SOCIAL SECTOR: EXTENDING REACH AND DRIVING EMPOWERMENT

CHAPTER 11

India's economic growth strategy emphasises inclusivity and welfare for all its citizens. The government's focus is on empowering citizens through education, healthcare, skill development, and social infrastructure development. All these aspects have seen significant progress. Further enhancements are still possible by improving delivery systems through innovation and technology.

For example, achieving improved educational outcomes and healthcare access can be accomplished with innovative solutions, such as integrating new teaching methods and preventive healthcare strategies. Peer learning, life skills, and social and emotional learning hold great potential for fostering lifelong learning. Additionally, prioritising mental health in the workplace not only matters for overall well-being and a harmonious society but can also enhance worker productivity. A strong focus on preventing non-communicable diseases combined with the use of technology can be economically effective, significantly reducing the cost burden on healthcare systems.

INTRODUCTION

11.1 The virtuous cycle of economic and social development starts with sustainable and inclusive economic growth. While growth expands the economic pie, development represents the process of sustained economic progress and is a medium to long-term outcome of growth. Such growth supports inclusion by providing better and more equal opportunities, enhancing incomes, and reducing extreme poverty. Inclusive growth also improves the overall living standards of citizens of the country in terms of healthcare, education, basic necessities of life and livelihood.

11.2 For growth to transition into meaningful development, sound, effective, holistic, and comprehensive policies are indispensable. Focus is required on education, health, social security, enhancing employment opportunities through skilling etc. These translate to improved quality of social and economic infrastructure in the country. In alignment with this vision for growth-led-development, the government has adopted interventions to ensure welfare for all. Inclusive economic growth is central to the vision of *Viksit Bharat 2047*.

11.3 Social sector policies need to consider the complex interplay of multiple factors which eventually determine their success. For example, a policy to improve school education may not be very effective without policies related to healthcare, food and nutritional security, access to transport facilities, and household income playing as the contributing factors to a child continuing school. Further, policies are required to aim towards empowering citizens and enhancing their capability to achieve their aspirations. This requires providing them with opportunities for self-growth and progress. In keeping with this understanding, the focus is on all-round development to ensure a better quality of life for all citizens through efficient delivery of welfare measures. Government programmes are being designed to reach citizens cost-effectively, leveraging user-friendly dashboards and management information systems for real-time monitoring, promoting transparency and accountability.

Trend in social services expenditure

11.4 The general government's social sector expenditure has been keeping pace with the sector's growing importance. The general government's social services[1] expenditure (SSE) has shown a rising trend since FY17. The SSE as a percentage of total expenditure (TE) has increased from 23.3 per cent in FY21 to 26.2 per cent in FY25 (BE). The social services expenditure witnessed an increase of 21 per cent in FY24 (RE) over FY23 and another 10 per cent increase in FY25 (BE) over FY24 (RE). During the five years from FY21 (pandemic year) to FY25 (BE), the SSE grew at a CAGR of 15 per cent. While the SSE outlay of the centre and state governments was ₹14.8 lakh crore in FY21, it has increased steadily to stand at ₹25.7 lakh crore in FY25 (BE). Expenditure on education has grown at a CAGR of 12 per cent from ₹ 5.8 lakh crore in FY21 to ₹ 9.2 lakh crore in FY25 (BE).[2] Expenditure on health grew at CAGR 18 per cent from ₹ 3.2 lakh crore in FY21 to ₹ 6.1 lakh crore in FY25 (BE).[3]

1 Social services include, education, sports, art and culture; medical and public health, family welfare; water supply and sanitation; housing; urban development; welfare of SCs, STs and OBCs, labour and labour welfare; social security and welfare, nutrition, relief on account of natural calamities etc.

2 Expenditure on 'Education' pertains to expenditure on education, sports, arts and culture.

3 Expenditure on 'Health' includes expenditure on 'Medical and Public Health', 'Family Welfare' and 'Water Supply and Sanitation'.

Chart XI.1: Trends in social service sector expenditure by government (combined Centre and States)

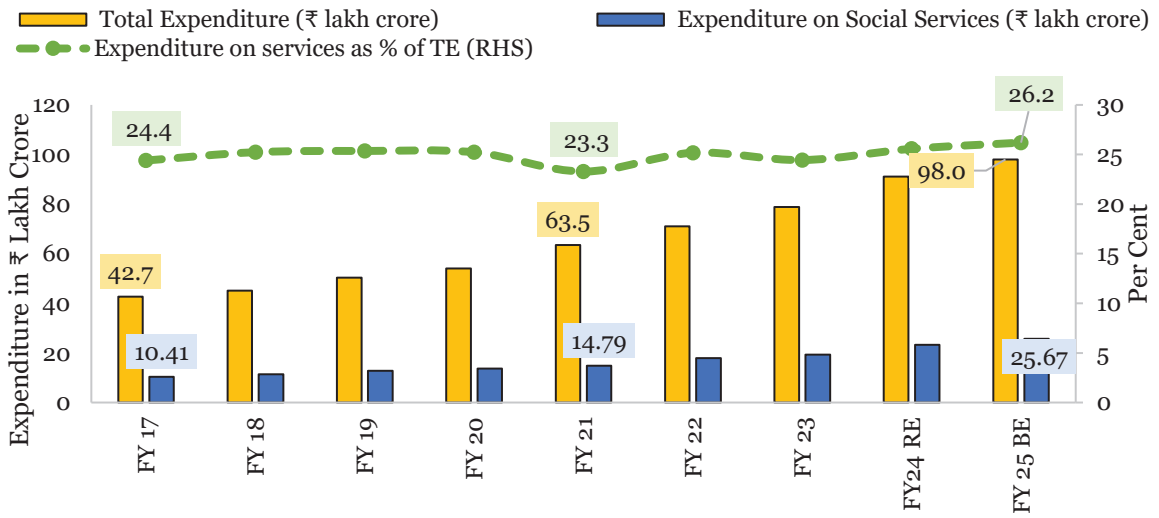
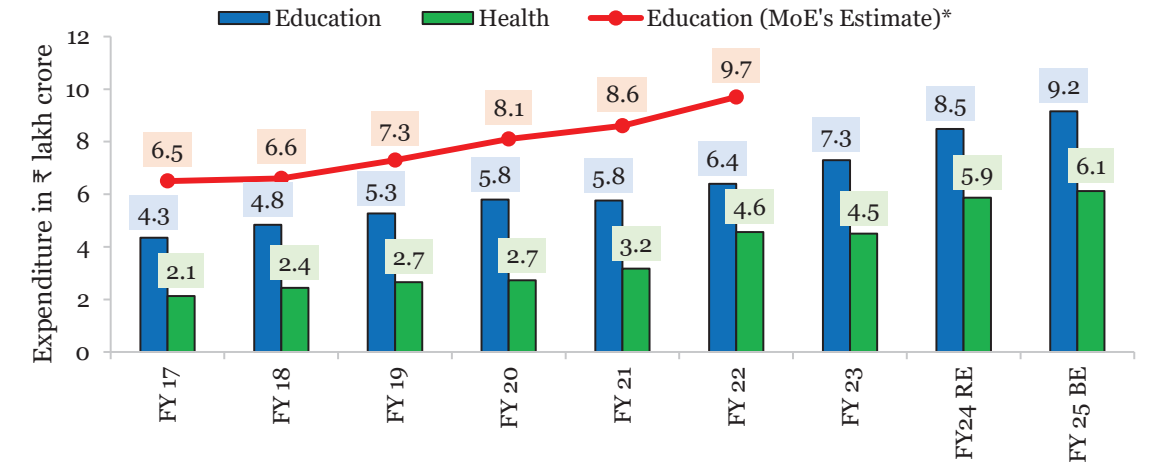


Chart XI.2. Expenditure on education and health



Sources: Budget Documents of Union and State Governments.
Note: *The Ministry of Education (MoE), Government of India, also calculates the General Government spending on education. While RBI's data on Education expenditure incorporates the spending incurred by Centre and States on 'Education, Sports, Arts, and culture, MoE's estimates also include expenditure incurred on medical and public health education, agriculture research and education, welfare of SC, ST, OBC & Minority's education, other scientific research & development, Education under social security, Nutritious food expenditure under mid-day meal, expenditure on imparting training to police, Labour employment and skill development expenditure, education/training expenditure under rural development Programmes etc. This leads to a higher estimate of expenditure on education. The latest available estimate is for the year 2021-22 (BE).

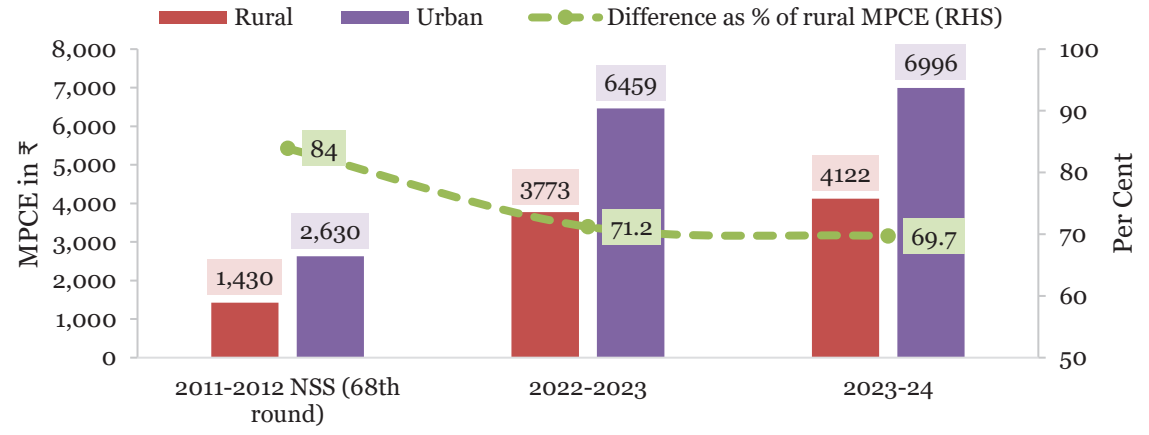
Household Consumption Expenditure Survey 2023-24

11.5 The results of the Household Consumption Expenditure Survey (HCES) 2023-24[4] highlights the narrowing urban-rural gap in consumption expenditure. The average monthly per capita expenditure (MPCE) in rural and urban India in 2023-24 is

4 The survey period is August 2023 to July 2024. (https://tinyurl.com/syyuey62)

estimated at ₹4,122 and ₹6,996, respectively.[5] Considering the imputed values of items received free of cost through various social welfare programmes, these estimates rise to ₹4,247 and ₹7,078, respectively, for rural and urban areas.[6] The urban-rural gap in MPCE has declined to 71 per cent in 2022-23 from 84 per cent in 2011-12. It has further come down to 70 per cent in 2023-24, which confirms the sustained momentum of consumption growth in rural areas.

Chart XI.3. Declining urban-rural gap in consumption



Source: HCES 2023-24, MoSPI

11.6 Social sector initiatives have reduced inequality and increased consumption spending, as reflected in the survey. The Gini coefficient improved for rural areas (declined to 0.237 in 2023-24 from 0.266 in 2022-23) and urban areas (declined to 0.284 in 2023-24 from 0.314 in 2022-23). The bottom 5 per cent of the rural population, ranked by MPCE, has an average MPCE of ₹1,677, compared to ₹2,376 in urban areas. The top 5 per cent have average MPCEs of ₹10,137 in rural and ₹20,310 in urban areas.

11.7 The largest growth in average MPCE between 2022-23 and 2023-24 occurred among the bottom 5–10 per cent of the population in both rural and urban areas. The bottom 5 per cent of the rural population saw a 22 per cent increase, while the corresponding urban segment experienced 19 per cent growth in the MPCE.

11.8 The Economic Survey 2023-24 (chapter 7) highlighted how the welfare policies of the government and the social sector initiatives have resulted in the reduction of inequality marked by rising consumption expenditure, as evident from the results of

5 The figures do not consider the values of items received free of cost by the households through various social welfare programmes.

