Higher Education in Telangana

Facts and Figures

Executive Summary

CENTRE FOR ECONOMIC AND SOCIAL STUDIES

(Planning Dept, Govt. of Telangana & ICSSR-Ministry of Education, Govt. of India)

October, 2025

Higher Education in Telangana

Facts and Figures

Executive Summary

Venkatanarayana Motkuri and E. Revathi

CENTRE FOR ECONOMIC AND SOCIAL STUDIES
(Planning Dept, Govt. of Telangana & ICSSR-Ministry of Education, Govt. of India)

October, 2025

Research Cell on Education

*Research Cell for Studies in Education Policy, Planning and Governanc*e (RSEPPG) in Telangana at the **Centre for Economic and Social Studies** (CESS) was set up in July 2020 with the support of **Telangana Council of Higher Education** (TGCHE). The predominant objective of the *Research Cell on Education* (RSEPPG) is to comprehensively study the gamut of issues and challenges in the education system/sector at all levels in a holistic perspective while *focusing on higher education* in the state and in the country. Research studies are thematically organized around five dimensions or foundational pillars of education system: *Access, Quality, Equity, Affordability and Accountability*. The impact of *state policy*, *funding*, *regulatory framework, educational standards* and *governance* on achieving these five dimensions of education system would be the focus of research studies. The Research Cell while providing policy inputs and support derived from evidence-based policy-oriented research output, enables the *TGCHE* and thereby the *Telangana State Government* in their endeavor for educational development in the state.

Activities:

- To organize seminars, workshops, discussions and conferences on topical issues related to Education;
- To conduct research studies focusing on education policy, funding, and governance;
- To conduct assessment and evaluation studies on initiatives and programmes with respect to education development; and
- To bring out research reports, policy briefs, and working papers along with research publications

Contact Details:

Research Cell for Studies on Educational Policy, Planning and Governance - RSEPPG
Centre for Economic and Social Studies - CESS
(Planning Department, Govt. of Telangana and ICSSR-Ministry of Education, Govt. of India)
Nizamiah Observatory Campus, Begumpet, Hyderabad – 500016, Telangana, India.
Ph.: 040-23402789, 23416780, 23416610-13, Fax: 040-23406808
Web: www.cess.ac.in, E-mail: post@cess.ac.in

Designed and Printed at:
PRINTOGRAPHY, M.G. Road, Ranigunj,
Hyderabad - 500003. Mobile : 98489 24254
E-mail : info@printography.co

Higher Education in Telangana : Facts and Figures

Executive Summary

1 Introduction

Higher education plays an important role in shaping the socio-economic and cultural development of societies. It is a critical determinant of human well-being, extending beyond its direct economic benefits. By enabling the acquisition of advanced knowledge and skills, higher education drives human capital formation, innovation, and social mobility. At the individual level, it enhances critical thinking, and earning potential, equipping younger generations to participate meaningfully in a knowledge-driven economy, the fourth Industrial revolution and the AI-driven economy. At the societal level, it fosters scientific progress, technological advancement, and democratic participation of informed, educated, and responsible citizens.

The initiation and expansion of higher education in developed countries largely resulted from sustained government investment until a much later period where private sector took on. In the post-Civil War era in the United States, the establishment of publicly funded higher education system evolved through Land Grant Acts. The welfare-state era in Europe in the post-World War-II till 1970s expanded free or low cost education systems supported by state. Similarly, Japan and South Korea expanded higher education through national university systems, while China and other East and Southeast Asian countries developed their systems with strong state support. Unlike Europe's welfare model, newly industrialised countries often viewed higher education as a central component of 'nation-building' and 'economic modernisation' strategies.

Recognising the crucial role of education in economic development, classical economists such as Adam Smith and J. S. Mill advocated state policies for the expansion of education. Education was expected to generate both private and social returns, with positive externalities in the form of higher labour productivity, increased income earnings, and the diffusion of technologies and skills. Human capital, encompassing educational attainment and skills, has been identified as a vital source of economic growth alongside the conventional factors of labour and capital. Thus, the significance of education can be understood through the perspectives of human capital formation, human development, and human rights. Universalising elementary education was one of the United Nations' eight Millennium Development Goals (MDGs) and was carried forward into the post-2015 global development agenda as Sustainable Development Goal 4 (Quality Education), with the commitment to "leave no one behind."

II The Education Policy in India

On the eve of Independence universal primary education was still a distant dream. The 100-year-old Gokhale bill advocating for free and compulsory education in 1911 has not resulted in achieving it. Post-Independence India accorded high priority to higher education as part of its nation-building project and planned development strategy, recognizing that an educated and technically trained workforce was essential for driving economic progress and social transformation. The *Radhakrishnan Commission*, also called the *University Education Commission* of the 1948 and the *Secondary Education Commission* (1952-53) were set up to recommend education policy for independent India.

While the *Radhakrishnan Commission* argued for a strengthened **higher education** as a driver of nation-building; the **Secondary Education Commission** reoriented **school education** to feed into both higher education and skilled manpower development. Together, they **set the stage for India's educational planning**, balancing the ideals of equity, citizenship, and economic growth. Building on the earlier commissions, the ***Kothari Commission* (1964–66)** provided the most comprehensive review of Indian education thereafter. It emphasised a **common school system**, the **10+2+3 structure**, integration of science and technical education, and making education an instrument of **national development and social justice**. Unlike the earlier commissions that focused separately on higher or secondary education, the Kothari Commission offered a **holistic vision** covering all levels of education. Its recommendations became the basis of the ***National Policy on Education* (1968)**, which for the first time gave India a coherent framework to universalise access, ensure equity, improve quality, and align education with both **democratic citizenship** and **economic growth**.

