description of the institution is given, followed by an account of the practice of FLPs related to the provision of flexible study options, credit transfer, CBCS, SWAYAM, and others. The authors also discuss instruments supporting flexibility, monitoring, and evaluation, as well as the enablers and inhibitors of implementation of FLPs at the university. Finally, priorities for the future are presented.

4.3.1. DESCRIPTION OF BHARATHIAR UNIVERSITY

Located in Tamil Nadu, Bharathiar University (BU) is a state university established as a Postgraduate Centre of Madras University at Coimbatore by the Government of Tamil Nadu

in February 1982, under the provision of the Bharathiar University Act, 1981 (Act 1 of 1982). The Postgraduate Centre of the University of Madras, which was functioning in Coimbatore before 1982, formed the core of Bharathiar University. In May 1985, the university received recognition from the University Grants Commission (UGC) New Delhi.

BU offers arts and science programmes at postgraduate level to about 2,776 students pursuing postgraduate programmes in 39 different disciplines. The university has 227 teaching faculty on the tenure track and 208 support staff. It is placed 14th in the NIRF ranking. BU was re-accredited by NAAC with an 'A' Grade for the third consecutive time in 2016. It has about 38 departments that offer master's and research-level programmes. There are 128 colleges affiliated to the University. It is a state (provincial) multi-disciplinary university offering study programmes in different subject areas and through various modes of delivery.

The Vice Chancellor describes the vision of the university in the interview:

> Implementing Education 4.0 (an approach to learning that aligns itself with the emerging fourth industrial revolution) effectively prepares faculty and students to enhance employability in 10 years. It is the medium-term goal of the university. Programmes for alumni, including training for skill up-gradation and continuing education programme, self-learning programmes, and MOOCs, are also planned for the future. The university's long-term goals are globalisation of education, initiating student, faculty and culture exchange programmes, and adopting new technology in education. The university aims at coming in the top 500 of the world ranking in the five years to come, and in the top 200 in the next five years. (Bharathiar University, Vice Chancellor, in-person interview)

It is interesting to note that while the vision of the university indicates a clear commitment to FLPs, the reality is very different at the moment.

At the university, flexibility in the curriculum and study mode exists in the form of CBCS, MOOCs, and distance education. Both CBCS and MOOCs (SWAYAM, NPTEL, and so forth) offer an opportunity for flexible study. The School of Distance Education of the university offers an opportunity for students to pursue higher education in distance mode. Bharathiar University has been chosen as a case-study HEI for its strong involvement in distance education, SWAYAM courses, and CBCS.

4.3.2. Policy for FLPs at Bharathiar University

Interviews allowed the authors to explore the current practices at Bharathiar University with regard to FLPs. When asked about the topic, the Vice Chancellor of the university stated:

> Flexible learning pathways are still in nascent stages in the Indian setup. CBCS and distance education are the types of FLPs available in the university. Recently,

with the UGC's initiative, MOOCs are incorporated in higher education. Introducing MOOCs as an FLP initiative is recommended by the UGC and is hence implemented in the university. (Bharathiar University, Vice Chancellor, in-person interview).

The Vice Chancellor also affirmed that FLP has a strong equity dimension.

The primary purpose of FLP in the university is to provide education to those who cannot afford a full-time education at higher education level, and to provide choices in courses opted by students. The university does not have part-time postgraduate courses and offers part-time options only in research programmes. There are no weekend programmes or evening programmes at the university. However, the university offers a wide variety of postgraduate programmes through distance education as one of the FLPs. The university has a strong and popular distance education programme at undergraduate and postgraduate levels. (Bharathiar University, Vice Chancellor, in-person interview)

The Vice Chancellor also stressed that the regulatory aspect of FLP plays a role in their implementation, but that a supportive national policy is lacking. He stated: '[T]he university follows guidelines given by UGC… the guidelines bring in changes in administration and management to a small extent since no big changes have taken place in FLP in India' (Bharathiar University, Vice Chancellor, in-person interview).

4.3.3. Lack of Flexibility for Alternative Admissions

The Vice Chancellor stated that the university does not offer any alternative admission pathways for courses in the university departments other than for the Master's in Computer Applications (MCA) (see Chapter 2). The Vice Chancellor said: "Being a state university, we have little choice or autonomy to change these entry criteria or procedure. We go by UGC regulations" (Bharathiar University, Vice Chancellor, in-person interview).

For the MCA, lateral entry is possible for those who have done an undergraduate in computer science/computer applications or any computer-related discipline. Students getting into the MCA with an undergraduate degree in computer science or computer applications can join the course in the second year of study, and thereby complete the programme in two years. On the other hand, the duration of the MCA programme for students who do not have an undergraduate degree in computer science or computer applications is three years. The MCA is also offered through School of Distance Education (SDE) as a distance education programme.

The Dean of the Faculty of Social Sciences confirmed that alternative admission pathways are not possible in the university because the state government does not permit it. The Government of Tamil Nadu does not have provisions for alternative admission pathways. The Dean of the Faculty of Social Sciences stated that 'no alternative admission pathways are available in the

university' (Bharathiar University, Dean, Faculty of Social Sciences, in-person interview). He added:

> There are no special preparation arrangements or special admission regulations for alternative qualifications. Since the same policy is available for all the faculties, there are no such arrangements across all faculties in the university. The admissions are based on the degree previously earned by the candidate applying to the programmes at the university. In the case where the department has the number of applications three times the sanctioned number of seats, then the department holds an entrance exam. (Bharathiar University, Dean, Faculty of Social Sciences, in-person interview)

The Director of the SDE stated that there is no formal entrance exam for admission of students in distance education programmes. Admission is purely based on the eligibility criteria of marks obtained by the applicant in the previous level of education, either bachelor's degree or higher secondary. The UGC regulation pattern of 10+2+3 is followed. Any education in an open university is not recognised for admission. Further, industry experience is also not recognised. However, lateral entry options are available for certain programmes, where the students can join in the second year of the programme in distance mode if they have already completed a diploma in the relevant field, provided the diploma is from a UGC-recognised institution (SDE, n.d.).

The students of distance education in the FGD pointed out that the eligibility criteria to join a programme in distance mode are different from those required for joining the programme in regular mode. For example, for a master's programme in psychology in distance mode, the basic eligibility criterion is a graduation in any discipline. But for a master's programme in psychology in regular mode, the basic eligibility criterion is graduation in psychology.

Interrogated about recognition of prior learning (RPL), the Vice Chancellor stated that the university does not have provisions for making use of recognition, validation, and accreditation of prior learning in admissions. The policies regarding admissions are largely governed by the UGC. Students' prior academic standing, i.e., marks obtained by the students in their undergraduate studies and their performance in interview, are taken into consideration for admission. In addition to this, the university has a formal entrance examination for admissions into programmes in departments whenever the number of applications exceeds the number of sanctioned places by three times.

The Dean of the Faculty of Social Sciences confirmed that there is no RPL in admissions at the university. The university only considers formal education credits for admission. The university takes into consideration only degrees at undergraduate level, which is as per the UGC-approved format. In the case of most of the departments, there is also an entrance test. If any department of the university receives more than three times as many applications as they have sanctioned

places, those departments hold an entrance exam: "The new National Education Policy has some avenue for this. We may consider this in the future when this policy is implemented" (Bharathiar University, Dean, Faculty of Social Sciences, in-person interview).

In the SDE, only formal degree and marks obtained by applicants prior to admission are taken as an index of prior learning.

4.3.4. CREDIT-BASED CHOICE SYSTEM

The university has had a credit-based choice system (CBCS) for all programmes offered in its departments for close to two decades. The main objective of CBCS is to provide choices to students to go beyond the structured and restricted options of courses and to gain extra knowledge in a new subject. Students from all departments are given a choice to opt for core, elective, and supportive courses from other departments. Students can choose elective courses in disciplines in which they are not majoring, for this purpose.

No policy on implementing CBCS at the university is presently available. Based on the State Higher Education Council (TANSCHE) and UGC regulations, the university has prepared a manual for CBCS, which is expected to be published soon.

A senior faculty member of the university is nominated as the CBCS coordinator in charge of implementing CBCS at the university. "CBCS is a time-tested programme," according to the Dean of the Faculty of Social Science (in-person interview), and is essential for the Faculty of Social Sciences and for all other faculties.

The implementation of CBCS is not centrally monitored at the university. It is left to the heads of the respective departments to ensure that CBCS is implemented in their particular department. The CBCS coordinator stated:

> The final consumer is the student. We should get feedback from students regarding the efficacy of CBCS. We do not have the real spirit of CBCS today. Core and elective courses are offered in the same department as the student. (Bharathiar University, CBCS coordinator, in-person interview)

However, the implementation of CBCS has faced a number of challenges regarding the lack of human resources to provide more elective courses, students' motivation and engagement, lack of information and awareness about CBCS, and more.

New courses can be proposed and recommended in the CBCS system by the individual faculty. Some departments offer more than one elective course per semester, while other departments do not provide any choice for students in elective courses. Due to the lack of an adequate number of faculty members, and unequal student-staff ratios across departments, some departments are unable to provide multiple elective options. A few departments offer the opportunity for students to choose the electives, with the choice of electives decided by the department.

The FGD with students revealed that the CBCS arrangement varies in different departments. One student stated that the department in which she studies offers two elective courses every semester, and students are free to choose one of the two offered. Another student stated: "In my department, I don't think we have a choice in elective course… because they have already given us … the subjects [we] are going to have and they just gave us the syllabus" (Bharathiar University, student #3, FGD). Yet another student noted that the department would provide some elective options to the students, and the elective course that is chosen by the majority of students will be offered that semester. The student added: "Suppose there are 40 students, [and] 30 students choose the same elective course, the [remaining] 10 students also must learn the same course. It becomes like if majority students chose a course the other members also learn the same" (Bharathiar University, student #2, FGD).

According to the alumni, not only are the choices of courses limited, but many of the courses are outdated as well. One participant stated that teachers hesitate to offer new courses and prefer to teach the course they are interested in or the subject of their research. New topics are rarely included in the curriculum.

All the students, however, agreed on the point that they are offered a number of supportive course options to choose from in any department, without any restriction. A student affirmed: "In our department also there is no choice in elective courses… there are choices only in supportive coursed. We can choose them as per our interest" (Bharathiar University, student #4, FGD).

Another issue brought up by the CBCS coordinator of the university concerned students' motivation and engagement with the elective courses:

> In reality, students choose courses that are easy to pass and do not really bother to learn new courses that can be a valuable addition to them. Maybe 10 per cent of students care about value addition, but not the rest. (Bharathiar University, CBCS coordinator, in-person interview)

According to him, students look for secure course options that can get them the required credits but not the knowledge. Along the same lines, the IQAC coordinator, in charge of quality assurance at the university, commented: "The priority of students is gaining credits without much strain rather than choosing courses for knowledge sake" (Bharathiar University, IQAC Coordinator, in-person interview).

> They are not sending us to other departments for choosing electives … and even that choice would have like two papers only... Only after seeing the staff who handles the paper, we will take the paper…Similarly for supportive course also we do the same thing, only after visiting the department [that offers the course] and seeing which sir is handling, the supportive is selected …. many are doing it this way only. (Bharathiar University, alumnus #3, FDG)

The same was confirmed by one of the alumni participants who said students choose the courses on the basis of who is teaching it rather than the course content. Students appear to choose courses based on the teacher, and students can pick teachers who are easy with attendance or those who go to class regularly and teach.

To make students more engaged and motivated to take elective courses, the interviewed students suggested they be provided with a choice to pick their elective course from available online courses. Quality checks of courses, options to choose from online courses for electives, provision of elective tracks to accommodate students with more choices, lessening the burden of students by not overemphasising credits and making students learn for knowledge's sake are among the changes needed, according to students. They also recommend the creation of an online portal where each department could post the electives options, and students could complete those courses offered at the department online.

Student assessment was brought up as another issue. In the CBCS system, initially, a double evaluation of the exam answer sheets of the students at the end of the semester took place, with one evaluation by the course teacher who taught the course, and the other by an expert invited from outside the university. However, currently, the university has only one evaluation of the answer scripts, done by the subject expert invited from outside the university. This places the students at a disadvantage since it is fairer for students to be evaluated by teachers who have taught the course. Furthermore, one of the participants mentioned that evaluations must be made using real-life experiences where students are required to complete practical assignments in the field instead of assignments merely involving deskwork. On this aspect, again, clear and uniform guidelines on how CBCS should be implemented in the university are lacking.