6 (i) food items: Rice, Wheat/Atta, Jowar, Bajra, Maize, Ragi, Barley, Small Millets, Pulses, Gram, Salt, Sugar, Edible Oil and (ii) non-food items: Laptop/PC, Tablet, Mobile Handset, Bicycle, Motor Cycle/Scooty, Clothing (school uniform), Footwear (school shoe etc.) received free of cost by the households through government programmes, have been imputed. Accordingly, another set of estimates of MPCE considering imputed values of these items and of consumption out of home produce, free collection, gifts, loans etc. has also been compiled for HCES: 2023-24.

the HCES 2022-23. Fiscal policies of the government are playing a key role in reshaping income distribution, inter-alia, through the provision of subsidies, pensions, and other direct transfers, as well as public spending on social services such as education and health. Various government welfare schemes such as free foodgrain or subsidised availability of foodgrains, subsidised cooking fuel, insurance cover, etc, are lifting household incomes. These fiscal transfers help to provide additional resources to the financially deprived sections and, thus, favourably impact people's standard of living.[7] As an example, building upon the learnings of the HCES, a study by the World Bank[8] presents evidence of the re-distribution impact of the Public Distribution System (PDS). **Box XI.1** discusses this evidence.

Box XI.1: Evidence on the distribution of benefits from the PDS

Food subsidies constitute the largest fiscal outlay in the government's large set of social schemes. In 2022-23, Union government spent 6.5 per cent of its budget on the PM Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) to provide free and subsidised food rations. As food subsidies were expanded (and consolidated under the PMGKAY) as part of the emergency fiscal response to COVID-19, the Union food subsidy bill increased from 0.5 per cent to one per cent of GDP between FY19 and FY23. Microdata from the HCES 2022-23 confirm that most households currently purchase food rations—at a subsidised price or free of cost—via the PDS and PMGKAY entitlements. The widespread coverage of ration cards protects low income and vulnerable populations.

The survey also provides insights into the allocation of these benefits across different segments of the population. In 2022-23, 84 per cent of the population had access to a ration card, including 59 per cent who reported holding a Below Poverty Line (BPL), *Antyodaya Anna Yojana* (AAY), or Priority Household (PHH) card in their household. In practice, 74 per cent of the population actively consumes food rations (or kerosene) via the PDS/PMGKAY, with rice and wheat as the most commonly consumed food. Coverage of ration cards is higher in rural areas (at 89 per cent of the population) compared to urban areas (72 per cent).

The PDS/PMGKAY rations improve welfare

An imputation exercise was conducted[9] based on HCES microdata to evaluate the welfare gains from PDS-related consumption. The results suggest that the market-equivalent value of the PDS/PMGKY subsidy equals four per cent of the (final or post-subsidy) nominal

7 For more detailed discussion on this aspect, refer to Chapter 2, "Perspectives on the Inequality Debate in India", of the Ministry of Finance's publication, "RE-EXAMINING NARRATIVES: A Collection of Essays", https://tinyurl.com/2nt6mubz

8 This work was undertaken by World Bank staff, under the Taskforce on Indian Statistical System led by the NITI Aayog.

9 Following international best practices, the unitary value of food rations and kerosene consumption obtained via the PDS/PMGKAY, in 2011-12 and 2022-23, are imputed. The methodology aims to find an equivalent valuation of the PDS/PMGKAY items (paid at subsidised prices or received free of cost) in the local market economy for each household consuming rations in the survey.

monthly consumption expenditure per capita (MPCE), on average, across all households.[10] The relative subsidy is higher in rural (four per cent) than in urban areas (two per cent). The imputed average subsidy is also equivalent to 7 per cent of (post-subsidy) food consumption (eight per cent among rural households). The average PDS benefits increased in 2022-23, relative to three per cent in 2011-12.

The imputation exercise suggests that the benefits (expressed relative to consumption) are higher among lower consumption groups. In 2022-23, the value of the subsidy accounted, on average, for seven per cent of household consumption among the rural bottom 20 per cent but only for two per cent among the top 20 per cent. A similar progressive pattern is observed in urban areas. The benefits are seen to decrease for higher consumption groups but remain positive. Across all quintiles, the relative benefits have increased since 2011-12. Finally, the PDS subsidy was also progressive in absolute terms. The subsidy amount (rupees per capita) was higher among lower-income and rural households and lower among higher quintiles and urban households. The concentration of larger benefits among lower consumption groups suggests that the PDS/PMGKAY policies support the low income and protect other vulnerable households against income fluctuations and impoverishment.

11.9 Box XI.2 offers a clearer insight into the consumption patterns and choices of rural households benefiting from direct benefit transfers (DBTs) and women in the target population obtaining loans from self-help groups (SHGs) based on findings from a primary survey.[11] The survey was conducted in selected districts of Bihar, Jharkhand, Madhya Pradesh, and Uttar Pradesh in November 2024.

Box XI.2: Consumption choices of rural households: Direct benefit transfers and self-help groups

To better understand the consumption choices of rural households, a survey was conducted among married women aged 25 to 45 in rural areas who were relatively less financially privileged. The survey focused on those receiving loans from SHGs, representing a population poorer than the average Indian population. The survey aimed to explore key aspects of women's labour force participation, household decision-making, and the impact of welfare schemes.

The survey asked respondents about their access to government schemes (e.g., Jal Jeevan Mission, PM Kisan Samman Nidhi, Ayushman Bharat, Swachh Bharat Mission - Grameen) and how they utilised funds when the schemes were delivered in cash, such as direct deposits into their or a household member's account. In total, 59 per cent of respondents reported that

10 The average subsidy is calculated across all Indian households. Considering only those households that consumed PDS items over the past 30 days, the market-equivalent value of the PDS subsidy is equivalent to 5 per cent of their (post-subsidy) MPCE or 10 per cent of (post-subsidy) food MPCE.

11 Artha Global's Centre for Rapid Insights (CRI) conducted a survey of approximately 2400 married women between the ages of 25 and 45 in rural areas, who were relatively less financially privileged, in selected districts of Bihar, Jharkhand, Madhya Pradesh, and Uttar Pradesh in November 2024.
The sample population is poorer than the Indian population on average. This demographic group was chosen for study because an increased female labour force participation rate (FLFPR) has been observed among this group. Furthermore, as a popular target for DBTs and cash as well as loans through SHGs from both the Centre and various state governments, a survey of this group allows for an analysis of patterns of consumption due to cash transfers and loans.

the primary benefit of government schemes was an increase in the quality of life. In comparison, another 19 per cent reported that the primary benefit was more time for economic activity. Evidence shows that government schemes have spurred consumption and income-generating activity in low-income households. The prevalence of cash schemes is also very high among the surveyed households, with 77 per cent of households receiving cash from either the centre or a state government, indicating a preference towards cash schemes among economically vulnerable households. The data suggests that economically disadvantaged households demonstrate a preference for cash schemes, likely attributable to the financial empowerment facilitated by the schemes.

These cash transfers are relatively universal and typically impose low levels of conditionality; that is, cash is often given as a function of government-verified social attributes rather than hard-to-monitor behaviours by the household. From a theoretical perspective, it is often argued that imposing strong conditions on cash receipts denies households the ability to use cash where they most need to use it.

The data show sophisticated expenditure patterns from household cash benefits. Overall, 44 per cent of the surveyed households spend the money on increased food consumption, and another 31 per cent spend primarily on non-food consumption (e.g., electricity, water), savings, or loan repayments, while 14 per cent spend on house repair.

However, there is a significant variation in expenditure patterns by wealth. Among the 10 per cent of 'better off' households in the sample, 52 per cent primarily spend on food consumption, and less than 20 per cent primarily spend on non-food consumption, savings, or loan repayments. Among the remaining households, 43 per cent primarily spend on food consumption, and 32 per cent primarily spend on non-food consumption, savings, or loan repayments — suggesting far more diverse expenditure patterns among the less well-off sections of society, bearing in mind that the entire sample itself consists of less financially privileged households.

A significant share of the sample (37 per cent) is engaged in SHGs. Among those in SHGs, 78 per cent have received a loan. While household consumption (34 per cent) is the most reported usage for SHG loans, there is significant usage for health expenditure (22 per cent), starting businesses (19 per cent) and agricultural expenditure (19 per cent). Relatively low use for education (3 per cent) may point to the success of DBTs provided for education.

This highlights the consumption benefits of cash transfers and loans to targeted poorer and lower-income households. These households report using the funds for various basic needs and debt repayments. The exercise reinforces the case for replacing in-kind subsidies with direct and targeted cash transfers.

11.10 Against this background, the chapter highlights the progress made by the economy in terms of economic well-being and presents certain challenges on the way. Section 1 discusses the education initiatives with a focus on foundational literacy and numeracy (FLN), the integration of social and emotional learning (SEL) in the school curriculum, and the importance of digital literacy in a technology-driven world. The section also addresses higher education challenges faced in medical education and the

role of regulation. Section 2 presents the situation in the health space in the country, its progress, and challenges. It further highlights the role of disruptive technologies in providing equitable healthcare and the impact of lifestyle choices on mental well-being. Section 3 explores the rural economy, focusing on infrastructure development and housing as key drivers of economic growth while advocating for the localisation of Sustainable Development Goals (SDGs) to foster rural progress.

EDUCATION: TREADING NEW PATHWAYS

11.11 Education plays a key role in developing an economy by cultivating individuals capable of rational thought and unleashing their agency to better themselves and society. Education and human capital development are among the foundational pillars of development. The National Education Policy 2020(NEP) is built upon this principle.[12] The NEP states that –

'It aims at producing engaged, productive, and contributing citizens for building an equitable, inclusive, and plural society as envisaged by our Constitution.'

School education

11.12 India's school education system serves 24.8 crore students across 14.72 lakh schools with 98 lakh teachers (UDISE+ 2023-24). Government schools make up 69 per cent of the total, enrolling 50 per cent of students and employing 51 per cent of teachers, while private schools account for 22.5 per cent, enrolling 32.6 per cent of students and employing 38 per cent of teachers. The NEP 2020 aims for a 100 per cent Gross Enrolment Ratio (GER) by 2030. The GER is near-universal at the primary (93 per cent) and the efforts are underway to bridge the gaps at the secondary (77.4 per cent) and higher secondary level (56.2 per cent), driving the nation closer to its vision of inclusive and equitable education for all.[13]

11.13 School dropout rates[14] have steadily declined in recent years, standing at 1.9 per cent for primary, 5.2 per cent for upper primary, and 14.1 per cent for secondary levels. However, challenges persist, with retention rates[15] at 85.4 per cent for primary (class I to V), 78 per cent for elementary (classes I to VIII), 63.8 per cent for secondary (classes I to X), and 45.6 per cent for higher secondary (classes I to XII). Improvements in basic facilities and infrastructure, including medical check-ups, sanitation, and information and communication technologies (ICT) availability, have been notable, reflecting a positive trend in school infrastructure development.[16]

12 National Education Policy 2020 (https://tinyurl.com/rdwuz8md).

13 UDISE+ 2023-24 (https://tinyurl.com/57c92kuv).

14 Dropout rate is the proportion of pupils from a cohort enrolled in a given level at a given school year who are no longer enrolled at any grade in the following school year.

15 Retention rate is the percentage of a cohort of pupils (or schools) enrolled in the first grade of a given level of education in a given school year who are expected to reach the last grade of the level.

16 Ibid note 13 above.

Table XI.1 Improving School Infrastructure

(percentage of schools with basic facilities out of total)

Year	2019-20	2021-22	2022-23	2023-24
Girls Toilet	96.9	97.5	97	97.2
Boys Toilet	95.9	96.2	95.6	95.7
Hand wash Facility	90.2	93.6	94.1	94.7
Library/Reading Room/ Reading corner	84.1	87.3	88.3	89
Electricity	83.4	89.3	91.7	91.8
Medical check-ups in school in a year	82.3	54.6	74.3	75.2
Computer	38.5	47.5	47.7	57.2
Internet	22.3	33.9	49.7	53.9
Source: UDISE+ 2023-24				

11.14 The government has been striving to achieve the objectives of NEP 2020 through a range of programmes and schemes, including the Samagra Shiksha Abhiyan (along with its sub-schemes such as NISHTHA, Vidya Pravesh, District Institutes of Education and Training (DIETs), Kasturba Gandhi Balika Vidyalaya (KGBV), etc.), DIKSHA[17], STARS[18], PARAKH[19], PM SHRI[20], ULLAS[21], and PM POSHAN[22], among others. The Economic Survey 2023-24 (Chapter 7, Table VII.4) highlighted the progress made under various government initiatives in school education.

