CHAPTER 11

# EDUCATION AND HEALTH: WHAT WORKS AND WHAT'S NEXT

*India's journey toward Viksit Bharat hinges on inclusive growth and upward social and economic mobility for every citizen. The development model of India is based on the principle of leaving no one behind. The government is working towards this goal through multiple initiatives focused on enhancing education and healthcare, the core pillars of human capital and overall well-being.*

*In the education space, progress in school and higher education has been at the back of enhanced quality and access through community engagement, effective assessments, improved accountability, and stronger alignment between education and skill requirements. Building state capacity in higher education, fostering academia-industry collaboration, and expanding global engagement can further enhance the education system's responsiveness to the changing needs of the economy. Health outcomes have improved through infrastructure expansion and targeted policies. Emerging challenges, such as obesity, the rising burden of non-communicable diseases, and the psychological effects of digital exposure, require a stronger focus on preventive care and behavioural change strategies. This chapter presents good practices in dealing with emerging challenges from various parts of the country, offering valuable lessons for others to learn from. Enhancing education and healthcare through integrated, accountable, and adaptive policy frameworks is essential to building a future-ready workforce.*

## INTRODUCTION

11.1. Public health and education are mutually reinforcing pillars of human capital development, social well-being, and economic growth. In India, the progress in public health and education has been marked by notable achievements and continuing challenges. Over the years, the country has made significant improvements in increasing access to healthcare by providing better and more affordable facilities through public investment in health, including access to preventive and curative care, nutrition, and health insurance. Infant and maternal mortality rates have reduced, immunisation coverage has expanded, and access to primary healthcare services has improved. Initiatives like the National Health Mission, Ayushman Bharat, and various disease control programmes have contributed to these advancements.

11.2. Achievements in the education space have been marked by enhanced literacy rates, increasing enrolment in schools and higher education institutions, provision of vocational education avenues, etc. The Right to Education Act 2009 and the National Education Policy 2020 (NEP) have played a crucial role in shaping the education landscape by expanding access to quality education universally, promoting equity, and driving innovation in teaching and learning.

11.3. However, variations in quality, regional differences, and socio-economic factors continue to influence the equitable distribution of essential services. Both sectors also face digital divides and infrastructural gaps, and require investment and policy reforms for equitable development.

11.4. Against this backdrop, this chapter presents the progress in education and health in the country, along with challenges and future pathways. The first section discusses the crucial role education plays in developing human capital. It also covers community participation, classroom interventions, vocational education, policy initiatives to enhance the internationalisation of education, and capacity building for higher education. Section two highlights progress and challenges in the health system, focusing on policy initiatives to tackle obesity and the rising issue of digital addiction among Indian youth. Various other indicators of social progress, such as the extent of multidimensional poverty, the delivery of social justice, and the development of the country's rural hinterland, are discussed in detail in Chapter 13.

## EDUCATION: ENHANCING QUALITY AND ACCESS

### Progress in school education

11.5. School education forms the foundation of human capital and is central to shaping the nation's growth path towards Viksit Bharat @2047. Experiences from fast-growing Asian economies clearly demonstrate that consistent investments in education, skills development, and technology can significantly enhance productivity, foster innovation, and accelerate economic transformation.

11.6. Strengthening school education today is not just a sectoral reform, but an investment in India's future prosperity, productivity, and leadership in the decades ahead. India continues to enjoy a strong demographic advantage. In 2024, nearly 27 per cent of India's population was in the school-going age group (3–18 years).[1] Even by 2047, this age group will account for over 20 per cent. Despite a sizable population of school-going children, India's Education Index, as part of the UN's Human Development Index (HDI), remains modest, largely due to the relatively low expected years of schooling (EYS) trailing behind global peers.

1 UN Population Division https://tinyurl.com/y3ykhj4d

**Table XI.1: Cross-country comparison of EYS**

| Country | Per cent share of 3-18 aged population, 2024 | HDI: Education Index (2025) | Projected per cent share of 3-18 aged population, 2047 | EYS |
|---|---|---|---|---|
| India | 26.94 | 0.372 | 20.14 | 13.0 |
| China | 18.78 | 0.626 | 10.44 | 15.5 |
| Russia | 18.97 | 0.768 | 15.72 | 13.2 |
| Brazil | 21.59 | 0.611 | 16.39 | 15.8 |
| Japan | 13.19 | 0.805 | 11.87 | 15.5 |
| Germany | 14.92 | 0.922 | 13.76 | 17.3 |
| Indonesia | 26.55 | 0.575 | 21.11 | 13.3 |
| USA | 19.39 | 0.882 | 17.14 | 15.9 |

Source: UN Population and UNDP, Human Development Report (2025)

11.7. To fully convert its vast human resource base into high-quality human capital, India needs to raise its EYS to 15-year set by NEP's 5+3+3+4 schooling structure for ages 3-18.[2] Achieving this requires a holistic, lifecycle approach that encompasses early childhood education, foundational literacy and numeracy (FLN), universal secondary schooling, and the seamless integration of vocational and digital skills.

11.8. Towards these goals, the NEP, the first major education policy reform in 34 years, aims to transform India's education system to address 21st-century challenges. It presents a flexible, inclusive, and learner-centric education approach, focusing on FLN and higher-order capacities such as critical thinking, problem-solving, and social and emotional intelligence. In school education, the policy emphasises Early Childhood Care and Education (ECCE), FLN, reducing dropouts, ensuring universal access, revamping curriculum and pedagogy, strengthening teacher capacity, promoting equity, and improving quality. In higher education, it seeks to restructure and consolidate institutions, promote multidisciplinary learning, strengthen faculty, promote vocational pathways, ensure equity and facilitate internationalisation. Key initiatives include the establishment of the National Research Foundation[3] and regulatory reforms aimed at driving innovation, excellence, and competitiveness in the education system.

11.9. To achieve the goals of NEP, the government launched school-level schemes such as the Sarv Shiksha Abhiyan, ULLAS[4], PM-SHRI(PM-Schools for Rising India), PM POSHAN (PM Poshan Shakti Nirman) and initiatives, such as PARAKH, Vidya Pravesh, DIKSHA (Digital Infrastructure for Knowledge Sharing), NIPUN[5] Bharat Mission and Atal Tinkering Labs.

2 In the NEP5+3+3+4 structure, a strong base of Early Childhood Care and Education (ECCE) from age 3 is included as part of formal education, which is aimed at promoting better overall learning, development, and well-being.

3 Anusandhan National Research Foundation: https://anrfonline.in/ANRF/About?HomePage=New

4 Understanding of Lifelong Learning for All in Society

5 National Initiative for Proficiency in Reading with Understanding and Numeracy

## School infrastructure

11.10. India today operates one of the world's largest school systems, serving 24.69 crore students across 14.71 lakh schools, supported by over 1.01 crore teachers (UDISE+ 2024-25).[6] Government schools constitute 69 per cent of all schools, enrolling nearly half of all students, while private schools account for 26 per cent of schools and 41 per cent of total enrolment. Aligned with the NEP goal of achieving a 100 per cent gross enrolment ratio (GER) from pre-primary to secondary education by 2030, steady progress has been observed across all school levels.[7] GER scores, as per NEP academic structure, are 41.4 at the foundational stage (Pre-Primary to Grade II)[8], 95.4 at the preparatory stage (Grade III to Grade V), 90.3 at the middle stage (Grade VI to Grade VIII), and 68.5 at the secondary stage (Grade IX to Grade XII). Table XI.2 informs the achievements of various school education programmes of the government of India. Monitoring progress towards the NEP goal of 100 per cent GER by 2030 is being enabled through APAAR (Automated Permanent Academic Account Registry) IDs, which use Aadhaar-based authentication to digitally store academic records and track student enrolment and progression across school, higher, and skill education.

**Table XI.2: Achievement of school education programmes**

| **PM SHRI Scheme** | **Co-location of Anganwadi Centres (AWCs) with schools** |
|---|---|
| **Aim:** To establish over 14,500 PM SHRI Schools nationwide with inclusive, comprehensive interventions for holistic transformation, focusing on equity, access, quality, and inclusion.<br>A total of 13,076 PM SHRI schools established in 33 states/UTs.<br>**Saturation with NEP-aligned features:** ICT and smart classrooms, skill education, digital libraries, integrated science labs, sports infrastructure, green practices, innovation councils and eco clubs, 'Jadui Pitara' and 'Bagless Days' for experiential learning. | Aim to create a unified and strengthened ECCE system for universal access to high-quality early learning.<br>Co-located AWCs are present in 2,99,544 schools (32.9 per cent)<br>Balvatikas are present in 2,63,018 (28.9 per cent) villages<br>In total, 4,81,004 of the government and government-aided schools with Grade I (52.8 per cent) have some form of pre-school facility (Balvatika, co-located AWC, or both). |

6 Unified District Information System for Education (UDISE) Plus is an educational management information system under the Department of School Education & Literacy, Ministry of Education under the Government of India. https://udiseplus.gov.in/#/en/home

7 GER is the total enrolment in a particular level of school education, regardless of age, expressed as a percentage of the population of the official age-group which corresponds to the given level of school education in a given school year.

8 Lower GER at the foundational stage is due to GER being calculated using Pre-Primary enrolments in recognised schools as reported by States/UTs, which excludes Anganwadi enrolments and enrolments in standalone Private Pre-Primary Schools. As per previous academic structure GER scores are 90.9 at the primary stage (Grade I to V), 90.3 at the upper primary (Grade VI to VIII), 78.7 at the secondary stage (Grade IX and X) and 58.4 at the higher secondary stage (Grade XI and XII).

| | |
|---|---|
| **Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN)**<br>Aimed at uplifting Particularly Vulnerable Tribal Groups (PVTGs) and ensuring their holistic development.<br>Covers 75 PVTGs across 18 states and the UT of Andaman and Nicobar Islands.<br>Provides meaningful education, life skills, and development opportunities.<br>Expansion of residential education infrastructure: 500 hostels approved with a financial outlay of ₹1,255.24 crore. | **Multilingual textbooks**<br>**Jaadui Pitara:** Collection of 53 Learning Teaching Materials (toys, games, puzzles, story cards, etc.) for children aged 3-8 years.<br>**e-Jaadui Pitara:** Provides interactive content in multiple languages with AI-driven bots. It features over 3,000 e-contents and is accessible via the eJaadui Pitara webpage and mobile app.<br>**'Kitab Ek Padhe Anek':** Eight textbooks for Grades I & II in an energised printed format, following the principle of UDL (Universal Design for Learning).<br>**Bharitya Bhasha Pustak Scheme:** Textbooks and study materials being offered for schools and higher education in 22 Indian languages in digital form. |
| **Kasturba Gandhi Balika Vidyalayas (KGBVs)**<br>Residential schools for girls belonging to Socio-Economically Disadvantaged Groups in Educationally Backwards Blocks.<br>By 31 March 2025, a total of 2,682 KGBVs had been upgraded, out of which 317 are up to Grade X and 2,365 are up to Grade XII. | **Dharti Aaba Janjatiya Gram Utkarsh Abhiyan**<br>For the construction of residential hostels to improve educational access for tribal students.<br>692 hostels have been sanctioned across 23 states/UTs in four phases, marking significant progress toward the scheme's overall targets. |
| **ULLAS: Adult education scheme**<br>3.1 crore learners, 47 lakh volunteer teachers, and 1.7 crore neo-literates have been registered. [9]Ladakh, followed by Mizoram, Goa, Tripura and Himachal Pradesh, have achieved full literacy under the initiative.[10] | |

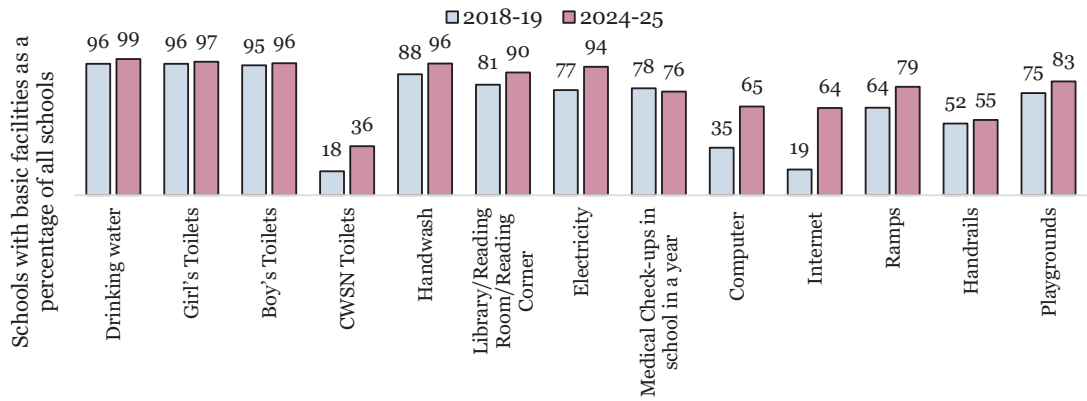
11.11. Improvements in sanitation and information, and communication technologies (ICT) facilities indicate positive development in school infrastructure (Chart XI.1). The Time Use Survey Report 2024 reveals an increase in participation in learning activities among children aged 6-14 years from 85.9 per cent during 2019 to 89.3 per cent in 2024, and female participation in learning activities among this age group increased from 85.6 per cent to 89.5 per cent, during the same period.[11] Children in this age group spend approximately 413 minutes daily on learning. In rural areas, children dedicate 83 minutes to sports and exercise daily, compared to 68 minutes in urban areas.

9 ULLAS dashboard: https://ullas.education.gov.in/nilp (As of 23 January 2026)

10 PIB release of the Ministry of Education dated 28 July 2025: https://tinyurl.com/mr25sx7r

11 The Time Use Survey (TUS) enables the measurement of the time individuals spend on different activities. https://tinyurl.com/3u6nzjhb

**Chart XI.1: Improvement in school infrastructure**



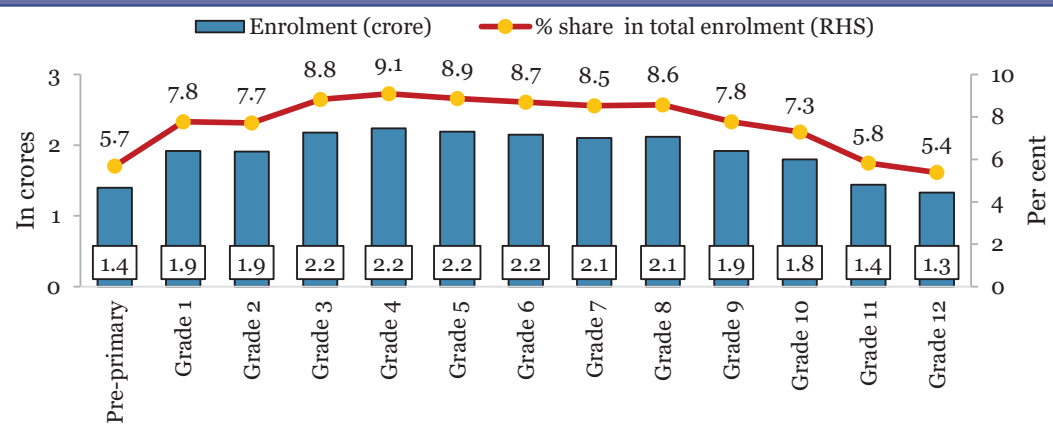

Source: UDISE+[12]

## Innovative pedagogy and community participation

11.12. While India has improved enrolment at early levels, the secondary age-specific net enrolment (NER) remains low at 52.2 per cent, highlighting the need to retain students beyond Grade VIII.[13] A key issue is the uneven distribution of schools: 54 per cent of schools offer only foundational-preparatory education, while just 17.1 per cent provide secondary education in rural areas. Urban areas have a higher share of secondary schools (38.1 per cent). This disparity limits rural students' access to higher-level classes, resulting in transition losses, increased travel time, and higher dropout rates.

11.13. These structural imbalances are reflected in enrolment patterns, with a drop in enrolment from the foundational and preparatory levels to the middle and to secondary levels in rural areas, whereas in urban areas, enrolment rises from the middle to the secondary level. Grade-wise enrolment trends further highlight the decline at the secondary stage.

**Chart XI.2: Pattern of grade-wise enrolment (All-India)**




Source: UDISE + 2024-25

12 Unified District Information System for Education Plus, https://udiseplus.gov.in/#/en/home

13 NER is the total number of pupils enrolled in a particular level of school education who are of the corresponding official age group expressed as a percentage of the population of the official age-group which corresponds to the given level of school education in a given school year.

11.14. India has made notable gains in school enrolment by strengthening infrastructure and teacher capacity, with schemes like Poshan Shakti Nirman and Samagra Shiksha Abhiyan promoting access and equity. Further action is required, especially as the focus shifts from enrolment to learning outcomes. Policy interventions to expand composite and integrated schools, upgrading schools up to Class XII, and strengthening open schooling are vital for improving retention and optimising resources. Improving infrastructure, teacher skills through strengthened DIETs (District Institute of Education & Training), and SCERTs (State Council of Educational Research and Training), and involving parents and communities in governance can create an inclusive, learner-focused environment. Combining these strategies with curriculum and assessment reforms aligned with NEP and the use of digital platforms such as PM e-Vidya can provide high-quality, equitable education, even in remote areas. **Box XI.1** highlights how community participation improves educational outcomes.