Academic counselling and information regarding CBCS is provided on a need basis and in an informal manner to students by faculty members in the individual departments. Each department has a faculty member nominated as CBCS department coordinator who is responsible for disseminating information regarding CBCS to the students of the department. But the coordinator also stated: "All of us are for education and to support the students. We are often missing the focus and going behind the research, grant, etc. Teaching is not given adequate importance or priority" (Bharathiar University, CBCS coordinator, in-person interview). At present, there no description of the various supportive courses is offered to enable students can to the right choice of course. Interviewees felt that students were left to choose supportive courses simply on the basis of the title.

Most of the participants commented that electives should be introduced only in the second semester, as newly enrolled students are not aware of the system and require time to understand the system, appreciate the choices, and make the right choice of elective courses. But students do not get any orientation regarding the CBCS system when they enter the programme. Even alumni who graduated in the CBCS system were not familiar with the features and functioning of CBCS.

One of the participants of the alumni focus group said: "Only now I came to know that we have an option to choose for an elective course" (Bharathiar University, alumnus #3, FGD). When he was a student, he believed that there was only one course offered by the department as an elective. A few alumni in the FGD mentioned that they were not aware of the CBCS system and how it works. Another alumnus of the university stated that she was not aware that they could have choices in the electives when she was a student.

CBCS provides opportunity for students to have choice regarding the courses they complete to earn the credits needed for the degree they are pursuing. The CBCS system includes practical activities (internships), a mini-project, and major projects. All the alumni participants unequivocally mentioned that CBCS is a sound system. However, the alumni in the FGD stated that more practically oriented courses, more options for electives, and having curricula redesigned to better support employability could be beneficial to students.

A few students commented on how they have limited choices as to where they can complete their internship. One of the participants described how students were not 'allowed' to do their internship outside the university. He said that teachers would expect the students to do an internship in their labs by taking part in the lab activities of the particular faculty member. Many students want to do the mini-project in industry and the major project in the department since getting placements for an internship to do a major project in industry costs more, and they cannot afford it. If students express interest in going to industry for their internship for a mini-project, faculty members will insist that these students must also do their major projects in industry. Thus, the students may feel compelled to do both the mini-project and major projects in the department instead of going to industry, thereby missing the chance to learn in a practical environment.

The analysis of implementation of CBCS scheme at Bharathiar University shows that while the scheme is well appreciated by management and faculty, the student voices demonstrate that there are shortcomings in its implementation regarding the options available to students, their own preferences, availability of information and the articulation of CBCS in a competency-based curriculum well aligned with labour market needs.

4.3.5. DISTANCE EDUCATION

The School of Distance Education (SDE) at Bharathiar University is offering 70 courses through distance mode. These courses include undergraduate, postgraduate, professional, postgraduate diploma, and diploma courses. Candidates seeking admission should possess the required qualification and the certificates issued by relevant bodies constituted by any state/central government universities recognised by UGC. All the courses offered by SDE have been recognised by the Distance Education Bureau (DEB) of the Distance Education Council (DEC), New Delhi. Eligibility criteria might vary between certain programmes, and specific

undergraduate courses. For instance, a student who opted for a liberal arts stream from school cannot get admission into a science programme in SDE. The criteria are fixed by the Board of Studies (BOS) of the university.

Since 2007/08, the university has offered a dual-degree programme wherein a student who is studying in a regular programme at Bharathiar University, either in the university's departments or its affiliated colleges, can enrol in a distance education programme alongside their regular programme. There are, however, no dual degrees permitted in SDE. This policy of the university was passed by the Standing Committee of Academic Affairs and the Syndicate.

The distance education programme at the university allows lateral entry from courses such as MBA and MCA. SDE takes direct admission where students who have studied the first year in another university (regular or distance) can join the second or third year under the distance education programme of the university. They will be given an exemption for the courses they have already studied. However, industry or other work-based experiences are not considered for credits.

This is supported through the fund provided by DEB to the university for running SDE programmes, which the university is expected to utilise for infrastructure development and development of coursework for distance learners. There are no funds received from the state government. The university generates funds through initiatives such as online admissions and providing certain deliverables, for example, e-services.[9] The students of SDE can download transfer certificates and course completion certificates online. The admission process in the SDE is online. Students have to scan certificates that are evaluated by SDE, and the students who fulfil the eligibility criteria get their identity cards online.

No scholarships are available to students of SDE, which may be one of the barriers for many students who wish to pursue education through distance mode. Most of the students of SDE are working adults who finance themselves, some of whom also have scholarships from their employers. In addition to this, it may be noted that the fees for a distance education programme are smaller than the fees for the programmes offered via regular mode. It is very nominal compared to the programmes offered by other institutions and there are fee concessions for special groups, including women, military personnel, and people with disabilities. These concessions are applicable only to students applying to programmes offered at SDE. For programmes offered through regular mode, students can apply for state government scholarships provided to socio-economically disadvantaged students. In addition to this, the university also offers free places for each department that are reserved for economically disadvantaged students.

The admission process requires prospective students to submit documents to demonstrate that their credentials meet the admission eligibility criteria. These documents are verified, and the

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[9] E-services: study material is uploaded on websites, admissions, payment of tuition fees and examination fees take place online, as does payment of fees for the certificate. The transfer certificate and course completion certificates can be downloaded online.

students are permitted to pay their fees for admission, after which they can download their ID cards.

Until 2007/08, SDE followed a semester pattern. After that, the university introduced an annual pattern. The pattern and content of the course and credit flexibility (64 credit minimum for postgraduate) are all decided by the university.

The Director of SDE stated that all the distance-education programmes offered in a centre have course coordinators, and the courses are taught by teachers who are academics attached to regular departments in the colleges affiliated to the university or in university departments. The affiliated colleges that conduct distance education programmes as recognised centres of SDE take a share of student fees. About 60 per cent of the students' fees are given to the university, and the remaining 40 per cent is given to the college for non-lab courses, and vice versa for lab courses. The faculty members who teach in those institutions, i.e., colleges that are centres of distance education, are paid by them. The norms for payment to be provided to the affiliated college are defined by the MoU signed between the university and the affiliated college. The honoraria to be paid to the faculty member who teaches and to the coordinator are based on the UGC guidelines. Adherence to strict measures concerning the conduct of examinations, as per UGC guidelines, also ensures the quality of distance education. SDE programmes can be taken at only about 38 affiliated colleges that are recognised as centres.

The Dean, Faculty of Social Sciences, who was formerly in charge of the Centre for Participatory Programme (CPP), described how valuable distance learning courses had to be discontinued for reasons of institutional rigidities. He stated that, in 2007, the university, in collaboration with the Institute of Chartered Accountants of India (ICAI), proposed to offer a BCom or MBA degree through SDE, where the candidates who have completed pre-chartered accountant courses take those courses that are not covered in BCom and MBA. The university entered into an MoU with ICAI in this regard, but admissions of students to this programme ended temporarily. The Director, SDE, stated that "due to difficulties in matching the credits for the courses offered at ICAI with the ones offered at the University, this programme has to be temporarily put on hold" (Bharathiar University, Director, SDE, in-person interview). The Director of SDE explained further that the students who come through this Indian Council of Accreditation and Assessment (ICAA) demand a consolidated mark sheet with the pre-CA courses also included in the mark statement provided by the university. This proved to be impossible as the university has a passing minimum of 50 per cent as while pre-CA courses have a 40 per cent passing minimum. Furthermore, technically, the university could not provide a consolidated mark statement for a programme offered partially by another institution.

The Dean also remarked that the university started the Centre for Participatory Programme (CPP) in 2007. Under this programme, any institute that trained people could evolve the syllabus, and after due approval of the syllabus by the university, the institute could conduct the

classes for the programme, and the university would conduct the exams and award the degree. The Dean stated:

> This programme was running successfully from 2007 to 2016… nearly 10 years. This is now discontinued because there were issues raised by a few stating that certain centres are violating the regulations. Self-financing colleges were objecting to this programme considering their clientele is taken away from CPP, stating UGC's regulation. (Bharathiar University, Dean, CPP, in-person interview)

A major issue for distance education is the general perception that it is of lower quality than regular courses. The Director of SDE, stated: "It is a bygone conclusion that the distance education curriculum is inferior to the regular curriculum…obviously this is true. The number of courses one takes in regular mode is far more than what they do in the distance mode" (Bharathiar University, Director, SDE, in-person interview). One participant from the focus group of students from SDE commented:

> the government sector itself, they are saying 'no…we don't value this distance education'. So that should be changed. Because private sector…they will just see 'okay, you are good at the work, you are hired', that's all. Maybe that is one of the reason people have this thought like government itself is saying not valuing it then why is it valued? (Bharathiar University, SDE student #6, FGD)

Another participant commented: "Even teachers tell us and ask why do you … [pursue education] in distance [mode]" (Bharathiar University, SDE student #4,, FGD).

The difference in quality is attributable to the number of courses, and the pattern of examination where regular programmes have a semester pattern and distance programmes have an annual pattern. The number of papers taught in a programme that has a semester pattern is smaller than the number of papers taught in a programme that has an annual pattern. This results in unequal credits between regular programmes and distance programmes. The students of distance education also said that there is a perception that the programme offered in distance mode is not valid, and hence students who complete the first year in distance mode are not permitted to continue to the second year in regular mode. Further, while the regular programmes are offered in a choice-based credit system, the distance programmes do not follow any credit system.

There are, however, efforts being taken to make distance programmes similar to regular programmes, making it credit-based while having a comparable number of courses offered in a semester pattern. The UGC regulation on ODL, published in 2017, specifies that institutions can introduce a distance programme in semester pattern and also have CBCS in the distance programme following a semester pattern. It should be noted that the UGC recommends semester patterns for distance programmes only as an additional pathway, and the institutions can continue to offer distance programmes following an annual pattern.

The students pursuing the master's programme in different disciplines through distance mode at SDE described their experiences. They expressed their discontent with the public's perception of distance education as inferior to programmes offered in regular mode. The participants observed that many believe that people who pursue higher education in distance mode are doing it "just for a degree."

One participant commented:

> Honestly, when we hear the word 'distance' itself, we think … okay … only two-day classes, that too in year-end for one to three months ... and if I attend them regularly I will get a degree... Really, when we see from outside this is the real mindset of everyone. (Bharathiar University, SDE student #7, FGD)

Another participant said:

> In distance, everyone perceives that there will be no knowledge, they are just doing it for the degree. But we have no other way, that's why we are doing in distance. If we got a chance to do it in regular, we would have done it in regular only. Because, when we say distance, they don't see the value of the degree. (Bharathiar University, SDE student #1, FGD)

The co-workers and even family members of the students perceive that a degree from distance mode is not valid. The students of SDE stated that they chose distance mode only because of certain constraints, like having to take care of a family or do a full-time job. Otherwise, their natural choice would be to pursue education through regular mode. They mentioned that they were also interested in gaining knowledge but find it difficult to convince people about it. One of the participants in the student focus group on distance education, who has served in the industry for nearly 20 years, mentioned that the industry never discriminates against candidates for senior positions on the basis of the mode of their education, but purely looks for candidates who have the skill set needed for the job.

Since the distance programme offers classes only during weekends, the students report that having continuity is a challenge. They also state that the classes take place in too short a time to learn the topics. Much of the learning in distance mode has to be self-study where the students refer to online sources and learn what they need to learn. They also have difficulty in identifying the right material online and report that they do not get the necessary help from the university for that. Academic support to clarify the doubts of these students is not adequate. The faculty members who teach the classes for distance education programmes just cover the syllabus and offer no deep explanation of concepts. The students are required to put in extra effort and refer to online material and other books to learn. This requires students to be intrinsically motivated to learn when they are pursuing education in distance mode.

Many of the students come for attendance and not for knowledge. Since 25 per cent attendance is mandatory, students are pressured to attend classes:

> We are pressured to come for 25 per cent of the classes or 30 per cent of the classes, which means three to four of the classes, right … like they are saying, you know, it doesn't add any value … because they will only come for the sake of signature [attendance], in fact … I am very sure … not a single person will come for the fifth day. (Bharathiar University, SDE student #2, , FGD)

Other than classroom lectures during the weekends, there is no other contact between the teacher and the learner, and, so, most of the time, students are left to study on their own.