The ***National Education Policy* of 1986 (revised in 1992)** marked a paradigm shift by prioritising **equity, social justice, universal access, and quality improvement.** This shift was driven by persistent inequalities in access, mounting demographic pressures, the advent of technological change, and the global discourse on "**Education for All**." Subsequently, the recognition of **education as a Fundamental Right** gained momentum - first through judicial pronouncements in the 1990s, and later through the **86th Constitutional Amendment (2002),** which inserted **Article 21A.** This constitutional mandate was operationalised by the **Right *to Education* (RTE) Act, 2009**, making free and compulsory education for children aged 6–14 years completing elementary education, a legally enforceable right. Subsequent to the SSA (**Sarva Shiksha Abhiyan**) the government brought the RMSA (***Rashtriya Madhyamik Shiksha Abhiyan***) in 2008 to universalise secondary education. The ***Samagra Shiksha Abhiyan* (2018)** integrates earlier schemes – SSA**, RMSA, and Teacher Education -** to provide a **holistic approach to school education from pre-school to senior secondary (ages 3-17 years)** levels**.** It focuses on **universal access, equity, quality, learning outcomes, teacher development, and infrastructure**, while also aligning with the vision of the **RTE Act and National Education Policy 2020.**

Higher education in India has expanded from a handful of universities on the eve of Independence to third largest next to US and China, with over **1,000 universities and 50,000 plus colleges and standalone institutions** today, shaped by successive policies. Initially state-driven through public universities (state and central), institutions

of national importance (IITs, IIMs, AIIMS) and colleges, growth in higher education accelerated with private sector participation. Professional and technical education grew rapidly in the 1990s and 2000s with **liberalisation policy and private sector participation**, leading to a surge in science technology engineering and management, the STEM, institutions. Policies increasingly emphasised **linking technical education with employability, skill development, and innovation ecosystems**.

The gross enrolment ratio (GER) of higher education in India in 2021-22 is 28.4%, and the NEP 2020 has targeted to achieve 50% GER by 2035. Although such a target is achievable, the concern about 'quality of education' and 'employability of graduates' remains. All these issues are connected to resource (human, financial and physical infrastructure) constraints, curriculum, pedagogy, governance, autonomy and accountability.

III The Telangana Context

Telangana is the 29th and youngest state of India, carved out in 2014 after a prolonged struggle against the injustice and deprivation experienced in the undivided state of Andhra Pradesh since 1956, when the Andhra state was merged with Telangana region of Hyderabad state. The last phase of the movement, which began in the late 1990s and gained momentum in the early years of the millennium, culminated in the creation of the new state. The deprivation faced by the Telangana region was primarily articulated on three fronts—**water, finances, and employment (neellu, nidhulu, niyamakalu)**—that became the defining tagline of the separate statehood movement.

Among these, employment was closely linked to education and skill development opportunities, which were unevenly distributed in the erstwhile united Andhra Pradesh. Access to higher education varied significantly across regions, locations, gender, and socio-economic categories, leaving large sections of Telangana's population disadvantaged. The region also carried the legacy of low social development in terms of literacy, particularly among the older population. This was shaped by historical constraints—on the supply side, the non-availability of educational opportunities in the mother tongue or vernacular language in rural areas, and on the demand side, the lack of household resources to access education.

The formation of Telangana as a separate state fulfilled the long-standing aspirations of its people, while simultaneously raising expectations for improvements in human development. Education and employment opportunities have since come to be recognised as central to enhancing human capital**,** enabling better livelihoods, and improving health and overall well-being. In this context, it becomes crucial to understand the historical trajectory of higher education in the region in the erstwhile AP state, assess the current situation in the state, and identify the concerns and challenges that need to be addressed in order to chart a roadmap for the future development of higher education in Telangana. Prior to that a brief backdrop to literacy and school education development would be appropriate.

3.1 Literacy and School Education Development

Telangana suffered from a high burden of illiteracy. It is a well-known fact that a higher illiteracy has implication for awareness of citizens' rights and duties and also has economic costs due to lower labour efficiency and productivity. Illiteracy is not synonymous to lack of knowledge. Traditional knowledge and wisdom may coincide with illiteracy, which can be put to better use by tapping

it through literacy. The literacy rate in Hyderabad state at the beginning of the 20th century was as low as around 3%, and it was less than 12% even by 1951. With the exception of Hyderabad, most districts in the Telangana region had literacy rates of less than 8%, largely owing to the limited availability of education in the vernacular medium. The historical disadvantage of low literacy levels in Telangana continued even post-reorganisation in the united Andhra Pradesh. The rise in literacy rates happened only from the decade of 1980s and 1990s, thereby reducing the gap between national and state average literacy rates especially since the 21st century. The literacy rate for the 7 years and above age population is 77% in 2023-24 while the national average stands at 81%. Still one-quarter of the population remain illiterate in Telangana.