11.15 The pivotal role of early years in development is well-recognised by the Indian education system, as 85 per cent of brain development occurs before the age of six years. To strengthen the Early Childhood Care and Education (ECCE) landscape, the government launched the National Curriculum for ECCE, *Aadharshila*, and the National Framework for Early Childhood Stimulation, *Navchetana*, in April 2024. *Navchetana* focuses on holistic development for children from birth to three years, offering 140 age-specific activities through a 36-month stimulation calendar. It emphasises the inclusion of differently-abled children, maternal mental health, and "*Garbh Sanskar*" (practices during pregnancy). *Aadharshila*, blending Indian and international research, promotes play-based learning with over 130 activities for children aged three to six years that support child-led and educator-led learning. It aims to lay a strong foundation for lifelong learning, aligning with the National Curriculum Framework for Foundational

17 Digital Infrastructure for Knowledge Sharing (DIKSHA).

18 Strengthening Teaching-Learning and Results for States (STARS).

19 Performance Assessment, Review, and Analysis of Knowledge for Holistic Development (PARAKH).

20 Prime Minister's Schools for Rising India (PM SHRI).

21 Understanding of Lifelong Learning for All in Society (ULLAS).

22 Pradhan Mantri Poshan Shakti Nirman (PM POSHAN).

Stage 2022 (NCF-FS) and improving the quality of ECCE through competency-based, user-friendly lesson plans. The objective is to improve the quality of ECCE delivered at the Anganwadi centre by prioritising competency-based lesson plans and activities presented in a simple and user-friendly manner.

Building strong foundations through literacy and numeracy

11.16 School education lays the foundation of a country's education system. The NEP 2020 stipulates that foundational literacy and numeracy (FLN) is critical for education and lifelong learning success. Towards this end, the Department of School Education & Literacy launched the National Mission, "National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat),"[23] in July 2021 to ensure that every child in the country necessarily attains FLN by the end of Grade 3, by 2026-27.[24] It covers three years of FLN in preschool and Grades 1, 2 and 3. Towards this, the education system is deploying innovative pedagogies and teaching methods to ensure that every child achieves FLN. **Box XI.3** discusses one such innovation, viz. peer teaching.

Box XI.3: Peer Teaching: A pathway to achieving FLN

Achieving the vision of universal FLN by Grade 3 requires not only reaching every child but also overcoming the limitations of traditional lecture-based teaching to address diverse learning needs. While teacher-led instruction is valuable, it may not fully support individualised learning, especially for children who lag behind and need extra support to catch up.

State governments have launched programmes to tackle these challenges. Mission *Ankur* in Madhya Pradesh and Gujarat focuses on engaging schools and communities for the holistic development of primary students, ensuring they achieve FLN skills.[25] Similarly, Bihar's Mission *Daksh* aims to provide personalised mentoring for lagging students to achieve grade-level competencies by 2025. While these initiatives address key gaps, they heavily rely on teachers, highlighting the need for scalable, adaptable teaching strategies that offer personalisation without overburdening educators.

Peer teaching is a promising solution, where students learn by teaching and supporting their peers. In classrooms with limited resources and high student-teacher ratios, it provides scalable, accessible support tailored to students' needs. As 'Student Champions,' older or more knowledgeable students help guide younger or struggling peers through foundational concepts.

Peer teaching creates a collaborative environment where students learn from each other, boosting confidence and comprehension alongside teacher instruction. The NEP promotes

23 https://nipunbharat.education.gov.in/

24 PIB of Ministry of Education dated 5 July 2021 (https://tinyurl.com/yc5ejpu8).

25 Madhya Pradesh & Gujarat: PMU for FLN – The Education Alliance

peer tutoring to foster inclusion and personalised learning, ensuring every child can learn.[26] It also encourages using community volunteers and alumni as peer tutors in schools and communities. The SARTHAQ (Students' and Teachers' Holistic Advancement through Quality Education) guidelines for NEP 2020[27] emphasise peer tutoring to improve FLN and educational outcomes, highlighting the need for training peer tutors and integrating sessions into school schedules.

Global evidence supports peer learning, showing improved academic performance in math and reading in the US[28], enhanced problem-solving abilities and social skills in Australia[29], and better literacy outcomes in sub-Saharan Africa[30]. In sub-Saharan Africa peer-led programmes have successfully supported student-centred learning in under-resourced classrooms. Additionally, peer teaching fosters essential life skills such as leadership, empathy, resilience, and communication, benefiting both tutors and learners.

Experiments in integrating structured peer learning in India's Education system

The **Nalli-Kali (joyful learning in Kannada) programme**, launched in 1995 in Karnataka's Mysuru district, focuses on peer and group work to create a collaborative classroom environment that supports self-paced, personalised learning. It is now the primary pedagogy for Grades 1-3 in Karnataka to develop age-appropriate skills.[31]

The **Prerana model of education**, implemented in Andhra Pradesh, Karnataka, Maharashtra, Tamil Nadu, and Telangana[32] through the Sikshana Foundation, also emphasises peer learning and group work.[33] Small groups of four to five students collaborate on classroom activities, teaching and learning from each other.

Involve Learning Solutions Foundation[34] is working with educators in six districts across Uttar Pradesh, Bihar, and Karnataka states to integrate structured peer teaching into government schools, directly aligning with NIPUN Bharat's FLN goals. The model pairs among students identified as 'Student Champions' with 'Learners.' Each Student Champion, with better subject mastery, is trained further to support a group of four learners, their peers

26 The NEP in para 2.7 provides that, "Due to the scale of the current learning crisis, all viable methods will be explored to support teachers in the mission of attaining universal foundational literacy and numeracy. Studies around the world show one-on-one peer tutoring to be extremely effective for learning not just for the learner, but also for the tutor. Thus, peer tutoring can be taken up as a voluntary and joyful activity for fellow students under the supervision of trained teachers and by taking due care of safety aspects."; https://tinyurl.com/mxp5wpfz

27 https://tinyurl.com/yc3y7jz2

28 Fuchs, L. S., Fuchs, D., Yazdian, L., & Powell, S. R. (2002). Title: Enhancing First-Grade Children's Mathematical Development with Peer-Assisted Learning Strategies. Published in: School Psychology Review, Vol. 31, No. 4, pp. 569–583. DOI: 10.1080/02796015.2002.12086175.

29 Fawcett, L. M., & Garton, A. F. (2005). The Effect of Peer Collaboration on Children's Problem-Solving Ability. Published in: British Journal of Educational Psychology, Vol. 75, No. 2, pp. 157–169. DOI: 10.1348/000709904X23411.

30 Fry, K., Rogan, R., & Gruber, S. (2019). Improving Literacy Outcomes in Low-Resource Contexts Through Peer-Led Learning Approaches. Published by: Educational Development Journal, Vol. 35, No. 3, pp. 289–305.

31 https://tinyurl.com/yuaff8fc

32 Shikshana Foundation Annual report 2022-23 (https://tinyurl.com/cy5kr7fc).

33 https://www.sikshana.org/Program/Prerana/

34 https://involveedu.com/

who struggle to understand concepts, thereby facilitating their progress through 40-minute sessions three to four times per week.

Early evaluations in Karnataka's Anekal block show increased learning outcomes in numeracy for students by 15 per cent compared to students who did not participate in the programme.[35] Similarly, in Bhagalpur, structured peer interactions have helped bridge reading and numeracy gaps among children who could not meet age-appropriate learning milestones. Anecdotal evidence also indicates positive shifts in student engagement and academic outcomes.

To support NIPUN Bharat's mission, peer teaching can be integrated into India's FLN strategy. This involves incorporating peer teaching into teacher training, scaling successful models, assessing its impact on learning outcomes, and using data to refine the approach based on feedback from teachers, students, and administrators. This will help transform classrooms into dynamic spaces where every child receives the support needed to thrive.

Empowering minds: Unlocking potential with social and emotional learning

11.17 The success of school education hinges not just on the student's academic achievements but also on enhancing their social and emotional learning (SEL). A good education enhances a child's mental and physical health, academic performance, and life skills. In this context, ECCE under NEP 2020 aims to achieve foundational literacy and socio-emotional development. The NEP 2020 states that

'The overall aim of ECCE will be to attain optimal outcomes in the domains of physical and motor development, cognitive development, ***socio-emotional-ethical development****, cultural/artistic development, and the development of communication and early language, literacy, and numeracy.'*

11.18 **Box XI.4** discusses the importance of SEL in education, providing examples of how the pedagogy can be developed to incorporate socio-emotional-ethical development in the school curriculum.

Box XI.4: Empowering minds and hearts through SEL techniques

SEL has emerged as a critical pillar within holistic education frameworks that contributes significantly to SDGs, particularly SDG 3 (Good Health & Well-being) & SDG 4 (Quality Education). UNESCO[36] defines SEL as a process of *acquiring the competencies to recognise*

35 Pratibha Narayann, P. N., Anna Daniel, A. D. and Dhanashree Balaram, D. B. (2024), Promoting Individualized Learning: The Effectiveness of Peer Teaching Pedagogy. Published by: International Conference on Technology for Education (T4E), Zenodo. doi: 10.5281/zenodo.14004916.

36 UNESCO (2024) Strengthening social and emotional learning in hybrid modes of education: building support for students, teachers, schools and families: a UNESCO-IBE discussion paper; https://tinyurl.com/nnbafeat

and manage emotions, develop care and concern for others, establish positive relationships, make responsible decisions, and handle challenging situations effectively. SEL significantly contributes to individual well-being, social participation, and broader individual development. Incorporating SEL from an early age equips children with essential skills that foster resilience and academic success. It also plays a crucial role in preventing future mental health issues and setting the foundation for a healthier society.

CASEL (Collaborative for Academic, Social, and Emotional Learning)[37] outlines five core components of SEL, which serve as foundational pillars in fostering holistic development. These components—Self-Awareness, Self-Management, Social Awareness, Relationship Skills, and Responsible Decision-Making—equip students with the skills necessary to navigate life challenges, enhance mental well-being, and improve academic performance. Some successful models effectively implementing SEL programmes worldwide include the Social, Emotional, and Ethical Learning (SEE Learning) by Emory University,[38] and the RULER programme[39] by Yale Center for Emotional Intelligence.

According to some estimates, for every dollar invested in SEL initiatives, the estimated long-term economic return is USD 11, with outcomes around mental health, education, and employability.[40] Further, a 2020 UNESCO study[41], highlights that such investments not only yield immediate educational and behavioural benefits but also result in long-term economic gains, including a 30 per cent increase in per capita income. The literature indicates that integrating SEL components into classroom practices increases student commitment[42], participation,[43] cognitive problem-solving abilities,[44] attendance rates, and overall academic success.[45] Other than enhancing academic performance, these interventions also promote positive social behaviour and interpersonal relationships, mitigate behavioural issues and

37 CASEL's SEL Framework (2020) What are the Core Competence Areas and Where are they Promoted? https://casel.org/casel-sel-framework-11-2020/?view=true

38 Emory University (2022) SEE Learning: Social, Emotional and Ethical Learning Program. (https://seelearning.emory.edu/en/about).

39 Yale Center for Emotional Intelligence (2023) RULER Program Overview (https://www.ycei.org/ruler).

40 Belfield, C. et.al. (2015). The economic value of social and emotional learning. Journal of Benefit-Cost Analysis (https://tinyurl.com/36w8mft7).

41 UNESCO (2020) Rethinking learning: A Review of Social and Emotional Learning for Education Systems. (https://unesdoc.unesco.org/ark:/48223/pf0000373890).

42 Hawkins, J. D., Smith, B. H., & Catalano, R. F. (2004). Social Development and Social and Emotional Learning. In J. E. Zins, R. P. Weissberg, M. C. Wang, & H. J. Walberg (Eds.), Building academic success on social and emotional learning: What does the research say? (pp. 135–150). Teachers College Press.

43 Murdock, T. B. (1999). The social context of risk: Status and motivational predictors of alienation in middle school. Journal of Educational Psychology, (https://doi.org/10.1037/0022-0663.91.1.62).

44 Battistich, V., Solomon, D., Watson, M., Solomon, J., & Schaps, E. (1989). Effects of an elementary school programme to enhance prosocial behavior on children's cognitive-social problem-solving skills and strategies. Journal of Applied Developmental Psychology (https://doi.org/10.1016/0193-3973(89)90002-6).