Two of the participants mentioned that the provision of interactive platforms for students to clarify their queries with the teacher, where the students can log in anytime and participate, could be helpful. The students suggested that, as in many corporates where there are portals for chatting to get answers, the university should also have a portal for students studying in distance mode. This system can help these students gain access to expert guidance and teaching and clarify their doubts online when needed. A student commented that instead of making attendance mandatory, it would be more helpful if the university provided the students with the online facility to connect to the course teacher. Without such support from the university, students studying in distance mode are required to struggle on their own to learn by using Google, going to the library or speaking with friends, and end up putting in much more effort than a student studying in regular mode.

The students also stated that they needed more practicals in science programmes and said that they should also be permitted to take books on loan from the university library. At present, the university library does not permit distance-education students to take books on loan.

Regarding reading materials, the UGC has directed all universities to post the study material related to distance programmes online. The SDE of the university, in line with the requirement of the UGC, has uploaded all the study material so that students of distance education can download the study material conveniently. The SDE is also considering the conversion of the study materials for distance programmes into e-content material. However, the participants also mentioned that the reading material provided by the university contains many errors, and is not comparable to the books the university prescribes for the regular stream. One participant said: "[T]here were several images that were missing in the book they gave … I had to google and search for those images" (Bharathiar University, SDE student #6, FGD). The books allocated by the university for distance education students require more editing and quality checking. One student commented that sometimes books are outdated and that upgrading of the books provided needs to be done to improve the quality of distance education. He further added that, for the regular stream, the books prescribed are of high quality and also a higher price.

One of the participants mentioned that a few of the courses she had studied in undergraduate programmes were repeated in the postgraduate programme. This may be seen as one of the subtle ways in which distance and regular mode are treated differently. It may be done to ensure

a "quick read and pass" for students who study in distance mode by providing material that is simple to understand by self-study. One participant commented: "Classes must be somewhat more engaging... we should feel that we definitely should not miss the class, we should feel that" (Bharathiar University, SDE student #3, FGD).

A degree obtained through distance mode is not recognised for employment in the government sector. One participant said that, in this sector, they particularly ask about the university or college from which a student graduated, and also ask for mode of completion. She added that since the government sector does not recognise the degrees from distance education for positions and shows a clear preference for degrees obtained in regular mode, there is an implicit message that these degrees are not equal. When asked if they would recommend distance education to others, all the participants said they would recommend distance education to prospective students who are employed or have other commitments.

Distance education at Bharathiar University has been seriously curtailed by the recent national regulations on ODL, which are very restrictive (see Chapter 3). Both the national policy as well as the state policy have influenced SDE in terms of scaling down of tuition fees to improve GER, and, with restrictions on the jurisdiction, which mean that the SDE centres can only operate within the state of Tamil Nadu, the SDE of the university is losing revenue. The UGC guidelines furthermore require that only affiliated colleges can be recognised as centres of distance learning of the university. Further, the guidelines do not grant recognition to private study centres to operate as centres of distance learning of the university. Such restrictions severely affect the admissions as well as the revenue of the university. While about 38,000 students were admitted to Bharathiar University in 2016/17, in 2017/18 admissions fell to less than 20,000 students. No admission was made during 2018/19 in the other centres.

Centres are not available in remote places, which means that rural students are at a disadvantage in accessing distance education. Rural students, the Director of SDE stated, "cannot easily do online admissions" (Bharathiar University, Director, SDE, in-person) without distance education centres in rural areas. The lack of centres in rural areas able to offer a distance learning programme of the university is one of many examples where regulations can pose challenges to the development of flexibility. This, in particular, also points to the challenges of ensuring quality in FLPs.

4.3.6. SWAYAM

In 2017, the UGC, in its guidelines, for the first time recommend incorporating SWAYAM MOOCs in the curriculum of universities. This has brought about changes in the programmes of the university. SWAYAM MOOCs are online courses offered by faculty members from different disciplines across different locations in India that are approved by the MHRD. Simple internet access is all that is required to access these courses, which are offered free of charge. The student is required to pay an examination fee, which is refunded to students who pass the examination.

The university implemented MOOCs only recently. Therefore, it was decided to offer MOOCs as an add-on course. The university has made it mandatory for students in the university departments to complete a minimum of two credits from MOOCs in addition to the 90 credits (Core: 72 credits, Elective: 12 credits, Supportive: 6 credits) required for a master's degree. The university has not yet brought MOOC credits into the 90 credits, thus making MOOC credits eligible for credit transfer, but the authorities are considering including MOOCs in the curriculum for credit transfer in the future. This is possible because the UGC guidelines recommend a maximum of 20 credits from MOOCs to be included in the curriculum. Due to infrastructure challenges, the non-availability of an adequate number of relevant courses, the non-availability of course options in Tamil, and the reluctance of students to opt for courses that are online, the university has not yet insisted that MOOCs be brought within the existing curricula.

The first batch of students to take MOOCs under this period of initiation will graduate this summer. The university has had some serious issues, such as students pursuing a master's programme in Tamil having difficulty passing MOOCs that are in English only. Many of the students in the university are first-generation students from semi-urban and rural backgrounds. Language is a big challenge for these students when it comes to completing MOOCs in English. This points to the possibility of MOOCs widening existing inequalities due to language barriers.

The university is also making efforts to expand its infrastructure to accommodate MOOCs. It has an office exclusively devoted to implementing SWAYAM in its departments, as well as in colleges affiliated to the university. This office consists of a team of faculty members and support staff devoted to implementing SWAYAM on campus. Every department has a faculty member nominated as SWAYAM mentor who monitors and guides students pursuing MOOCs. They are assigned a specified number of hours in their workload to attend to this.

The Dean, Faculty of Social Sciences, stated that teaching staff at the university are mostly young people who are able to adapt well to new practices. He added that MOOCs in the university are very new at this point. The effectiveness of introducing MOOCs can be evaluated, therefore, only when these students graduate and go into the labour market.

The focus group of students revealed that students had choices in SWAYAM courses, and it was not always clear what these were. One said: "[T]here was delay in getting information from SWAYAM … regarding queries, exams, results or getting certificates" (Bharathiar University, Student #5, FGD). Students also reported that services connected to NPTEL courses were provided about 40 per cent sooner than services for SWAYAM. The advantages of SWAYAM MOOCs, according to students, were that they had options for taking different courses, the flexibility in terms of time, and the discipline inculcated by the strict course deadlines. One student commented:

> So SWAYAM … the advantage is like we can go to any course you like. If I want to learn artificial intelligence, I can do that. I can go and complete that. The chances of taking different kinds of courses are more. And the time gap … it can be one month, two months ... based on your facility ... your availability ... you can change the course. And the positive thing is like they will give you a deadline. You need to complete the work by then … it will be a positive thing that people will think of the deadline, people will work according to it … with that what I felt is we will know the punctuality. Like you need to complete the work in a deadline … you are given stipulated time, and, with that, people can even get punctuality. (Bharathiar University, Student #1, FGD)

Experienced staff offer SWAYAM MOOCs, which is recognised as a big advantage by students. A student stated: "In SWAYAM online course, many courses are from eligible staff, I mean very experienced staff from IIT. So, when we attend those courses, it will be like we can gain some knowledge from them" (Bharathiar University, Student #2, FGD).

The students recognise that taking MOOCs is like entering a new era in education. The students believe that MOOCs give them the opportunity to pace their learning progression. This provides the students with satisfaction and increases their productivity. One commented:

> I would give a big thumbs up for SWAYAM … because it is like going into a new era… Other than that … I was required to go to a school and ... it was more fun to do it. Nobody is monitoring me … I can have full freedom to do that, and after I do this, I have this satisfaction that… I have done something productive with this course. (Bharathiar University, Student #3, FGD)

The students regard SWAYAM MOOCs as providing 'more knowledge and more fun'. They like the fact that MOOCs enable them to learn via cell phones and laptops, which they carry along with them during the day.

The students in the FGD also pointed out some difficulties they are facing with SWAYAM MOOCs. Registration for the course, applying for the examination, and submitting assignments in some courses can be difficult due to technical reasons such as the portal not responding. Another student said that although these problems are discussed through the portal, the response is slow. Responses to queries on certification and results were reported to be even more delayed. One student highlighted that there are very few options for courses in certain disciplines. Peer support is not available when students are required to do MOOCs since not all students get a chance to register for the same course. In such cases, when a student faces any difficulty in the process of completing the course, they must handle the problem alone. They will not be able to have peer support to navigate towards the solution in the case of MOOCs, unlike the typical student experience of the traditional mode of learning. No response from coordinators, some courses getting cancelled just a week before the exams, issues related to refund of exam fees,

and certificate issues sometimes discourage students from opting for MOOCs. The students argued that making two-credit SWAYAM MOOCs a mandatory add-on course for graduation was disappointing. They questioned the logic that their achievement in the entire curriculum is considered valid only if they complete the mandatory add-on two-credit MOOCs.

The exams for SWAYAM are conducted by the National Testing Agency (NTA) for all students across the country and provide downloadable course-completion certificates. In certain cases, students say that they were unable to download the certificates due to technical issues, and they needed to notify the authorities of the issue by email.

Some negative statements were also made by academic staff. The number of course options are limited and not very specialised in many disciplines, and so teachers are reluctant to bring these courses within the syllabi and consider these courses for credit transfers. Hence, to balance these concerns, the university has made it mandatory for all students to complete one MOOC for two credits but has retained the minimum 90-credit programme that they have conventionally offered.

The university is presently using MOOCs as mandatory non-scholastic course for students studying in university departments but has prescribed it as optional for colleges affiliated to the university. This difference in approach reflects the lack of infrastructure in the affiliated colleges, particularly the government colleges that cater to students from low socio-economic backgrounds.

4.3.7. CREDIT TRANSFER

To date, the university has not devised a policy to guide transfers. This is because each university has the autonomy to design its curriculum and syllabi, making equivalence of one programme or course to another, between institutions or within the institution, a challenge. Further, the university does not have any formal partnership for an articulation agreement with other education providers or organisations for delivering FLP. The university maintains a record of the number of transfers of students from one college to another within the university.

The State Higher Education Council (TANSCHE) has initiated efforts to bring in course equivalence and to make programmes comparable across different universities in the state. The Director of the SDE stated: "Course structure differs from one university to the other. Now TANSCHE is aiming at uniform curricula to facilitate inter-institution transfer" (Bharathiar University, Director, SDE, in-person interview).

Once this is done, the university may be able to consider transfers across universities or institutions. As, to date, there is no policy available for transfer, any request for transfer is considered on a case-by-case basis. The university does not have an option for credit transfer between programmes. Each programme has a separate BOS which designs and approves the syllabus for each course under the programme. Unless the BOS approves the credit transfers, it

cannot take place. Hence such transfers are made only in a case-by-case manner. Since no policy is available, any such request for transfer will be processed, in case of any student requesting a transfer, and placed before the BOS for recommendation, on the basis of which the university grants transfer credits.

In the university, requests from students to transfer credits from programmes taken in regular mode to distance mode are received only occasionally. In such cases, the approval of the BOS for the concerned programme must be sought before the credit transfer can be approved. The university has not recorded cases of requests for credit transfer. But if there are any, they may only be from the formal type of learning. Other options such as informal and vocational/professional are not possible in the university since it does not have a system to provide equivalence to it.

The Director of the SDE and the Dean of Faculty of Social Sciences confirmed that student transfers from regular mode to SDE are permissible. But, as already indicated, the reverse is not permitted. Requests for such transfers are made on a case-by-case basis. The Dean added that the transfer of students from SDE to regular mode is not possible because the SDE programme follows an annual pattern while programmes offered on regular mode at the university follow a semester pattern. However, following directions from the UGC, the SDE programmes at the university are being redesigned in semester pattern in order to align them to programmes offered in regular mode. This, once implemented, will make it feasible for the transfer of credits for students from distance mode to regular mode within the university. The process of implementing the new guidelines has been initiated. For example, a new syllabus for SDE programmes based on the new guidelines is currently under preparation. Transfer of credits in SDE should be possible in 2020/21.