Compared to the national average, Telangana's achievement in attendance rate among school and college-age children (below 25 years of age) has been higher during the last two or three decades. More than 98% of this age group in Telangana have ever attended schools. As a result, the literacy level among those below 35 years of age is more than 95% in Telangana. ***The 1980s birth cohorts of Telangana witnessed a turnaround in literacy rate, especially in comparison with the national average.***

The state's performance in the completion rates at secondary and higher levels of education among the adult (15+ age) population, is better than that of many other states in India. A little above half (51%) of its adult population had completed secondary or above education levels by 2023-24. Nearly 18% of the adult population in the state are graduates. Telangana stands among the front-runner states in these indicators. Across age-cohorts of the adult population, the average years of schooling among the young adults (18 – 23 years) in Telangana is higher than that of the national average, while it is the opposite in the case of older-adults and the old-age population. The performance of the birth-cohort of the 1980s has brought in a paradigm shift in the education performance indicators of attendance rates, completion rates, which has outperformed their counterpart at the national level.

3.2 Higher Education Trajectory in Telangana

The state of Telangana, being the youngest and one of the smaller states in India, contributes 2.7% to the country's total population but more than 4.5% of the country's GDP. The per capita income of the state is almost twice that of the national average. The performance of the state in some dimensions of development, such as per capita income and economic growth, is impressive. The progress in Telangana has been remarkable in the dimensions of educational development during the last two decades, but certain concerns remain. Such concerns are pertinent to the state's educational development and tend to be determining factors in defining the future workforce of the state.

The foundation for modern education in the erstwhile Hyderabad state was laid during the mid-19th century, along the lines of reforms introduced by *Salar Jung I*, the then prime minister of the state and also the British India education policy. The establishment of *Dar-ul-Ulum* School (or Oriental College) in 1854 and an order issued in 1859 to establish two schools in each Taluk and District headquarters was the beginning of modern education. Further, along with establishing an engineering school, a couple of schools were amalgamated and upgraded into a Hyderabad College in 1876 and then the Nizam College was established in 1887. A couple of other

colleges (City College and Nampally College) were set up during the early1920s. The iconic Osmania University was established in 1918 in Hyderabad. From a comparative perspective, the progress of education in the Hyderabad state was slower than in the rest of India and/ or other princely states. There were 11 colleges and one university at the time of the integration of Hyderabad state into the Indian Union in 1948.

Post-integration of Hyderabad state into the Indian Union, the number of colleges doubled in Telangana during the interlude period. There were 23 colleges in the Telangana region at the time of its merger with the Andhra state in 1956. Subsequent to the merger, the Telangana region of the then Andhra Pradesh state continued to be served by only Osmania University until an Agricultural University was established in 1964. During 1970s three more universities have come up: Jawaharlal Nehru Technological University (JNTU) in 1972, Central University of Hyderabad in 1974 and Kakatiya University in 1976. The University of Hyderabad, a public central university was established as a part of six-point formula formulated in 1973 in response to the 1969 agitation for a separate Telangana state, with the explicit aim of addressing the educational deprivation faced by the region in the undivided Andhra Pradesh.

The number of colleges (general and professional) increased from 49 in 1962 to 97 in 1970–71 and further to 190 by 1986–87. Although no new universities were established during the 1980s and 1990s—except the Telugu University in 1985—the number of colleges increased steadily, reaching around 300 by the mid-1990s, after which the pace of expansion accelerated sharply. Between 1955–56 and 1980–81, the incremental growth averaged about five colleges per year. This rose modestly to six per year during the early 1980s, but then surged to about 22 colleges per year between the mid-1980s and mid-1990s. The 1986 National Policy on Education provided much of the impetus for this growth. Even more remarkable, however, has been the expansion since the mid-1990s, with the average annual increase rising to about 60 colleges per year over the last three decades. This rapid growth has been largely driven by the private sector, enabled by the liberalisation and privatisation policies ushered in through the economic reforms of 1991. The turn of the century has witnessed further high growth, an average addition of around 100 colleges per year during the first decade of 21st century, mostly, in private sector, largely driven by the state policy of reimbursement of tuition fee (RTF).

As per the All India Survey of Higher Education (AISHE) Directory 2025, the number of universities and university-level institutions in Telangana has risen to **41** (including both public and private). The number of colleges has proliferated to about 2,200**,** in addition to nearly 500 standalone institutions (Table 1.1)**.** In total, the state has around 2,700 higher education institutions (HEIs)**.** Of these, approximately 1,000 are conventional colleges offering undergraduate degree programmes, while the remainder are professional colleges.

With regard to universities, Telangana had 18 state public universities till 2022. The Telangana Mahila Vishwavidyalayamu upgraded as a university in 2022 has been renamed by the Government of Telangana as *Veeranari Chakali Ilamma Women's University (VCIWU) in 2024.* The state also established two more universities, the *Young India Skill University (YISU) in 2024*, and *Dr. Manmohan Singh Earth Sciences University*

Table-1.1: Higher Education Institutions (HEIs) in Telangana as Registered in AISHE Directory, 2025

S. No.	Institution	Number
I	**Universities or University Level Institutions**	**41**
1	State Public Universities	17
2	Central Universities & Institutes of National Importance	8
3	Private Universities & Deemed-to-be Universities	16
II	**Colleges**	**2198**
1	Constituent Colleges	62
2	Autonomous Colleges	32
3	Affiliated Colleges	2089
4	PG Centres or off-Campus Centres	12
5	Recognised Centres	3
III	**Standalone Institutions**	**480**
1	Polytechnics	138
2	Nursing	129
3	Teaching	177
4	Others	36

Note: Autonomous according to the UGC norms. However, AICTE based autonomous colleges especially among professional colleges, are not accounted here.
Source: AISHE Directory.