**Box XI.1: Empowering change in Indian education through community participation**

Education occurs not only in schools, but also within families, communities, and society as a whole, and evidence shows that community-school partnerships boost accountability[14],[15], enrolment, and children's FLN.[16] Parental involvement in education encourages children to work harder and achieve greater academic success.[17]

Community mobilisation for enhancing enrolment and learning outcomes is not new in India and has been part of the education landscape for decades. Campaigns such as 'Chaduvula Panduga' in Andhra Pradesh (launched during 1999–2002) and 'Alokar Jatra' in Assam (launched in 2002) illustrate how large-scale community mobilisation can improve access and enrolment and create local databases on children's educational status.[18] The 'Aao School Chalein' initiative in Haryana addresses student enrolment challenges through a micro-improvement approach and collaboration. Empowering school leaders, leveraging technology, and engaging stakeholders promote community participation to increase enrolment.[19]

14 Hevia, Felipe & Vergara-Lope, Samana. (2019). Educational Accountability or Social Accountability in Education? Similarities, Tensions, and Differences: Accountability Working Paper: Educational Accountability or Social Accountability in Education? Similarities, Tensions, and Differences. 10.13140/RG.2.2.18090.16326.

15 Lant Pritchett, Amanda Beatty, Slow down, you're going too fast: Matching curricula to student skill levels, International Journal of Educational Development, Volume 40, 2015, Pages 276-288, ISSN 0738-0593, https://doi.org/10.1016/j.ijedudev.2014.11.013

16 Kumar D, Sunder N, Ricardo, Wadhwa W, Improving children's foundational learning through community-school participation: Experimental evidence from rural India, Labour Economics, Volume 91, 2024, 102615, ISSN 0927-5371, https://doi.org/10.1016/j.labeco.2024.102615.

17 Epstein, J. L. (1995). School-Family-Community Partnerships: Caring for the children we share. Phi Delta Kappan, 76, 701-712. https://tinyurl.com/nhjsmw3e

18 Ministry of Education. Concept note on community participation: https://tinyurl.com/mt2amy93

19 OECD. Boosting School Enrolment Through Micro-Improvements: https://tinyurl.com/3e8x4j3z

Another example is the Zilla Parishad School Jalindarnagar, a public primary school in Taluka Khed, Maharashtra, which has pioneered a peer-learning 'Subject Friend' model in response to teacher shortages. The method requires grouping mixed-age students under older students for support in lessons and homework, thereby strengthening comprehension, confidence, and participation. This student-led approach has fostered inclusive, collaborative classrooms, expanded learning to advanced subjects such as coding, robotics, electronics, and multilingual education, increased enrolment to 120 students, and catalysed strong community engagement, with parents and local experts volunteering to teach vocational and academic skills and to co-maintain school infrastructure, leading as a model for wider replication.[20] The school's innovative intervention has received global recognition, with the institution being named the World's Best School in 2025 for the Community Choice Award by the T4 Education platform.[21]

Community engagement serves purposes beyond accountability. Teacher communities provide crucial peer support, boost motivation, and facilitate the implementation of policy initiatives at the ground level. Teachers in isolated Zilla Parishad schools often feel disconnected and demotivated due to the limited opportunities for recognition. This highlights the importance of building motivated teacher communities by leveraging technology and behavioural insights, creating platforms for peer learning and practice-sharing, and institutionalising recognition of teachers through appreciation at block- and district-level meetings.[22]

Community-based learning offers students real-world, practical experiences outside traditional schools. This method helps students link their academic knowledge with community needs, promoting a deeper understanding and greater engagement. Additionally, it fosters empathy, social responsibility, and leadership skills by exposing students to a variety of community issues.

## Improvement in learning outcomes

11.15. In the evolving landscape of education, learning assessments are vital for evaluating the education systems by identifying gaps and for setting priorities for improvement and innovation. Since 2001, National Achievement Surveys (NAS) conducted by the National Council of Educational Research and Training (NCERT) have provided valuable insights into the school education system. Building on this and with a focus on competency-based learning, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) Rashtriya Sarvekshan 2024 was

20 https://t4.education/5-prizes-finalists-winners/zp-school-jalindarnagar/

21 T4 Education is a global platform bringing together a community of over 200,000 teachers from more than 100 countries to transform education.

22 NGOs, like the Open Links Foundation, have been working with the district administration on building such teacher communities (https://www.openlinksfoundation.org/)

launched.[23] Its main objective is to evaluate students' learning outcomes, competency, and holistic progress across key grades and provide a guide for policy, curriculum, and resource planning.

11.16. The PARAKH 2024 findings inform that Grade III results show promising recovery post-COVID. Girls slightly outperformed boys in Language (65 per cent vs. 63 per cent), while both scored equally in Mathematics (60 per cent). Rural students outperformed their urban peers, and state government schools led the way in foundational outcomes, validating the impact of NIPUN Bharat. Compared to NAS 2021 and 2017, Grade III proficiency levels have rebounded significantly, with 65 per cent of students proficient in Mathematics (up from 42 per cent in 2021) and 57 per cent in Language (up from 39 per cent).

11.17. To translate these assessment insights into sustained learning improvements, the rollout of Vidya Samiksha Kendras across all states/UTs will play a key role in standardising administrative practices and regulations, enabling real-time, data-driven monitoring of every child's learning outcomes, thereby supporting timely interventions. While the PARAKH Rashtriya Sarvekshan has strengthened learning assessment in India, going forward, it is essential to move beyond aggregate scores to identify underlying learning gaps and areas of conceptual confusion among students. This calls for further strengthening of the assessment system and strategy, so that assessment results effectively support improvements in learning outcomes through enhanced teacher capacity and pedagogy, as discussed in Box XI.2.

**Box XI.2: Reimagining school education: Strengthening meaningful assessments and enhancing accountability**

The present education policy landscape is being shaped by two complementary imperatives: deepening educational quality and reducing regulatory frictions that constrain innovation and choice. The next phase of educational transformation necessitates a shift toward enhanced accountability, learning measurement, and diversified, participatory delivery models. The demographic dividend can only be fully realised if learning outcomes improve across socioeconomic groups. There is an opportunity to institutionalise systemic assessments, evaluation, benchmarking and widened stakeholder participation to improve the quality of education.

23 The PARAKH Rashtriya Sarvekshan 2024 (formerly National Achievement Survey) was undertaken by the National Assessment Centre, PARAKH, NCERT under the aegis of the Department of School Education & Literacy, Ministry of Education to understand the baseline performance under the NEP in development of competencies among students at the end of the Foundational, Preparatory, and Middle stages (Grades 3, 6, and 9 respectively) of schooling. Nationwide, over 21.15 lakh students, 2.70 lakh teachers, and school leaders from more than 74,000 schools across 781 districts from all States/UTs participated in the assessment. https://dashboard.parakh.ncert.gov.in/en

### Institutionalised systemic assessments

Large-scale assessments such as the NAS 2021 show that schools predominantly rely on internal and board examinations that assess content recall rather than generate diagnostic insights.[24] Annual Status of Education Report 2024 (ASER) findings highlight gains in learning outcomes but also point towards learning gaps variation across states, school types and rural-urban contexts. Box XI.3 discusses the findings and policy lessons from ASER.[25] The ASER and NAS findings suggest a deeper structural issue: school-based assessments are primarily designed for certification and promotion, and are not able to generate diagnostic evidence necessary to identify learning gaps and inform corrective action.

International experiences in large-scale assessments indicate that they are broader in scope. The National Assessment of Educational Progress in the US is conducted every two years by the National Centre for Education Statistics and the Institute of Education Sciences.[26] It provides broad results and specialists' analysis of student responses in reading and math, highlighting common wrong choices that reveal underlying confusion and how these patterns vary by grade or state. The findings help update learning standards, teaching materials, and professional development, and serve as feedback for practitioners to identify where students struggle and which concepts require more focus. The National Assessment Programme - Literacy and Numeracy in Australia follows a similar approach. Schools receive detailed analyses allowing teachers to act on the evidence directly. The common factor is that assessment data is treated as a tool for course-correction instead of remaining a scoreboard.

In the Indian context, it would be worthwhile to use assessment data to unpack the reasons behind the scores, understand errors, and underlying confusions, thereby converting the survey into a robust feedback tool for the stakeholders. Further, a complementary initiative could be the introduction of a PISA-like assessment at the end of Grade X.[27] A standardised competency-based assessment that compares states, school types, and socioeconomic cohorts on a common scale could provide policymakers with insights for targeted policy interventions.

### Independent evaluation and system-wide benchmarking

Relying solely on internal compliance and self-reporting of schools could be inadequate; achieving effective accountability requires independent oversight, transparent evaluation, and external involvement review.[28] International experience supports independent evaluation as both credible and non-intrusive. The Knowledge and Human Development

24 NAS 2021-22 report: download-national-report

25 The ASER is a nationwide citizen-led household survey that provides a snapshot of children's schooling and learning in rural India. https://asercentre.org/aser-2024/

26 https://nces.ed.gov/nationsreportcard/

27 PISA is the OECD's Programme for International Student Assessment. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges. https://tinyurl.com/ytuxmd2w .

28 UNESCO. (2017). Accountability in education: Meeting our commitments https://tinyurl.com/p8e37jf5

Authority in Dubai utilises a tested template: schools are inspected by third-party agencies. To ensure consistent benchmarking and improvement, each school is assessed by the same agency for several years. Inspections cover learning outcomes, pedagogy, governance, inclusion, and wellbeing, with reports shared with the regulator and schools. These reports are often made public, influencing parental choice, driving school competition, and improving overall quality gains.[29]

In the Indian context, the National Institutional Ranking Framework (NIRF) ranking improves competition among higher education institutions and helps parents and aspirants make informed choices through a common benchmark. It enables comparison between public and private institutions, encouraging better governance. Applying similar benchmarking at schools could offer related benefits. India can also require sharing summary findings of such assessments with schools and regulators, creating a feedback loop for quality enhancement.

NITI Aayog's School Education Quality Index 2019 highlights the wide disparities in governance and learning outcomes across states, noting that without independently verified monitoring, accountability, and comparability remain weak.[30]

In this context, a regulated model of external evaluation of schools through accredited third-party agencies can address the accountability gap without adding bureaucratic burden. Empanelling independent agencies and requiring each school to partner with them for a minimum two to three-year period would allow for credible benchmarking, continuity in assessment and longitudinal tracking to support meaningful school improvement. Where benchmarking diversity is desirable, schools may voluntarily engage a second agency in parallel. A pilot programme in schools affiliated with the CBSE could be considered to develop a benchmarking system. Based on the template developed, states may be encouraged to use it with required adaptations, with the voluntary participation of private schools. Such benchmarking would form a basis for improved comparability between public and private schools, also.

11.18. The PARAKH survey goes beyond scores. It reveals that only 35 per cent of schools accommodate children with special needs (CWSN), and just 38 per cent have trained teachers. Emotional well-being indicators are similarly concerning: only 55 per cent of students feel motivated to attend school, and less than half feel emotionally safe. These insights underscore the need for the urgent integration of Social-Emotional Learning (SEL), peer support systems, and robust child protection policies. The Economic Survey 2024-25 (Chapter 11) carried a detailed discussion of various initiatives that promote SEL, life skills, and peer-based learning at the school level.[31] Building on these system-level findings, Box XI.3 discusses how learning outcomes are shaped by factors such as age of entry into schools, targeted remediation, digital access, and even parents' educational levels.

29 KHDA report 2023-24: kf2024.eng.2

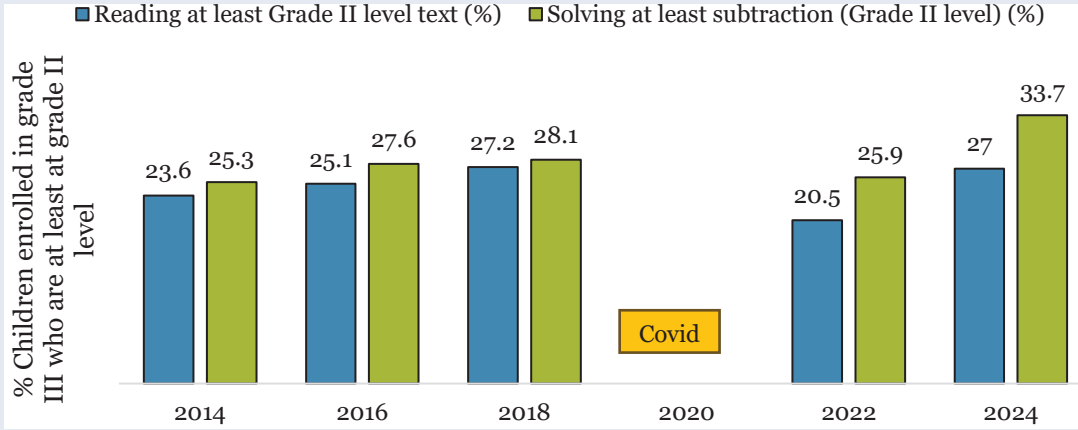
30 NITI Aayog's School Education Quality Index (SEQI) 2019: https://tinyurl.com/3uy22j84

31 Economic Survey 2024-25. Chapter 11 Social sector: extending reach and driving empowerment: https://tinyurl.com/pz9tavzj

## Box XI.3: From books to report cards: Evidence from learning surveys

A key focus of the NEP is to ensure that all students achieve FLN, with the goal that every student will reach this level by the end of Grade III. The PARAKH findings highlight the improvement in learning outcomes post-pandemic at the foundational stage. These findings are complemented by the ASER 2024.[32] Two structural factors that are shaping these learning gains are parental education and the age of entry into school.

**Chart XI.3: Improvement in learning outcomes (All India (Rural) ASER 2014-2024)**




Source: ASER 2014-2024

According to ASER 2024, the proportion of educated mothers has increased significantly. Evidence suggests that mothers' education has a significant impact on children's academic performance.[33] In 2014, 43 per cent of mothers with children aged 3-8 had no schooling, but by 2024, this figure decreased to 24 per cent. These mothers are a significant demand driver for education and improved facilities for their children, as evidenced by the increase in Anganwadi enrolment (for 3-year-olds). To capitalise on this trend, policies should include community programmes such as adult literacy classes and structured guidelines to build mothers' skills and empower them through health information. Complementary measures should support women's employment and girls' education, while providing simple weekly home-learning activities that enable parents to better support and monitor their children's foundational learning.

ASER 2024 highlights that the age of school entry and age mix in early grades also affect learning outcomes. Children aged eight and above in grade II perform better than their younger peers, indicating that timely school entry and developmental readiness are crucial. The share of underage children (five or below) in Grade I has dropped from 25.6 per cent in 2018 to 16.7 per cent in 2024, reflecting progress in aligning entry age with policy norms. However, improvements are still needed for children to consistently meet grade-level expectations.

32 ASER 2024: https://tinyurl.com/2hhb747t

33 Banerji, Rukmini, James Berry, and Marc Shotland. 2017. The Impact of Maternal Literacy and Participation Programmes: Evidence from a Randomized Evaluation in India. American Economic Journal: Applied Economics, 9 (4): 303-37. https://tinyurl.com/55jb8uhk

To address these challenges, Pratham's Teaching at the Right Level (TaRL) approach groups children by learning levels, across or within grades, and uses simple, fun, creative, and engaging daily activities. Regular, time-bound assessments are carried out and recorded to monitor progress. Based on these assessments, children are re-grouped as they improve.

ASER 2024 also notes progress and challenges in rural India's digital landscape. Digital devices have become widespread among rural youth aged 14-16, with 89.1 per cent having smartphone access at home. Among those youth who can use a smartphone, over half reported using digital platforms for education, and around 75 per cent use them for social media. This presents an opportunity to enhance learning through digital tools.

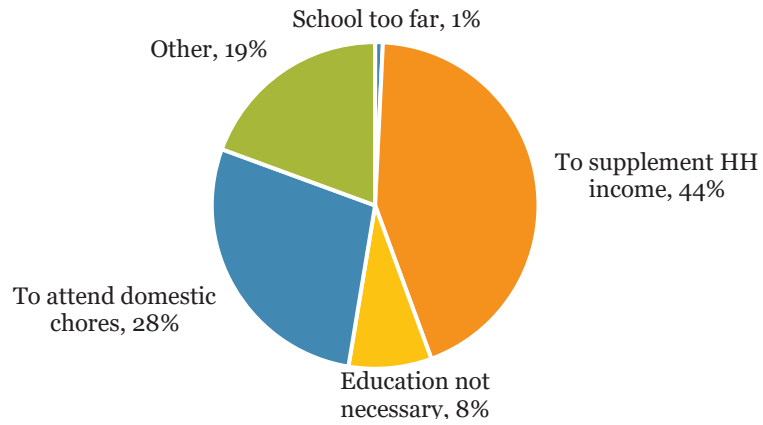
By adopting inclusive policies to enhance digital infrastructure and promote responsible digital literacy, India can equip its next generation with the skills needed to navigate a more connected world. NEP envisions integrating digital technologies across education by expanding affordable digital infrastructure and devices to bridge the digital divide and enable effective use of digital platforms for teaching and learning. Building on this, policy now needs to focus on a delivery mechanism that utilises AI and technology to support teachers, ease workloads, enhance the teaching learning process, align education with labour market needs, and create a seamless pipeline from education to employment.