The Vice Chancellor stated that while there are options to transfer credits between one affiliated college and another within the university, there is no option to do such credit transfer from one university department to another. The nodal officer[10] for NIRF at the university confirmed that transfers are allowed in colleges affiliated to the university but not at the university level. The Dean, Faculty of Social Sciences, stated:

> When credit transfer is globally accepted, we can adopt it too. But we are used to curriculum-based education. We do not have a clear idea about credits. This makes it difficult to implement credit transfer in full swing. So as on date, we do not have a credit transfer scheme. (Bharathiar University, Dean, Faculty of Social Sciences, in-person interview)

There is currently no policy for credit transfer in the SDE, but credits obtained from other universities through any mode are considered for course waivers as approved by the BOS on a case-by-case basis. Every year between 2,000 and 6,000 cases apply for course waivers when seeking a lateral entry into distance programmes from regular programmes, and this

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[10] Nodal officer is responsible for data collection and submission

year around 2,200 students have applied for course waivers. All these cases are individually referred to the Chairs of the BOS. The Chairs of the BOS examine the courses completed by the applicants and the content of the course for which they seek a waiver and then certifies whether or not a course waiver should be provided to the applicants.

These opportunities for transfer have been developed on the initiative of the university, based on guidelines given by the UGC. The Director of SDE stated:

> Credits taken from other universities are taken ... credit transfer is permitted, and the course is waived. Everything is in 10+2+3 pattern ...UGC regulation is followed. One who completes Open University cannot be taken for admission. Credit transfer and course waiver is allowed only within the same faculty, depending on the approval of the BOS. Credit transfer is allowed in all cases where they are eligible and approved by BOS. Those specific subjects that the student is not exempted must be completed by the student. (Bharathiar University, Director, SDE, in-person interview)

A credit transfer or course waiver is allowed in the SDE only within the same faculty, depending on the approval of the BOS. The student must complete the subjects from which he or she is not exempted. Further, in the School of Distance Education, one course can be waived in lieu of another course, even if the course the students have completed covers the contents of two of the courses offered at the university. This one-to-one waiver is provided as per the guidelines of the UGC.

The Director of the SDE also stated that MOOCs could be considered for credit transfer or course waiver in distance education based on the recommendations of the Boards of Studies. The students of distance education also mentioned that credit transfer from one institution to another and inter-institutional collaboration should be available for distance education students too. One student of the SDE stated:

> I am saying in countries like UK … the universities in these countries … they already have this... especially for master's [programmes] … if you cannot complete it in that time, you can take as much time as needed … but you just need to complete that credit. So sometime you get transfer, they will have a centre there and you just have to complete your credits over there. They don't have this rigid system where you have to be here, you know … you took a break for more than two [or]to 3 years, you cannot continue this [here in India]. In such systems [abroad] … they think out of the box. (Bharathiar University, SDE student #6, FGD)

Such arrangements are not presently available at the university.

One participant in the focus group of alumni stated that credit transfer and mobility between affiliated colleges of the university, for both undergraduate and postgraduate programmes,

is possible. She added that this arrangement is not possible for students in the university departments. The student described a case where another student pursuing a master's programme in one department from the School of Social Sciences in the university had to take a break after first year of her course, and she was not permitted to continue her studies from the second year of the programme. The admission of the student was cancelled. The participant concluded that such transfers might be possible only for a limited time. Another participant agreed, noting that in one of the departments (name not disclosed), a student who returned after a break of six months was asked to repeat all the courses he did in the first year. Another student mentioned that "nothing like that happened in our department … if students dislike a course they discontinue and go away" (Bharathiar University, alumnus #5, FGD). One participant said that, as far as she knew, credit transfer from one university to another was not possible, at least in South India. However, transfer from one affiliated college to another within the same university is possible. Other participants mentioned that they have not come across cases where credit transfer from different institutions or from the same institution was requested.

Many of the participants were not informed about the transfer policy or practice. The participants mentioned that they had no idea from whom to get guidance in case they needed to apply for transfer. No formal facility is available in the university that students can approach to get guidance for such issues. The participants mentioned that the student support centre in the university provides information only about financial aspects and not about academic aspects. One participant stated that even the heads of department were unaware of the rules and regulations regarding credit transfer.

Credit transfer at Bharathiar University thus remains a practice that is not guided by a university-wide policy but needs to be settled on a case-by-case basis. Given the relatively large number of requests, it would be advisable to establish a policy and clear procedures for the entire university. Due to discrepancies between regular and distance education, credit transfer can be granted only for students from regular programmes transferring into distance education. There is also little information available to students on credit transfer possibilities, an aspect that would need to be taken into account in the policy.

4.3.8. Instruments Supporting Flexibility

Internal quality assurance

Quality assurance (QA) can act as a tool to support flexibility in the curriculum as well as study pace and mode. The QA arrangements in the university can be analysed at three levels. At the individual level, academics need to be supported to revamp the syllabi and curriculum to add currency and value. The Board of Studies (BOS), consisting of all stakeholders, including experts from industry and alumni, need collectively to approve new programmes and discuss quality issues. CBCS has the objective to offer choices in courses, giving provision for open-source learning and outcome-based education (OBE).

OBE has been introduced in the university in terms of defining programme objectives, and course objectives. OBE is a student-centric teaching and learning methodology focused on measuring outcomes, i.e. student performance at different levels. Course delivery and assessments are planned towards achieving the stated objectives. OBE has the potential to facilitate curriculum flexibility while ensuring its integration. However, it has not been brought into practice in the evaluation pattern yet. At institutional level, QA arrangements in the university include faculty training, infrastructure improvement, and encouragement towards multi- and trans-disciplinary research.

QA originates in the department. Infrastructure needs, curriculum, academic improvements, including research, are initiated by the department. The university has an Internal Quality Assurance Cell (IQAC) that acts as a fulcrum disseminating information regarding QA. IQAC is a catalyst. The former IQAC coordinator stated: "Deans of faculties, dean research, statutory and non-statutory committees also support QA" (Bharathiar University, former IQAC coordinator, in-person interview). For financial matters, the case is sent for approval by the finance committee. Any issue related to research is referred for approval by the Research Dean. Academic initiatives are sent for approval by the Standing Committee of Academic Affairs (SCAA). The Senate addresses issues concerning affiliated colleges. The Syndicate that serves as the Executive Council of the institution approves both administrative and academic initiatives. QA supports CBCS and MOOCs and their integration into the mainstream curriculum.

The QA process focuses on the following criteria: (1) the curricular aspect; (2) teaching and learning methodology; (3) research, extension, and consultation; (4) infrastructure and learning resources; (5) student support; (6) governance and leadership; (7) and institutional values and best practices (including social responsibilities) as defined by NAAC. All of these are oriented towards learning and employability. The OBE that is being implemented has a specific focus on intended learning outcomes. The above seven criteria will support OBE. However, the former IQAC coordinator stated:

> [T]here is no big understanding of OBE at the national level. In fact, even CBCS is not completely understood by people in our country. Tamil Nadu is well ahead of others in system audit, academic audit, etc. (Bharathiar University, former IQAC coordinator, in-person interview)

Academic and career advice and guidance

Academic and career advice and guidance are necessary to ensure that students are in an adequate position to make informed curriculum choices. But the Vice Chancellor stated that there is no formal centralised facility in the university to provide academic and career advice and guidance to students. He added that providing academic and career advice and guidance is done at department level by faculty members who teach the students since they also know about the students' competencies and also about market requirements and demand.

The university also provides funds to each department for organising placement-related activities, including inviting experts from the industry to deliver training and lecture. So, these arrangements are largely supported by the faculty of the university and are also supported by experts from outside based on the students' needs as perceived by the departments. Such programmes are carried out as a part of regular department activity, and so the students get to benefit directly without having to reach out to the service. The Vice Chancellor also confirmed that this academic and career advice is available for students uniformly and is not specifically tailor-made to any special group. The possible shortcomings of direct faculty guidance are that the faculty may not always be so well informed about flexibility where it exists. They may not have formal training in guidance and counselling, and students may be reluctant to seek guidance from faculty members who are usually busy with several projects.

The Department of Extension and Career Guidance, which is an independent department like any other department of the university, offers career guidance to students at various departments when they enter a master's programme, purely as a voluntary service. This is not a central facility that works exclusively to provide guidance and counselling to students. This department, like any other department of the university, is primarily involved in teaching, research, and extension activities. An open-day career counselling session is available every Thursday with a prior appointment, and about 80 students (over six to seven months) have utilised this service. The faculty shares information regarding CBCS and SWAYAM MOOCs that provides some flexibility in learning with the students. Students are informed about transfer opportunities in case they have any enquiries about that, largely on a need basis. The Department of Extension and Career Guidance also hosts a website – Careervarsity.com – that provides self-learning material online for students. This contains self-assessment of subject knowledge, skills, and aptitude that students can use. This online resource also provides tips to students on how to handle interviews. Circulars are sent regularly to all the departments to encourage their students to consult this website.

Since there is no policy that supports a permanent arrangement of academic and career advice and guidance, it is done by the Department of Extension and Career Guidance based on need. As mentioned earlier, the department is primarily involved in teaching and research and extension activities, like any other department in the university, and is not exclusively established with an objective to provide guidance and counselling to the students. Departments of the university that are interested may invite faculty from the Department of Extension and Career Guidance to conduct programmes for their students. This is not done uniformly by all departments. Students are connected to these services only through their respective departments. These programmes are offered either to all students in a particular department or to no students in a particular department, depending on the interest of the receiving department.

The Head of the Department of Extension and Career Guidance states: "As of now, 20–30 per cent of students from university departments access this service … involvement of faculty and

students from the university is not very high" (Bharathiar University, Head of the Department of Extension and Career Guidance, in-person interview). There are no monitoring reports or evaluations available on the utilisation of such a service. One of the reasons why such facilities are not centralised in the university, as stated by the head of the department, is that most of the recruitment agencies are interested in hiring undergraduates and hence prefer to visit colleges (where the undergraduate programmes are offered) and not the university (where only postgraduate programmes are offered, with the sole exception of the BVoc programme).

A few departments of the university provide coaching for the students of the respective departments to sit the National-level Eligibility Test (NET)/State-level Eligibility Test (SET),[11] as well as for other competitive exams for state and central government. The head of the department estimates that about 5 per cent of the students who benefit from such programmes are from a socially marginalised background. This statement could, however, not be backed with data.

The alumni of the university also confirmed that there is no formal facility offering career guidance in the university. One of the participants observed: "[T]here is something called Students Support Centre here … but if you go there, they help you with only fees [payment] and its [fee] structure" (Bharathiar University, alumnus #3, FGD). Career guidance was not available to them, and they sought guidance from heads of department, research scholars, or seniors in the department.

One participant from the focus group of alumni stated that students have no awareness regarding scholarships, fellowships, competitive examinations, or research opportunities. Those who are interested have to search for the information on their own. The focus of the departments is limited to students attending classes and clearing the university examination, and no information regarding other competitive exams and opportunities are made available to the students. Teachers are reported to be more interested in completing the syllabus. No effort in made within the departments to train students to face such competitive examinations. One participant noted that the colleges affiliated to the university are taking more interest and paying more attention to guiding students onto placements than are university departments. However, another participant argued that the university provides better exposure to opportunities than colleges. "It is my life-changing experience in this University….. my Professors…. they (Professors) told that... if we want to do like them, (we should) try (getting in) in University, State University or in Central University.……(that could provide)...more exposure from University… We got good exposure in the University" (Bharathiar University, alumnus #4, FGD).

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[11] The National-level Eligibility Test (NET) and State-level Eligibility Test (SET) are tests conducted at national and state level to assess the eligibility of anyone seeking a teaching position in academia, at national and state level respectively. Those who successfully pass the NET are eligible to apply for academic positions across the country, and those who successfully pass the SET are eligible to apply for academic positions in the particular state relevant to the SET passed.

Another alumnus commented:

> Even after going out and settling in a job, if we want to do higher studies or to move on to another job or to know what is required for that job, we have to come again here. Even if we go out, we get guidance from here only, only from the Professors here. (Bharathiar University, alumnus #1, FGD)

The alumni mentioned that the industries do not come to the university for placement drives. Companies often do not know much about the university.