45 Felner, R.D., Primavera, J., & Cauce, A.M. (1995). The impact of a comprehensive school-based intervention on the academic achievement of students: A longitudinal study. Journal of Educational Psychology, 87(1), pp. 1-14.; DePaoli, J.L., Elias, M.J., & Weissberg, R.P., 2017. Social and emotional learning: A framework for promoting academic success. Educational Psychologist, 52(1), pp. 1-11

psychological distress, and equip young people for success in employment, family life, and broader societal engagement.[46]

Developments in India

The NEP 2020 emphasises the development of social, ethical, and emotional competencies as essential to holistic child development. The National Curriculum Framework 2023[47] also advocates for SEL-based pedagogies to improve educational outcomes and foster children's well-being. The NIPUN Bharat mission guidelines 2021[48] emphasise the importance of SEL as a core component of the holistic development objectives for young children in India's foundational education system. It promotes activities that foster self-awareness, social awareness, and responsible decision-making, advocating for inclusive, child-centred practices to create safe, supportive learning environments that nurture both cognitive and emotional growth.

SEL is increasingly being recognised as integral to India's educational and developmental priorities. Initiatives like SEE Learning India[49] and the Life Skills Collaborative[50] are paving the way for SEL in structured approaches. They are being adopted in the states of Maharashtra, Mizoram, Uttarakhand, and Rajasthan. SEL interventions are also being carried out in programmes implemented by the governments of Tripura and Uttarakhand etc. In several programmes, state governments have collaborated with non-profit organisations like Dream a Dream Foundation[51] and Labhya[52]. Under these models, classrooms are envisaged as emotionally safe environments wherein children experience interactive group sessions, mindful practices, and spaces for reflection sharing to cope with various challenges and improve their well-being and learning outcomes. Through organisations such as the Aparajitha Foundation, students are taught important life skills, i.e., social and interpersonal skills, that can help them make informed decisions, communicate effectively, and develop coping and self-management skills (See **Box XI.5**).

The evidence supporting the benefits of SEL is robust. The imperative of integrating SEL with educational frameworks is underscored by its profound impact on mental health, academic success, and long-term life outcomes. This is particularly crucial in India, which is characterised by a youthful population poised to enter the workforce. The implementation of SEL, therefore, serves as a strategic investment in the nation's future.

46 Elias, M.J., 2014. Social-emotional learning and its impact on societal engagement. Journal of Educational Psychology, 106(3), pp. 1-10; Jones, S.M. and Kahn, J., 2017. The evidence base for how learning happens: A consensus on social, emotional, and academic development. American Educator, Winter 2017-2018 (https://files.eric.ed.gov/fulltext/EJ1164389.pdf).

47 Ministry of Education, Government of India (2023) National Curriculum Framework 2023. (https://tinyurl.com/47z2b2m3).

48 Ministry of Education, Government of India (2021) NIPUN Bharat Mission: National Initiative for Proficiency in Reading with Understanding and Numeracy- Guidelines 2021. (https://tinyurl.com/mvxnc7k5)

49 SEE Learning India (2024) SEE Learning India About https://www.seelearningindia.com/Home/about

50 Life Skills Collaborative (2024). Life Skills Collaborative Overview https://lifeskillscollaborative.in/

51 Dream a Dream Foundation (2024). Dream a Dream Foundation Overview https://dreamadream.org/

52 Labhya Foundation (2024) Labhya Foundation Overview. https://labhya.org; https://www.labhya.org/what-we-do/model

11.19 NEP 2020 emphasises holistic schooling by integrating vocational and digital education with a supporting, well-equipped school infrastructure to enable the smooth transition of a GER of 100 per cent at the secondary level by 2030.

11.20 The importance of skill education in schools has grown significantly with the advent of Industry 4.0, a highly dynamic and skill-intensive era defined by automation, artificial intelligence (AI), internet of things (IoT), big data, and robotics. This industrial revolution has reshaped production and distribution across sectors like manufacturing and agriculture, significantly increasing the demand for a skilled workforce. Alongside technical proficiency, soft skills such as adaptability, problem-solving, and collaboration have become critical for navigating this evolving landscape. **Box XI.5** discusses the *Tim Tim Tare* initiative for imparting life skills.

Box XI.5: Imparting life skills: The Tim Tim Tare initiative

Tim Tim Tare (TTT)[53] is a pioneering initiative that aims to impart essential life skills to adolescent students across India. Unlike vocational training, which focuses on technical skills, TTT places emphasis on soft skills—key components of personal growth, effective communication, emotional intelligence, and social well-being. Through TTT, students are empowered to face life's challenges confidently and clearly.

This initiative equips students with essential life skills to navigate the complexities of modern life. Built on the World Health Organization's (WHO) Life Skills Framework, TTT addresses a wide range of 16 core life skills (such as empathy, critical thinking, etiquette, time management, etc) and over 100 related topics designed to meet the evolving needs of today's youth. These skills enable students to make informed, thoughtful decisions personally and professionally and equip them with the skills and attitudes necessary to thrive in their studies and beyond.

TTT's approach stands apart from traditional education due to its student-focused methodology, delivering content in an engaging, immersive manner and creating transformative experiences enabling students to absorb, internalise, and retain key concepts effectively. Each topic is designed with activity-based learning, such as experience sharing, role plays, sing-along songs and interactive games. This approach ensures that every lesson is lively, impactful, and engaging, allowing students to experience the learning process actively.

Started in 2009 in Tamil Nadu, TTT has now expanded to other states[54] in a phased manner, reaching millions of students across India. In addition to empowering students, TTT has prioritised training thousands of teachers across these states, ensuring that the programme's benefits are deeply rooted and widely disseminated.

A critical focus of TTT has been its commitment to understanding and addressing the needs of its stakeholders. Feedback from students, teachers, principals, and parents has been

53 https://tinyurl.com/5yxkwerv

54 Such as Gujarat, Madhya Pradesh, Rajasthan, Uttar Pradesh, etc.

systematically collected over the years. This feedback consistently highlights the programme's positive impact on individuals and communities and is a testament to TTT's transformative power and ability to create lasting change.

The TTT programme currently reaches more than 10 crore students, with a significant presence in central India and Gujarat. It is implemented in various types of schools, including government schools, *Navodaya Vidyalayas, Kendriya Vidyalayas, Kasturba Vidyalayas*, juvenile homes etc. It is also accessible through various platforms such as PM eVidya channels, state government relay centres, YouTube, and WhatsApp groups.

The State Council of Educational Research and Training (SCERT) officially approved the TTT programme, which adds credibility and ensures alignment with national educational standards.

Bridging the gap: Digital technology in education and the essentiality of digital literacy

11.21 Digital literacy ensures that students remain competitive by mastering skills like analysing, synthesising, and communicating digital information. The World Economic Forum (WEF) identifies ICT skills as foundational for the 21st century.[55] UNESCO defines digital literacy as– '*Includes competencies that are variously referred to as computer literacy, ICT literacy, information literacy and media literacy*'.[56] Digital literacy ranges from basic hardware and software use to advanced programming and network management.

11.22 Data from the Comprehensive Annual Modular Survey 2022-23 reveals a rural-urban digital divide in India with lower internet-searching capabilities in rural areas, especially among females.[57] Sixty-three per cent of males and 55 per cent of females in rural areas can search the internet for information compared to 74 per cent males and 69 per cent of females in urban areas. The results highlight the need for focused efforts to close the digital gap.

11.23 The NEP 2020 emphasises technology's role in improving education, removing barriers, and ensuring inclusivity for *Divyang* students. Schemes like DIKSHA,[58] Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)[59], e-VIDYA[60], Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)[61] and e-content for *Divyang* are in place to achieve the objective of inclusive digital education. The government

55 New Vision for Education. World Economic Forum (WEF) https://tinyurl.com/39m36x5h

56 A Global Framework of Reference on Digital Literacy Skills.UNESCO. https://tinyurl.com/3e832sct

57 Comprehensive Annual Modular Survey, 2022-23, MoSPI https://tinyurl.com/yxrtez7e

58 https://diksha.gov.in/data/

59 https://swayam.gov.in/explorer?category=SCHOOL

60 https://pmevidya.education.gov.in/

61 PIB release of Ministry of Electronics and IT dated 26 July 2024 (https://tinyurl.com/4w2bzwsa).

launched PM e-Vidya DTH Channel for Indian Sign Language, a significant step towards an inclusive and accessible education system for hearing-impaired students in India.[62] The ICT and Digital Initiatives component of *Samagra Shiksha* provides financial assistance to establish ICT labs and smart classrooms and covers government and aided schools having classes VI to XII across the country.

11.24 The rapid pace of technological change requires educators to stay up-to-date on new digital trends and teaching methods. In an effort to leverage technology towards enhancing the capabilities of educators and preparing them for the demands of the 21st century, the government has launched TeacherApp[63], a cutting-edge digital platform. The application offers over 260 hours of resources, including courses, videos, podcasts, and live expert sessions. It also features Teaching Kits with 900 hours of content, providing teachers with essential tools such as lesson plans, worksheets, and project-based learning activities. The application empowers teachers with essential skills and continuous capacity-building through innovative content and community-building features. It is accessible across multiple devices and offers practical strategies for improving pedagogical practices and student engagement.

11.25 Investments in skills, research, innovation ecosystems, government-academic partnerships, and faculty development are pivotal for efficiently delivering education services and improving learning outcomes. Technology acts as a powerful enabler, driving scalability, equity, accessibility, and sustainable learning opportunities across diverse groups, including schools, polytechnics, higher education institutions, out-of-job youth, and working professionals. **Box XI.6** discusses this further.

Box XI.6: Leveraging technology for efficient and effective education delivery.

The integration of technology, including AI, has become essential in addressing the rapidly evolving dynamics of the education system. AI-powered learning systems enable personalised learning experiences tailored to individual students' pace and comprehension, contrasting with traditional approaches that rely on a standardised curriculum and uniform pace for all learners. Additionally, AI facilitates adaptive assessments, aligning with students' unique needs and fostering growth at their own pace. The incorporation of technology also presents cost-effective solutions, making quality education more accessible and inclusive for a broader population.

To improve education systems, technology integration may be focused on three key areas: using AI for teacher development and student tutoring, integrating industry-relevant skills and certifications, and creating personalised learning software. These are discussed below.

62 PIB release of Ministry of Education dated 6 December 2024 (https://tinyurl.com/59ka4zpb).

63 PIB release of Ministry of Education dated 25 November 2024 (https://tinyurl.com/2znktf6u).

Leveraging AI for teachers' professional development and providing AI-driven personal tutors for students

AI can automate tasks like lesson planning, assessment development, and fostering critical thinking, freeing teachers to focus on instruction and mentoring. AI tutors can assist across subjects, offering students the necessary support and allowing them to learn at their own pace and requirements. AI personal tutors may enhance learning with resource guidance, career counselling, and problem-solving strategies. Additionally, AI-driven analytics help teachers tailor their methods to students' needs, and AI-powered platforms can recommend personalised professional development to support teachers' growth. AI can also help both teachers and students in conducting automated assessments and helping in personalised learning of the student.

The government is envisioning and developing e-learning through digital pedagogy as a long-term strategy for the education sector. Various initiatives, such as PM eVidya, DIKSHA, and SWAYAM, are part of this effort. The government has also announced the establishment of a platform under DIKSHA to incorporate advanced technologies like AI and machine learning (ML).[64]

Integrating industry-relevant skills and certifications into education

Incorporating industry-relevant skills and certifications into the educational curriculum will improve the workforce's employability. This may be achieved through the provision of certifications into education through partnerships with industry and certification bodies, practical training modules and AI-driven learning experiences.

Realising the importance of the industry-academia linkage, the Ministry of Education introduced the Apprenticeship Embedded Degree/Diploma Programme in 2020-21 to improve students' employability. Additionally, the National Credit Framework (NCrF) allows for the creditisation for apprenticeship learning hours subject to assessment/ evaluation of the same. NCrF also recommended the expansion of the Academic Bank of Credit (ABC) to include credits earned through apprenticeships, internships, project work, etc.[65] The National Apprenticeship Promotion Scheme provides financial support to industrial establishments undertaking apprenticeship programmes under the Apprentices Act, 1961.

Building personalised learning software layers & developing AI labs for research, learning and skilling

AI personal tutors in such labs can enormously benefit students across all disciplines and can be a huge aid for them. Virtual Science and AI labs offer unique, beyond-the-classroom experiences. These innovations enhance learning, strengthen foundational skills, and offer cost-effective solutions.