## School-to-skill pathways

11.19. The education system plays a critical role in equipping young people for life after school. For children who are out-of-school or are at risk of dropping out, skill-based education is a vital intervention that helps them acquire practical skills and improve their job prospects.

11.20. Most out-of-school children in India are aged 14-18, the typical secondary education age. According to PLFS 2023–24, nearly two crore adolescents aged 14–18 years are out-of-school. The single largest reason for adolescent drop-out is the need to supplement household income, accounting for 44 per cent of drop-outs, particularly among boys (67.32 per cent). For girls, domestic and care responsibilities remain a major constraint, affecting over 55 per cent of those who leave school.

**Chart XI.4: Reason for not attending school for out-of-school adolescents (Age 14-18 years)**




Source: Unit-level data of PLFS 2023-24; HH: Household

11.21. One of the main reasons adolescents do not attend school is to supplement their household income. High dropout rates, driven by economic pressures, make integrating school-based vocational and skills education an urgent priority. Embedding structured skilling pathways in secondary schools can make education more relevant, provide early exposure to employable competencies, and transform schools into hubs of lifelong learning. The PLFS 2023-24 highlights the limited coverage of training, with only 0.97 per cent of 14-18-year-olds having received institutional skilling while nearly 92 per cent have none. Addressing this gap is crucial for leveraging India's demographic dividend. Skill education in schools would equip young people with market-aligned skills, particularly in the service sector, which absorbs over half of the formally trained youth, while reducing dropouts by linking education to economic opportunities. Strengthening the alignment between school education and national skilling priorities is therefore essential for reducing the share of out-of-school children and building a productive workforce (Box XI.4).

**Box XI.4: Strengthening school education for human capital and productivity growth**

The evolving skill needs of manufacturing, services, and the digital economy underscore the importance of continued schooling up to the higher secondary level. However, PLFS data reveal that a large majority of adolescents, 91.94 per cent, report no skilling exposure, while 7.09 per cent acquired skills informally, without certification or recognised employability pathways.

**Table XI.3: Status of skilling of population in the age group 14 to 18**

| Received Skilling training (Population age 14 to 18) | Number (in lakh) | In per cent |
|---|---|---|
| Yes (from Formal institution) | 11.33 | 0.97 |
| Informal (hereditary, self-learning, learning on the job) | 82.64 | 7.09 |
| Not received | 1072.25 | 91.94 |
| **Total** | **1166.22** | **100** |
| Source: Annual PLFS 2023-24 (unit level data) | | |

**Table XI.4: Field of formal training opted for by the population aged 14 to 18.**

| Field of formal training | Number | per cent |
|---|---|---|
| IT-ITeS | 5,99,714 | 52.94 |
| Textiles and handlooms, apparel | 1,28,202 | 11.32 |
| Office and business-related work | 97,942 | 8.65 |
| Beauty and wellness | 30,257 | 2.67 |
| Electrical, power and electronics | 29,264 | 2.58 |
| Artisan and cottage-based production | 20,567 | 1.82 |
| Healthcare and life sciences | 10,867 | 0.96 |
| Other | 2,16,021 | 19.06 |
| **Total** | **11,32,834** | **100** |
| Source: Annual PLFS 2023-24 (unit level data) | | |

Among those trained formally, over 52.9 per cent are concentrated in IT/ITeS, pointing to strong demand for digital skills but also signalling limited access to formal training in other high-potential sectors. Training coverage remains very low in areas such as electrical and electronics, beauty and wellness, artisan and cottage-based trades, and healthcare and life sciences. This indicates a mismatch between the available training opportunities and the diverse labour market needs.

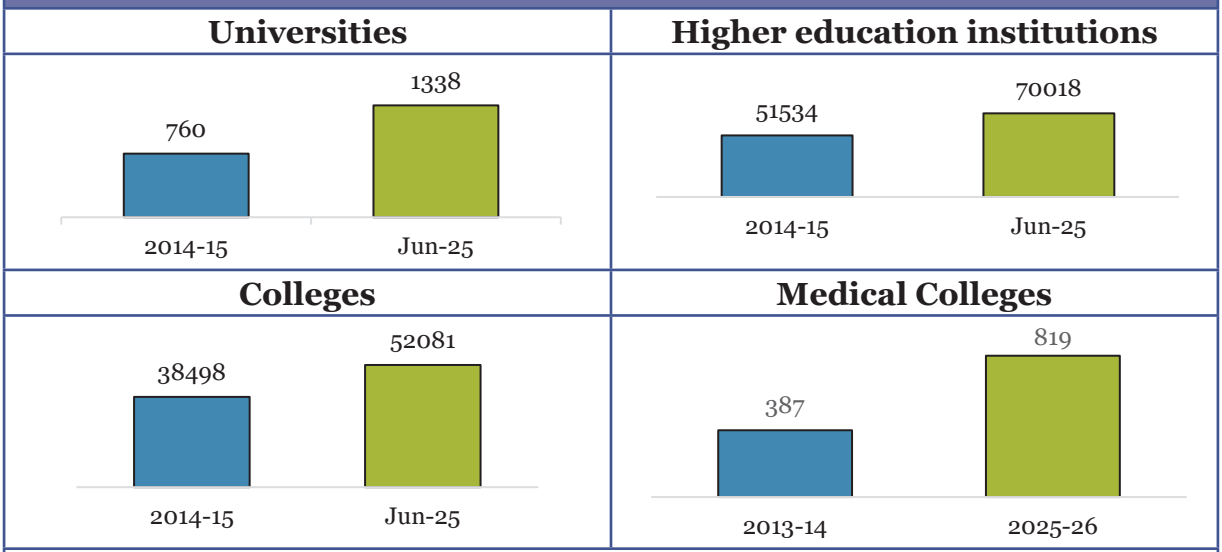
To harness the demographic dividend and build a workforce for a modern economy, a multipronged approach is needed. Composite schools could be established to ensure smooth transitions from pre-primary to higher secondary education. Vocational education integration from Grades VI-XII may include practical exposure and industry visits to enhance career awareness. Expanded partnerships with industry, Micro, small and medium enterprises (MSMEs), and Sector Skill Councils can promote workplace training and apprenticeships. Strengthening linkages between schooling, digital skills, and future-ready competencies can enhance labour productivity. The section on vocational education in Chapter 12 of the Economic Survey provides a detailed framework for enhancing vocational and technical education at the school level.

## Progress in higher education

11.22. The number of higher education institutions (HEIs) has increased from 51,534

in 2014-15 to 70,018 as of June 2025, significantly improving access. This increase is marked by substantial growth in universities and colleges. The number of premier HEIs has expanded significantly between 2014-15 and 2024-25, and now stands at 23 IITs (Indian Institute of Technology), 21 IIMs (Indian Institute of Management), and 20 AIIMS (All India Institute of Medical Sciences), alongside the establishment of two international IIT campuses in Zanzibar and Abu Dhabi.[34]

**Chart XI.5: Improvement in infrastructure (number of institutions)**




Source: M/o Education[35] and M/o Health & Family Welfare

11.23. The All-India Survey on Higher Education (AISHE)[36], 2022-23 (Provisional), reports an increase in student enrolment from 4.33 crore in 2021-22 to 4.46 crore in 2022-23. The GER for higher education at the national level is 29.5 in 2022-23, an improvement from 28.4 in 2021-22 and 27.1 in 2019-20.

11.24. Under the NEP, the higher education system has undergone several reforms. The National Credit Framework (NCrF), which aims to blend academic and skills-based learning, has been adopted by 170 universities. The Academic Bank of Credit covers 2,660 HEIs, with over 4.6 crore APAAR IDs[37] created, including 2.2 crore IDs with credits.[38] Flexible entry-exit pathways and biannual admissions have been introduced

34 PIB release of the Ministry of Education dated 21 June 2025: https://tinyurl.com/yc7km25d

35 Ibid note 34 above

36 AISHE is a web-based survey conducted by the Ministry of Education since 2010-11. The survey covers all the Institutions in the country engaged in imparting of higher education. Data is being collected on several parameters such as teachers, student enrolment, programmes, examination results, education finance, and infrastructure. Institutions must register on the AISHE portal to be part of the national higher education database. As of 2022-23, 1213 Universities and 46624 colleges are registered on AISHE.

37 The APAAR ID simplifies the processes of credit recognition and transfer right from the school level, thereby streamlining academic progression and recognition of prior learning.

38 Academic Bank of Credits (Data as of 23 January 2026): https://www.abc.gov.in/dashboard.php

by 153 universities to achieve the NEP target of 50 per cent GER by 2035.[39] The NEP's target to build robust R&D capacity and nurture a research-driven culture across universities, colleges, and research institutions nationwide has been initiated with the establishment of the Anusandhan National Research Foundation.

11.25. Further, NEP's target to improve the quality of technical education is being addressed through the Multidisciplinary Education and Research Improvement in Technical Education (MERITE) Scheme for 275 technical institutions, including 175 engineering colleges and 100 polytechnics, which has been approved recently.[40]

11.26. The NEP envisions a 'light but tight' regulatory framework designed to uphold integrity, transparency, and efficient use of resources in the education system. The Viksit Bharat Shiksha Adhishthan Bill, 2025, introduced in the Lok Sabha on 15 December 2025, aims to fundamentally reform the higher education regulatory architecture, as outlined in NEP.[41] The proposed Viksit Bharat Shiksha Adhishthan (VBSA), as the apex body, would have three councils: (i) a Regulatory Council, (ii) an Accreditation Council, and (iii) a Standards Council for coordination and determination of standards in all HEIs under the Ministry of Education, University Grants Commission Act (UGC), the All India Council for Technical Education (AICTE), and the National Council for Teacher Education (NCTE). It will replace fragmented, overlapping regulations with a unified, technology-driven, single-window system, substantially reducing the compliance burden and delays. Transparent and student-centric systems proposed will improve access to quality HEIs, leading to higher GER. The Bill aims to facilitate the establishment of globally benchmarked institutions within the country, thereby retaining domestic talent and attracting international students and faculty. It will strengthen institutional autonomy, especially for Institutions of National Importance[42], and enable more uniform standard-setting and coordinated growth of the higher education ecosystem.

## Developing state capacity to strengthen higher education

11.27. State Public Universities (SPUs) play a crucial role in expanding access to higher education and reducing regional disparities in educational opportunities. 495 SPUs in the country account for nearly 81 per cent of the total student enrolment in HEIs, i.e., about 3.24 crore students at present, with a decadal improvement (from 2011-12 to 2021-22) of 38 per cent.[43] Karnataka leads with 43 SPUs, followed by West Bengal and Uttar Pradesh, each with 38 SPUs. Given their scale and scope, improvements in

39 PIB release dated 29 July 2025: https://tinyurl.com/yhw6wxe2

40 PIB release of Ministry of Education dated 8 August 2025: https://tinyurl.com/yy5redrj

41 The Bill has been referred to the Joint Standing Committee of Parliament. https://tinyurl.com/ufe5zskd

42 The bill defines 'Institution of national importance' as an institution declared as such by an Act of Parliament.

43 NITI Aayog (2025) Expanding Quality Higher Education through States and State Public Universities: https://tinyurl.com/ywhj2z3v

the quality of SPUs are crucial for India's vision of becoming a global hub of talent, knowledge, and innovation.

11.28. The Gender Parity Index (GPI) in SPUs stands at 0.93 nationally, with notable variation across regions.[44] Sikkim leads with a GPI of 1.78, indicating a higher proportion of female students in the SPUs. Goa and Haryana follow closely with GPIs of 1.75 and 1.33, respectively, surpassing the national average. Notably, the GPI in SPUs, though lower than the national average of GPI across HEIs, has shown a 31 per cent improvement over the past decade, indicating an increase in female enrolment in rural areas.

11.29. States have taken noteworthy initiatives to strengthen higher education. On governance, universities benefit from greater autonomy, simpler procedures, and more professional leadership structures, an approach reflected in Gujarat's Public Universities Act 2023. Capacity-building initiatives such as Maharashtra's State Faculty Development Academy help Vice Chancellors, registrars, and senior administrators build the skills needed to navigate emerging challenges and strengthen institutional management. Alumni engagement is deepened through structured approaches such as Odisha's Mo College initiative.[45] Models such as the Research Parks at IIT Madras and IISc (Indian Institute of Scienc) Bengaluru show how structured engagement with industry can deepen research quality and foster innovation. Odisha's Higher Education Programme for Excellence and Equity, which institutionalised research internships and Centres of Excellence, highlights how targeted interventions can expand student opportunities and industry connections.

11.30. A well-functioning innovation ecosystem depends on strong and continuous interaction between government, industry, and academia.[46] These linkages enable the creation, diffusion, and application of new knowledge, forming the basis for technological progress. Science, Technology, Engineering, and Mathematics (STEM) education provides the scientific and analytical skills needed for innovation. The full benefits appear only when research connects closely with industry to develop and commercialise new technologies. Strengthening these links is crucial for knowledge spillovers, faster technology adoption, and turning scientific progress into productivity gains. Box XI.5 discusses policy strategies to enhance industry-academia integration in STEM education.

44 GPI is the ratio of female GER to male GER. The index indicates equality in access to education.

45 Mo College Abhijan is a flagship initiative of the Government of Odisha, where alumni can volunteer to assist their colleges in improving. https://rmddc.ac.in/home/mocollege

46 The interconnection and interaction between the three pillars namely, academia, industry, and government form the well-established Triple Helix Innovation Model (Etzkowitz and Leydesdorff, 2000). Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From National Systems and Mode 2 to a Triple Helix of university–industry–government relations. Research Policy, 29(2), 109–123. https://tinyurl.com/348vueaa

### Box XI. 5. Industry-academia integration in STEM education

The NEP aims to integrate vocational training with general education and to encourage collaboration between industry and academia within HEIs. Industry-academia linkages in the higher education sphere have traditionally emphasised research collaborations, such as joint research, consulting, and technology transfer. However, this can be broadened to include teaching-oriented university-industry collaborations. These include co-creation and co-development of curricula, offering industry-led value-added courses, establishing labs with industrial tools, and upgrading faculty competencies. Teaching collaborations help reduce information gaps and strengthen graduates' domain-specific skills through hands-on learning and project-based engagement. It also promotes problem-solving, technological application, and product development, integrating the on-field industry insights from distinguished experts.[47]

Recent data shows a significant gap between industry requirements and the industry-ready institutes in India, with a recent TeamLease Edtech report showing that 75 per cent of HEIs lack industry-readiness. This is reflected in placement outcomes, with only 16.7 per cent of HEIs achieving 76-100 per cent placements within six months of graduation. Only 25 per cent of HEIs make use of live industry projects, while 26 per cent have internship integration.[48] Compounding these challenges, as of 31 January 2025, 56.2 per cent of professor posts remain vacant in Central Universities and other HEIs.[49]

Strengthening industry-academia collaboration offers a potential pathway to address these structural constraints and improve graduate employability. Recognising this, the government has undertaken several initiatives to deepen industry engagement in higher education. One such measure is the introduction of the 'Professor of Practice' (PoP) category at HEIs by the UGC and the AICTE.[50,51] The PoP concept allows industry professionals to bring real-world practices and experiences into the classroom and also augment faculty resources in HEIs. This enables institutions to formally engage eminent professionals to contribute to experiential learning, research, training, skilling, entrepreneurship, extension activities, and mentoring. According to the UGC PoP portal, over 18,000 experts have registered as PoP at 536 institutes.[52]

However, challenges remain, such as a lack of motivation among industry leaders to join academia due to short tenure (typically up to three years, extendable to four), the disqualification of retired academicians from applying as PoP, and rather strict eligibility criteria for appointment. These are areas which can be further reformed.

47 Borah, D., Malik, K., & Massini, S. (2021). Teaching-focused university–industry collaborations: Determinants and impact on graduates' employability competencies. Research Policy. https://doi.org/10.1016/j.respol.2020.104172

48 TeamLease. From degree factories to employability hubs (January 2026). https://tinyurl.com/t7ss2m7b

49 364th Report on Demands for Grants 2025-26 of the Department of Higher Education: https://tinyurl.com/y7k7dphf

50 UGC guidelines for engaging PoP: https://tinyurl.com/3neshbkw

51 AICTE Concept of PoP: https://tinyurl.com/4stnu8uf

52 PoP portal (As of 23 January 2026): https://pop.ugc.ac.in/

Complementing this, the AICTE-Industry Fellowship Programme aims to bridge the gap between academia and industry through active faculty engagement. By immersing faculty members in cutting-edge industrial environments, the programme seeks to equip them with modern industry insights, fostering their ability to deliver industry-relevant education. This initiative will eventually improve students' employability and industry readiness. As a pilot project, the scheme will train 350 faculty members in the 2025-26 academic year, with plans to expand to 1,500 participants annually over 3–5 years.[53]

In addition, the Indian Science Technology and Engineering facilities Map (I-STEM) serves as a national web portal for sharing R&D facilities.[54] The portal connects researchers with resources by enabling them to access existing publicly funded facilities, promoting indigenous technology development, and facilitating collaboration. It also allows researchers to share details of their outcomes, including patents, publications, and technologies. As of 2025, approximately 53408 researchers are registered in the I-STEM portal, and more than 30144 instruments have been uploaded by over 3745 institutes across India.[55]

Together, these initiatives aim to strengthen the long-term sustainability of industry-academia linkages by enabling greater, more open, and more active participation by industry professionals.