For students of distance education, there are no formal structures that provide academic and career advice. The information services operate again at an informal level. The Director of the SDE stated: "Every discipline has a course coordinator who extends the academic and career advice and guidance informally" (Bharathiar University, Director, SDE, in-person interview). But the students pursuing higher education in distance mode often have limited opportunities to interact with faculty, unlike those pursuing higher education through regular mode. They are also a heterogeneous group of students with different backgrounds, and everyone in the class is as little informed as the others.

This clearly highlights the need for a more structured approach to academic and career advice and guidance at Bharathiar University. This is particularly important for students studying though distance mode, to enhance both their academic performance and their choice of career.

4.3.9. FLEXIBILITY FOR EQUITY GROUPS

Bharathiar University offers curriculum flexibility and flexibility in study mode through CBCS, SWAYAM MOOCs, and distance education. All students can benefit from them, and there are no special FLP programmes devoted to equity groups. However, it must be noted that FLPs affect equity groups differently. For example, our study has identified that socio-economically disadvantaged students find it challenging to complete MOOCs due to language issues, and such issues are discussed elsewhere.

The Vice Chancellor stated that the university follows the Tamil Nadu Government's direction to reserve places for students belonging to disadvantaged classes, including most backward classes (MBCs), scheduled castes (SCs), and scheduled tribes (STs). In addition to this, the university also has a reservation for people with disabilities and Muslim students. The reservation norms prescribed by the State Government are followed. Other than that, the university does not have any special criteria for any specific group of students. The reservation is related only to entry requirements, and there is no special support provided to disadvantaged students once they have entered the university. The former IQAC coordinator confirmed:

> We faithfully follow [a] roster system in admissions. We also provide free education and scholarships to promote the entry of equity groups in higher education. This can only ensure entry. On entry, they are treated as normal mainstream. They are provided with remedial coaching. But no special concession in teaching, learning, and evaluation is available. FLP that promotes equity is not available right now. (Bharathiar University, former IQAC coordinator, in-person interview)

The Dean of the Faculty of Social Sciences also stated that the university does not envisage equity through FLPs. Any academic programmes and policies available for FLPs, i.e., CBCS, SWAYAM MOOCs, and SDE, are uniform for all students with no special provisions for equity groups. For all programmes offered in regular mode, there are reservations of places for students belonging to socially and/or economically disadvantaged groups, as prescribed by the roster system of the State Government of Tamil Nadu. Such reservations are not available for SDE primarily because there is no limit to the number of students that can be admitted in a programme in SDE. The former CBCS coordinator stated: "Equity can be promoted by way of teaching and not by means of choices provided. Once admission is over, students are treated as equal. Equity issues are taken care of on a personal level" (Bharathiar University, former CBCS coordinator, in-person interview).

The State Government provides scholarships for economically and socially disadvantaged students through the university. Eligible students are encouraged to apply for the scholarships. The head of department puts forward the names of those who may be awarded these fellowships based on objective criteria related to the socio-economic background of the family. If there are a specific number of fellowships available for a particular department, the head of department would recommend as many names as there are places.

As regards academic and career guidance, remedial coaching is provided to students from low socio-economic backgrounds and those who are academically weak. These are extra class hours scheduled at the end of the day. These students are also provided with informal support in terms of providing study material and counselling, as needed.

The Director of the SDE confirmed that there are no separate provisions for equity groups for admission onto the distance programmes. Anyone can be admitted into the SDE irrespective of community or income. No quota system or reservation norms are followed in the admission of students in distance education since there is no restriction on the number of students who can be admitted at a given point of time. However, the SDE of the university offers fee concession for both application fees and course fees for SCs/STs, the military, female students, but not for low-income students. Besides, students who graduated from Bharathiar University also have a fee concession.

4.3.10. Monitoring and Evaluation of Effectiveness in Implementing Flexibility

The university does not have any officer in charge of statistics. All the data are usually maintained in the administrative offices of the university. The nodal officer, NIRF, is a faculty of the university who is in charge of compiling the data available at the university for the purpose of applying to the National Institute Ranking Framework (NIRF) of the central government.

Records on student transfers between different colleges affiliated to the university, or from regular mode to distance mode, are available from the Office of the Registrar. SDE maintains data on student enrolment. Data on student enrolment in MOOCs is maintained in the individual departments.

Data on enrolment of socially disadvantaged students based on their community, i.e., SC and ST, is available from the Office of the Registrar. The data on completion/student graduation is available at the Office of the Controller of Examination. No data on student transition to the labour market are available, including for those in equity groups.

The data maintained in different offices are compiled annually by nodal officer, NIRF, at the university for submission to NIRF for national ranking. The data is also used by IQAC, which collects data from different departments independently. So, the data collected is used for assessment and accreditation, and to provide data for the national level database. The former coordinator of IQAC confirmed that there are no records related to placements in the IQAC office, and hence no data are available to inform an understanding of how flexible learning pathways influence students' transition to the labour market or further studies. The former coordinator of IQAC added: "Students' progression rate seems to be in favour of higher education. Those who have acquired a PhD from our university have proceeded with post-doctoral degrees." (Bharathiar University, former IQAC coordinator, in-person interview). The Vice Chancellor also affirmed, stating: "At the university we offer postgraduate programmes. We offer only one BVoc programme at bachelor's level. Most of the students who graduate here [with postgraduate degrees] proceed to higher education [research]" (Bharathiar University, Vice Chancellor).

The SDE of the university does not have a proper system or policies available through documentation for local administration. The Director of SDE states: "The administration at SDE works by convention; and no policy is presently available" (Bharathiar University, Director, SDE, in-person interview) to direct many of the procedures. The SDE does not have any mechanism of evaluation of the system of administration. When the university applies for a new programme for approval by the DEB, UGC, the DEB looks into the credentials of faculty members. This is the only indirect evaluation that is in place for the distance education programmes.

The university, however, monitors the conduct of classes, admissions, evaluations, etc., at the Learner Support Centres. University representatives go visiting the centres whenever the

examinations are held there. The panel of examiners approved by the university evaluates all the practical examinations for distance education programmes.

The IQAC is involved only in the maintenance of the Annual Quality Assurance Report (AQAR). AQAR is posted on the university website. There is no monitoring or evaluation of any policy, including policies related to FLPs, of the university undertaken by the IQAC.

4.3.11. Enablers and Obstacles to Flexibility

Political will, leadership, appropriate management structures, staff development and training, and practical support from national agencies such as UGC were identified by various participants as enablers in implementing FLP in the university.

The university does not have much autonomy to design innovative policies. All the policies at the university are guided by UGC and TANSCHE. The Boards of Studies (BOS), the Standing Committee of Academic Affairs, and the Syndicate play a central role in deciding the academic policies of the university. The guidelines regarding CBCS and MOOCs, for example, given by UGC, seem to be clear and provide all necessary details for implementation. They also provide enough scope for flexibility in implementing them to suit local conditions.

The Dean of the Faculty of Social Sciences at the university states that political will and determination, leadership in HEIs, and practical support from national agencies are the key enablers to implement any policy concerning higher education in the university. UGC and TANSCHE, in the Dean's opinion, are very important to the implementation of any policy in the university. When the university receives the guidelines from the UGC and higher education council, the university is bound to adhere to those guidelines.

The university has a set procedure that it follows when designing and implementing any policy. The decentralisation of responsibilities is considered an enabler by the Vice Chancellor of the university. The Vice Chancellor commented:

> The university also delegates responsibilities to various offices in the administration, making the process of implementation decentralised. This has worked well. After I assumed office, we have expanded the office that works for the implementation of SWAYAM. The delegation of authority is more spread involving many individuals making the system stronger. (Bharathiar University, Vice Chancellor, in-person interview)

The former coordinator of IQAC added:

> Practical support from national agencies and appropriate management structures are the most important. We adopt the guidelines given by national agencies, making it critical for implementing FLP. Appropriate management structures are directly relevant to implementing any policies of the university. (Bharathiar University, former IQAC coordinator, in-person interview)

Factors such as resources and institutional autonomy were repeatedly mentioned by many participants. Identifying lack of time to implement and openness as factors that hamper change, the Vice Chancellor stated,

> [F]or implementing any new FLP, we need a lot of time – the transition time is the key. Our faculty and also students often take time to adapt to new pathways. In MOOCs, if we did not make it mandatory, the majority of our students may not even opt for one in their period of study. That openness, I think, is slightly lacking. And so, attempts to implement often see some resistance. (Bharathiar University, Vice Chancellor, in-person interview)

Funding for universities has been dwindling in recent years across the globe, and in Bharathiar University this is no exception. The implementation cost is often a thing of concern when the university wants to introduce new initiatives that require massive additions to the infrastructure. Staffing is another major concern. Though the university has just about the adequate teacher-student ratio when new schemes for FLPs are implemented, it needs additional staff support. According to the Vice Chancellor, the teachers and staff need to be updated with technology in the case of MOOCs. The teachers are required to engage in additional work without incentives. For example, a SWAYAM mentor who promotes MOOCs in a university department has to attend to a large number of students without any incentives. Only recently has the university approved including the SWAYAM mentoring responsibility in the workload of the teacher.

The CBCS coordinator, too, acknowledged the lack of adequate resources as another critical factor preventing the full implementation of CBCS in the university. The university considered implementing online registration of students for supportive courses in CBCS, but that could not be implemented due to staff shortages.

The culture, including the attitude and values of stakeholders, appears to be another critical factor that challenges the implementation of FLP in the university. The Vice Chancellor said:

> More than competency, the mindset of faculty regarding FLP needs to change. There appears to be a bit of resistance among them to implement FLP even on the smallest scale that it is introduced now because they feel it is adding to their workload. A positive attitude among teachers on FLP must be nurtured. The policymakers at the national level must design policies to support FLP if it has to be practised in the institutions. (Bharathiar University, Vice Chancellor, in-person interview)

FLP must provide due weightage to prior learning. However, there is no RPL in the university presently. Verifying the authenticity of students' prior learning can be a challenge. The NIRF nodal officer states that:

> [F]lexibility has hidden issues where the mechanism to authenticate the experiences outside the university is not available. Only a few students will bring genuine experience, others may just bring fake certificates. Implementing FLP may be a huge challenge in our country due to factors like these. (Bharathiar University, nodal officer, NIRF, in-person interview)

In line with this, the Head of the Department of Extension and Career Guidance also states that FLPs can be brought in by the BOS, but the integrity of individual students is tricky, and so culture represents a huge issue in bringing in FLP.

The definition of roles and responsibilities for FLPs across the different administrative layers of the university is a critical issue with regard to their implementation. At BU, the role and responsibilities of the CBCS coordinator are not well defined. The coordinator commented:

> No importance is given to the CBCS coordinator. CBCS coordinator must be a part of the Standing Committee of Academic Affairs and should also be invited to participate in the meeting of the heads of the department. The CBCS coordinator at the departments must liaison between the CBCS coordinator of the university and the students. Regular meetings of CBCS coordinators and the students must be conducted in the middle of the first semester or before the beginning of the second semester. These coordinators must also collect feedback from the students regarding the implementation of CBCS. CBCS could not be fully implemented because of the lack of an adequate number of choices of courses. I would say we have maybe 40 per cent of the required courses. (Bharathiar University, CBCS coordinator, in-person interview)

The CBCS coordinator also mentioned that the CBCS coordinators at the departments are not actively participating in the meetings held by the CBCS coordinator of the university. The CBCS coordinator commented: "From the department side, not a single suggestion or feedback or issue has been raised to the CBCS office" (Bharathiar University, CBCS coordinator, in-person interview).

The participation of CBCS coordinators of the departments can be enhanced if these coordinators are provided with incentives or recognition for their active participation as CBCS coordinators at the department. Besides this, there is also a lack of policy for implementing CBCS in the university. The implementation of CBCS in the university largely depends on the personal interest and initiative of the CBCS coordinator of the university. Lack of cooperation and lack of policies are the specific issues that affect the implementation of CBCS in the university.

In the opinion of the former CBCS coordinator, autonomy, international support and an enabling culture are the most important factors that are lacking. She stated:

Autonomy is needed to design FLP that is viable considering local conditions. International support is essential to gain exposure to global practices and adapt them to the Indian context. More possibilities of FLP can be understood by international exposure. Enabling culture is very critical to help students and faculty appreciate the benefits of FLP. (Bharathiar University, former CBCS Coordinator, in-person interview).