(DMSESU) in August 2025. This brings the total number of state public universities to **20**, alongside eight central universities and central government university-level institutions located in the state.

A significant shift in Telangana's higher education landscape since state formation has been the decline in the number of private colleges, particularly general degree colleges and professional institutions offering programmes in engineering, management, education (B.Ed.), and pharmacy. In contrast, the number of public institutions has steadily increased. Government Degree Colleges (GDCs) now number around 150, while Residential Degree Colleges (RDCs), established under various welfare departments (SC, ST, BC, and Minority), have expanded to over 80. Another remarkable development has been the growth of medical education in the state. Telangana currently has more than 80 medical colleges, these include AYUSH, Allopathy and also Dental colleges. There are over 130 nursing colleges. Of the medical colleges, 29 among the allopathic colleges are privately managed, while the rest fall under the public sector.

The trend indicates a decline in the number of private institutions alongside an increase in colleges under public management. The decline in private institutions is essentially a net phenomenon: although some new private colleges were established, the number that exited exceeded the number of new entrants. This trend was particularly evident during the early years of state formation. The bifurcation of the state led to shifts in enrolment patterns, causing some colleges to close. Further, a

slower growth of the college-age population due to demographic transition, saturation in the outflow of eligible graduates from secondary education, and increasing competition among colleges—making many institutions unviable in terms of enrolment—further contributed to the exit of private colleges.

According to the latest AISHE (2021–22) report, around 1.6 million students were enrolled in higher education, including all post-secondary programmes, in Telangana. The state ranked third in the country in terms of higher education institutions per lakh population, with 52 institutions, next only to Karnataka (66) and Puducherry (53). Telangana's Gross Enrolment Ratio (GER) stood at 40% in 2021–22, the sixth highest among major states, after Delhi (49%), Tamil Nadu (47%), Himachal Pradesh (43%), Uttarakhand (42%) and Kerala (41%). Further, the enrolment pattern in the state shows a relatively better balance between general and technical/professional courses when compared to the national level, indicating a more diversified higher education structure.

IV Objective and Content of the Report

Against this backdrop, the main objective of this report is to examine, analyse, and present the state of higher education in Telangana across multiple dimensions. The report begins with the national policy context and an overview of the state's educational development. It then undertakes a detailed assessment of higher education in Telangana along five key pillars of the education system—**access, equity, quality, affordability, and accountability**. In addition, it provides a district-wise mapping of higher education institutions (HEIs) in the state. Recognising that human resources are central to educational development, the report analyses the availability of teachers in higher education both in India and Telangana. Within the contemporary skills discourse, it also reviews the policy framework of vocational education, the current situation in the state, and the range of skill development initiatives undertaken.

A distinctive contribution of the report is its conceptual framework for assessing the **quality of education**, supported by a comprehensive analysis of NAAC (National Assessment and Accreditation Council) accreditations and NIRF (National Institutional Ranking Framework) rankings of HEIs in Telangana. The report also highlights the often-overlooked domain of developmental or remedial teaching, which is globally recognised as a vital pedagogical tool to support students lagging in mainstream learning. While widely valued in advanced systems, such practices are grossly neglected in India, especially in higher education. Drawing on a preliminary study of remedial practices in the state, the report underscores this critical gap.

Further, the report discusses theoretical perspectives on governance in higher education and draws inferences relevant both to the Indian and Telangana contexts. It also provides a comprehensive analysis of public expenditure on education, with particular emphasis on higher education. A unique feature is its broad coverage of expenditure, not only by the Department of Education but also by other state departments that contribute to education-related spending.

Finally, the report analyses the prospects of increasing enrolments and improving the Gross Enrolment Ratio (GER) in the light of the NEP 2020 target of 50% GER by 2035. It evaluates whether Telangana is on track to meet this target

and identifies the factors influencing progress. In this context, the report also examines the ***strengths, weaknesses, opportunities and threats*** (SWOT) of higher education in Telangana, alongside a state perspective framework plan. Key prescriptions of NEP 2020, such as the cluster approach to restructuring HEIs—particularly government institutions—through consolidation, are also reviewed.

Overall, the report is unique in combining facts and figures with analytical perspectives to present a comprehensive picture of higher education in Telangana, anchored on the five core dimensions of access, equity, quality, affordability, and accountability.

4.1 Data Sources

The report draws on the following key data sources: **Census of India** — population-related information; **All India Survey on Higher Education (AISHE), 2021–22** — comprehensive higher education statistics for institutions and enrolments; **NAAC accreditation data (up to 2023)** — accreditation status and related information for HEIs; **NIRF rankings (2022–23)** — institutional rankings and related indicators; **Telangana State Council for Higher Education (TSCHE) — admission data (2021–22)** — state-level admissions information; **Annual Budget on Education (ABE) report (2021–22)** — public expenditure on education; **Periodic Labour Force Survey (PLFS), NSO of Govt. of India** — labour-market and employability-related data; **Primary survey (fieldwork conducted for this study)** — primary evidence used for selected analyses.