11.31. Over the years, the NIRF ranking has expanded in scope, focusing more on qualitative variables and now influences funding, institutional support, and academic autonomy. It signals student and employer perceptions of quality. The NIRF 2025 data shows South India and Delhi have a concentration of top-ranked institutions, while northern and central states lag, with few in the top 100.[56] Maharashtra and Uttar Pradesh are represented, but other large states have minimal presence. Emerging institutions in northeastern states and UTs are gradually appearing.[57] The process promotes data governance in HEIs, aiding benchmarking and strategic planning, and informs national policy and sector analysis.

11.32. The competitive spirit enforced by the rankings has given rise to the need for increased accountability of HEIs to learners and employers. With the evolving modes of content delivery, traditional HEIs now compete with edtech platforms also. As the quality of content and delivery becomes the primary metric of performance, it also becomes the measure for performance-linked funding, shifting the traditional institution-centric funding to learner-centric support, where learners are directly

53 AICTE-Industry Fellowship: https://ifp.aicte.gov.in/

54 The I-STEM is a national portal that is the gateway for researchers to locate the specific facility(ies) they need for their R&D work and identify the one that is either located closest to them or available the soonest. PIB release of Ministry of Science & Technology dated 20 March 2025: https://tinyurl.com/ywc49rza

55 As of 23 January 2026 https://www.istem.gov.in/

56 Delhi (8), Karnataka (6), Kerala (4), Tamil Nadu (17), and Telangana (5) together comprise 40 per cent of the institutions in the top 100 in terms of overall ranking.

57 NIRF ranking 2025: https://tinyurl.com/2ppumx46

funded and have the choice of content providers. These developments blur ownership, location, legacy reputation, etc., causing 'creative destruction' that is likely to restructure higher education soon.

## Internationalisation of Higher Education

11.33. NEP aims at 'Internationalisation' of higher education by making the Indian education system self-reliant and comparable to global standards and norms, enabling it to attract more students from abroad and reduce outbound student migration. UGC issued the Regulations on Academic Collaboration between Indian and Foreign Higher Educational Institutions, 2022, enabling Indian HEIs to offer twinning, joint, and dual degree programmes with reputed foreign universities. Further, 100 per cent foreign direct investment (FDI) is allowed in higher education. These efforts are reinforced by the UGC (Setting Up and Operation of Campuses of Foreign Higher Educational Institutions in India) Regulations, 2023, under which 15 foreign HEIs are expected to set up campuses in India.[58]

11.34. With state-of-the-art infrastructure and advanced academic standards set up through the Higher Education Funding Agency, the World-Class Institutions Scheme[59], and global rankings reflect its aim to become a global higher education hub. Internationalisation extends beyond collaborations and exchanges to recruiting international faculty, enrolling foreign students, and fostering an overseas research partnerships ecosystem. Box XI.6 outlines policy measures to promote international student mobility.

**Box XI.6: Promoting international student mobility**

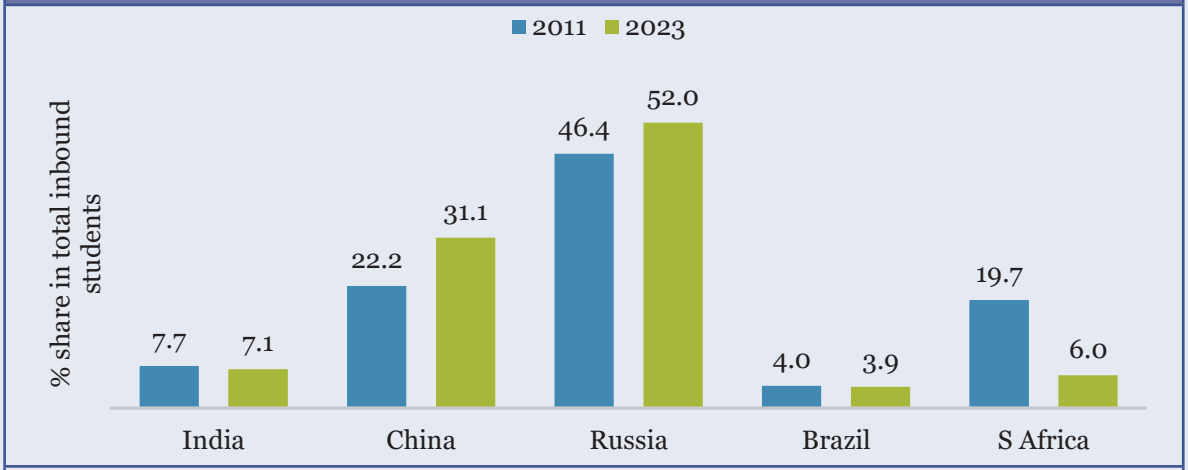
Globally, the stock of internationally mobile students has risen from about 22 lakh in 2001 to 69 lakh in 2022, with the USA, Canada, UK, Australia, France, and Germany as the principal hosts.[60] Within BRICS, Russia and China have emerged as major education hubs, together accounting for over four-fifths of inbound mobility into the bloc, while India's share remains in single digits despite its very large domestic higher education system.

58 PIB of the Ministry of Education dated 26 May 2025: https://tinyurl.com/35r74et5

59 The World Class Institutions Scheme was started in 2017 to enable HEIs in India to have affordable world-class academic and research facilities. Twelve institutions (eight public-funded and four private) have been notified as Institutions of Eminence (IoE) under the scheme. Policy on world-class institutions: https://tinyurl.com/2bccrpyr

60 NITI Aayog. (2025). International student mobility: A global and Indian temporal overview https://tinyurl.com/bde8mber

**Chart XI.6: Comparative figures of inbound students for BRICS nations**




Source: UNESCO[61] and survey estimation

India has emerged as the world's largest source country of international students. The number of Indians studying overseas is rising from 6.85 lakh in 2016 to over 18 lakh by 2025. In 2024, for every one international student coming to India, 28 Indian students went abroad, with significant associated foreign exchange costs. Annual outward remittance under the 'studies abroad' component has increased to USD 3.4 billion in FY24. Indian students abroad are highly concentrated in a small group of host countries, including Canada, the USA, the UK, and Australia, whose attractiveness is driven by perceived quality, work rights, migration pathways, and strong branding.[62]

Inbound students in India increased from under 7,000 in 2000-01 to around 49,000 in 2020, just before the pandemic; however, this represents only about 0.10 per cent of total higher education enrolment, far below leading host countries where international students form 10-40 per cent of enrolments. State-wise, earlier hubs such as Karnataka and Tamil Nadu have seen declines in international student enrolment, while Punjab, Uttar Pradesh, Gujarat, and Andhra Pradesh have emerged as hosts, suggesting that sub-national policies, institutional capacity, and outreach significantly shape inflows.[63] Thirteen programmes account for over 1,000 foreign students each, led by the Bachelor of Technology, Bachelor of Business Administration, and Bachelor of Science, underscoring India's particular strength in cost-effective English-medium STEM and management education. India remains the principal host within South Asia, attracting over four-fifths of all inbound students to the sub-region in 2023, largely from neighbouring countries such as Nepal, Afghanistan, Bangladesh, and Bhutan. However, India's South Asian share has fallen by several percentage points since 2011, indicating rising competition from other regional and extra-regional destinations and signalling the need to refresh its regional value proposition.[64]

61 UNESCO dashboard: https://databrowser.uis.unesco.org/.

62 Ibid note 60 above

63 NITI Aayog (2025) 'Internationalisation of Higher Education in India: Prospects, Potential and Policy Recommendations' https://tinyurl.com/ar2bz49p

64 UNESCO: https://databrowser.uis.unesco.org/

Domestically limited international visibility of most institutions and regulatory frictions have limited India's ability to convert its cost and scale advantages into an equivalent pull factor.[65]

### Policy levers and education tourism

India's policy ecosystem for internationalisation has become more enabling, with the introduction of the NEP, updated UGC guidelines, regulations for academic collaboration and mutual recognition of qualifications, and permissions for foreign branch campuses, including those in GIFT City. The 'Study in India' initiative leverages quality benchmarks, including NAAC[66], NIRF, IoE[67], NBA[68], and global rankings, to create a compelling proposition for international students. This directly advances an education-tourism strategy that capitalises on India's distinctive strengths: its rich traditions in philosophy, Ayurveda, classical arts, and spirituality, combined with affordability, widespread English proficiency, and a rapidly advancing innovation and digital ecosystem.

However, to position India as an education hub, broader strategies need to be deployed. Programme diversification beyond full degrees, such as summer schools, semester-abroad modules, heritage and philosophy tracks, yoga and Ayurveda certificates, and innovation or rural-immersion labs, can be bundled with tourism circuits and tailored for BRICS and wider Global South partners. Promoting reciprocal student mobility by establishing bilateral agreements, alongside encouraging top Indian HEIs to institutionalise two-way exchange programmes and offer joint, dual, or twinning degrees can be considered. Institutional and ecosystem reforms are necessary to enhance the campus experience (housing, health, counselling, insurance, and visa services). These reforms should simplify regulations (faster visas, post-study internships, recognition of prior learning, and flexible credits) and leverage alumni and start-up ecosystems through embassies and incubators, while building regional networks in STEAM3 areas (STEM, including Arts, Management, and Medicine). Given the increasing visa and enrolment restrictions in the advanced countries, it is a timely opportunity for India to develop a tailored branding, communication, and outreach strategy to attract inbound students to India.[69]

The Indian Technical and Economic Cooperation Programme, of the Ministry of External Affairs, has trained more than two lakh persons from over 160 countries in both the civilian and the defence sector. It has been an important tool in strengthening India's cultural diplomacy and influence, especially in the South Asian region. Building an education ecosystem that provides international students, especially from the global south, with opportunities for education and research of global standards at affordable costs will lay the foundation for generational goodwill.

65 Ibid note 60 above

66 National Assessment & Accreditation Council

67 Institute of Eminence

68 National Board of Accreditation

69 Ibid note 60 above

Internationalisation of education is the foundational step towards encouraging talent retention and migration into India. The competition from campuses of international universities can further incentivise Indian HEIs to advance standards and quality. Caution must be heeded to the working of market forces that might lead to a general increase in the cost of education, excessive commercialisation or exclusion of marginalised, as also to the risk of overemphasis on borrowed knowledge systems that may undermine indigenous/ local traditions. The limitations of the existing regulatory framework may spill over, leading to more complexities in governance.

Building on existing initiatives, a measured focus on internationalisation can enhance the international mobility of students to India. Strengthening the quality, accessibility, and global alignment of India's higher education ecosystem would develop India as a global hub for education and research.

## HEALTH: STRENGTHENING PUBLIC AND PREVENTIVE HEALTHCARE

11.35. Complementing progress in education, enhancements in public health are equally important for strengthening human capital and economic productivity. India has made significant gains in healthcare over the last decade, improving life expectancy, reducing fertility rates, and decreasing maternal and child mortality rates through the implementation of effective strategies and policies. Since 1990, India has reduced its maternal mortality rate (MMR)[70] by 86 per cent, far exceeding the global average of 48 per cent.[71] Similarly, a 78 per cent decline in the under-five mortality rate (U5MR)[72] was achieved, surpassing the global reduction of 61 per cent and a 70 per cent decline in the neonatal mortality rate (NMR)[73] compared to 54 per cent globally during 1990-2023.[74]

11.36. The infant mortality rate (IMR)[75] marked a drop of more than 37 per cent over the past decade, declining from 40 deaths per thousand live births in 2013 to 25 in 2023.[76] Several states, including Karnataka, and Himachal Pradesh, have halved their IMRs over the past decade, marking substantial gains in health outcomes. Kerala, Manipur, Sikkim, and Goa have an IMR in the single digits, comparable to that of developed nations. This marks improvement in the state of neonatal and maternal care, as well as overall healthcare and socioeconomic conditions.

70 Maternal mortality rate is defined as the number of maternal deaths during a given time period per 100,000 live births.

71 United Nations Maternal Mortality Estimation Inter-Agency Group Report (2000-2023): https://tinyurl.com/ty8v3mhr

72 U5MR refers to the probability a newborn would die before reaching exactly 5 years of age, expressed per 1,000 live births.

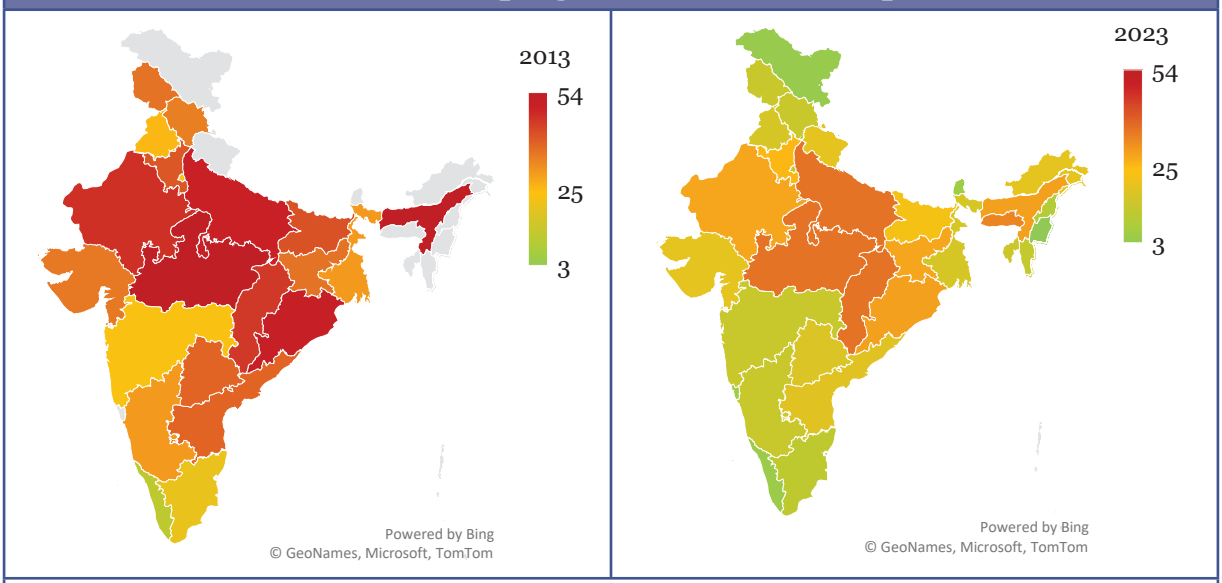
73 NMR is defined as the number of deaths during the first 28 completed days of life per 1000 live births in a given year.

74 UN Inter-Agency Group for Child Mortality Estimation (2024): https://tinyurl.com/25pkr3tp

75 IMR is measured as the number of deaths among infants under one year of age per thousand live births.

76 Sample registration system (2023): https://tinyurl.com/2jbkh3df

**Chart XI.7: State-wise progress in IMR over the past decade**




Source: Sample Registration System 2023 (https://tinyurl.com/2jbkh3df )

11.37. These improvements stem from concrete interventions: strengthened neonatal care protocols, expanded immunisation programmes, and the systematic establishment of neonatal intensive care units across government hospitals. Most infant deaths occur within the first month of life, making reductions during this period a significant achievement. While significant improvements have been made, moving forward, policy must focus on identifying region-specific barriers and targeted interventions to address disparities and continue reducing the national IMR.

11.38. India has harnessed digital technologies to build integrated healthcare and insurance systems that enhance transparency, minimise fragmentation, and expand access. A study of ICT interventions under the PM Jan Arogya Yojana scheme reported that the interventions have advanced the creation of a robust digital health ecosystem aligned with national performance goals.[77] The ICT innovations have meaningfully supported the achievement of universal health system reforms. Initiatives, such as the Hospital Management Information System, Ayushman Bharat Digital Mission (ABDM), and e-Sanjeevani, have enhanced citizen access to digital health services, created digital employment opportunities, along with enabling evidence-based policymaking and improved hospital management.

11.39. Centres of Excellence for AI-driven reform have been established at AIIMS Delhi, PGIMER Chandigarh, and AIIMS Rishikesh in partnership with the Wadhwani Institute. A Clinical Decision Support System integrated with e-Sanjeevani, a media disease surveillance tool, and AI-based diabetic retinopathy screening has been

77 Achungura, G., Raza, A., Katre, V., Anand, J. S., Ravishankar, N., & Kelkar, R. (2024). Data Integration of Health Financing Systems as a Critical Enabler for Objective-Oriented Health System Reform: A Scoping Review from India. Health Systems & Reform, 10(3). https://doi.org/10.1080/23288604.2024.2401190

deployed[78]. Initiatives such as the Cough Against Tuberculosis (TB) screening test, tools to predict adverse outcomes in TB patients, mapping of villages more vulnerable to TB, and automation of line probe assays to detect drug-resistant TB are underway. These empower healthcare workers for early screening and surveillance, boosting accuracy, speed, efficiency, and access. Table XI.5 details the progress of various health sector schemes of the government.