The issue of autonomy is important, and the highly regulated context of Indian HE is not favourable to FLPs.

The Head of the Department of Extension and Career Guidance confirmed the importance of political will. Central government is responsible for policy-making, and hence political will plays a key role in implementing FLPs. The government can seek opinions from experts in academia and industry when drafting policies related to higher education.

Another obstacle is the absence of structured academic guidance in HEIs, at both system and institutional levels. Students in India are not very well informed and may not be able to provide inputs for policy-making. Lack of staff resources to engage in these projects, space and infrastructure for operating such programmes, and funding to support them are among the barriers to a centralised academic and career advice facility.

The Dean of the Faculty of Social Sciences said that students at the university are not always willing to consider alternatives as valuable. The Dean states: "[S]tudents do not consider education as significant aspects of their lives. The attitude of the millennial towards education is not serious" (Bharathiar University, Dean, Faculty of Social Science, in-person interview). The university also has never invited international experts or approached them for academic interactions, as the university "thinks we are not on par with them [international universities]" (Bharathiar University, Dean, Faculty of Social Science, in-person interview).

The flexible learning agenda may also suffer from the incoherence of national policies. The Director of the SDE stated that 'the national policy on education insists that state universities can offer distance programmes only within the state. This restricts the scope of SDE… Restriction of jurisdiction works against the objective of improving the GER in the country' (Bharathiar University, Director, SDE, in-person interview). SDE is one mode through which any section of society can be accommodated because of the low fee structure, and so the programmes offered through distance education cannot be matched by any regular course in terms of the cost involved for students. However, such restrictions on jurisdiction enforced by policy at national levels restrict institutions from extending services as needed.

The Director of the SDE added that political will from the top level is essential. The university had support from State Government previously but not now. Practical support from national agencies is not adequate. Appropriate management structures and distribution of authority

also need to be brought in. However, the Director of the SDE also noted the constraints on institutions:

> The Director has autonomy but is bound by university, Higher Education Department, UGC... Ministry of Human Development. When equivalence issues come in, TANSCHE steps in. After 2013-2014, UGC regulations for offering distance education [posed] serious constraints on institutional autonomy since the UGC started demanding recognition of courses and not institutions as before. (Bharathiar University, Director, SDE, in-person interview)

The Director contended that the freedom to design the curriculum should be with the university and not with the UGC. This autonomy is lacking. Regulations have to be loosened up a bit, along with tightening up the security of examination.

For providing distance education to those in rural areas, it is important to ensure access to the remotest of areas, where private centres have to be accommodated. Presently, UGC regulations do not permit private institutions to function as distance education centres. The Director of the SDE stated:

> If private companies are willing to open a centre in remote areas, they should be allowed to do so. The UGC can restrict the limits of tuition fees. Universities can be allowed to enter into a MoU with such private centres for distance education. There are school dropouts in remote villages. Women have problems with security. So, having centres in a rural and remote area will promote catering to equity groups. All available technologies must be used to connect with people in remote locations. Mobile applications can be used too to provide distance education to those in remote locations. (Bharathiar University, Director, SDE, in-person interview).

One of the challenges in implementing flexible learning is staff resistance. There is a mixed response from faculty members to FLPs. Some departments in the university find it a challenge to offer multiple course options in CBCS due to staff strength and infrastructure constraints. Fully implementing MOOCs for credit transfer is difficult because students are not well versed in technology. Faculty and students also report that the number of courses in SWAYAM MOOCs is limited. Also, the programmes offered through distance education are not based on a credit system. They now follow an annual pattern while the regular programmes follow a semester pattern. The number of courses in distance mode is smaller than the number in regular mode, as the Director of the SDE acknowledged: "This makes it difficult to treat programmes completed via distance mode on par with those in regular mode" (Bharathiar University, Director, SDE, in-person interview). Due to these challenges, faculty react to FLP in a mixed manner.

Another challenge to the implementation of MOOCs is language. The former coordinator of IQAC stated:

Temporal flexibility and spatial flexibility is lacking in the university at present. The university has to take special efforts to bring in flexibility. The multilingual nature of the country can be an impediment when it comes to migrating from one state to the other. There are also cultural differences between the states. These differences can affect students' willingness towards mobility. (Bharathiar University, Former IQAC Coordinator, in-person interview)

Across the country, there is no uniformity in higher education, which again severely restricts mobility and FLPs. FLPs through MOOCs could be one short-term goal. But compatibility with language and technology is an issue for learners in India. The multilingual nature of the country poses specific challenges for implementing certain types of FLPs. For example, SWAYAM MOOCs offered at the national level are in the English language. Many institutions, particularly those that cater to students from socio-economically disadvantaged backgrounds, teach in vernacular language. Some institutions also permit the students at undergraduate level to write in examinations in vernacular language. These advantages are not available when these students register for SWAYAM MOOCs, which are offered in the English language.

4.3.12. Priorities for the Future

The Vice Chancellor of the university stated that establishing a partnership with other education providers and organisations for delivering flexible pathways is the future priority of the university. He added: "The University will enter into MoU with national and international institutions for this purpose. The credibility of the partnering institution should be evaluated before entering into any contract" (Bharathiar University, Vice Chancellor, in-person interview).

One of the major challenges in implementing FLPs in the university is ascertaining the credibility of prior learning for the purposes of credit transfer. The Vice Chancellor confirmed that, as a first step, credit transfer and mobility between the university and specific other universities and institutes would be considered. Institutions that are recognised as meeting the standards set by the university will be invited to agree an MoU regarding credit transfers initially. Such quality checks and controls may be required to ensure the authenticity of the credentials of students willing to migrate.

The Vice Chancellor said that for attaining equity objectives, the university would organise coaching for skill development in learning, language development, and personality development for students from socially marginalised backgrounds to improve their employability. Experts from the industry will be invited to conduct programmes for these students. These, however, were general measures to achieve equity objectives and offered nothing specifically for FLPs. Though the vision of the university has a clear commitment to flexible learning, the fact that the reality is very different at the moment needs to be noted.

The nodal officer, NIRF, confirms that, as a short-term priority, the university is encouraging MOOCs, and certificates are evaluated against credit transfer. In the long term, based on the success of incorporating MOOCs in the curriculum, flexibility may be enhanced so that students can take courses or do a semester in other reputed institutions within India or overseas, or students could do projects in the industry.

The Head of the Department of Extension and Career Guidance said that establishing a model career centre in the university was one of the priorities for the coming period. In collaboration with the National Career Service (NCS), a model career centre is planned for the university campus, with a support staff including male and female career counsellors and online support for career guidance. A proposal for funding has been submitted by the university to the NCS for setting up the model career centre. Once established with the funds from NCS, the university will maintain it. Skills assessment, industry-academia interaction, guidance, and counselling, offering bridge courses, placement arrangements, etc., will be provided by the career centre.

A proposal for the establishment of a career excellence lab in the university is also being developed. This lab will provide services related to career development, personality assessment, motivation, and awareness creation using the self-learning paradigm. The lab is envisaged to have a counsellor with whom the students can interact. This facility may be utilised not only by students of the university but also by students from schools located in the neighbourhood of the university.

For distance education, the immediate goal is to equate the distance education programme with regular programmes. The same curriculum has to be adhered to by both regular programmes and distance education programmes. The SDE of the university is also aiming to establish online courses and online evaluation systems.

While HEIs such as IIT-Delhi and Bharathiar University have many modes of flexible learning pathways we often find a disconnect between national policies, as outlined in Chapter 3, and local implementation by these institutions. While institutions' desire to be innovative in terms of implementation they are often constrained by the structural rigidities inherent in the policies. Moreover, they have limited influence on national policies. These issues, as well as similarities and differences between the two institutions, are explored in the next and final chapter of the report.

COMPARATIVE ANALYSIS OF POLICIES AND PRACTICES FOR FLPS

This chapter offers a comparative analysis of policies and practices in flexible learning pathways, as described in the earlier chapters. In doing so, it delves into the comparison of the two case-study institutions in terms of national policies and local implementation. It also analyses various structural barriers faced during the implementation process for national policies. Finally, the chapter makes key recommendations at national and institutional levels in order to inform the future implementation of flexibility in the Indian higher education context.

5.1. COMPARATIVE ANALYSIS OF FLP IMPLEMENTATION IN THE TWO CASE-STUDY HEIS

Our research compared the implementation of flexibility in the curriculum and in the pace/mode of study across two HEIs, the IIT-Delhi and Bharathiar University. Table 6 provides a comparative overview of the features of these two institutions with a view to indicating factors that distinguish them and that have a bearing on their capacity to offer flexibility. These are level of autonomy, financial position, and their placement in the market, as well as enabling and inhibiting factors. The analysis clearly identifies autonomy, resources, and market position as being linked with more numerous enabling factors and a lower number of obstacles. It therefore appears that IIT-Delhi is in a stronger position to offer FLPs than Bharathiar University.

Table 6. Comparison of Two Case Study Institutions

Factor	Centrally funded technology institute	State-funded university
Autonomy	A high degree of institutional autonomy. The institute is recognised as the Institute of Eminence (IoE) and has complete autonomy in academic and financial matters.	Over-regulated. Though the university is ranked first in the state and thirteenth in the country, it has multiple layers of control including UGC, and TANSCHE.
Financial position	Comfortable. Sufficient in terms of infrastructure, labs, equipment, and funding.	Resource constraint. State universities have limited funding compared to central universities and IITs. Further, the new regulations obliging state universities to limit their distance education centres within the state have resulted in a huge cut in the revenue the university earns.
Placement	Strong brand image in labour market globally.	Placement is off-campus largely, with on-campus placements for few companies.

Factor	Centrally funded technology institute	State-funded university
Multiple exit options	Multiple exit options are available. A student who gets admitted to the BTech programme can leave with a BSc after three years of study if he/she wants to exit.	Multiple exit options are not available. Only one transition, i.e., mobility from regular to SDE mode, is currently possible.
Enabling factors	Institutional autonomy, independent boards, political will, leadership, financial resources, and collaborations with foreign universities, and joint PhD supervision.	Leadership, staff development and training.
Inhibiting factors	Inter-IIT coordination, attitude, and mind-set.	Institutional autonomy, Finance, political will, Appropriate management structures and distribution of authority, Support from national agencies, regulatory hurdles, culture (values and attitude), and perceptions of quality of ODL as inferior to conventional methods.

5.2. National Policies and Local Implementation

When looking at the interlinkage of national policy and local implementation, a first conclusion pertains to the fact that flexibility in higher education has emerged in Indian higher education policy over time. In the decades since independence (1947), there has been a preoccupation with access and equity, with quality having come to the fore as a more recent policy concern. Moreover, the need for 'learning to learn' and lifelong learning has been felt more strongly in the context of India turning into a knowledge economy.

In the new National Education Policy (NEP) adopted in 2020 by the Union Government, there is a clear alignment with the Sustainable Development Goals (SDGs) of the United Nations, and, in particular, with SDG 4 on education. SDG 4 aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for All" by 2030. Moreover, five of the seven targets of SDG 4 focus on quality education and learning outcomes.

The present policy focus in Indian education is on skills development. The 2015 Policy on Skill Development and Entrepreneurship emphasises competency-based education, and its standardisation and accreditation based on a National Skills Qualifications Framework and recognition of prior learning.

NEP 2020 aims to increase the gross enrolment ratio (GER) to 50 per cent by 2035 and uses technology-based education to increase accessibility and equity. With an emphasis on a broad-based curriculum and credit accumulation, NEP clearly lays emphasis on greater flexibility in terms of curriculum choice, study pace and mode, as well as opportunities for transfer across the

higher education sector. It outlines a vision for higher education where students can accumulate credits from all HEIs across the sector and put them towards a degree. FLPs have therefore entered the policy agenda.

5.2.1. Lack of Specific Policy for Flexible Learning Pathways

At present, however, Indian higher education remains quite rigid in terms of alternative admission modes, articulation between sub-sectors, and academic culture. The notion of FLPs therefore has remained absent from policy discussion in the country. Such a notion could combine different elements of flexibility (i.e., in the curriculum, the pace and mode of study, with notions of articulation and transfer opportunities) into a unifying policy vision. This vision should also be particularly targeted at how equity groups can benefit from FLPs. At present, they are highly underrepresented, in particular in the prestigious segments of the system. There is a need to increase diversity in technical institutions such as IIT-Delhi as the number of graduates is higher for the general unreserved category than for SCs, STs, and OBDs, despite the reservation policy.