4.2 Organisation of the Report

The report is organised into fifteen chapters, including the introduction at the beginning and the conclusions, policy implications, and way forward at the end. References and annexures are appended thereafter.

The second chapter outlines the national policy context and traces the trajectory of educational development in Telangana. The third chapter provides an analysis of the facts and figures that depict the current situation of higher education in the state. The fourth chapter provides a detailed district-wise mapping and profiles of higher education institutions (HEIs), while the fifth chapter turns to the availability of human resources for teaching in higher education.

The sixth chapter discusses the policy context of vocational education and reviews the skill development initiatives undertaken at both the national and state levels. The seventh chapter is focused on the theme of quality: it sets out a conceptual framework and examines the status of HEIs in Telangana with respect to NAAC accreditations and NIRF rankings. The eighth chapter addresses remedial teaching practices in higher education, while the ninth chapter examines broader governance issues in the sector.

Public expenditure, a critical aspect of educational development, forms the focus of the tenth chapter, which maps and analyses the state budget and education-related spending. In the eleventh chapter, the prospects for expanding enrolment and raising the Gross Enrolment Ratio (GER) are analysed in the context of NEP 2020 and beyond. The twelfth chapter presents the state-level perspective framework plan for the development of higher education in Telangana.

The thirteenth and fourteenth chapters engage specifically with the National Education Policy (NEP 2020). Chapter thirteen analyses the policy and highlights the issues and challenges in its implementation at the state level, while

chapter fourteen examines the cluster approach to restructuring HEIs in line with the NEP's recommendations, with particular attention to government institutions. The fifteenth chapter concludes the report with a synthesis of findings, policy implications, and the way forward.

In sum, the report provides a comprehensive and multidimensional analysis of higher education in Telangana, systematically covering the five dimensions of access, equity, quality, affordability, and accountability.

V Findings of the Report

The State's representation in the country's higher education system is disproportionately higher. It's share in the total population of the country is around 2.7%, while contribution to higher education in terms of number of institutions and enrolment is almost one and a half times to its share in the population. With an enrolment of more than 1.6 million students in HEIs, Telangana's contribution to total enrolment of the country is nearly 3.7%. The gross enrolment ratio (GER) in the state stands at 40.0% which is nearly 11.6 percentage points higher than the national average at 28.4%; which makes Telangana rank 8th among all Indian states and UTs.

The density of HEIs is higher in Telangana compared to All-India. The state stands third in the density next to Karnataka and Puducherry. Telangana can be characterised as one of the 'high HEIs density' states in the country. A decline in the number of colleges and standalone institutions during 2016-18 at the graduate and post-graduate levels in the conventional and professional streams in the private sector affected enrolments in higher education initially but not subsequently. There is a surge in the higher education enrolment in the recent past and it is linked to post-covid19 increasing flow of higher secondary graduates.

Size of the HEI is indicated by the average enrolment per college. The average enrolment per college in the state is 611 which falls far behind the national average and is one of the lowest among all states in the country. Around one-quarter of total enrolment in the state is from small sized institutions with less than 500 enrolments; around 45% is from institutions with less than 1000 enrolment; while institutions with more than 2000 account for 33% of total enrolment. The share of size-large institutions in total institutions is less than 5% whereas the share of small size institutions is nearly 66% or constituting two-thirds of total institutions. Large number of small sized institutions account for smaller share of enrolment while large sized but smaller in number of HEIs cater to a larger enrolment. This scenario has implications for quality and other dimensions. The inability to provide required infrastructure and student support programmes in smaller institutions impinges on quality of education and also in meeting the multi-disciplinarity norm of the 'New education policy' of the 2020.

The intake capacity of HEIs in the stream of engineering, management, pharmacy, and standalone institutions like teacher education has declined over period of time. Also, there is a shortfall in actual enrolment to the capacity created in the HEIs. Intake capacity in general courses of degree colleges has doubled, however enrolment has not increased in the same pace. Many seats go abegging in the streams of general as well as engineering streams at under graduation level.

Enrolment in professional and STEM courses (science, technology, engineering and mathematics) is high in the state, with 60% of the total enrolment in higher education in the streams of engineering

and technology; IT and computers; general sciences including mathematics and medical sciences. Contrary to the All-India trend of 30% enrolment in Arts and General Social Sciences, enrolment in these streams is just 6.9% in the state. Engineering and technology occupy the biggest share at 30% in higher education enrolment. This has enabled the STEM students to migrate to US and other countries for higher education and employment in large numbers.

Spatial locational mapping of the institutions throws intriguing patterns. A majority HEIs are concentrated in Hyderabad and Rangareddy districts with student enrolments as high as 50% of total enrolment. Of all 33 districts in the state, 19 districts have less than one percent of total enrolment each. While government colleges are located in district or mandal headquarters, private institutions are mostly located in urban or city areas reflecting catchment priorities of private education sector. A large number of STEM institutions are in the private sector located in such urban and peri-urban areas; while government institutions run mostly general or non-STEM courses. The district reorganisation has brought forth the imbalance in location of HEIs, courses and type of management glaringly.

The remarkable growth in HEIs in the state is due to growth in private institutions. Around 80% of colleges are private unaided accounting for more than 75% of total higher education enrolment. Telangana tops in student enrolment in HEIs under private management. Small-sized institutions figure in HEIs under both managements. The implications of higher share of private education institutions and enrolment are found in the rising cost of education; regulation and challenges in monitoring the quality of education provided by the private educational institutions.