64 https://pmevidya.education.gov.in/diksha.html

65 https://tinyurl.com/36dy8t8w

Taking a step in this direction, Atal Innovation Mission (AIM) has introduced Frontier Technology Labs (FTLs) on the foundation of Atal Tinkering Labs (ATLs). FTL will provide students access to advanced technologies, including AI, AR/VR, blockchain, cybersecurity, robotics, 3D printing, and IoT. Building on the foundation of ATLs, which have been established in 10,000 schools across 722 districts, FTLs are designed to equip students with the skills required for the evolving technological landscape.[66]

In conclusion, it is crucial to leverage technology to transform the educational landscape in India. By doing so, a more efficient, effective, and future-ready education system can be created.

11.26 While online learning and digital technology have expanded access to education, the traditional method of learning through physical methods in the classroom still holds merit. The Tamil Nadu government launched a cost-effective remedial programme to bring education to students' doorstep to bridge the learning gaps created by the covid 19 pandemic and ensure equity leading to improvements in learning (**Box XI.7**).

Box XI.7: Tamil Nadu's Illam Thedi Kalvi (Education at Doorstep): Innovation in public education

The Illam Thedi Kalvi Scheme was launched by the Tamil Nadu government to bridge the education gap brought about by the Covid-19 pandemic and the digital divide. The initiative focuses on education through physical methods, which is the primary goal of the *Illam Thedi Kalvi*.[67]

The scheme was designed during Covid-19 to reduce students' reliance on internet resources for their learning, with volunteers assisting them. These volunteers conducted door-to-door efforts to educate the students. The initiative is helping close the educational gap by providing every student in Tamil Nadu the opportunity to receive education through this scheme.

The State Planning Commission conducted a rapid assessment of the programme's impact through a comprehensive survey in September 2022. This assessment involved the active participation of volunteers, teachers, headmasters, and parents from 362 schools across six districts: Ariyalur, Cuddalore, Nagapattinam, Salem, Thiruvarur, and Villupuram.[68] Parents reported a noticeable improvement in their children's learning experiences, noting that education has become a more enjoyable activity for them. At the same time, the teachers confirmed that the play-based approach has reignited children's interest in learning. As a result, students were interacting more freely and actively participating in regular classes. Students showed a greater interest in mathematics and made significant progress in language skills in their standard classrooms.

66 PIB release of NITI Aayog dated 6 March 2024 (https://tinyurl.com/3x4tw78x).

67 https://illamthedikalvi.tnschools.gov.in/Welcome

68 https://tinyurl.com/29f74ccs.

The scheme continues, post the pandemic, to provide necessary support to the students through remedial lessons. The scheme's volunteers work year-round to integrate out-of-school children into mainstream education, with particular attention to girls, Children with special needs (CwSN), transgender children, and those from migrant worker families. The volunteers can apply online to be a part of the programme and are also given monthly pay. The programme is managed with effective use of technology. To monitor the learning levels of primary school children, volunteers have been given achievement charts to record their progress.

Children with Special Needs (CwSN): Developing a culture of inclusivity

11.27 The National Education Policy (NEP) 2020 envisions a future where every child, including Children with Special Needs (CwSN), feels valued, supported, and included. Recognising their unique potential, the NEP emphasises creating inclusive classrooms where diversity is celebrated. It calls for barrier-free infrastructure, compassionate teacher training, and the integration of assistive technologies to ensure that CwSN can learn alongside their peers. The Samagra Shiksha scheme is in alignment with NEP 2020 and Rights of Persons with Disabilities (RPWD) Act 2016. Under Samagra Shiksha, dedicated funds have been allocated to support CwSN through aids and appliances, assistive devices, allowances, Braille materials, and therapeutic interventions including infrastructure strengthening. Infrastructure improvements include ramps in 11.35 lakh schools, handrails in 7.7 lakh, and accessible toilets in 5.1 lakh schools. The Accessibility Code for Educational Institutions (2024) examines the physical barriers and information & communication barriers of access to school facilities for CwSN.

11.28 Efforts have been made to boost CwSN enrolment at all levels, with notable increases observed in secondary and higher secondary enrolments. Although the COVID-19 pandemic caused a temporary decline, recovery efforts are ongoing to reintegrate out-of-school CwSN into formal education. According to the latest UDISE+ report (2023–24), 16.8 lakh CwSN are enrolled at the elementary level, 2.87 lakh at the secondary level, and 1.18 lakh are enrolled at the higher secondary level.[69] The various initiatives for CwSN are elaborated as below.

69 Unified District Information System For Education Plus (UDISE+) 2023-24: https://tinyurl.com/3rjucf44

Chart XI.4. Initiatives for CwSN

PMeVidya Series

NCERT's *'Teaching learning interventions for inclusive classrooms'* promotes inclusive pedagogy with ISL interpreters for accessibility.

Accesible content

4250+ ISL Videos, 10,500-Word ISL Dictionary on DIKSHA, 24/7 educational channel on PM eVidya, and DTH Channels.

377 NCERT Talking Bookson e-Pathshala and third-party TTS apps , and 4048 Audio Chapters on DIKSHA

Inclusive Cell in CBSE Schools

To facilitate equitable and barrier free environment and full participation

Inclusive Education

National Guidelines and Implementation Framework on Equitable and Inclusive Education (NGIFEIE) (2021–2030) has been developed to provide a roadmap for creating inclusive schools, ensuring no child is left behind.

Disability Screening- PRASHAST

Covers 21 disabilities, available in 23 languages through a mobile app.

Over 10 lakh users and 61.57 lakh screenings completed since 2022.

Capacity Building and Training

5-day capacity-building program for **60 lakh** teachers under NISHTHA (2023-24).

Additional **online training** for 15,964 teachers on digital resources and assistive technologies.

Module on Inclusive Education for in-service **training of general teachers under Samagra Shiksha.**

Source: Department of School Education and Literacy, MoE

Higher education

11.29 India's higher education system ranks among the largest globally, with 4.33 crore students enrolled in 2021-22, a 26.5 per cent increase from 3.42 crore in 2014-15[70]. The GER for the 18–23 age group also increased from 23.7 per cent to 28.4 per cent during this same period (2014-15 to 2021-22).[71] To achieve the government's goal of increasing GER to 50 per cent by 2035 in higher education, there is a need to double the educational network and infrastructure.

11.30 Over the years, there has been a significant transformation in higher education, ecosystem. The number of Indian Institutes of Technology increased from 16 in 2014 to 23 in 2023, while Indian Institutes of Management grew from 13 in 2014 to 20 in 2023.[72] Similarly, medical colleges experienced remarkable growth, increasing from 387 in 2013-14 to 780 in 2024-25.[73] Universities have also seen substantial expansion, rising from 723 in 2014 to 1,213 in 2024, registering a growth of 59.6 per cent.[74] Total Higher Education Institutions (HEIs) increased by 13.8 per cent from 51,534 in 2014-15 to 58,643 in 2022-23.[75]

70 All India Survey on Higher Education (AISHE) 2021-22: https://tinyurl.com/ykn75ump

71 Ibid note 70

72 PIB release dated 22 April 2023 https://tinyurl.com/58a9ntna

73 Ministry of Health and Family Welfare (MoHFW)

74 PIB release of Ministry of Education 17 December 2024 https://tinyurl.com/47e2e4sn

75 Ibid note 74 above

11.31 The NEP 2020 visualises a paradigm shift in the Indian higher education system through a restructured system. It highlights key aspects of the system like Multi-disciplinary and Holistic Education; Research, Innovation, and Entrepreneurship; Governance and Capacity Building of Teachers; Quality, Ranking, and Accreditation; Digital Empowerment and Online Education; Equitable and Inclusive Education; Promotion of Indian Languages and Indian Knowledge Systems; Skill Development and Employability and Internationalisation of Higher Education.

11.32 Importantly, the NEP envisages autonomy for institutions to innovate on these foundational aspects. It recognises that '*regulation of higher education has been too heavy-handed for decades…*' and that the '*regulatory system is in need of a complete overhaul in order to re-energise the higher education sector and enable it to thrive*.' Towards this end, the NEP suggests several institutional reforms. It asks that regulation must be `light but tight' aimed at financial probity and good governance. Regulation must also ensure transparency of key aspects in the functioning of a university such as finances, procedures, infrastructure, and faculty. Hence it calls for accreditation of institutions based on basic norms, public self-disclosure, good governance and outcomes.

11.33 By 2040, all HEIs are to become multidisciplinary institutions. The measures to achieve this aim include greater opportunities for outstanding public education; scholarships by private/philanthropic universities for disadvantaged and underprivileged students; online education and Open Distance Learning (ODL); and all infrastructure and learning materials accessible and available to learners with disabilities. The policy calls for making 'India a global knowledge superpower.'

11.34 Effective implementation of NEP 2020 requires collaboration across the centre, states, UTs, HEIs, and regulatory bodies. The University Grants Commission (UGC) has introduced several initiatives like Guidelines for Multiple Entry and Exit in Academic Programmes, Common Universities Entrance Test, Regulations on Academic collaboration with foreign HEIs for Joint and Dual Degree Programmes, Guidelines for Professor of Practice, Guidelines on Pursuing two Academic Programmes simultaneously, Guidelines for Internship/Apprenticeship embedded Degree programme, Guidelines for Admission and Supernumerary seats of International Students in Undergraduate and Postgraduate Programmes in HEIs in India, Guidelines for the Establishment of Research and Development Cells in HEIs, Guidelines on Fostering Social Responsibility and Community Engagement in HEIs in India 2.0 etc.

11.35 India's higher education sector exhibits considerable multiplicity where several institutions have achieved excellence, and many others are aspiring to reach that

standard. The challenges faced by the institutions vary, requiring tailored solutions. The regulatory framework (UGC/AICTE) currently includes over 50 regulations addressing different aspects of education and research. However, this approach does not fully align with the 'light but tight' regulatory model envisioned by the NEP.[76] For example, the UGC specifies minimum credits for various course categories (e.g., skill enhancement', `value-added') and prescribes the sequencing of courses over four years, aspects that could be entrusted to the institutions themselves.

11.36 Standardisation of key parameters and consistency of programmes across institutions is perhaps the objective of these regulations. Achieving compliance with UGC norms may be an excellent way for institutions to achieve credibility in the eyes of prospective students, faculty, and employees. On the other hand, such compliance is not essential for quality institutions. These have already achieved strong reputations in teaching, research, and placement of their students. These institutions have innovated on some dimensions of their functioning, and they should be encouraged to follow that path since that is the only way to compete with global institutions.

11.37 It should be explicitly stated that compliance with regulations beyond the minimum accreditation requirements (proposed in NEP) is voluntary. Such compliance will be desired by institutions wishing to signal their capability and credibility.

11.38 Institutions that desire to stand by their own hard-won reputations should be free to carve out their own path. There is no greater accountability than that demanded by the market through prospective faculty, students, their parents, and collaborating academic and non-academic institutions. In the spirit of good governance and transparency, these institutions should be required to publicise prominently that they are not complaint-certified by the regulator. It is important to embrace diversity and to trust the genius of faculty and students to come up with frameworks that are novel, creative, and impactful on society.

11.39 Further, there is an increasing focus on strengthening the ecosystem for professional/technical streams of education such as medicine. Emphasis on regulatory reform and enhancement of standards is being made. **Box XI.8** discusses the medical education landscape's challenges and measures taken to address them.

76 https://tinyurl.com/bpn69rvx

Box XI.8: Challenges to medical education and action

The medical education ecosystem in the country has made significant strides, with notable achievements that lay a strong foundation for future growth. However, there are exciting opportunities to further enhance the system and ensure it fully aligns with broader policy objectives. While the regulatory framework has made progress, there is an opportunity to evolve and keep pace with the dynamic needs of the healthcare sector.

The number of candidates aspiring to study MBBS has increased consistently over the years, from around 16 lakh in 2019 to around 24 lakh in 2024.[77] The National Eligibility cum Entrance Test – Under Graduate (NEET-UG) is the single mode of entry through which students enter into medical education, MBBS courses in India and abroad. There has been a sustained increase in the number of opportunities available for medical education in the previous ten years. Since FY19, the number of medical colleges grew from 499 to 648 in FY23 to 780 in FY25, during which time the MBBS seats increased from 70,012 to 96,077 in FY23 to 1,18,137 in FY25 and post graduate seats increased from 39,583 to 64,059 in FY23[78] to 73,157 in FY25.

There are 13.86 lakh practitioners of modern medicine registered as of July, 2024,[79] which converts into current availability for the whole population of the country in the ratio of 1:1263.[80] The WHO standard norm of 1:1000 seems to be attainable by 2030 with a conservative 50,000 doctors being licensed every year till 2030. Thus, numerical shortage of physician availability in India is perhaps no longer a primary concern. However, there are some larger concerns warranting attention. These are discussed below.