5.2.2. Administrative Fragmentation Between National-Level and State-Level Policy Bodies

Our analysis of the governance structure in Indian higher education has shown a high level of complexity and fragmentation. There are bodies in charge of academic HEIs (Ministry of Education, UGC, NAAC), and bodies for higher technical education (AICTE).

There is also a lack of coordination of higher education policy between the state and the federal level. FLP policy clearly requires sector-wide coordination of policies as it touches upon articulation issues between levels, sub-sectors, and types of higher education. This is a real challenge given the fragmentation in the current governance structure of Indian higher education.

A supplementary challenge arises as higher education institutions, through the National Institutional Ranking Initiative, are pushed to compete with each other for ranking positions. Such policies do not facilitate trust and collaboration within the higher education sector and across the public and private divide.

5.2.3. Lack of Implementation of RPL in Universities

At present, there is hardly any opportunity for alternative access to higher education in India. There is a need to improve the routes into higher education for those who have already left school at a disadvantage, for example, by improving the articulation between vocational training and higher education, and more extensive recognition of alternative qualifications.

The Ministry of Skill Development and Entrepreneurship (MSDE), set up in 2014, has developed a national policy which aims to develop procedures for the recognition and certification of

skills acquired by informal means through its recognition of prior learning (RPL) programme. However, this has not been implemented in universities and other higher education institutions. At present, no policy is in place for recognising prior learning at Bharathiar University or IIT-Delhi. Only the formal education completed beforehand and the performance of applicants in the entrance exam and interview count towards credits for admission.

In the interviews at IIT-Delhi, it emerged that there was resistance from academic staff to the idea of alternative entry pathways to higher education, as students who had come to the HEI through these routes had been experienced as being of lower quality. Whether such attitudes are justified, or more based on perceptions and academic conservatism, would require further investigation.

5.2.4. Restrictive Policy for ODL in Contradiction with Widening Access

NEP 2020 plans to raise the gross enrolment ratio (GER) to 50 per cent by 2035 and aims to develop ODL for this purpose. Bharathiar University already offers 70 courses at undergraduate and postgraduate levels. The School of Distance Education (SDE) at present has about 308 spot admission cum learning/information centres, and the number is steadily increasing as more and more candidates request admission. The school directly admits candidates and conducts Personal Contact Programmes (PCPs) at specified centres in Coimbatore.

The June 2017 UGC regulation put in place a restrictive framework for the operation of distance education programmes. At Bharathiar University, it has constrained the distance education system as SDE had study centres all over India and abroad. About 38,000 students were admitted to Bharathiar University in 2016/17. This restriction has brought the number down to fewer than 20,000 students. No admission was made during 2018/19 in the other centres.

It can be argued that this restrictive policy for distance education by state universities is in contradiction with the national objective of widening access to higher education. It is also inequitable as neither national universities nor international cross-border providers are subjected to this restriction.

5.2.5. Credit Transfer Opportunities Exist, but are not Necessarily used by Students

Higher education is moving from a teacher-led model to a student-led model. Technology provides "personalised and remote learning and flexibility' for the student to learn at his or her own pace and time" (FICCI, 2018). There is, therefore, clearly a dynamic in place leading to increased flexibility in the curriculum.

At IIT-Delhi, the curriculum is quite broad-based, and there are therefore also more opportunities for branch changes and choosing minors. Students in IIT-Delhi come from all

over India through a rigorous selection process and are, perhaps, better equipped to deal with flexibility in courses and programmes, especially at the postgraduate level. However, relatively few students in reality opt for branch changes or transfers. So, even when this opportunity is offered, students do not necessarily use it. This requires a change in mindset that could be tackled by means of an academic and career guidance and counselling system. There is a tendency to maintain the status quo in terms of not opting to change branches of engineering and that could also be due to the lack of an enabling culture towards high levels of flexibility. Moreover, flexibility and choices are restricted to students who are having a high CGPA and these are perhaps top students who do not want to take a chance at changing branches.

5.2.6. Choice-Based Credit System Unevenly Implemented in Universities

With a view to enhancing choice and curriculum flexibility, Bharathiar University introduced a choice-based credit system (CBCS) as early as 2003 but its implementation poses a number of challenges. All the departments require their students to choose supportive courses offered by other departments, while offering core and elective courses in their department. But the implementation of choice-based education differs greatly among the university departments and remains highly dependent on academic staff availabilities and infrastructure. While there is a CBCS coordinator for the entire university and one for each department, there are no regular meetings of these coordinators. The CBCS coordinator of the university, who works under the Registrar's office, does not have an independent office with support staff. No feedback from students regarding the effectiveness of the CBCS system is collected formally or discussed in fora.

5.2.7. SWAYAM Offers Flexibility, but could also Widen Inequalities

The creation of the national SWAYAM platform is offering increased opportunities for flexible learning across the Indian higher education sector. Bharathiar University has recently introduced SWAYAM MOOCs to the curriculum for additional credit. It has made the completion of a two-credit SWAYAM MOOC a mandatory add-on course for the graduation of students in its departments. However, this has not been made mandatory for students studying in affiliated colleges.

Bharathiar University has been making a strong effort to locally support taking classes from SWAYAM. The university has expanded its infrastructure to accommodate MOOCs. The university has put in place an office exclusively devoted to implementing SWAYAM in university departments and in colleges affiliated to the university. This office consists of a team of faculty members and support staff devoted to implementing SWAYAM on the campus. Every department has a faculty nominated as SWAYAM mentor who monitors and guides students

pursuing MOOCs. They are assigned a specified number of hours in their workload to attend to this. As was mentioned in the interviews, all of this is possible due to guidelines provided by the UGC underlining the importance of SWAYAM MOOCs to the students. The first batch of students under this period of initiation will be graduate in summer 2020.

The university has, however, had some serious issues with students pursuing a master's programme in Tamil having difficulty in following MOOCs that are available only in English. Many of the students in the university are first-generation students from semi-urban and rural backgrounds. Completing a MOOC in the English medium is a big challenge for them. While SWAYAM clearly offers opportunities for greater flexibility in study mode and choice in the curriculum, it bears the risk of widening disparities when MOOCs are not offered in the local languages to students.

In the case of IIT-Delhi, the objective of enabling students to obtain certificates for courses under NPTEL is to make students employable in the industry or pursue a suitable higher education programme.

5.3. Recommendations for The National and Institutional level

The following sub-section presents recommendations to support implementation of flexible learning pathways at national and institutional levels. It is based on findings collected through the extensive review of literature and interviews with national and institutional representatives.

5.3.1. National-Level Recommendations

Need for understanding FLPs and prioritising in national policies

From our analysis of national policies in Chapter 3, we have concluded that there is no unified policy for FLPs in Indian higher education. Policy-making at national level therefore needs to better frame policies prioritising FLPs as a unifying concept. Existing policy measures with regard to a broad-based curriculum, MOOCs, credit transfer, and alternative access modes need to put under one umbrella to offer a unified vision for Indian higher education. Reservation policies for disadvantaged groups need to be aligned with FLP for equity groups.

Need for balancing regulation and autonomy

There is much politicisation at the highest levels of decision-making in Indian HEIs, which constrains decision-making on academic and administrative grounds. There needs to be more academic and financial autonomy in order to implement initiatives in support of FLP.

Finding an appropriate balance between regulation and autonomy is, however, not an easy task. Our study could show that, on the one hand, regulations were often appreciated by university management (for instance in the case of SWAYAM), as they provided guidance and legitimacy

for local policy implementation. On the other hand, without administrative autonomy, it was difficult to find local solutions to fit an institution-specific context. It is therefore important to establish appropriate balances between needed regulation and institutional autonomy for the implementation of FLP-related practices. This can only be done in a targeted manner and on a case-by-case basis.

Need for finance and better educational technology and infrastructure

Funding and available human resources were clearly identified as supporting FLP initiatives at institutional level. There is a need for the government to invest more funding to support a fully functional public higher education system that largely functions at state level. Such a well-integrated higher education system would provide a more fertile ground to implement FLPs throughout the sub-sector.

We are likely to witness new modes of blended learning, and online education will be an integral part of the brick-and-mortar university system. Thus, the National Educational Technology Forum, as envisaged in NEP 2020, will be critical to provide a platform for the free exchange of ideas on the use of technology to improve learning, assessment, planning, and administration.

Development of distance education

Students are at the heart of NEP 2020. The policy aims to make the teaching-learning process student-centric. While these are laudable goals, there is an urgent need to bridge the digital divide to bring all students on a common platform. Right now, students in remote rural areas are finding it too difficult to attend classes and keep up with the online digital transformation. While the policy in draft stages has been in contention for a while, its launching could not have been timelier. The COVID-19 pandemic has only added to the woes of students' who do not have ready access to personal computers at home, as online education and technological change reaches a new level altogether.

The advent of digital libraries, digital content, digital pedagogy and classrooms, and online teaching in NEP 2020 have the potential to transform the way India learns. However, the concern is that students from all socio-economic backgrounds and regions should have equal access. Thus, implementation of the policy will be critical to ensure equal access. Technology can be a leveller, but it can also create bigger divides. It depends on the preparedness of the students concerned to adopt that technological transformation. Schemes such as the Free Laptop Distribution Scheme in Uttar Pradesh could be indicative of the kind of policies needed at state level. Even State Higher Education Councils could rise to the occasion and come up with plans for successful implementation.

Importance of the QA and NQF instruments for FLPs

The regulatory structure at national level needs to permit credit transfer across institutions, but at present there is no separate policy for credit accumulation and transfer at the national level.

National qualifications frameworks (NQFs) are instruments intended to support articulation and student transfers across institutions and programmes, as they provide for standardisation of learning outcomes by level and specialty descriptors. When focusing on study programmes, quality assurance (QA) can be expected to link learning outcomes, as described in the NQF, to the QA process, to make sure that HEIs comply with them. When NQF descriptors are aligned to standards for programme QA and linked to a national credit transfer system, there is a strong potential for facilitating student mobility across higher education sub-sectors, intuitions, and programmes.

In India, there is currently only the National Skills Qualifications Framework (NSQF) under development and no NQF has been designed for higher education purposes. QA is also focused on intuitions, with the exception of some programmes. A national credit bank scheme is envisaged and will greatly enhance FLPs. It would, therefore, be important to rapidly develop an NQF for higher education as a part of the NSQF, generalise and link it to programme accreditation; and to set up the national credit transfer scheme in a coordinated manner with the two other reform initiatives.

Need for more monitoring and evaluation of FLP policies

As FLPs are not, as yet, a focus of policy development, there are currently no systematic data collection on them. We could see that data exist on the enrolment of students in ODL, but policy initiatives such as CBCS, SWAYAM, and NPTEL have not been monitored, nor have there been any systematic evaluation of them. The data available on FLPs in higher education are not, therefore, sufficient to support informed decision making. It would be important to conduct regular data collection on FLP initiatives, including with regard to equity groups, to evaluate the local implementation of innovative schemes, such as NPTEL and SWAYAM.

Need for a national policy on academic and career advice and guidance

While there is a clear trend towards offering more flexibility in the curriculum to students, at present HEIs seem to be poorly equipped to inform students about existing opportunities and guide them towards coherent choices. Our study could show that students do not always know about existing electives or opportunities for branch transfers. Information and guidance are currently informally provided by faculty members at departmental level, but there are presently no university structures, such as information and guidance systems.

5.3.2. Institution Level Recommendations

Improved articulation between IITs and higher technical institutes

IITs are trying to strengthen their research capacity and move away from their profile of an undergraduate teaching institution to become more research-intensive institutions. Other engineering education institutions of good quality, such as the National Institute of Technology (NIT) and the Institute for Scientific and Engineering Research (ISER) could act as feeders of

quality graduate engineers into PhD programmes of IITs to support significantly expanded and high-quality doctoral programmes. Thus, FLPs would go a long way in giving students of IIT more flexibility and choice at postgraduate level, as well as the undergraduate level, to undertake in research.