**Table XI.5: Progress in health sector schemes**

| **Ayushman Bharat[79]** | **Human Resources[80]** |
|---|---|
| To holistically address health (covering prevention, promotion and ambulatory care), at primary, secondary and tertiary levels by adopting a continuum of care approach.<br>➢ Ayushman Arogya Mandir (AAM) operational: 1,82,944<br>➢ AAM rolled out with expanded range of services (excluding AAM-AYUSH): 1,51,116<br>➢ Total footfall at AAM: 506.50 crores<br>➢ Teleconsultations conducted:42.66 crore<br>➢ Wellness sessions conducted, including Yoga: 6.72 crore | Nearly 3.78 lakh health human resources provided to states<br>➢ General Duty Medical Officer: 18,922<br>➢ Specialists: 4,964<br>➢ Staff Nurses: 77,874<br>➢ ANMs: 96,720<br>➢ Allied & Health Care Workers (Paramedics): 93,034<br>➢ Public Health Managers: 519<br>➢ Lady Health Visitors: 2,701<br>➢ Programme Management staff: 53,840<br>➢ AYUSH doctors: 24,266<br>➢ AYUSH Pharmacist: 3,416<br>➢ AYUSH Paramedics: 2,275 |
| **Ayushman Bharat Pradhan Mantri Jan Aarogya Yojana (AB PM-JAY)[81]**<br>➢ Ayushman Bharat cards generated: 42.78 crore<br>➢ Hospital admissions: 10.98 crore<br>➢ 49 per cent of beneficiaries are females<br>➢ Senior citizens covered: 6 crore | **National Programme for Prevention and Control of Non-Communicable Diseases (NP-NCD)[82]**<br>Systematically identify high-risk individuals and link them to appropriate care.<br>➢ Hypertension screenings: 40.13 crore<br>➢ Diabetes screenings: 39.86 crore<br>➢ Oral cancer screenings: 33.83 crore<br>➢ Breast cancer screenings: 15.86 crore |

78 Developed collaboratively by Central Tuberculosis Division, National Centre for Disease Control, CDAC-Mohali, ICMR, MeitY, Ministry of Higher Education, and Indian Institute of Science.

79 Source: AAM portal, as of 31 December 2025.

80 as per NHM MIS as on June 2025.

81 As of 12 January 2026.

82 As of 31 October 2025.

<table>
<tr>
<td>Ayushman Bharat Health Infrastructure Mission[83]<br>Strengthening health systems and institutions to ensure a continuum of care across all levels - primary, secondary, and tertiary.<br>➢ Building-less Sub Centre-Health Wellness Centre: 9519<br>➢ Urban-AAM: 5456<br>➢ Block Public Health Unit: 2151<br>➢ Integrated Public Health Labs: 744<br>➢ Critical Care Blocks: 621</td>
<td>National Tuberculosis Elimination Programme[84]<br>➢ Incidence rate declined by 21 per cent, from 237/lakh (2015) to 187/lakh (2024); double the global decline (12 per cent).<br>➢ Mortality rate reduced by 25 per cent, from 28/lakh (2015) to 21/lakh (2024).<br>➢ TB treatment coverage increased by 39 per cent, from 53 per cent (2015) to 92 per cent (2024); higher than the global average (78 per cent).</td>
</tr>
<tr>
<td>Universal Immunisation Programme[85]<br>U-WIN portal is a user-friendly platform that enables seamless access to immunisation records, flexible scheduling, and ‘Anytime Access’ and ‘Anywhere’ vaccination<br>➢ Total registered beneficiaries: 14.32 crore,<br>➢ Deliveries recorded: 1.62 crore, and<br>➢ Vaccination doses administered and recorded: 60.98 crore</td>
<td>Pradhan Mantri National Dialysis Programme[86]<br>➢ Financial risk protection for the patients by preventing them from incurring the out-of-pocket expenditure of ₹9741.25 crores.<br>➢ Dialysis was provided to 30.12 lakh patients (cumulative) and<br>➢ Hemo-dialysis sessions held 389.65 Lakh</td>
</tr>
<tr>
<td colspan="2">Swasth Nari Sashakt Parivar Abhiyaan<br>A nationwide campaign aimed at promoting inclusive healthcare and empowering women.<br>➢ Over 1.51 crore beneficiaries were screened for anaemia in 19.28 lakh camps held between 17 September to 2 October 2025.</td>
</tr>
</table>

## India’s epidemiological transition

11.40. India is in a critical and complex stage of the epidemiological transition[87]. While the classical model of transition describes a linear shift from infectious to non-communicable diseases (NCDs) (Omran A., 1971[88]), India’s path is more nuanced and overlapping. Over the past few decades, the country has experienced a substantial

83 MoHFW figures as of 12 November 2025.

84 WHO’s Global TB Report 2025.

85 UWIN data as of 31 December 2025.

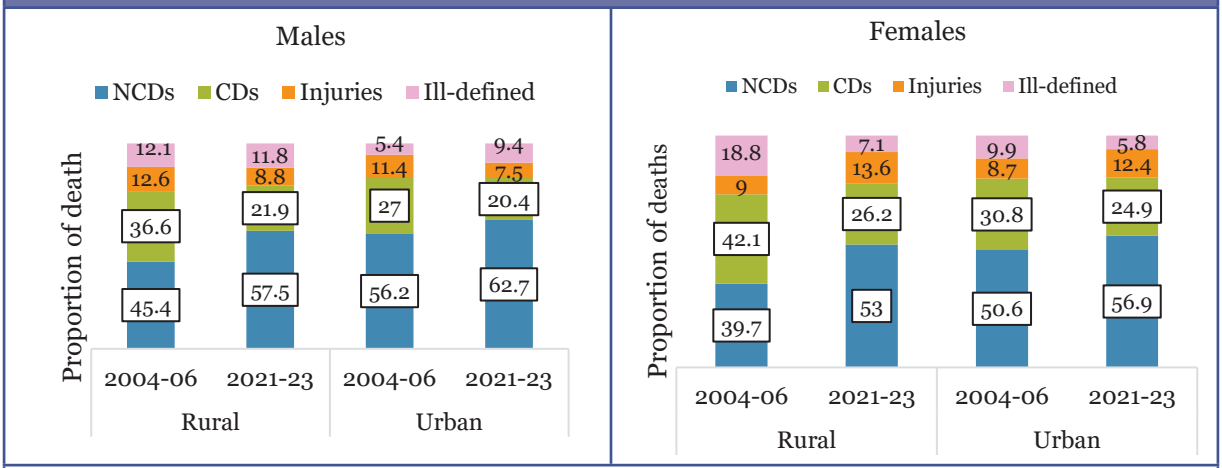
86 As on 30 November 2025.

87 The demographic transition refers to the shift from high to low birth and death rates as societies modernise, while the epidemiological transition describes the change in leading causes of death from infectious diseases to chronic, non-communicable conditions.

88 Omran A. The epidemiologic transition: A theory of the epidemiology of population change. Milbank Mem Fund Q. 1971; 49:509–38 https://psycnet.apa.org/doi/10.2307/3349375
Omran’s epidemiological transition theory describes three stages of societal development: an initial phase marked by high and volatile mortality from famine and epidemics; a transitional phase of declining infectious diseases and rising life expectancy; and a later phase dominated by degenerative and man-made diseases as mortality declines slowly.

decline in mortality from infectious diseases and an increase in life expectancy at birth from 49.7 years in 1973 to 70.3 years in 2023. However, it still faces a double burden: persistent communicable diseases (CDs) (e.g., tuberculosis, vector-borne infections) coexist with rapidly rising NCDs like cardiovascular diseases, diabetes, and cancers. Recent data show that NCDs account for more than 57 per cent of all deaths in the country.[89]

**Chart XI.8: Gender wise and area-wise share of NCDs, CDs and others over the years**




Source: SRS- COD Report for 2021-23 https://tinyurl.com/5n7nd566

11.41. This duality of rising burdens of CDs and NCDs is compounded by regional and socioeconomic disparities. While Kerala exhibits health profiles similar to developed countries, dominated by degenerative diseases, certain other states still face issues of malnutrition and infectious disease outbreaks.

11.42. Cardiovascular diseases have been the leading cause of death for both men and women, with a higher proportion in males across all years since 2004-06.[90] Other major causes include perinatal conditions, diabetes, and genitourinary diseases. Men are found to have higher all-cause and cardiovascular mortality rates compared to women. This pattern has been documented across countries in global and regional studies.[91] However, women may have worse prognosis and higher case fatality rates after acute cardiovascular events, potentially due to delayed diagnosis or under-treatment[92].

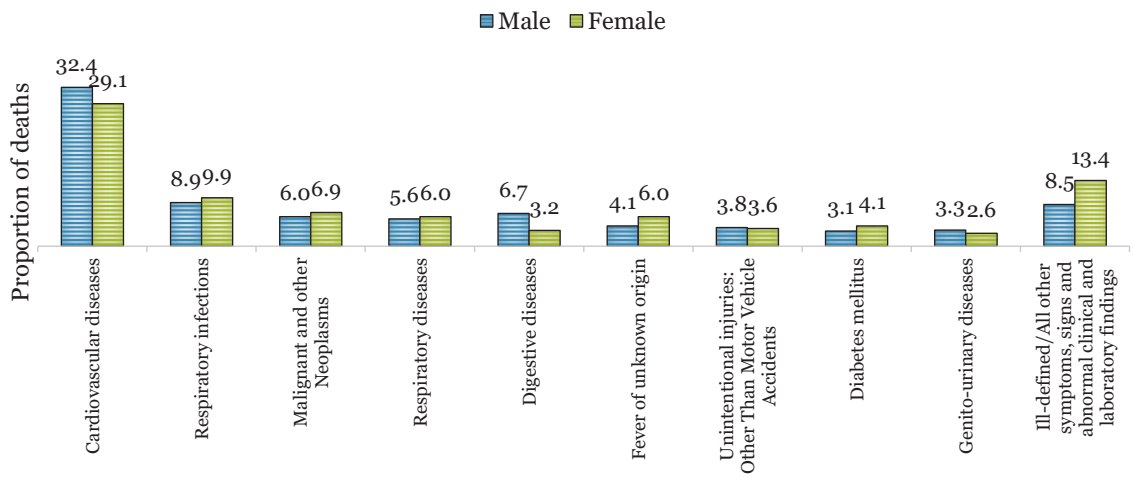
89 Source: Statement 2.1C of SRS- Cause of Death in India Reports https://tinyurl.com/5n7nd566

90 SRS- Cause of Death in India Reports over the years : https://tinyurl.com/5n7nd566

91 World Heart Federation. (2023). World Heart Report 2023: Confronting the world's number one killer. https://tinyurl.com/3fjh785p

92 Möller-Leimkühler, A. M. (2007). Gender differences in cardiovascular disease and comorbid depression. Dialogues in Clinical Neuroscience, 9(1), 71–83. https://doi.org/10.31887/DCNS.2007.9.1/ammoeller

**Chart XI.9: Gender and cause-specific comparison of death (All ages for 2021-23)**




Source: SRS- COD Report for 2021-23 https://tinyurl.com/5n7nd566

11.43. Consolidating gains in maternal and child health, while scaling up efforts for elderly and chronic disease care, will be critical to keep pace with its demographic realities. The dominance of cardiovascular diseases highlights the need for targeted prevention and management strategies, with special attention to gender-specific risk factors and healthcare access. The higher proportion of ill-defined[93] causes in women suggest a need for improved diagnostic accuracy and healthcare utilisation among females.

11.44. Obesity is rising at an alarming rate and is today a major public health challenge in India. Driven by unhealthy diets, lifestyle changes, including sedentary lifestyles, increased consumption of ultra-processed foods (UPFs), and environmental factors, it is affecting people across all age groups and increasing the risk of NCDs such as diabetes, heart disease, and hypertension, impacting both urban and rural populations. The next section discusses this issue.

## Tackling the obesity challenge

11.45. The 2019-21 National Family Health Survey (NFHS) reports that 24 per cent of Indian women and 23 per cent of Indian men are overweight or obese. Among women aged 15-49 years, 6.4 per cent are obese, and among men, 4.0 per cent are obese. More troubling still, the prevalence of excess weight among children under five has risen from 2.1 per cent in 2015-16 to 3.4 per cent in 2019-21. According to estimates, over 3.3 crore children in India were obese in 2020, and it is projected to reach 8.3 crore children by 2035.[94]

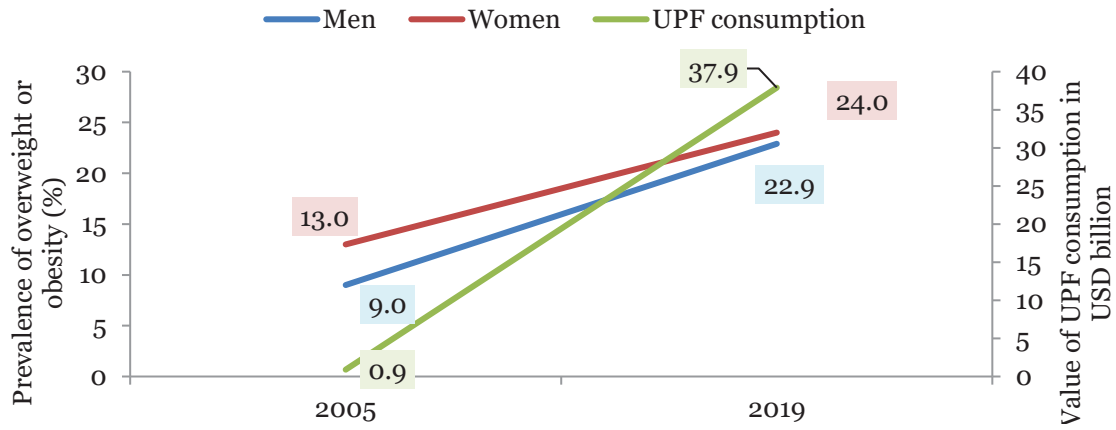
11.46. India is one of the fastest-growing markets for UPF sales. It grew by more than

93 SRS defines ill-defined causes of death as instances where the cause could not be properly diagnosed.

94 World Obesity Atlas 2024 (https://tinyurl.com/2pwnvjf2 )

150 per cent from 2009 to 2023.[95] Retail sales of UPFs in India surged from USD 0.9 billion in 2006 to nearly USD 38 billion in 2019, a 40 fold rise.[96] It is during the same period that obesity has nearly doubled in both men and women. This mirrors the global rise of obesity, parallel to dietary shifts.[97]

**Chart XI.10: Parallel rise in obesity and UPF consumption in India**




Source: NFHS round 3 (2005-06); NFHS round 5(2019-21) and Euromonitor International 2019

11.47. UPFs are displacing long-established dietary patterns, worsening diet quality, and are associated with increased risk of multiple chronic diseases. A global team of researchers worked on the Lancet Series on UPFs and Human Health[98], consolidating the global evidence demonstrating that high UPF consumption is associated with several adverse health outcomes, such as obesity, chronic heart disease risk, respiratory issues, diabetes, mental health disorders, etc. The rising use of UPFs imposes a substantial economic cost through higher healthcare spending, lost productivity, and long-term fiscal strain. Box XI.11 of the Economic Survey 2024-25, presented facts about the growth of UPF markets worldwide and in India, along with evidence of their impact on various health parameters, including mental health.[99] Box XI.7 takes the discussion forward and presents potential policy responses.

**Box XI.7: Addressing the challenge of ultra-processed foods**

An increase in UPFs in the human diet is contributing to chronic diseases worldwide and widening health inequalities. There is a growing body of evidence on the impact of UPFs on human health, indicating that there should be no delay in implementing public health policies while further research continues to unfold.[100] Policies have so far focused on advocacy to reduce consumption of foods high in added fats, sugar, and sodium, many of which are UPFs. However, improving diets cannot depend solely on consumer behaviour change; it

95 https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(25)01567-3/fulltext

96 https://icrier.org/pdf/Ultra_Processed_Food.pdf

97 https://www.nature.com/articles/s41574-025-01143-7

98 https://www.thelancet.com/series-do/ultra-processed-food

99 Economic Survey 2024-25 Chapter 11 Social Sector: https://tinyurl.com/pz9tavzj

100 Ultra-processed foods: time to put health before profit - The Lancet, Volume 406, Issue 10520, 2601

will require coordinated policies across food systems that regulate UPF production, promote healthier and more sustainable diets and marketing.

*The marketing challenge:* Marketing strategies for UPFs often include explicit encouragements for overconsumption, with phrasing such as 'I bet you can't eat just one'.[101] While noodles utilise emotional selling or 'buy one get one free' tactics, as well as celebrity endorsements and projecting the UPF as a healthy food option. Such strategies lead to the displacement of whole foods and degrade the quality of the diet. Adolescents exposed to unhealthy food and beverage advertising showed a high desire and intention to consume the advertised foods.[102] A study from Punjab found that parents are concerned about food advertisements, especially during children's TV viewing time, and celebrity endorsements, which they believe may increase the frequency of children eating out.[103]

A study from New Zealand found that children's exposure to unhealthy food/drink marketing is linked to their dietary preferences and consumption.[104] A recent state-of-the-art review report of UNICEF finds strong evidence linking marketing and UPF intake.[105]

India's policy response to the rising burden of obesity, NCDs, and increasing UPF consumption was documented in 2017 through the National Multi-sectoral Action Plan (NMAP) for Control of Common NCDs. It called for reducing unhealthy diets, considered to be a key driver of NCDs, and for reducing high-fat, sugar and salt (HFSS) food consumption through several steps and coordinated action across 39 departments. These included regulations for Front-of-Pack labelling (FOPL), a ban on advertisements of HFSS foods by amending existing laws on the Advertising Code[106] and the Norms of Journalistic Conduct to explicitly include HFSS foods. It also envisaged a comprehensive law to prevent and control NCDs, addressing the marketing and advertising of HFSS and alcohol. The NMAP had set a target to halt obesity by 2025.