The high density of HEIs has contributed to access to higher education in the state. Equity also has been achieved especially in terms of gender. However, there are variations in GER to some extent between the social and religious groups. Women's participation in higher education has outpaced that of men's participation. Across social groups GER is still lower than state average among the BCs and the STs. Also gender inequity in access prevails more within the groups. Sex ratio of enrolment in higher education institutions is lower among, BCs, STs, and Muslims. Sex ratio is lower in professional courses compared to general courses. The representation of the socio-religious groups in enrolment in higher education increased in recent times and fares better compared to the national scenario. The enlarged base of HEIs, setting up of exclusive residential colleges and hostels for particular social and religious groups, scholarships like maintenance and tuition fee reimbursement have contributed to social group equity in the state.

Some students in higher education courses lag behind their peers in performance. First generation entrants in higher education system may lag behind especially with no strong foundation in the previous levels of education. Developmental education which makes provision for additional coaching through special classes, or providing student support addresses this problem in the higher education system. UGC has provided grants for the 'remedial teaching' to colleges for this purpose. Survey findings reveal around 91% of the institutions located in the state expressed that the students in their institutions have different levels of understanding and capacities, in following the course work. Of them about 78% institutes are conducting special classes similar to remedial teaching arrangements. However, only 50% of

college authorities are aware of the UGC scheme for remedial teaching, and only 2.7% of total surveyed institutions availed funds from UGC to conduct remedial teaching programmes in their institutions during the Twelfth Plan (2012–17). This abysmally low awareness and uptake of remedial teaching by the HEIs indicates wastage in higher education and highlights the critical need for improving uptake.

At the school level the NAS (*National Achievement Survey*) and ASER (*Annual Status of Education Report*) reports indicate a large proportion of children in the state are unable to perform basic skills they are supposed to learn in the previous classes; further the SEQI and Innovation index also pointed out that the state is lagging behind the national average in performance of schools. This burden of poor performance at the school level also gets carried into higher education. The institutional level quality framework to assess the quality of HEIs found that of the total 2000 HEIs in the state, less than 10% acquired NAAC accreditation. While a relatively high percentage of universities in the state got assessed with at least one cycle of NAAC accreditation, 85% colleges have not secured accreditation: either they have not got assessed or have not met the required standards. The percentage of HEIs securing position in global and NIRF rankings is also low. Partly the problem also lies in the small size (in terms of enrolment) of the institutions.

Faculty-student ratio (FSR) is one of the components for quality education. The FSR is negatively associated with the HEIs density, but is positively associated with enrolment size of HEIs. The FSR is higher than national average for the State. HEIs with higher enrolment size in the state have very high FSR much above the normatively prescribed ratio. Two-thirds of total enrolment of higher education in the state is concentrated in such HEIs. A majority of the university level institutions and colleges under the public management are run with contract teachers or academic consultants. There is an urgent need to strengthen the quality of teaching by recruiting teachers with appropriate qualifications in institutions under both private as well as public management.

The public expenditure on education in Telangana has fallen behind the average of all states together. The three crucial indicators are - percentage of expenditure on education to the state's GSDP; percentage of expenditure on education to total budget expenditure and percentage of expenditure on higher education in total budget expenditure on education. All three indicators for the state are lower than the All-India averages. The average expenditure as percentage to GSDP is around 2% during 2014-15 to 2020-21. Expenditure on education as percentage of state's total budget expenditure was a maximum ranging in 15% -16% during the initial years but later fell to around 13% during 2016-18 and to 11% - 12% range thereafter till 2020-21. The percentage of expenditure on higher education in total budget expenditure is less than 5%; as percentage of total expenditure on education it is 24% while the national average hovered around 25% to 30%. More than 50% of higher education expenditure is spent on scholarships in the form of reimbursement of tuition fee (RTF).

Private expenditure on higher education in Telangana has been rising, reflecting the growing demand and aspirations for tertiary education. In 2017-18, the state ranked among the top ten major states in terms of average private expenditure per student, which stood at ₹ 30,423 - higher than the all-India average, which was roughly seven-eighths of Telangana's figure. In contrast, average public

expenditure per student was marginally higher at ₹ 33,795. These trends are mirrored in aggregate terms, with total private expenditure estimated at ₹ 4,320 crore, compared to public expenditure of ₹ 4,798 crore - a difference of only about ₹ 478 crore. This indicates that private funding constitutes a significant component of higher education financing in the state, highlighting the need for policies that expand financial aid and scholarship programs, regulate fee structures, and promote public–private partnerships to ensure equitable access while maintaining quality.

A striking feature of this spending pattern is the near parity between public and private contributions. Of the total expenditure on higher education in the state, private spending accounts for 47.6% and public spending for 52.4%, revealing the high level of out-of-pocket costs borne by households. Within private expenditure, about 82% is directly financed by households, while scholarships cover 12%. This is in contrast to the national picture, where 93% of private expenditure is household-financed and only 3% is supported by scholarships. Telangana, therefore, performs better than the all-India average in cushioning household burdens through scholarships. Bank loans, however, play a negligible role, accounting for barely 1% of private spending on higher education. The reasons for such a high private expenditure on higher education are two-fold - a high privatisation and a high preference for STEM education.