Training of teachers for the use of educational technology

Flexibility in teaching mode through online or blended learning approaches requires new skills from teachers to reap the greatest benefit from their potential. There is, therefore, great need to train teachers in the use of educational technology, such as electronic platforms, but also video-conferencing systems.

Thus, there must be courses and activities for the use of educational technology for in-service teachers, as well as mentoring programmes for beginning teachers. All course offerings must be available in a range of formats, including part-time, evening, and blended, in addition to full-time programmes.

Infrastructure and enabling culture for SWAYAM

Infrastructure facilities and an enabling culture, as well as providing training to teachers to use technology, can support implementing SWAYAM MOOCs or incorporating them in the curriculum. Offering MOOCs in regional languages will benefit all students who pursue a master's programme in different languages and avoid MOOCs leading to greater inequality. The number of courses available on the SWAYAM platform needs to be enhanced and courses should be offered in local languages. Moreover, universities do not have adequate infrastructure facilities to conduct online examinations for MOOCs. It will therefore be important to purchase adequate software to support online assessments.

Institutional coordination of CBCS

Our research has shown that the practice of CBCS is unevenly implemented at institutional level. At Bharathiar University, not all departments offer multiple course options for elective courses. It is important to have common guidelines on how elective courses should be offered that direct all the departments and help maintain uniformity. Such guidelines for the implementation of CBCS can help universities in offering an internally coordinated approach.

Students, in general, are sometimes more interested in getting the required credits with minimal strain or effort and hence choose courses based on their perception of how easy the course is rather than how it will support their knowledge. Thus, it is important to address students' attitudes and create an enabling culture that can promote the implementation of CBCS in practice. One avenue would be to strengthen academic counselling and career advice (see below).

Systematising academic counselling and career advice

While there is a clear trend towards offering more flexibility in the curriculum to students, at present HEIs are poorly equipped to inform students about existing opportunities for curriculum choice and transfer opportunities, to guide them towards coherent choices. Our study could show that students often do not know about existing electives or opportunities for branch transfers. Information and guidance are currently provided only informally by faculty members at departmental level, but there are presently no university structures, such as academic counselling and career advice systems. The students of the university would benefit immensely if there were counselling centres devoted to academic and vocational counselling and guidance, with full-time counsellors and administrative staff.

Better academic support for disadvantaged students

While there is provision for reserving places for disadvantaged students and relaxation in terms of marks for entry, more support should be offered to them throughout the undergraduate and postgraduate programmes to ensure they do not drop out. Study centres for distance education should be set up in rural areas for better access, but they should also develop systems for the tutoring of students to ensure that they do not drop out.

Moreover, disadvantaged students are often unaware of many higher education opportunities and need counselling to understand the benefits that exist. One of the reasons is that disadvantaged students are, frequently, first-generation learners, i.e., no one in their families attended university before them. Thus, educationally disadvantaged areas need to be identified and targeted along with the encouragement of youth in rural areas to apply to higher education institutions and sit the competitive examinations.

India still has a vast population of students who do not have an active internet connection; sometimes there is also no electricity connection. Online learning in these cases does not help bridge the digital divide; it exacerbates the divide. Policies on distance learning are often made on the assumption that the conditions and experiences of every household or student are homogeneous in nature. That may be far from the reality. Therefore, the government should acknowledge the different dynamics of our society to bring forth solutions. There are also concerns about whether online classes produce the desired learning outcomes, as well as the excessive commercialisation of the newly introduced methods of learning.

5.4. Priorities for the Future

Flexible learning is a multi-layered and multi-faceted concept, which requires a continuum of approaches in terms of time, place, pace, content, and mode of learning, applied in varying degrees. It has the potential to completely transform the Indian higher education landscape not just in terms of widening access but also improved graduation, employment, and employability.

In India there has been a phenomenon of jobless growth and now job-loss growth. The expansion of higher education fuelled mainly by the private institutions along with the jobless growth of the economy is leading to high levels of unemployment of the educated. Moreover, the graduate job seekers are mostly from general academic disciplines with Arts graduates constituting 40 per cent of the graduate job seekers. (Varghese & Khare, 2021)

HEIs need to examine budgetary, demographic, and faculty constraints, and their maturity across teaching and research outcomes (FICCI, 2018). At the moment, there are still biases and the perception that alternative pathways different from the traditional degrees are not of the same quality. Thus, regulatory systems need to be strengthened without stifling growth.

Many developments have taken place in recent times, from the internet revolution to the current COVID-19 crisis. India has adopted technology to improve the quality of education and has sought to use it to improve governance and planning and management of education.

NEP 2020 propagates many changes in restructuring institutions, programmes of study, and FLPs in higher education. NEP recommends responsive and minimalistic – or "light but tight" – regulations. It is expected to be a major step in advancing FLPs in Indian higher education. But the feasibility, both administrative and financial, however, remains to be seen in terms of implementation and institutional capacities (Varghese, 2018). It is, therefore, hoped that the present study will be a source of insights for national policy-makers and institutional leaders when choices have to be made about its implementation.

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ANNEXURE

Table A1. Gross Enrolment Ratio by Year

Year	Central universities*	State universities**	Deemed to be universities***	Institutions of National Importance	Private universities****	Total	Colleges	Enrolments (in millions)	GER (%)
1950/51	3	24	-	-	-	27	578	0.2	
1960/61	4	41	2	2	-	49	1,819	0.6	1.5
1970/71	5	79	9	9	-	102	3,277	2	4.2
1980/81	7	105	11	9	-	132	4,577	2.8	4.7
1990/91	10	137	29	9	-	185	6,627	4.4	5.9
2001/02	18	178	52	12	-	260	11,146	8.8	8.1
2005/06	20	205	95	18	7	345	17,625	11.6	11.6
2011/12	42	299	128	59	105	621	34,908	28.5	19.4
2012/13	43	308	127	61	122	665	35,829	29.6	21.1
2013/14	43	322	127	68	154	712	36,812	32.3	23
2014/15	44	329	122	75	182	760	38,498	34.2	24.3
2015/16	44	342	122	75	198	781	39,071	34.6	24.5
2016/17	45	358	122	100	234	864	40,026	35.7	25.2
2017/18	46	365	123	101	263	903	39,050	36.64	25.8
2018/19	47	385	124	127	305	993	39,931	37.4	26.3
2019/20	49	400	126	135	328	1043	42,343	38.5	27.1

*Central universities and central open universities **State public universities and state open universities ***Deemed universities (govt.), Deemed universities (govt. aided) and Deemed universities (private) ****State private universities and State private open university.

Table A2. College Enrolment by Management Type (2019-2020)

Types of HEIs	Private un-aided (12.2m)	Private aided (5.8m)	Government (9.1m)
Students enrolled	44.9%	21.4%	33.7%

Table A3. Enrolment at Undergraduate Level in Distance Mode

Year	Male	Female	Total
2010/11	1,147,355	774,001	1,921,356
2011/12	1,230,771	902,282	2,133,053
2012/13	1,271,496	940,575	2,212,071
2013/14	1,335,710	1,018,988	2,354,698
2014/15	1,325,626	1,026,796	2,352,422
2015/16	1,421,708	1,077,682	2,499,390
2016/17	1,550,244	1,106,381	2,656,625
2017/18	1,567,538	986,873	2,554,411
2018/19	1,616,601	1,083,611	2,700,212
2019/20	1,745,438	1,172,409	2,917,847

Table A4. Enrolment at Postgraduate Level in Distance Mode

Year	Male	Female	Total
2010/11	696,228	469,107	1,165,335
2011/12	532,900	482,626	1,015,526
2012/13	557,691	534,556	1,092,247
2013/14	638,918	638,703	1,277,621
2014/15	583,346	623,480	1,206,826
2015/16	510,526	597,836	1,108,362
2016/17	554,187	644,261	1,198,448
2017/18	612,906	565,601	1,178,507
2018/19	454,640	544,447	999,087
2019/20	504,711	616,735	1,121,446

Table A5. Top Ten Most Popular Programmes, Enrolment by Millions (2019-20)

Programme	No of students enrolled	Percentage of total enrolment (%)
B.A. Bachelor of Arts	9,655,586	25.8
B.Sc. Bachelor of Science	4,706,869	12.6
B.Com. Bachelor of Commerce	4,162,555	11.1
B.Tech. Bachelor of Technology	2,147,962	5.7
Diploma	1,977,041	5.3
B.A.(Hons) Bachelor of Arts (Honours)	1,770,520	4.7
M.A. Master of Arts	1,602,049	4.3
B.E. Bachelor of Engineering	1,496,083	4.0
B.Ed. Bachelor of Education	1,371,134	3.7
M.Sc. Master of Science	784,676	2.1

Table A6. Enrolled Undergraduate Students

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Education	26,545	542,258	663,261	765,268	900,477	744,250	1,078,226	1,297,447	1,501,891	1,682,613
Humanities and arts	90,303	245,485	284,484	338,246	384,232	10,567,216	10,471,630	10,228,849	10,130,367	10,471,475
Social sciences, journalism, and information	6,320,688	6,669,871	8,261,746	9,508,618	1,075,3733	826,066	916,518	918,053	1,009,422	1,082,251
Business, administration, and law	2,298,704	3,036,939	3,502,487	3,961,355	4,535,297	4,706,006	4,897,329	4,985,889	5,090,586	5,325,492
Information and communication technologies	439,180	818,533	639,420	670,252	711,194	706,055	717,011	763,252	797,217	807,032
Engineering, manufacturing, and construction	2,407,536	2,781,796	3,484,544	4,075,909	4,241,350	4,264,523	4,177,921	4,038,298	3,872,599	3,749,147
Agriculture, forestry, fisheries, and veterinary	93,623	89,745	128,405	149,172	177,901	199,056	249,445	255,074	273,719	296,931
Health and welfare	376,873	489,301	597,017	712,548	811,273	899,764	984,112	1,099,714	1,204,059	1,369,627
Services	0	901	1,050	1,130	931	1,100	1,230	1,577	1,314	1,512

Table A7. Enrolled Postgraduate Students

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Education	4,513	116,034	131,282	168,472	187,161	182,997	210,272	210,049	218,207	221,033
Humanities and arts	401,874	489,081	545,780	666,180	686,389	728,375	739,582	715,724	673,119	696,170
Social sciences, journalism, and information	631,983	548,906	596,515	682,791	734,380	768,798	795,191	824,848	796,360	877,931
Business, administration, and law	795,744	753,524	815,605	954,941	988,092	1,041,751	1,068,774	1,107,940	1,110,988	1,160,626
Natural sciences	304,512	334,204	399,069	453,593	476,624	508,233	570,460	606,889	589,144	656,679
Information and communication technologies	180,279	267,990	320,941	315,816	294,551	251,958	229,933	220,930	208,224	209,450
Engineering, manufacturing, and construction	210,365	146,153	195,678	260,777	291,233	263,124	218,433	194,715	184,249	179,658
Agriculture, forestry, fisheries, and veterinary	13,841	16,535	17,834	24,011	25,362	25,886	29,116	31,140	32,559	35,760
Health and welfare	54,335	115,403	91,079	107,923	116,498	130,088	133,329	144,694	159,403	204,169
Services	1,118	1,847	2,209	2,688	2,876	2,167	2,500	2,356	3,033	2,881

Table A8. Enrolment in Higher Education by Social Groups

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Scheduled caste	2,114,191	3,045,125	3,572,074	3,847,942	4,238,207	4,606,666	4,810,314	5,091,515	5,280,361	5,567,078	5,657,672
Scheduled tribe	812,257	1,208,435	1,310,261	1,320,361	1,486,512	1,640,809	1,704,461	1,852,375	1,913,864	2,067,748	2,156,109
Other backward class	0	7,581,696	8,772,138	9,416,299	10,464,043	11,256,849	11,673,535	12,299,309	12,833,005	13,591,994	14,249,114
Persons with disability	0	53,975	65,552	53,119	51,954	64,298	74,435	70,967	74,317	85,877	92,831
Muslim	0	696,624	1,146,397	1,251,656	1,396,759	1,533,658	1,613,710	1,739,218	1,837,609	1,959,004	2,100,860
Other minority communities	0	340,367	545,375	564,227	631,730	649,526	682,961	791,529	807,627	868,100	887,750

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