The ICMR–NIN Dietary Guidelines (2024) explicitly warn against UPFs and recommend limiting HFSS products. The Central Consumer Protection Authority (CCPA) Guidelines for Prevention of Misleading Advertisements (2022), and relevant provisions of the Food Safety and Standards Act 2006 commit that there shall be no misleading food advertisements.[107] However, enforcement against misleading food advertisements leaves much to be desired.

101 Friedman, N. The four-letter word that changed advertising history. https://tinyurl.com/5n869wj2

102 Tsochantaridou, A., Sergentanis, T. N., Grammatikopoulou, M. G., Merakou, K., Vassilakou, T., & Kornarou, E. (2023). Food Advertisement and Dietary Choices in Adolescents: An Overview of Recent Studies. Children, 10(3), 442. https://doi.org/10.3390/children10030442

103 Verma, M., Aggarwal, R., Nath, B. et al. Exploring the influence of food labels and advertisements on eating habits of children: a cross-sectional study from Punjab, India. BMC Public Health 23, 311 (2023). https://doi.org/10.1186/s12889-023-15058-3.

104 Frost H, Te Morenga L, Mackay S, McKerchar C, Egli V. Impact of unhealthy food/drink marketing exposure to children in New Zealand: a systematic narrative review. Health Promot Int. 2025 Mar 5;40(2):daaf021. doi: 10.1093/heapro/daaf021. PMID: 40177787; PMCID: PMC11965983. https://tinyurl.com/bp5sct8j

105 UNICEF. (2025). Ultra-processed foods and children: State-of-the-art review. UNICEF Knowledge. https://tinyurl.com/mrykb6cm

106 Cable Television Networks (Regulation) Act, 1995 & Advertising Code (Rule 7). (1994). Ministry of Information and Broadcasting, Government of India. https://tinyurl.com/mry9phkf

107 Food Safety and Standards Act. 2006. Ministry of Health and Family Welfare, Government of India. Retrieved from https://www.fssai.gov.in

While Rule 7 of the Advertisement Code prohibits misleading, unverified, or unhealthy advertisements, it does not define 'misleading' with measurable or nutrient-based criteria, leaving interpretation subjective and inconsistent. Similarly, the CCPA guidelines mandate that ads must not exaggerate health benefits or exploit children, yet they lack clear nutrient thresholds or a framework for identifying misleading claims in food marketing.[108] This regulatory ambiguity allows companies marketing UPFs to continue making vague 'health,' 'energy,' or 'nutrition' cues without violating any clearly defined standard, highlighting a critical policy gap that needs reform.

A comprehensive analysis of the policy framework around advertisements by public health experts in India concluded that a 'robust regulatory framework is needed to protect children from HFSS food marketing, not just what is "directed" at them, with clear evidence-based food classification criteria.'[109]

The option of a marketing ban on UPFs from 0600 hours to 2300 hours for all media, and enforcing restrictions on the marketing of infant and toddler milk and beverages, could be explored. Chile is an example of a country with integrated laws. Advertisement restrictions are also done in other countries, such as Norway and the UK. Recently, the UK has banned junk food advertising before 9 pm on TV and online to reduce children's exposure and curb childhood obesity.[110] Further action on other marketing activities, including school and college sponsorship of events by UPF manufacturers, can be designed. The authors recommended UPF marketing restrictions to be mandatory and include digital media.

*Front-of-pack nutrition labelling:* In a unique multi-sector consensus, 29 organisations issued a statement reviewing evidence on FOPL. It offers concrete recommendations, particularly for replacing the proposed Indian Nutrition Rating (or Health Star Rating) system with warning labels, restricting marketing to children, and ensuring that trade agreements do not undermine public health policy.

Studies have shown that warning labels are the most effective option for discouraging UPF consumption, compared with ranking-style labelling schemes such as Nutri-Score and Health Star Ratings.[111,112,113] The authors recommend that warning labels be added to UPFs or HFSS foods targeted at infants and toddlers, as these foods are currently not included in regulations. Prohibition of nutrient and health claims on UPFs is also recommended to avoid health halo effects.

108 CCPA. 2022. Guidelines for Prevention of Misleading Advertisements and Endorsements. Ministry of Consumer Affairs, Government of India. Retrieved from https://consumeraffairs.nic.in

109 Shalini Bassi et. al. 2024. Are advertising policies affirmative in restricting the marketing of foods high in fat, salt and sugar (HFSS) in India?: evidence from SWOT Analysis, The Lancet Regional Health - Southeast Asia, Volume 21, 2024, 2772-3682, https://tinyurl.com/3d8vrj6v

110 UK Government News: https://tinyurl.com/m4h4erj8

111 Barrett, E. M., & Pollard, C. M. (2025, January 11). Parents find Health Star Ratings confusing and unhelpful. https://tinyurl.com/2j827kye

112 Christina A. et.al. 2021. The Influence of Front-of-Package Nutrition Labelling on Consumer Behaviour and Product Reformulation. Annual Review Nutrition. 41:529 550. https://doi.org/10.1146/annurev-nutr-111120-094932.

113 Taillie, L. S., Hall, M. G., Popkin, B. M., Ng, S. W., & Murukutla, N. (2020). Experimental Studies of Front-of-Package Nutrient Warning Labels on Sugar-Sweetened Beverages and Ultra-Processed Foods: A Scoping Review. Nutrients, 12(2), 569. https://doi.org/10.3390/nu12020569

*Nutrient-Based Tax on UPFs:* The possibility of introducing the highest slab of GST and a surcharge on UPFs which exceed thresholds for sugar, salt, or fat could be explored. The revenue generated could be earmarked for public health initiatives, including nutrition education, school meal improvements, and NCD prevention programmes.

### Multi-pronged approach

It is essential to reiterate some key points made in the previous Economic Survey, namely that a multi-pronged approach is necessary to address the concerns arising from the increased inclusion of UPFs in diets in India.[114] The Food Safety and Standards Authority of India (FSSAI) may bring UPFs under regulation with a clear definition and standards, including stricter labelling requirements. UPF may be defined in addition to HFSS by integrating it into the existing frameworks, rather than replacing them. This can be done by using the Nova classification or by identifying cosmetic additives. Enhanced monitoring of branded products to ensure compliance would help build consumer confidence. It is also crucial to raise awareness about the adverse effects of consuming UPFs through targeted campaigns aimed at schools and colleges.

11.48. Recognising obesity as a critical public health concern, the government has launched comprehensive, multi-pronged initiatives to prevent, manage, and reduce obesity in the country. The interventions are strategically designed by multiple ministries to promote a holistic approach that integrates health, nutrition, physical activity, food safety, and lifestyle modifications (e.g., POSHAN Abhiyaan & Poshan 2.0, Fit India Movement, Khelo India, Eat Right India, Nationwide Awareness Campaign – 'Aaj Se Thoda Kam') and AAMs, the School Health Programme, and Yoga promotion continue to advance the goal of a healthier, stronger, and obesity-free India. Ministry of Health & Family Welfare (MoHFW) has issued instructions to all states/UTs to take action for a 10 per cent reduction in oil consumption and intensify awareness through National Programme for Prevention and Control of NCDs (NP- NCD) platforms. Under the programme, over 31.5 crore adults have been screened, and 8.47 crore identified as overweight or obese. The FSSAI has launched the 'Stop Obesity & Fight Obesity-Awareness Initiative to Stop Obesity' campaign to prevent obesity and reduce excessive oil consumption. As part of the campaign, communication materials to raise awareness of obesity have been prepared in regional languages and sign language, alongside media outreach through FM radio, railway announcements, and digital platforms.[115] Above all, it is important for all to focus on the intake of the right nutrition in their diets. The following section discusses the need to narrow the nutritional gap while presenting the extent of the challenge in this regard.

## Nutritional intake trends

11.49. The nutrition landscape is one of complexities characterised by the incidence of child malnutrition; key nutrient deficiencies in adolescent girls, pregnant and lactating

114 Ibid note 99 above

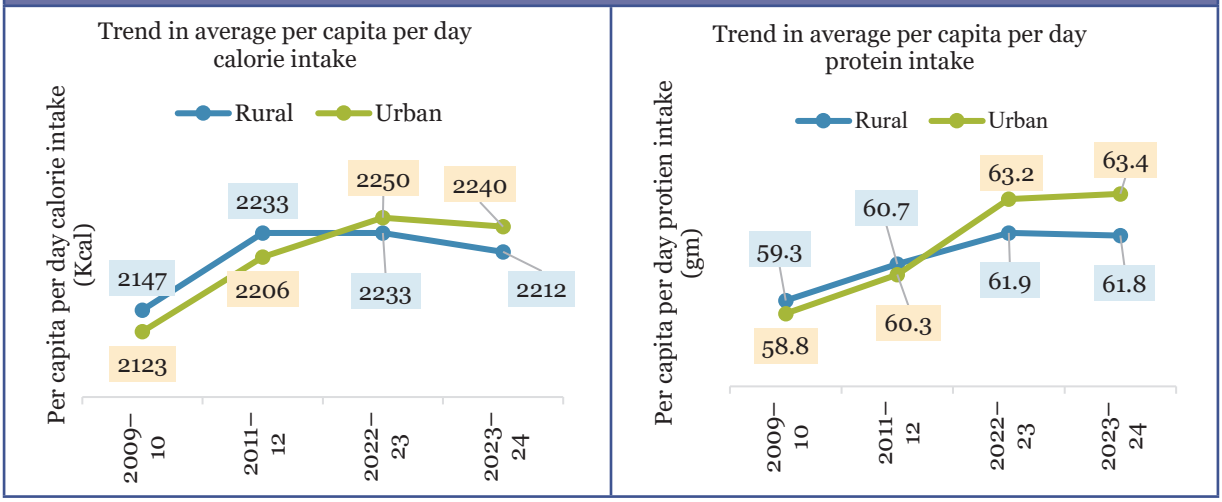
115 Press release of the MoHFW 7 June 2025: https://tinyurl.com/3nr5v5nx

mothers, and micronutrient and mineral deficiencies, especially the vulnerable and marginalised sections of society. The concerns of rising lifestyle diseases, rising burden of cancers, increasing antibiotic resistance, and falling general immunity levels are exacerbated as a consequence of nutritional deficiencies. It is evident that nutrition plays a crucial role in addressing many of these concerns.

11.50. Nutritional intake trends set the broader context of India's progress and commitment to achieving SDG 2: Zero Hunger, which focuses on eliminating hunger and improving nutrition outcomes. Daily per capita intake of calories and protein has increased in both rural and urban areas between 2009-10 and 2023-24 (Chart XI.11).[116] Calorie intakes for rural and urban populations are similar at nearly every income level, suggesting a narrowing nutritional gap (Chart XI.12). Additionally, a positive correlation has been observed between consumption expenditure and calorie intake in both rural and urban India.[117]

11.51. The National Food Security Act of 2013 (NFSA) is one of the largest food security programmes globally, aiming to ensure access to food for all. Moving beyond food security and to ensure nutrition security, targeted initiatives such as Saksham Anganwadi and POSHAN 2.0, Pradhan Mantri Matru Vandana Yojana (PMMVY) and Poshan Shakti Nirman are being implemented with a focus on improving the nutritional status of adolescent girls, pregnant and lactating mothers, and school-going children.

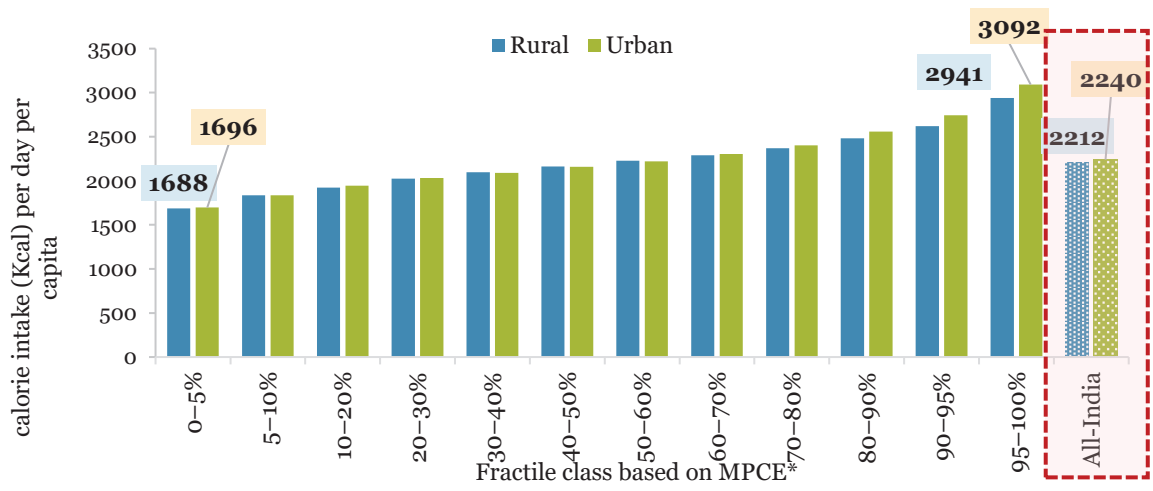
**Chart XI.11: Trend in average nutrient intake**




116 The report uses data collected during the household consumption expenditure survey 2022-23 and 2023-24 on the consumption of food items by the members of the households during specified reference periods. Based on the food consumption data and utilising the nutrient content values of different food items, estimates of per day per capita and per day per consumer unit intake of calories, protein and fat have been generated at various levels of disaggregation, namely, State, sector, fractile classes of MPCE, etc.
The data for 2009-10 is based on NSS's 66th round (2009-10), and data for 2011-12 is based on NSS's 68th round (2011-12) consumer expenditure survey. The data for 2022-23 and 2023-24 is based on the household consumption expenditure survey conducted during August 2022 – July 2023 and August 2023 – July 2024.

117 Nutritional Intake in India (2022-23 and 2023-24): https://tinyurl.com/ycyu9b4p

**Chart XI.12: Convergence of per day per capita calorie intake in urban and rural areas in 2023-24**




Source: Nutritional Intake in India, MoSPI (https://tinyurl.com/ycyu9b4p)
Note: The fractile classes of the population distribution by MPCE are formed separately for rural and urban sectors at the all-India level.

11.52. At over 1.8 lakh AAMs, community health officers and primary healthcare teams deliver services for the prevention and management of malnutrition among children, as well as maternal nutrition. The initiative provides screening, early management, referral, and follow-up for children's nutritional disorders (deficiencies, overweight/obesity), along with counselling and support for mothers/caregivers on infant and young child feeding. While there are several initiatives focused on nutrition, going forward, the policy focus needs to address the underlying factors that influence dietary preferences (Box XI.8).

**Box XI.8: Nutrition for a future ready India**

Initiatives directly targeting nutrition outcomes range from the NFSA public distribution measures, the Poshan Abhiyan for children, supplementary nutrition for adolescent girls, mid-day meals, to take-home rations for expecting and lactating mothers, both by the union and state governments. These are complemented by initiatives/campaigns focused on exclusive breastfeeding and complementary feeding, reproductive health, highlighting the benefits of nutrition in the school curriculum, and awareness about lifestyle disease prevention, among others. However, the concerns continue to prevail and, in some cases, worsen. There is a need to acknowledge the presence of underlying factors that affect nutrition, such as diversity and quality of food available, changing socio-cultural patterns of consumption, food fads and taboos, and inadequate knowledge about nutrition.

An analysis of food patterns and preferences reveals that a significant segment of the population in India consumes far more cereals than recommended, along with less protective foods such as legumes, milk, nuts, vegetables, and fruits. For example, in the urban region of north India, fat intake (67.3 g) was among the highest; Northeast India consumed the

highest total calorie (2908 Kcal) and carbohydrate (457 g) per day; highest percent protein from meat, poultry, fish and sea foods was observed in the urban (16.9 per cent) and rural (28 per cent) of southern regions. Further, only 8.7 per cent of the population in rural areas and 14.3 per cent of the population in urban areas consumed milk and milk products as per recommended levels.[118] Findings from EAC-PM study show that the dietary diversity of micronutrient intake has improved significantly over the last decade (2011-12 to 2022-23) across all consumption classes, with the largest gains observed among the bottom 20 per cent of households. This improvement further reflects better access to micronutrient-rich foods, such as fruits, eggs, fish, meat, and milk, enabled by advances in infrastructure, transport, and storage, pointing to a meaningful, broad-based improvement in diet quality.[119]

All first-line interventions, from infancy through adolescence to adulthood, need to be strengthened to move from merely targeting accessibility to also focusing on quality standards of food and supplements that are delivered and bioavailability, along with tracking outcomes. The current interventions and new ones will need to be based on more disaggregated evidence on food habits and the prevalence of diseases in the region/state, while also considering access to a diverse range of sources. Adopting a whole-of-life approach for nutrition interventions enables all implementing agencies to collaborate. Similarly, the supply of processed and packaged protein-rich foods, as well as high-quality micronutrient- and mineral-fortified foods, can be incorporated into rations, mid-day meals, and other meals, ensuring both quality and nutrition. Traditional foods, such as millets and lesser-known pulses, may be considered for distribution through the public distribution system, ensuring that they do not perpetuate reliance on cereals and help widen dietary diversity. Further, there is also evidence of significant improvement in dietary diversity across consumption classes and states, which is influenced by better infrastructure and access to a wider variety of foods.[120] The most significant gain in dietary diversity has been reported in the bottom 20 per cent of households and the Northeastern states.