Skill gaps of graduates in the country appear to be pertinent and hence their employability levels are less than desired levels required for the industry. Only 40% to 50% of fresh graduates are employable according to India Skills Report. At the national level the average employability of graduates is less than 50%, but Telangana is above national average. With respect to employability index, the state has secured place among the top ten states since 2019 onwards. The percentage of graduates from the turn of the millennium is at 24% which is nearly eight percentage points higher than the national figure. The employment status of the 21st century graduates across Indian states indicates that it is relatively higher in Telangana. Moreover, around 71% of the graduates working are employed as regular salaried, which is higher than the national average by 11%.

Notwithstanding the above mentioned positive aspects, there is also a mismatch between qualifications and the type of occupation taken up – around 60% of graduates worked in occupations matching their skills while 40% worked in under skilled works pointing to the fact that they are overqualified for the works they are doing. Such mismatch indicates the wastage of human resources but also is constrained by the labour market conditions in turn depending on economic growth and development path followed. The linkages between education and employment are crucial, which depend on the quality of education also indicated by employability. It is generally understood that lack of employability is due to skill-deficit. Along with human resources, infrastructure, curriculum, pedagogy and student support services, and policy and institutional factors also affect the quality of education.

Governance is a crucial factor in ensuring quality. Autonomy and accountability contribute to quality and standards of education. In India, many colleges prefer affiliation over autonomy because the latter often translates into greater responsibility without proportional rewards. Designing curricula, conducting examinations, and ensuring quality assurance are resource-intensive, while affiliation provides the legitimacy of a university name with fewer risks. Moreover, limited funding, weak

institutional capacity, and the absence of strong incentives make autonomy appear burdensome rather than empowering. This reflects in the numbers too - only 2% of colleges in the country and 3% in the state are autonomous while the rest 97-98% are of affiliated type. Further too many affiliated colleges to reputed universities like the Osmania is burdensome administratively and also hampers quality regulation.

Accountability at the national level is overseen by national level regulatory bodies in place, for various fields of education and also for the overall quality assurance. Professional bodies, associations or forums both national and state level ensure accountability through both formal - standards and informal - norms and practices. State Council for Higher Education (SCHE) and state level quality assurance cells (QAC) are the State level regulatory bodies for accountability of public institutions. An internal quality assurance cell (IQAC) at the institutional level is mandatory in NAAC accreditation protocol but limited to the institutions striving for such accreditation. The institutions with NAAC accreditation in the State are few in number.

VI Achievements and Challenges in Higher Education in the State

Telangana has its own challenges in performance of education. The state is burdened with low adult literacy with nearly a quarter population above 7 years of age being non-literate. Literacy among the younger cohort has been near universal since the turn of the millennium, but still literacy rate among the 15 years plus age-group especially older age-cohorts in the state is one of the lowest, more so the rural and female literacy rates. In current attendance rates among 6-17 and 18-23-year-olds the state has good achievement ranking among the top 5 states. Another achievement of the state is that the average years of schooling across younger age-cohorts of the adult population is higher compared to the national average. Another unique feature of the state is that the birth cohort of the 1980s has witnessed a dramatic shift in terms of educational attainment (completion rates). The state has fared reasonably well in terms of access and equity.

Quality of education at school level impinges on quality at higher education level. The less than desirable performance of students as well as institutions at the school level is a challenge. Quality assessment is not happening regularly in case of HEIs (public and private) in the state; they rank low in the national ranking frameworks, mostly due to their small size in terms of enrolment. This is the situation across the country where only 10% HEIs have participated in the NIRF procedure.

Privatisation of higher education has been happening since the economic reforms (LPG) phase begun from the decade of 1990s. Higher education increasingly began to be considered as non-merit good and the returns to education are considered private hence the state has sidestepped from being provider of higher education, shifting the burden of education from state to the households. There is a perceived quality for education in private sector for which households pay premium price. Dual systems of education (in terms of management) have been in vogue for a considerable period in India and also in the state sowing the seeds of inequality in opportunity and also in labour market outcomes and income inequalities.

Compared to All-India situation Telangana stands in a better scenario in terms of employability of graduates in jobs matching skills with qualifications. Karnataka ranks at the top in providing jobs

matching to skills and qualifications to its graduates. However, the problem of considerable workforce being employed in jobs requiring a lower skill than their qualification can be traced to the quality of higher education imparted. The challenge of the state is to provide employment opportunities without any skills mismatch. Apart from quality of education, economic and structural barriers also impact the employability of graduates. Telangana also has a higher unemployment rate among the graduates at 11% compared to 9.4% at All-India.

VII Way Forward

A more planned educational location and development would lead to balanced, affordable and diverse higher education system. Public sector could lead in establishment of HEIs in areas with lower penetration. Research highlights a positive relationship between university innovation and local economic growth; university knowledge spillovers strengthen with geographic proximity and local skills. However, the university curriculum and research need to be innovative, making the global research useful to local needs.

The target to reach 50% GER in higher education in the State is a challenge from the perspective of limitations due to demographic transition with fertility rates falling below replacement. Nevertheless, it can be achieved provided certain issues are addressed. Firstly, a streamlined and universalised secondary education improves flow from lower secondary to that of higher secondary level which increases the catchment pool of higher education enrolment. If the universalisation of secondary education which is a global norm, is realised in successful completion of school education at the higher secondary level it enlarges the pool of eligible students for higher education thus providing scope for rise in GER. Improvement in quality of education in the HEIs of the state also could attract students from other states.