The issue of affordability

Unlike other professional education streams, fees for medical education is highly regulated. In case of government medical colleges, the respective state governments are responsible for fixation of fees. In the case of private unaided medical colleges, the fee structure is decided by a committee set up by the respective state government under the chairmanship of a retired High Court Judge in pursuance of the directions of the Hon'ble Supreme Court of India.[81] The National Medical Commission (NMC) has issued guidelines for determination of fees and all other charges in respect of 50 per cent of seats in private medical institutions and deemed to be universities. Despite such measures, fees remain high – at ₹60 lakh to one crore or more[82] in the private sector which holds 48 per cent of MBBS seats. This highlights the opportunity to make medical education more accessible and affordable for all, particularly

77 National Testing Agency, Press release 26 July 2024 (https://tinyurl.com/3nxf8uru).

78 Lok Sabha Reply to Starred Question No. 7 on 2 February 2024. https://tinyurl.com/34ezez47

79 Lok Sabha Reply to Starred Question No. 7 on 2 August 2024 https://tinyurl.com/cbtfvemj

80 Physician availability is calculated at 80 per cent of registered doctors, as per norms-and population of 140.07 crore for 2024, as projected in the Report of the Technical Group for Population Projections, Ministry of Health, and Family Welfare available at https://tinyurl.com/3bn4mrym

81 Lok Sabha Unstarred Question No. 391 on 21 July, 2023 https://tinyurl.com/cks2yr5z

82 157th Report on Quality of Medical Education in India, Department related Standing Committee on health and Family Welfare February, 2024. https://tinyurl.com/472h232h

for those from less privileged backgrounds. By reducing the cost of medical education, we can contribute to lowering healthcare service costs. If universal coverage is the goal, prioritising cost and equity in medical education will be key to achieving it.

The consequence is that every year thousands of students go abroad to around 50 countries especially those with lower fees such as China, Russia, Ukraine, Philippines, Bangladesh.[83] Medical education abroad entails hardships of studying abroad and productive years of youth invested in repeated attempts at exams - the NEET-UG before taking admission, the Foreign Medical Graduates (FMG) Exam[84] on completing the course and then complete compulsory internships of 12 months in India.

FMGs in China (during COVID lockdowns) and Ukraine (as the conflict escalated), had to return to India dropping their education and faced uncertain prospect. The subsequent regulatory issues in addressing the difficulties faced by FMGs and the need to maintain standards in allowing them to practice in India has been a challenge and has required interventions of the courts in more than one occasion. The very low pass percentage of FMGs in the qualifying exam (16.65 per cent in 2023[85]) indicates sub-par quality of medical education abroad including lack of clinical training. As policy intervention to dissuade medical education abroad is crafted, keeping costs is India within reasonable limits is essential.

Geographical reach

The availability of opportunities for medical education appears to be geographically skewed, apparent from the fact that 51 per cent of undergraduate seats and 49 per cent of post-graduate seats are in the southern states.[86] Further, the availability is skewed in favour of urban areas with the urban to rural doctor density ratio being 3.8:1.[87] These patterns tend to follow the pattern in availability of healthcare services in general. It has been estimated that 75 per cent of dispensaries and 60 per cent of hospitals are in urban areas, where 80 per cent of doctors serve.[88] The imbalance in distribution can be attributed to the state/region level of economic development, demand for and expansion of healthcare services, and increasing market for medical value travel.

The growth in the number of medical practitioners offers a prospect to improve the distribution of healthcare professionals across regions. While many graduates and specialists prefer to practice in their home states or in major cities due to better amenities and professional opportunities, this presents a chance to enhance healthcare access in rural and underserved

83 Country-wise Performance in FMGE 2023 https://tinyurl.com/yc2k6zuz

84 The FMGE is conducted twice a year and the average pass percentage in 2023 was 16.65 per cent with 61,616 candidates appearing, showing that the quality of education abroad is not on par with standards in India and FMG then require multiple attempts to qualify. Students may require anywhere between a minimum of 8-10 years to become eligible to obtain the license to practice.

85 Ibid 83 above

86 As per numbers available for Andhra Pradesh, Karnataka, Kerala, Puducherry, Tamil Nadu, Telangana and Maharashtra in Lok Sabha Reply to Starred Question No. 7 on 2 February 2024. https://tinyurl.com/34ezez47

87 FAQs on National medical Commission (Bill) 2019 https://tinyurl.com/b4y43cv3

88 Mishra, S., Mohanty, S.K. Out-of-pocket expenditure and distress financing on institutional delivery in India. Int J Equity Health 18, 99 (2019). https://doi.org/10.1186/s12939-019-1001-7

areas. By offering incentives, improving infrastructure, and fostering professional growth in these regions, we can attract and retain healthcare professionals, ensuring a more balanced and equitable distribution of doctors to strengthen public healthcare services nationwide.

Specialisations

There is also a skewed distribution of seats in favour of specialisations like radiology, dermatology, gynaecology, cardiology while specialities like psychiatry, geriatrics etc., are neglected. The current shortage of specialists across specialities will further aggravate in streams that are currently not preferred but will be required in the future. Demand for post graduate education is not restricted by the need for clinical practitioners, these doctors form the resource pool for research and development in advanced fields of medicine, pharmaceuticals, biotechnology etc. They are also crucial as faculty and trainers of the next generation. While we focus on increasing facilities for specialisations it is also necessary to maintain distribution across geographies and streams.[89]

Remuneration

Market estimates indicate that remuneration of fresh graduates is around ₹ 5 lakh and senior doctors earn between ₹12.5 -18.4 lakh per annum in cities.[90] This is almost similar or lower to the packages that are available to other graduates at the entry level. The attraction towards the medical profession, as seen from the consistently increasing number of aspirants, seems to arise more from the social status attached to it rather than its earning potential. This may mean that the availability of meaningful work and commensurate remuneration may reduce with increase in the number of doctors available in the future. This would reinforce the already occurring migration of doctors from India into greener pastures. The OECD countries reported in 2021 that there were close to 19,000 physicians from India in their workforce and migration in 2021 alone was over 2800 physicians. Increased public and private sector investments into medical education is in effect creating a global health workforce. The trends in migration need to be factored while incentives for service in public health system are calibrated to ensure availability of doctors in rural areas.

Other issues

Quality of education is directly related to the availability of qualified and experienced faculty and the clinical exposure at the hospital. Regulatory requirements in terms of both are robust. Non-compliance carries penalties including the cancellation of recognition of courses. The NMC is empowered to monitor and penalise such non-compliance. Measures such as CCTV cameras and an Aadhaar based attendance system which are centrally monitored by the national regulator have been put in place. The granularity of regulations may appear necessary given that medical profession deserves to be of the highest quality possible but also seem overbearing in terms of associated compliance and monitoring costs. Despite the

89 The 157th Report on Quality of Medical Education in India, Department related Standing Committee on Health and Family Welfare February, 2024 – Para 2.7 -2.15

90 https://tinyurl.com/5573epev.

elaborate regulations and monitoring, issues like shortage of faculty, ghost faculty, low patient load in hospitals etc., continue to affect the quality of training. There may be need to revisit the incentive-disincentive and design of regulatory measures to improve compliance, reduce costs and prevent associated rent-seeking.

The success of any policy, including regulatory ones, lies in its execution. If outcomes do not align with our goals or if there are unexpected effects, it is essential to take a step back and refine these policies to make them more meaningful and impactful.

Conclusion

To address the uneven distribution of seats and to expand the availability of seats, the central government is supporting the states through three centrally sponsored schemes, viz., the construction of new medical colleges, creation of infrastructure for expansion of MBBS and post graduate seats.[91] The regulatory reform process started with the setting up of the NMC in 2019. NMC has since brought into effect broad based regulations specifying minimum standards for establishment of colleges, increasing number of seats, opening new courses, introduction of a competency-based curriculum, minimum qualification, and training of teachers etc. In collaboration with the Quality Council of India, a rating and accreditation system for medical colleges has also been proposed.

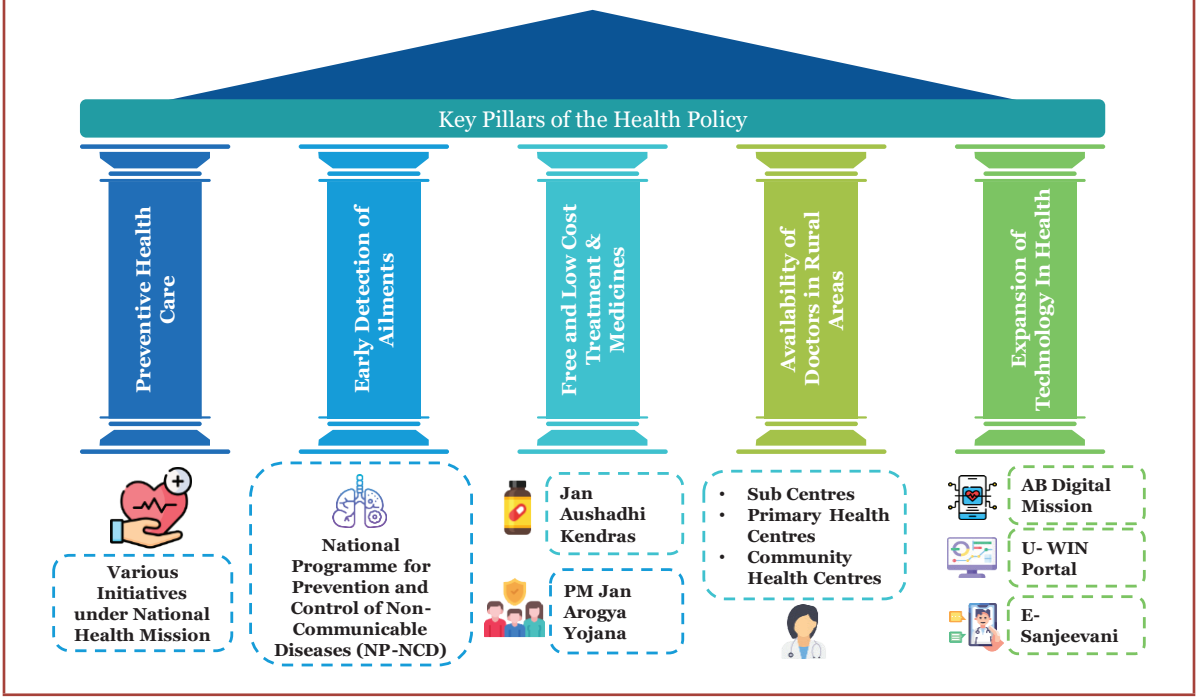
With all these efforts being made and the private sector remaining an active participant, the medical education landscape presents large opportunities for the future and presents a bigger challenge to policymakers than any other field of professional education does.

TOWARDS A HEALTHY NATION

11.40 Health is a crucial component of human capital and a valuable asset for a prosperous and stable economy. It boosts productivity, reduces healthcare needs, enhances life expectancy, and supports social development. Furthermore, good health is foundational for the young generation to achieve their aspirations and contribute to society. The emphasis on health is important given that India is emerging into an economic powerhouse driven by its youthful population. Through concerted efforts by individuals, communities, and policy interventions, a robust and healthy generation of adults can be raised. Government initiatives, including preventive measures, universal access to high-quality healthcare, strengthened public health infrastructure, and advancements in medical education, have collectively contributed to making healthcare in India more accessible and affordable for all.

91 https://mohfw.gov.in/?q=pressrelease-33

Chart XI.5 Key pillars of health policy[92]



Estimates of the National Health Accounts 2021-22

11.41 A study on the association of government health expenditures (GHE) and health outcomes based on OECD countries shows that health expenditures, economic growth (GDP) and healthcare provision (number of doctors), reduce infant mortality while positively impacting life expectancy.[93] Health expenditures have increased worldwide[94] as it has in India too.

11.42 According to the latest National Health Accounts[95] statistics for 2021-22, released in September 2024, the Total Health Expenditure (THE)[96] in FY22 is estimated to be ₹9,04,461 crore (3.8 per cent of GDP and ₹6,602 per capita at current prices). THE per capita (at constant prices) has shown an increasing trend since FY19.