The 2024 ICMR–NIN Dietary Guidelines[121] address India's evolving food environment. They tackle the dual burden of malnutrition-undernutrition and rising obesity, while emphasising sustainable food choices, micronutrient sufficiency, and the prevention of diet-related NCDs. Key recommendations include consuming a diverse range of foods, increasing intake of vegetables and legumes, and reducing consumption of salt, fat, and sugar. The guidelines also promote regular physical activity and serve as a vital resource for public health policymakers, nutritionists, and the wider public.

Dietary reforms should be treated as a public health priority and hold a prominent place in initiatives for the prevention of NCDs, alongside integration with AYUSH for effective management. The efforts to popularise locally grown food, traditional foods and traditional

118 ICMR- National Institute of Nutrition Report 2020 What India Eats Report 3-2-21.cdr

119 Kapoor, M., Ravi, S., Rajan, S., Dhamija, G., & Sareen, N. (2024). Changes in India's food consumption and policy implications: A comprehensive analysis of Household Consumption Expenditure Survey 2022-23 and 2011-12 (Working Paper). Economic Advisory Council to the Prime Minister (EAC-PM Working Paper Series EAC-PM/WP/30/2024): https://tinyurl.com/yeykwx7e

120 Changes in India's food consumption and policy implications Comprehensive Nutrition Report_3Sept2024_SR_MK

121 DGI_2024.pdf

cooking methods are reflected in the increasing number of social media influencers creating content around such knowledge and practices. The attractiveness and reach of social media should be leveraged to disseminate the importance of nutrition in the prevention and management of NCDs. Sustained awareness generation and education are possible only with a change in behavioural choices, and it can be enabled by embedding the messages in a culturally relevant manner.

11.53. Schools serve as formative environments where children learn and adopt healthy nutritional and physical activity practices. Considering the amount of time children spend at school, it is an ideal place to encourage them to learn and practice healthy habits. A study of school-based, family-involved interventions for tackling childhood obesity prevention across countries concluded that having teachers actively involved and trained by health professionals to coordinate school-based activities is more effective in promoting healthy energy-balance-related behaviours during school hours.[122]

11.54. School-level interventions such as increasing water accessibility, providing free fruits, offering only healthy options in the school cafeteria, and removing vending machines will provide a choice of healthier foods. Integrating mandated daily and weekly physical activity time with classroom activity is crucial for both mental and physical health and will reinforce the benefits. The formation of a wellness council by school staff, along with a written wellness policy, may enhance the effectiveness of school-level interventions. Regular training and workshops for parents and staff, and collaboration with the local community, will enhance the effectiveness of measures. Any intervention at the school level would only be effective with the active participation of the families and communities to ensure that healthy habits are followed outside schools as well. To incentivise both public and private schools to prioritise student well-being, a school well-being score may be calculated. This would allow parents to assess school performance based on both the academic achievements and the students' well-being.

11.55. Today, the market offers a growing range of products sold as energy drinks, health drinks, nutrient drinks, stress-relief formulations, and weight-loss beverages, many of which make quasi-medical claims without being considered medicines. These products are known as ‘health supplements’ or ‘nutraceuticals’. The regulations for nutraceuticals are continually evolving, with supplements often occupying a grey area between food and medicine. Since these products can be purchased without a doctor’s prescription, concerns exist that long-term, unregulated use, particularly of poorly

122 Lambrinou, C. P., Androutsos, O., Karaglani, E., Cardon, G., Huys, N., Wikström, K., Kivelä, J., Ko, W., Karuranga, E., Tsochev, K., Iotova, V., Dimova, R., De Miguel-Etayo, P., González-Gil, M., Tamás, H., Jancsó, Z., Liatis, S., Makrilakis, K., & Manios, Y.; Feel4Diabetes-study group. (2020). Effective strategies for childhood obesity prevention via school-based, family-involved interventions: A critical review for the development of the Feel4Diabetes-study school-based component. BMC Endocrine Disorders, 20(Suppl 2), 52. https://doi.org/10.1186/s12902-020-0526-5

manufactured products, may lead to adverse reactions. Consumers must be clearly informed and educated that such products are not equivalent to clinically validated therapies, enabling them to make an informed choice.[123]

11.56. While national nutrition programmes play a vital role in setting the tone of the policy framework and extending financial support, it is the states that, through successful on-the-ground implementation, determine the efficiency and effectiveness of programmes. State-level innovations are powerful tools for addressing local challenges and issues. Additionally, social & behaviour change communication (SBCC) strategies have been effective in achieving the desired scheme outcomes. These strategies have been employed in large-scale health initiatives such as HIV prevention and control, polio vaccination, routine immunisation, and COVID-19 vaccination. Similarly, schemes such as the Swachh Bharat Mission, Rural Water Supply and Sanitation Programmes, and the PM Fasal Bima Yojana have integrated SBC as part of their implementation and seen improvements in demand generation and sustained behavioural changes.

11.57. One such state-level example is Rajasthan's Cash Plus Model, which integrates DBT with behaviour change interventions to tackle child and maternal undernutrition.[124] The learnings from the programme can inform implementation strategies in other states to better achieve scheme outcomes. Box XI.9 outlines the key lessons learned from this model.

**Box XI.9: Leveraging social & behaviour change communication: Lessons from the Rajasthan Cash Plus Model**

The NFHS 5 data showed that in Rajasthan, 31.8 per cent of children under five years of age were stunted, 27.6 per cent were underweight, and 16.8 per cent were wasted.[125] The pandemic severely impacted the delivery of cash transfer schemes targeting maternal and child health, including the PMMVY and the state-funded Mukhya Mantri Matritva Poshan Yojana. This led to delays in payments and the diversion of funds by beneficiaries for purposes other than those intended. In response, the government of Rajasthan launched the Cash Plus model.[126]

Under this initiative, the two existing cash transfer schemes were converged and piloted in five tribal districts.[127] The initiative acknowledged that traditional practices, myths, and

123 FSSAI requires that labelling on the article of food shall be in accordance with the Food Safety and Standards (Packaging and Labelling) Regulations, 2011, and the specific labelling requirements provided in these regulations. Nutraceuticals must not claim to prevent, treat, or cure diseases; any health-related claims must be scientifically supported and approved, and product labels must clearly identify the item as a nutraceutical, disclose ingredients and quantities, provide usage and safety warnings (including 'NOT FOR MEDICINAL USE'), and include storage and precautionary information. https://tinyurl.com/4p58u5xz

124 RajPusht Cash plus behaviour change project report: https://wcd.rajasthan.gov.in/order/detail/1022/0/199715

125 Rajasthan NFHS V (2019-21) Factsheet: https://www.nfhsiips.in/nfhsuser/publication.php

126 https://rajpusht.in/about/

127 Baran, Baswada, Dungarpur, Udaipur and Prapatgarh

deeply ingrained socio-cultural factors influenced food habits and child-feeding practices; therefore, it designed a tailor-made SBCC strategy in conjunction with the cash transfer.

The SBCC strategy clearly segmented the targeted audience and went beyond the primary target of pregnant and lactating mothers to reach out to husbands, mothers-in-law, other family members, and the larger community with contextualised key messages.[128] To ensure proper behaviour modification among the target audience, Anganwadi workers (AWWs) were trained based on a custom-made AWW guideline, 'Margdarshika', to provide nutrition counselling during home visits and to conduct group counselling on maternal and child health. Simultaneously, Auxiliary Nurse Midwives (ANMs) were trained to provide individual counselling to improve understanding of the need for antenatal care. These two interventions were positioned as the primary interpersonal communication approaches. ASHA (Accredited Social Health Activist) workers organised meetings of Village Health Nutrition and Water Sanitation Committees, providing an opportunity to discuss nutrition and health issues in these meetings, thereby encouraging community participation. Awareness sessions were conducted by frontline workers during community programmes such as Godh Bharai and Annaprashan. Multimedia campaigns were used across print media, radio, and television channels to create awareness about the scheme and its benefits. Mid-media methods, such as street plays, puppetry, and wall paintings, were utilised to help retain the key messages.

Recognising that men mostly owned smartphones and consumed short videos, and acknowledging growing social media use among the target audience, digital campaigns were used for outreach. The 'Bahubali' campaign was developed and shared on Facebook, YouTube, and aired on movie channels. It reimagined Bahubali as a caring family man rather than a stereotypical 'manly' figure, featuring a four-part web series on shared household responsibility. These efforts promoted positive gender norms and shared nutritional duties.

The results were encouraging. Compared to 2022, 54 per cent more women are using cash specifically for accessing nutrition, and the proportion of women using cash for food increased from 30 to 89 per cent in 2025.[129] 35 per cent more women have gained over 6 kg during pregnancy; 49 per cent more women are using local food items, ensuring improvement in dietary diversity, and a more diverse diet is being provided to children above 6 months of age. The SBC strategy has enabled informed decision-making among beneficiaries, shifted social attitudes, debunked myths, and encouraged community participation. Between 2022 and 2025, a 35 per cent reduction in prevalent myths and taboos surrounding maternal nutrition and awareness among men increased from 18 per cent to 62 per cent. These behavioural change interventions ensured that the financial transfer is utilised by the beneficiaries in the desired manner and that the positive practices adopted by them are sustained.

As welfare schemes grow, states must go beyond service delivery to understand behavioural factors influencing benefit use. Unlike other schemes focused on uptake, financial transfers rely on beneficiaries using aid as intended. Incorporating SBCC as a core, well-resourced

128 RajPushtika-Compilation.pdf

129 A-Comprehensive-Look-at-RajPushts-SBC-Strategy-in-Action.pdf

part of programme design can address barriers, improve household decision-making, promote gender norms, and dispel myths, ensuring financial support yields desired results. A structured, locally-informed SBC approach supported by frontline workers and communication channels can foster sustained behaviour change and amplify long-term impact.

11.58. Just as increased UPF consumption and rising obesity reveal how modern lifestyles shape health outcomes, the growing prevalence of digital addiction highlights another critical behavioural risk in today's society. While obesity and inadequate nutrition threaten the physical health of youth, digital addiction undermines their cognitive and social development. Together, these interconnected challenges necessitate policies to safeguard the health and human capital of the next generation.

## Digital addiction: Cognitive and psychological impacts

11.59. India has made significant strides towards a digitally empowered society, driven by a rapidly growing digital economy, robust public digital infrastructure and affordable internet. The digital economy contributed 11.74 per cent to the national income in FY23, with projections of 13.42 per cent in FY25, reflecting usage and monetisation at scale.[130]

11.60. Internet connections in India grew from 25.15 crore (2014) to 96.96 crore (2024), supported by nationwide 5G deployment and BharatNet fiber connectivity to 2.18 lakh Gram Panchayats. 85.5 per cent of households own at least one smartphone (2025), reflecting near-ubiquitous access and driving digital usage across all demographic groups. In 2024, 48 per cent of internet users watched videos online, 43 per cent accessed social media, 40 per cent used email and listened to online music, and 26 per cent made digital payments. In absolute terms, these shares translate into roughly 40 crore users for OTT (over-the-top) video and food delivery and almost 35 crore for social media.[131]

11.61. Thus, India's youth are living in an intensely digital environment. While access fuels learning, jobs, and civic participation, compulsive and high-intensity use can impose real economic and social costs, ranging from lost study hours and reduced productivity to healthcare burdens and financial losses resulting from risky online behaviours. With near-universal mobile/internet use among 15–29-year-olds, access is no longer the binding constraint; the focus needs to shift to behavioural health considerations such as the rising problems of digital addiction, quality of content, well-being impacts, and digital hygiene.

11.62. Digital addiction is described as addictive behaviour linked to digital devices, including smartphones, the internet, gaming, and social media addiction (Ali, Jiang

130 PIB-Ten Years of Digital Progress Building an Inclusive and Future-Ready India

131 State of India Digital Economy Report 2025

et.al. 2015[132]; Meng et al., 2022[133]). It is typically framed as a behavioural pattern of excessive or compulsive engagement with digital devices or online activities that leads to distress and functional impairment, described as persistent, excessive, or obsessive computer and online use, causing impairment in psychology.[134]

11.63. Digital addiction negatively affects academic performance and workplace productivity due to distractions, 'sleep debt', and reduced focus. It also erodes social capital through weaker peer networks, lower community participation, and diminished offline skills. Beyond direct economic costs from online purchases, gaming, and cyber fraud, it can reduce employability, productivity, and lifetime earnings. Compulsive digital use is linked to anxiety, stress, depression, and sleep disturbances, especially among students facing academic pressure and exposure to cyberbullying and high-stimulus platforms.

11.64. Research on digital addiction highlights distinct risks and mental health consequences among youth. Social media addiction is strongly associated with anxiety, depression, low self-esteem, and cyberbullying stress, with multiple Indian and global studies confirming its high prevalence among those aged 15-24. Compulsive scrolling and social comparison are particularly linked to anxiety and depressive symptoms. Gaming disorder shows evidence of causing sleep disruption, aggression, social withdrawal, and depression, with adolescent populations especially vulnerable. Online gambling and real money gaming present evidence of harm, including financial stress, depression, anxiety, and suicidal ideation. Finally, streaming and short video compulsion carry evidence linking binge-watching and endless video loops to poor sleep hygiene, reduced concentration, and heightened stress. Together, these findings underscore the multifaceted nature of digital addiction and its significant impact on mental health.

11.65. Social connections play a crucial role in the mental well-being of an individual. Evidence suggests that frequent face-to-face socialising correlates with higher mental well-being.[135] The Box XI.10 discusses how social connectedness impacts mental health and suicide rates and presents the findings of a study conducted on this aspect.

**Box XI.10: Getting by, with a little help from friends**

'We lived on farms, then in cities, and now we will be living on the internet'[136]

132 Ali, R., Jiang, N., Phalp, K., Muir, S., & McAlaney, J. (2015). The emerging requirement for digital addiction labels;

133 Global prevalence of digital addiction in general population: A systematic review and meta-analysis; Clinical Psychology Review; Meng, S. Q. et al (2022); https://doi.org/10.1016/j.cpr.2022.102128

134 APA Dictionary of Psychology

135 https://tinyurl.com/5x4xv66t

136 Dialogue from The Social Network; USA (2010)

Aristotle presented a view of friendship with three general characteristics: Utility, Pleasure, and Virtue.[137] The relationship between companionship and mental well-being has been well documented.[138] Humans are highly social animals, and our psychological and physical well-being is strongly related to our social connectedness and integration into social networks.[139],[140] and the quality of our close friendships[141]. Social connectedness not only impacts our hedonic well-being (HWB) but is also seen as significantly impacting our eudaimonic well-being (EWB).[142]

It is in this background that a study was done to examine the social connectedness in various states in India and how it links with suicide rates. To access a larger and more comprehensive dataset and to gain deeper insights, data from the Facebook Social Connectedness Index (SCI) was examined[143,144,145] and used as a measure of connectedness in a district-level geographical unit. SCI measures the relative probability of a Facebook friendship link between two Facebook users in different locations.[146] The dataset used contains over 60 million pairs of linkages between two geographical areas and their corresponding SCI numbers,[147] and those pertaining to India were further distilled down to the state and district levels.[148] To closely approximate in-person connectedness, the focus was placed on the SCI scores for connectedness within districts, since a within-district connection on Facebook is likely to have an in-person counterpart as well.[149]

137 Aristotle. (1999). Nicomachean ethics (Ostwald M., trans.). Upper Saddle River, NJ: Prentice Hall.

138 Demir, Özdemir & Weitekamp (2007); Looking to happy tomorrows with friends: Best and close friendships as they predict happiness

139 Holt-Lunstad J., Smith T. B., Baker M., Harris T., Stephenson D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review

140 Fowler J. H., Christakis N. A. (2008). Dynamic spread of happiness in a large social network: Longitudinal analysis of the Framingham Heart Study social network

141 Wrzus C., Wagner J., Neyer F. J. (2012). The interdependence of horizontal family relationships and friendships relates to higher well-being

142 Anderson, A. R., & Fowers, B. J. (2020). An exploratory study of friendship characteristics and their relations with hedonic and eudaimonic well-being

143 Most studies of this nature typically include interviews and interactions with a representative sample however such studies by their very nature are smaller in scale.
https://tinyurl.com/2nar4e7f

144 https://data.humdata.org/dataset/social-connectedness-index

145 https://dataforgood.facebook.com/ Facebook, releases anonymised data in the public domain for use in research programmes. The data have been used for predicting the economic impacts of natural disasters, forecasting trade flows, and analysing social networks, among others. This dataset was published in October 2021.

146 https://tinyurl.com/2nar4e7f

147 The dataset used for this study is the Global Administrative Areas (GADM, version 2.8) and the European Nomenclature of Territorial Units for Statistics (NUTS3) [GADM/NUTS3 dataset].The GADM/NUTS-level dataset was first introduced, described, and analysed in Bailey, Kuchler, Johnston, Russel, State, and Stroebel (2020). A separate set of files (gadm1_nuts2_levels and gadm1_nuts3_counties_levels) provides the levels of each key in the GADM/NUTS files. Shape files for NUTS-level data and GADM-level data are also available for download. https://tinyurl.com/4nmxsfdu

148 As they are too numerous to list here, the names of the districts are not included in this paper and all districts are referred to by their GDAM Shapefile reference codes.
The naming convention is ISO-Country-Name_ID1 [State Code]_ID2 [District Code] for eg. Araria in Bihar would have a GDAM reference code of IND5_63. Certain districts also have a Taluk level breakdown however in interest of uniformity and smoothness of data the present examination is restricted to the district level.