The State Higher Education Council may have to design and embed appropriate quality enhancing measures as a component of the policy for HEIs. Encouraging developmental education, would go a long way to enhance learning abilities of lagging students and also curtail wastage in higher education. There is a grave necessity of improving the quality of education, to nudge HEIs to obtain accreditation by incentivising them, and also to enable them to achieve a place in the top rankings of the NIRF. Developed countries' experience shows that they addressed the problems of access and quality simultaneously by differentiating institutions, investing heavily on faculty and infrastructure also embedding accountability through accreditation and governance reforms.

To overcome the problem of small size of HEIs consolidation and restructuring of HEIs along with setting up of model MERUs (Multi-disciplinary Education and Research Universities) may be taken up. This would be a challenge in the state not only because of the small size of institutions but also due to inadequate financial resources allocated to the education. Some experiments have happened in the state such as 'cluster approach' to consolidate HEIs, which is a tried and tested approach for a long time. Clustering of colleges, one of the components in the RUSA scheme of Ministry of Education, Government of India has been functioning for quite some time. However, its functioning and sustainability depends on the process of formation of clusters and the required support system along with appropriate regulatory framework. There are some ongoing experiments in recent times in other states like Jammu and Kashmir and in Kerala. Also, an initiative within the state, that of NALSAR and IIIT collaborating for sharing resources and agreement to provide

access to courses on virtual mode is a welcome step.

The Council for Higher Education in the state can initiate this experiment at the state level or on pilot basis with colleges of chosen district(s) or region within the state. The success of the experiment depends on the rigour of the ground level preparatory work and regulatory framework along with guidelines and procedures engaged in the clustering process. Innovative operational management system for each cluster is a key component of its success. Telangana has the advantage of diversified higher education institutions and any collaborations among the institutions to share academic and infrastructure resources would go a long way to open the landscape of higher education in the state.

Governance of higher education in India is undergoing a significant transformation due to factors like massification in higher education and the growing influence of the market. This shift has led to new challenges in balancing institutional autonomy with accountability. While greater autonomy is essential for institutions to be agile and innovative, it must be accompanied by robust accountability measures to ensure quality and transparency. There is also a view point that "good governance" requires effective leadership, transparency, and the participation of various stakeholders. The traditional state-controlled model alone may no longer be sufficient. Affiliation of a large number of colleges is a burden on universities. Graded autonomy to HEIs may be a solution, instead of a one-size-fits-all approach - institutions with strong performance and accreditation (e.g., those with high NAAC scores or NIRF rankings) should be granted greater academic and administrative freedom along with resources and recognition. The National Education Policy 2020 (NEP) identified reforming governance as a crucial factor and aims to address existing challenges by promoting a more decentralized, participatory, and effective governance structure within universities.

The NEP document serves as a directive and not enforcing policy, it should take states on board entailing equal responsibility of the Centre and States in realizing the policy vision and objectives, as education being a concurrent subject in the Constitution. Moreover, Centre should take equal responsibility in funding to take forward educational development in the country. The state government also has to raise its budget allocation for education as a whole and particularly for higher education.

Telangana's higher education system has expanded significantly since the state's formation in 2014, but the pace and pattern of growth reveal both progress and persistent challenges. Telangana's Gross Enrolment Ratio (GER) in higher education is around 40%, which places it firmly in the "mass stage" of Martin Trow's framework. This indicates that higher education is no longer confined to elite groups, but participation has not yet reached the "universal" stage (50%+).

Some of the features of 'mass' stage of HE system are - diversification of institutions, a strong mix of state universities, private universities, deemed universities, and autonomous colleges, along with a rapidly growing private sector presence; equity concerns - while access has expanded, participation is still uneven across social groups and within social groups. Further financing and governance pressures have risen with expansion of access to education heavily supported by private institutions, leading to affordability issues for many students. State universities face underfunding, affecting infrastructure and research capacity; and education-skill-employment linkages. The setting

up of 'Young India Skill university' in 2024 with the sole objective of bridging the gap between academic learning and industry requirement may also give a fresh impetus to such linkages. With rising enrolments, concerns now have shifted from access to quality, employability, and skill relevance, which is characteristic of the mass stage globally. Telangana should seek to address the challenges in higher education working on its strengths, to make it a hub for higher education which in turn will accelerate its economic growth with development.

VIII Limitations of the Report

As the report was prepared over an extended period of time, some datasets could not be updated to their most recent versions. This applies particularly to admission data for higher education institutions, budget data for mapping public expenditure on education, as well as NAAC and NIRF assessments. Nevertheless, the core issues analysed in the report remain largely unchanged irrespective of the specific reference year of the data. In that sense, the report is not constrained in terms of content or relevance, as the structural concerns and thematic issues it addresses continue to hold significance.

* * *

Notes

Notes

CENTRE FOR ECONOMIC AND SOCIAL STUDIES

(Planning Dept, Govt. of Telangana & ICSSR-Ministry of Education, Govt. of India)

Nizamiah Observatory Campus, Begumpet, Hyderabad – 500 016, Telangana, India

Phone: 040-23416610-13, 23402789, 23416780, fax: 040-23406808

Email: post@cess.ac.in, Website: www.cess.ac.in.