92 PIB release of Prime Minister's Office dated 29 October 2024 https://tinyurl.com/2dk3562z

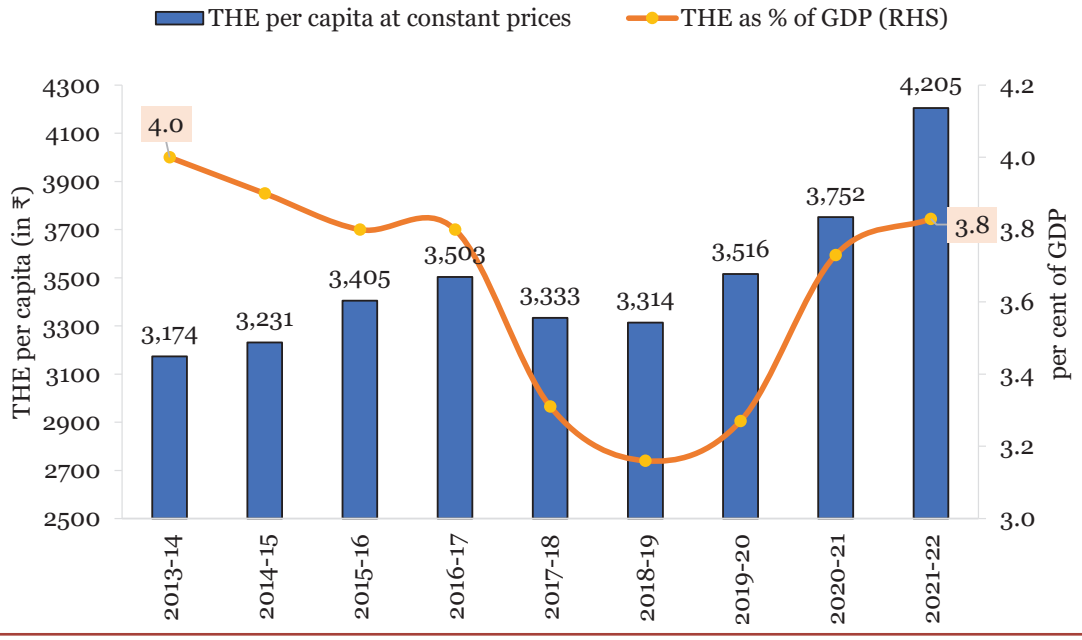
93 Anwar A, Hyder S, Mohamed Nor N and Younis M (2023) Government health expenditures and health outcome nexus: a study on OECD countries. Front. Public Health 11:1123759. doi: 10.3389/fpubh.2023.1123759 (https://tinyurl.com/yc2v39jm).

94 WHO. Countries are Spending More on Health, But People are Still Paying Too Much Out of Their Own Pockets. WHO (2019). (https://tinyurl.com/bd37wdat).

95 National Health Accounts Estimates for 2021-22 (https://tinyurl.com/7an49nkm).

96 THE constitutes current and capital expenditures incurred by Government and Private Sources including External funds.

Chart XI.6: Total Health Expenditure (THE) per capita and as a share of GDP



Source: National Health Accounts, Ministry of Health and Family Welfare (MoHFW)

11.43 Out of the THE, current health expenditure (CHE)[97] is ₹7,89,760 crore (87.3 per cent of THE), and capital expenditure is ₹1,14,701 crore (12.7 per cent of THE). An increase in the share of capital expenditure in THE from 6.3 per cent in FY16 to 12.7 per cent in FY22 is a positive sign as it will lead to broader and better health infrastructure.

11.44 Government health insurance schemes constitute a 5.87 per cent share in healthcare financing schemes, out of which social insurance schemes like Employees' State Insurance Corporation (ESIC)[98], Central Government Health Scheme (CGHS)[99], and Ex-Servicemen Contributory Health Scheme (ECHS)[100] have a 3.24 per cent share. Government-supported voluntary insurance schemes like Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana (AB PM-JAY), Rashtriya Swasthya Bima Yojana (RSBY), state-specific government health insurance schemes, etc., have a 2.63 per cent share in healthcare financing schemes.

11.45 The increase in government spending on health has an important implication for the reduction of financial hardship endured by households. In the THE of the country between FY15 and FY22, the share of GHE[101] has increased from 29.0 per cent to 48.0

97 CHE constitutes only recurrent expenditures for healthcare purposes net all capital expenditures.

98 https://www.esic.gov.in/information-benefits

99 https://cghs.gov.in/CghsGovIn/faces/ViewPage.xhtml

100 https://www.echs.gov.in/about

101 GHE constitutes spending under all schemes funded and managed by Union, State, and Local Governments including quasi-Governmental organisations and donors in case funds are channelled through Government organisations. It has an important bearing on the health system as low Government health expenditures may mean high dependence on household out-of-pocket expenditures.

per cent. During the same period, the share of out-of-pocket expenditure (OOPE)[102] in THE declined from 62.6 per cent to 39.4 per cent.

Chart XI.7: Trends in health expenditure

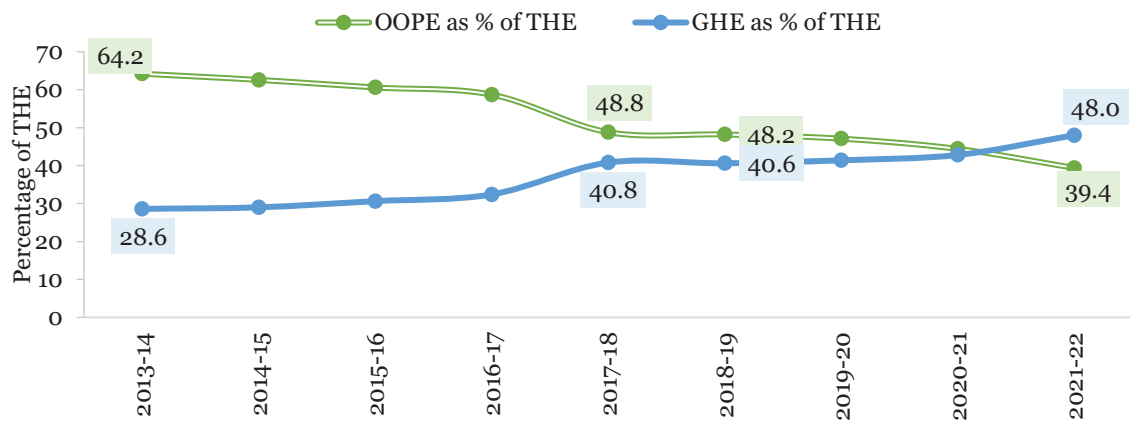
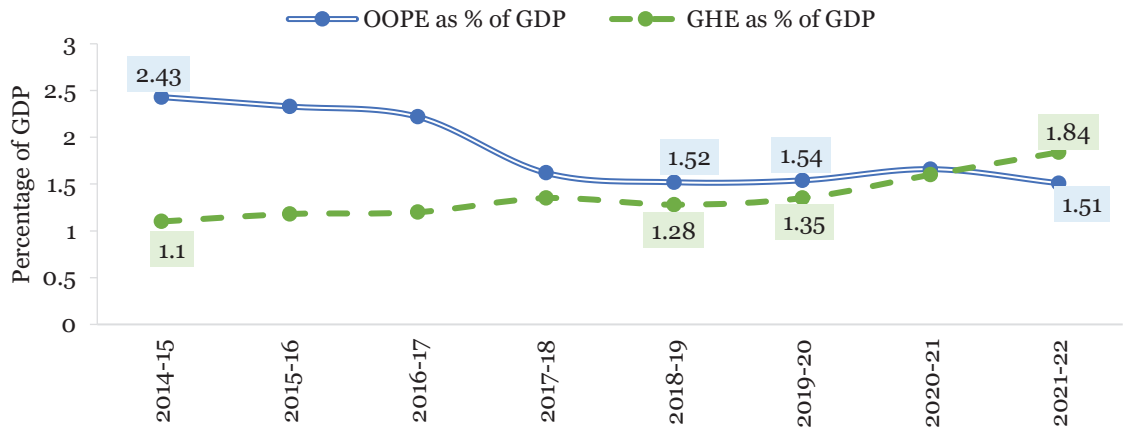


Chart XI.8. Trends in health expenditures as percentage of GDP



Source: National Health Accounts, MoHFW

11.46 AB-PMJAY has played a decisive role in the significant reductions observed in OOPE through an increase in social security and primary health expenditure, with over ₹1.25 lakh crore in savings recorded.[103] Other initiatives, such as the Free Dialysis scheme, have benefited around 25 lakh people.[104] The reduction in OOPE goes hand-in-hand with increased public spending in healthcare, demonstrating progress towards universal health coverage.

11.47 The AB-PMJAY has revolutionised healthcare by providing health coverage

102 OOPE are expenditures directly made by households at the point of receiving health care. This indicates the extent of financial protection available for households towards healthcare payments.

103 PIB release of MoHFW dated 23 September 2024 (https://tinyurl.com/pcf3dby7).

104 Pradhan Mantri National Dialysis Programme: https://pmndp.mohfw.gov.in/en

to bottom 40 per cent of India's most vulnerable populations. It covers over 12 crore families, or approximately 55 crore individuals, and is the world's largest health assurance scheme, offering annual hospitalisation benefits of up to ₹5 lakh per family for secondary and tertiary care. Launched to address health inequities, AB PMJAY prioritises the poorest segments of the population based on the Socio-Economic Caste Census 2011, adopting a holistic and need-based approach. This initiative aligns with India's commitment to the SDGs, ensuring no one is left behind. As of 1 January 2025, over 36.36 crore Ayushman cards have been issued. Key statistics of AB-PMJAY are given below.

30,000 hospitals empanelled	13,352 private facilities empanelled	49% of cardholders are women	48% of hospital admissions are utilised by women

11.48 On 11 September 2024, the expansion of AB PMJAY was approved to include senior citizens aged 70 and above, irrespective of their socio-economic status. This initiative provides free health coverage of up to ₹5 lakh per family, benefiting approximately six crore senior citizens across 4.5 crore families, regardless of income. Eligible seniors will receive a dedicated *Vay Vandana Card* to access the scheme's benefits. Additionally, those already covered under the scheme will get an exclusive top-up of ₹5 lakh annually for their healthcare needs, separate from their family's coverage.[105] As of 15 January 2025, more than 40 lakh senior citizens have been enrolled the scheme.

11.49 While the government's health initiatives play a crucial role in improving access to healthcare and ultimately enhancing health outcomes in the country, the overall health of a population is also affected by other socioeconomic factors. These factors include sanitation, education, nutrition, early child development, and personal habits.

Transforming healthcare for tomorrow

11.50 Healthcare infrastructure is essential to a functioning healthcare system, ensuring access to quality medical services and promoting public health. This includes hospitals, clinics, healthcare professionals, medical institutions, health centres, and information technology systems that work collaboratively to provide care.

11.51 Over the past few decades, India has made significant progress in health infrastructure, driven by advancements in medical technology and expanded public health programmes. Initiatives like Ayushman Bharat (AB), the PM-Ayushman Bharat

105 PIB release of MoHFW dated 9 December 2024 (https://tinyurl.com/yu95vs5d).

Health Infrastructure Mission (PM-ABHIM), and the Free Drugs Service Initiative (FDSI) have transformed healthcare delivery. The progress made in public health infrastructure follows.

11.52 **Ayushman Bharat:** Launched in 2018, AB represents a paradigm shift from selective health services to a comprehensive continuum of care, addressing prevention, promotion, and treatment across primary, secondary, and tertiary levels. By transforming sub-health centres (SHCs) and primary health centres (PHCs), Ayushman Arogya Mandirs (AAM) (formerly Health & Wellness Centres) have been operationalised,[106] in rural and urban areas, offering a universal, free, and expanded package of preventive, promotive, curative, palliative, and rehabilitative services closer to communities.

Table XI.2: Factsheet of Ayushman Arogya Mandir

Component	Units
Number of AAMs operational	1,75,560 +
Figures in crore	
Number of footfalls	371.97
Hypertension screenings	100.57
Diabetes screenings	88.65
Oral cancer screenings	59
Breast cancer screenings	26.95
Cervical cancer screenings	17.69
Wellness Sessions, including Yoga	4.74
Teleconsultations conducted	31.86
Source: MoHFW, Figures are as on 31 December 2024	

11.53 **PM-ABHIM:** Launched in October 2021, the Mission is being implemented over five years from FY22 to FY26, with the aim to strengthen the public health infrastructure to fill critical gaps in health infrastructure, surveillance, and health research - spanning both the urban and rural areas.