149 https://www.idfresearch.org/blog/18

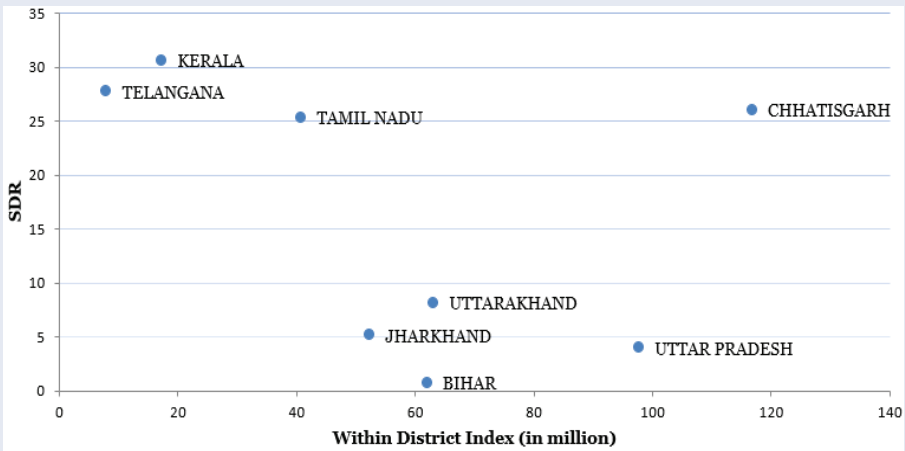
The SCI was first used by Bailey, Cao, Kuchler, Stroebel, and Wong (2018).[150] It measures the intensity of social connectedness between users based on location. Users are assigned to locations based on their information and activity on Facebook. The SCI between two locations i and j is defined as:

SCIi,j = ($FB_Connections\ i,j\ /\ FB_Usersi * FB_Users$j).

If SCI is twice as large, a given Facebook user in location i is about twice as likely to be connected with a given Facebook user in location j.[151] The measure adds some random noise and rounds off the Index, ensuring the anonymity of the data and preventing any single individual or friendship link from being identified. Most studies of this nature typically include interviews and interactions with a representative sample; however, such studies by their very nature are smaller in scale.

A plot of the suicide death rate (SDR) against the within-District SCI scores for a panel of eight selected states shows a broad reverse correlation of within-District connectedness with the SDR, i.e. states having districts with higher connectedness, and thus better in-person social networks, are generally seen as having lower SDRs [Chart XI.13].[152]

**Chart XI.13: Suicide death rates and within-district connectedness**




Connectedness visualised using chord diagrams [Chart XI.14] for the intra- and inter-connectedness of districts in Bihar, Uttar Pradesh, Kerala, and Tamil Nadu are presented below. The size of each chord represents the intensity of the connectedness between the geographic units. Fewer chords and relatively bigger arcs or similar-sized arcs indicate greater within-District connectedness.

150 Bailey, M., Cao, R., Kuchler, T., Stroebel, J., & Wong, A. (2018). Social connectedness: Measurement, determinants, and effects. Journal of Economic Perspectives, 32(3), 259–280. DOI: 10.1257/jep.32.3.259

151 While the use of Facebook data has its limitations, given the social-demographic profiles of users, varying levels of tele-density, and data consumption, it was nonetheless used to discern some preliminary trends, given its large size and reach. Facebook is the largest social media platform globally, with 3.05 billion monthly active users worldwide [as of February 2024]; India has the largest number of Facebook users, with 403.4 million Facebook accounts as of October 2025 (https://tinyurl.com/mx7j4jnm) It is estimated that the 18-30 age group comprises 54.2 per cent of Facebook's users (https://www.oberlo.com/statistics/facebook-age-demographics#), and is therefore relevant for the study.

152 Source: NCRB ADSI Report 2023 We understand that Chattisgarh is an outlier i.e. a State which shows a higher level of within-District connectedness yet has a high suicide death rate. The reasons would perhaps require a deeper dive.

Bihar and Uttar Pradesh display notably sparse chord networks ([Chart XI. 14a & b), with thick, concentrated arcs within each district, suggesting that their digital social universe is primarily rooted and bounded within district-level communities. This sparsity of cross-district ties suggests that communities remain relatively geographically anchored, relying more heavily on local, in-person social bonds and being less dependent on distant, online-mediated relationships. The SDR for these states is very low, being 0.7 for Bihar and 3.9 for UP. Conversely, Kerala and Tamil Nadu (Chart XI.14c & d) exhibit densely woven networks of chords radiating across districts, indicating that their online social fabric is highly dispersed and geographically diffuse, and hence lower in person-to-person social connection. This is reflected in the relatively higher SDRs of 30.6 in Kerala and 25.3 in Tamil Nadu.

**Chart XI.14 Inter and intra-district connectedness**

**Chart XI.14 a: Bihar**

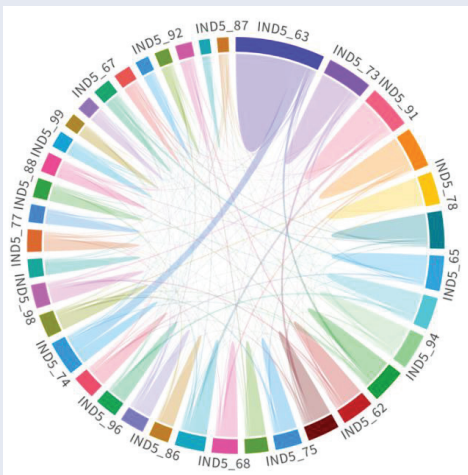



**Chart XI. 14 b: Uttar Pradesh**

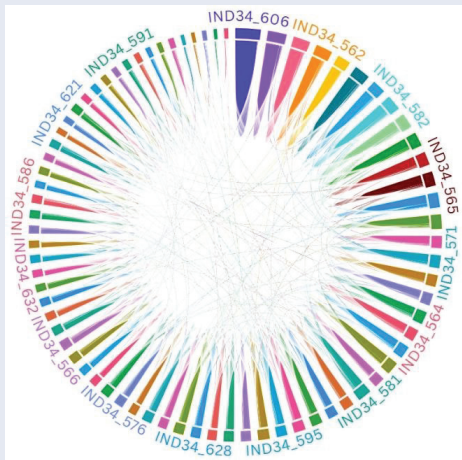



**Chart XI. 14 c: Kerala**

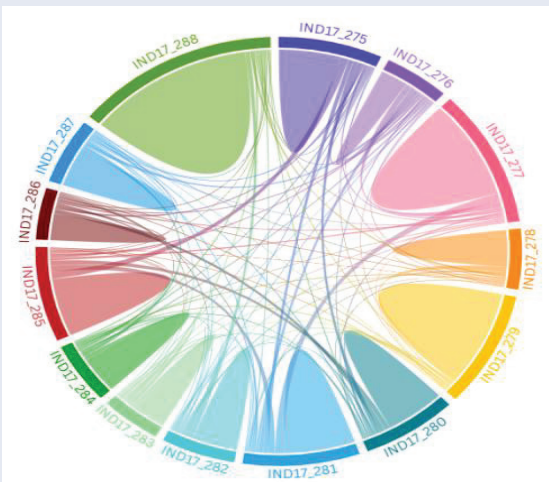
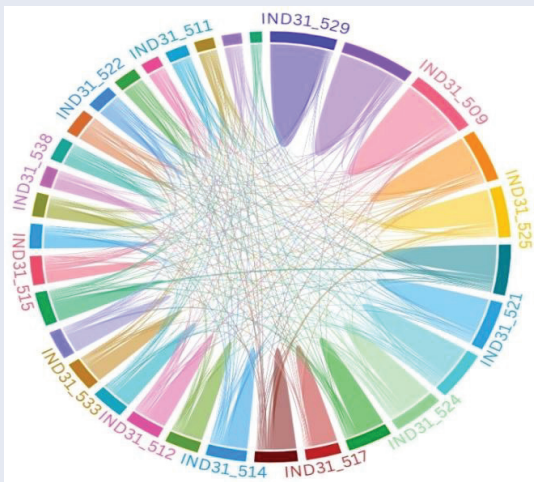



**Chart XI.14 d: Tamil Nadu**




*Note: It may be noted that in the above visualisations, the size of the arcs is dependent on the number of districts in the state. Therefore, arcs for a state like UP with a higher number of districts would be narrower as compared to a state like Kerala, which has fewer districts.*

India's challenge is to rebalance youth engagement by combining restrictive safeguards with positive offline opportunities and not to demonise technology. That balance respects the role of technology in modern learning and work while addressing the overloads that harm sleep, mood, attention, and finances, ensuring that we can mitigate economic losses, protect mental health, and maintain digital progress as a driver of empowerment rather than addiction.

## Global and national responses to digital addiction

11.66. Digital addiction among youth has become a significant public health concern worldwide, prompting regulatory, therapeutic, and educational responses from governments, health institutions, and civil society. The World Health Organisation (WHO) recognised online gaming addiction as a mental health condition in ICD-11 under 'Gaming Disorder,' defined by impaired control over gaming, prioritisation of gaming over other activities, and continued play despite negative consequences.[153]

11.67. Australia has introduced one of the world's strictest measures against youth digital addiction, a nationwide ban on social media accounts for children under 16. South Korea introduced the 'Shutdown or Cinderella law' in 2011, restricting minors from accessing gaming websites after midnight. This policy, grounded in the Game Industry Promotion Act, was later repealed in 2021 in favour of parental control models.[154] China has implemented a 'fatigue system' for gaming that restricts online gaming time (just one hour per day on weekends and holidays) and penalises overuse, enforced through real-name registration systems.[155] Singapore has taken a community-based approach through its Media Literacy Council, which promotes responsible digital citizenship and cyber wellness across schools and public platforms.[156] In the United Kingdom, the Digital Resilience Framework provides schools, policymakers, and tech companies with tools to embed digital resilience into education and product design.[157] Countries, including South Korea, Brazil, France, Spain, Finland, Australia, Japan, and some U.S. states, are restricting student smartphone use through classroom bans, school-wide limits, or curfews to curb distractions and protect student well-being. The Seoul Metropolitan Government launched 'I Will Centres' to prevent addiction and offer recovery counselling, promoting a healthy internet culture for the city's youth.[158]

153 International Classification of Diseases, 11th Revision (ICD-11) 2019: ICD-11 for Mortality and Morbidity Statistics

154 GAME INDUSTRY PROMOTION ACT-2018, South Korea

155 State Council of China-Stricter limits on minors' online gaming

156 IMDA Singapore

157 UK Government- Policy paper Digital Resilience Framework

158 Seoul 'I will Centre': https://www.seoulsolution.kr/en/content/2073

## India's response to digital addiction

11.68. In India, multiple measures address digital addiction among children. The CBSE has issued guidelines on safe internet use in schools and school buses.[159] The Ministry of Education's Pragyatah framework guides digital education planning with attention to screen time[160], while the National Commission for Protection of Child Rights has issued guidelines on screen-time limits and online safety.[161]

11.69. Tele-MANAS (Tele Mental Health Assistance and Networking Across States), launched by the MoHFW in October 2022, offers a 24/7 toll-free mental health helpline (14416) across all states and UTs, connecting callers to trained professionals at no cost. A Tele-MANAS app launched in 2024 further expanded access. The service has received over 32 lakh calls since its launch, reflecting its relevance and impact.[162] The SHUT (Service for Healthy Use of Technology) Clinic at NIMHANS, Bengaluru, provides specialised care for excessive and compulsive technology use, focusing on adolescents and young adults. It also conducts free online sessions for parents to support healthier screen-time practices.[163]

11.70. The Online Gaming (Regulation) Act, 2025, represents a major step to address digital addiction and financial harm among youth. It bans online money games involving wagering, restricts advertising, and introduces a licensing framework for permissible skill-based games to curb compulsive use, debt, and related mental health concerns.[164]

## Way forward

11.71. A major challenge in addressing digital addiction in India is the lack of comprehensive national data on its prevalence and mental health effects. This hinders targeted intervention, resource allocation, and integration of digital wellness into national mental health strategies. The upcoming Second National Mental Health Survey (NMHS), led by NIMHANS and commissioned by MoHFW, is expected to generate empirical and actionable insights into the prevalence of mental health issues in the Indian context.

11.72. Developing a comprehensive set of indicators is essential to assessing the multidimensional effects of digital addiction interventions. Key metrics may include usage patterns (average recreational screen time), health outcomes (sleep quality,

159 CBSE Circular: https://cbseacademic.nic.in/web_material/Circulars/2017/32_Circular_2017.pdf

160 Pragyata guidelines: https://tinyurl.com/y9afzf9u

161 Guideline. Being Safe Online: https://tinyurl.com/bddzs5ey

162 TeleManas: https://telemanas.mohfw.gov.in/telemanas-dashboard/#/

163 Specialized Patient Care Services | NIMHANS Bangalore; https://www.nimhans.ac.in/about-us/nimhans-in-media/struggling-with-your-childs-screen-time-nimhans-offers-free-online-sessions-to-help-parents-organized-by-the-shut-clinic-service-for-healthy-use-of-technology-and-the-centre-for-well-being-ncwb

164 PIB release dated 21 August 2025: https://tinyurl.com/mr2jv75c

anxiety and stress levels), academic and workplace performance (attendance and task completion), and safety concerns such as cyberbullying, online scams, and exposure to real-money gaming.

11.73. Digital addiction also affects adults. Awareness programmes in colleges and workplaces, technology-free zones, and 'buddy' or 'mentor' systems can promote healthier digital habits and build offline connections. Adults may be encouraged to adopt 'digital diets' involving voluntary device-free periods. For severe cases, community-based, device-free spaces can provide professional support. Karnataka's 'Digital Detox Centre - Beyond Screens' serves as a resource hub for individuals facing digital addiction.[165]

11.74. To provide alternatives to digital spaces, governments and communities should establish offline youth hubs, particularly in urban slums and rural areas. Recognising that digital access cannot be fully restricted, moderated online safe spaces hosted by schools or similar institutions can also offer peer support and verified mental health resources supervised by trained facilitators. Schools play a critical role in shaping digital habits and should introduce a Digital Wellness Curriculum covering screen-time literacy, cyber safety, and mental health awareness. Measures such as cyber-safety drills, peer mentor programmes, and mandatory daily physical activity can build resilience. Dependence on online teaching tools, which expanded during COVID-19, should be reduced in favour of offline engagement.

11.75. Families should be educated and encouraged to promote screen-time limits, device-free hours and shared offline activities. Parental workshops should be provided through schools and community centres to train guardians in setting healthy boundaries, recognising signs of addiction, and using parental control tools effectively. Policies on age-based access limits may be considered, as younger users are more vulnerable to compulsive use and harmful content. Platforms should be made responsible for enforcing age verification and age-appropriate defaults, particularly for social media, gambling apps, auto-play features, and targeted advertising.

11.76. Promoting simpler devices for children, such as basic phones or education-only tablets, along with enforced usage limits and content filters, can further reduce exposure to harmful material, including violent, sexual, or gambling-related content. Network-layer safeguards, such as ISP-level interventions, can complement such measures by offering family data plans with differentiated quotas for educational versus recreational apps and default blocking of high-risk categories, with opt-in overrides available to guardians.

165 Digital Detox Centre: https://eitbt.karnataka.gov.in/avgc/public/121/digital-detox-centre/en

11.77. Expanding the scope of Tele-MANAS to address digital addiction represents a natural evolution of India's national tele-mental health programme. Training dedicated counsellors and integrating Tele-MANAS with school and college systems can improve access, normalise help-seeking, and enable early intervention.

## OUTLOOK

11.78. India's health and education sectors require unwavering focus to unlock the nation's true potential, especially in addressing interconnected new emerging issues such as the double burden of CDs and NCDs, increasing digital addiction, concerning mental health issues, poor nutrition, and increasing obesity. Together, they threaten the demographic dividend by perpetuating cycles of unemployment, inequality, and lost productivity. Open acknowledgement and constructive public discussion are important initial steps in addressing these challenges and promoting effective solutions. Normalising conversations around mental health, screen-time habits, and lifestyle-related health issues can help foster collective awareness and action

11.79. Technology-driven surveys using platforms like the UDISE+, AISHE, ABDM and integration of AI tools can identify 'health hotspots' such as prevalence of obesity in urban slums or rising digital addiction in peri-urban schools. Public-private partnership can help develop frontline workers-led initiatives in India, employing technology like mobile apps, AI chatbots (ASHABot[166]), and digital dashboards (e.g., ASHA Kirana's M-CAT[167] and ASHA Digital Health[168]), to effectively manage chronic conditions such as diabetes, monitor infectious diseases including COVID-19, and enhance maternal and child health outcomes.[169] Running nationwide campaigns on Doordarshan and social media to highlight role models who inspire change in health and education efforts can be helpful.

11.80. In sum, prioritising education, skilling, digital wellness, health, nutrition, and dietary habits through open dialogue, feedback surveys, success stories, and relatable role models will forge resilient citizens. This holistic approach would ensure a healthier, educated, skilled, thriving India.

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166 https://tinyurl.com/23zfftzj

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