Table XI.3: Factsheet of PM-ABHIM

Components	Units Approved
Building-less Sub Centre-Health Wellness Centre (HWC)	9594
Urban-HWC	4623
Block Public Health Unit	2033
Integrated Public Health Labs	703
Critical Care Blocks	577
Source: MoHFW; Figures are as on 15 November 2024	

106 Over 1,75,560 Ayushman Arogya Mandir (AAM) have been operationalised till 31 December 2024.

11.54 **FDSI (2015):** To reduce OOPE for patients at public health facilities, the government launched the FDSI under the National Health Mission (NHM). This provides financial support to states/UTs for ensuring the availability of essential drugs: 106 drugs at SHCs, 172 drugs at PHCs, 300 drugs at CHCs, 318 drugs at Sub-District Hospitals (SDHs), and 381 drugs at district hospitals. The FDSI ensures drug quality by procuring only from Good Manufacturing Practices (GMP) certified manufacturers and conducting mandatory post-supply testing of medicines at the National Accreditation Board for Testing and Calibration Laboratories (NABL)-accredited laboratories before distribution.

11.55 **Commitment to universal vaccine coverage and health equity:** The Universal Immunisation Programme (UIP) is one of India's most impactful public health initiatives, providing life-saving vaccines to millions of newborns and pregnant women annually. Launched as the Expanded Programme on Immunisation in 1978, it was rebranded as UIP in 1985, extending coverage from urban to rural areas to bridge healthcare disparities.

11.56 Currently, the UIP offers 11 vaccines free of cost, protecting against 12 vaccine-preventable diseases. A child who has received Bacille Calmette Guerin (BCG), three doses of Oral Polio Vaccine (OPV), three doses of Pentavalent and one dose of Measles Rubella (MR) by the first year of age is called a fully immunised child. With full immunisation coverage for FY24 at 93.5 per cent nationally, the UIP continues to safeguard public health and ensure equitable access to essential vaccines.

11.57 The **Jan Aushadhi scheme**, launched to provide affordable medicines, has gained significant momentum, achieving record sales in 2024 and expanding to over 14,000 kendras nationwide.[107] Despite challenges like quality concerns, supply issues, and thin profit margins for pharmacists, the scheme has improved access to low-cost drugs. Awareness campaigns, expanded product offerings like sanitary napkins, and increased rural outreach have boosted its impact, particularly for low-income groups and those with chronic illnesses. For example, Jan Aushadhi distributors in Kerala reported expecting significant year-on-year turnover growth, driven by the addition of new Jan Aushadhi Kendra, expanded product offerings, and awareness camps initiated under Pharmaceuticals & Medical Devices Bureau of India and Department of Pharmaceuticals directives.[108] While profitability remains a hurdle for pharmacists and suppliers, the growing demand by consumers highlights the enduring need for affordable healthcare solutions.

107 PIB release of Ministry of Chemicals and Fertilizers dated 23 October 2024 (https://tinyurl.com/jc23rbt2).

108 Mint. (26 December 2024). After intensive care, people's pharmacy Jan Aushadhi sees healthy sales spike. (https://tinyurl.com/8srzhp6e).

Disruptive technology providing seamless and equitable healthcare.

11.58 Technology integration in healthcare delivery ranges from the utilisation of wearable devices for timely diagnoses and recommendations of personalised treatments to telehealth technologies that connect patients and health professionals in a virtual space, all aiming to improve efficiency and effectiveness. Public health professionals now have numerous opportunities to implement innovative public health technology solutions to enhance patient care significantly. Some of the initiatives of the MoHFW for the integration of technologies are discussed in this section.

11.59 **U-WIN:** The U-WIN portal[109] marks a transformative step in India's immunisation efforts, digitising vaccination records for pregnant women and children up to 16 years under the UIP. This user-friendly platform enables seamless access to immunisation records, flexible scheduling, and 'Anytime Access' and 'Anywhere' vaccination. Beneficiaries can self-register via the web portal or mobile app, track schedules, and receive SMS reminders for upcoming doses. U-WIN also generates QR-based e-vaccination certificates and facilitates the creation of Ayushman Bharat Health Accounts (ABHA) for parents and children, supporting holistic digital health management. The portal is accessible in 11 regional languages.[110] Over 1.7 crore pregnant women and 5.4 crore children are registered digitally and tracked more than 26.4 crore vaccine doses in real-time.[111]

11.60 **E-Sanjeevani:** E-Sanjeevani - the National Telemedicine Service, has emerged as the world's largest telemedicine implementation in primary healthcare. It has served over 31.19 crore patients through 1.29 lakh AAM as spokes, which are served by 16,447 hubs and 676 online OPDs with support of more than 225,286 doctors, medical specialists, super-specialists and health workers (Figures are as on 12 November 2024).

11.61 **Ayushman Bharat Digital Mission (ABDM):** Launched in September 2021 with the aim of creating a national digital health ecosystem, it supports universal health coverage and is the necessary backbone for an integrated digital health infrastructure in the country.

Table XI.4: Factsheet of ABDM

Component	Units
Total ABHA created	72.81 crore
Health records linked	47.79 crore

109 https://uwin.mohfw.gov.in/home

110 As of 27 November 2024, it has registered 7.44 crore beneficiaries, conducted 1.26 crore vaccination sessions, and recorded 27.84 crore administered doses.

111 Data updated as on 4 November 2024 at https://www.undp.org/india/u-win-launch

Facilities onboarded in the Health Facility Registry	3.60 lakh
Healthcare Professionals onboarded in the Healthcare Professionals Registry	5.51 lakh
Facilities using ABDM-enabled software	1.57 lakh
Source: MoHFW, Figures are as of 15 January 2025	

11.62 The integration and use of technology have the potential to offer viable solutions to problems of quality, accessibility, and affordability. One such example is the potential to prevent loss of lives and save time by leveraging drones for the delivery of medicines in difficult geographies and in times of emergencies (**Box XI.9**).

Box XI.9: Aerial angels: Changing the healthcare landscape

Drones are transforming healthcare in India by ensuring rapid delivery of life-saving medicines and collecting samples from remote and inaccessible areas, proving indispensable during emergencies. Their ability to navigate diverse terrains, such as roads, water bodies, forests, and high-rise buildings, makes them highly effective and reliable in the most challenging conditions making it crucial in emergencies, potentially preventing the loss of lives.

The WEF launched the project 'Medicines from the Sky' in collaboration with the government of Telangana in September 2021 in the Vikarabad district in Telangana. This programme was the first of its kind in Asia to deliver medicines and jabs to test the feasibility of medium-range delivery options.[112] Later, in 2022, the project was carried out in Arunachal Pradesh with the aim of analysing the response of the state's healthcare system when integrated with drones. As of October 2024, the key progress highlights for Arunachal Pradesh[113] are:

over 650 drone flights	10,000+ medical products delivered	15,000km covered

It was observed that the delivery times had drastically improved, with trips reduced from eight hours by ground transport to just 22 minutes by drone, cutting emergency response times and saving lives in critical situations. The International Civil Aviation Organization (ICAO) recognised the project's achievements for its innovative use of drones to enhance health supply chains in the region.

112 https://www.indiatoday.in/india/story/telangana-launches-medicines-from-the-sky-drone-scindia-project-nationwide-1851848-2021-09-11

113 World Economic Forum. (October, 2024). India is revolutionising healthcare with drone deliveries. https://tinyurl.com/4ysnfaka.

The project ***'i-DRONE'*** (ICMR's Drone Response and Outreach for North East) was launched under the aegis of the MoHFW in October 2021 with the view to assess the feasibility of using drones to deliver vaccines and medical supplies. The exercise was conducted in rugged geographical terrains of the northeast (Manipur and Nagaland), including land, islands, foothills and across the hills.[114] Following the study's success, this initiative has been expanded and it now includes delivering medical essentials at high altitudes in Himachal Pradesh, transporting TB samples in Telangana, and moving pathological samples in Karnataka.[115]

Key Statistics about i-Drone[116]:

130 hours flight time	65 Health Centres connected	22,000 medical essentials delivered	7700 km covered

Drones have significant potential to deliver essential goods to vulnerable populations, helping to overcome access barriers and facilitating faster delivery of lifesaving medicines.

Advancing healthcare through AI

11.63 The National Strategy for Artificial Intelligence (2018) developed by NITI Aayog discussed how AI could help address the challenges of quality, accessibility, and affordability for a large section of the population. The strategy emphasised how AI combined with robotics and the Internet of Medical Things (IoMT) can potentially become the 'new nervous system for healthcare', providing solutions to address healthcare problems and helping the government achieve universal health for all.[117]

11.64 As per NASSCOM, the widespread adoption of AI in healthcare can create new opportunities for the sector and bridge the accessibility, affordability, and quality gaps.[118] Adoption of AI can help reduce drug discovery and delivery costs; it can improve the quality of medical devices, improve diagnosis accuracy and enable real-time monitoring of remote patients. For healthcare providers, AI helps streamline the overall patient journey, assists clinicians in reducing misdiagnoses, and enables personalised treatments and preventive care. One of the use case examples of how AI can efficiently deliver services and enhance the accessibility of healthcare for citizens are presented in **Box XI.10**.

114 PIB release of MoHFW dated 4 October 2021 (https://tinyurl.com/4dwekvyh).

115 https://idrone-audit.icmr.org.in/

116 ibid note 115 above

117 National Strategy for Artificial Intelligence (2018) (https://tinyurl.com/bd9sd3sn).

118 Advancing Healthcare in India: Navigating the Transformative Impact of AI. NASSCOM. 2024 (https://tinyurl.com/y26f5869).

Box XI.10: Use of Tele-Radiology and AI in silicosis management

Silicosis is a debilitating lung disease caused by inhaling silica dust. It is associated with severe comorbidities such as tuberculosis, cancer, ischemic heart disease, bronchitis, and infections from bacteria and fungi.

The Rajasthan state government has set a new benchmark in public health management of this disease, which is widespread in the state due to sandstone mining activities.[119] The state government is effectively using digital X-rays, tele-radiology, and AI to streamline the diagnosis of Silicosis. The technology was developed by training an AI model on a vast dataset of over-labelled chest X-rays. By leveraging AI technology, the government enabled the automatic detection of the disease, making the diagnostic process faster and more accurate. This technology has significantly improved the identification and treatment of Silicosis patients. The government also introduced DBT self-approval portal, which allows diagnosed patients to receive financial assistance directly into their bank accounts, bypassing the previously cumbersome administrative procedures.[120] This system ensures that those affected by Silicosis receive timely relief.

11.65 Another example of technology integration in health care is the eSwasthya Dham portal[121] launched by the Uttarakhand Government.[122] The portal helps monitor the Char Dham Yatra pilgrim's (Yamunotri, Gangotri, Kedarnath, and Badrinath-together called as the Char Dham Yatra) health parameters and offers a variety of benefits for pilgrims, including the ability to generate an ABHA in under two minutes. Creating the ABHA, helps provide a reliable and secure identity for devotees, enabling them to manage their health records digitally. This system will also ensure prompt assistance for citizens in case of emergencies. As a result, it facilitates the smooth journey of pilgrims.

11.66 Despite its great potential, AI adoption in India is still in its early stages. In 2023, 34 per cent of healthcare organisations in India were piloting AI projects, and 16 per cent had moved their generative AI initiatives into production. However, the adoption of AI in the Indian healthcare sector faces several challenges, including a lack of specialised talent (both technical and domain-specific), data complexities, and difficulties in scaling up.[123] This requires attention going forward.

The Impact of lifestyle and work culture on mental well-being

11.67 Mental well-being is often conflated with happiness or mood. However, it is beyond that. It is the ability to navigate life's challenges and function productively.

119 Pradip K Tewari and Anand Krishnan Plappally. Impacting life in rural Rajasthan through Emerging Technologies. August 2020 (https://tinyurl.com/5c5ypub3)

120 https://silicosis.rajasthan.gov.in/

121 https://eswasthyadham.uk.gov.in/

122 PIB release of MoHFW dated 11 July 2024 (https://tinyurl.com/2v2w7p44).

123 ibid note 118 above

Mental well-being encompasses all our mental-emotional, social, cognitive, and physical capabilities. This can also be construed as the mind's composite health.

11.68 The Economic Survey 2023-24 recognised mental well-being as an economic issue and highlighted, in some detail, the increasing prevalence of mental health issues worldwide and in India and its likely impact on the economy. It emphasised a whole of community approach to tackling mental health problems. In this Survey, we take the discussion forward.

11.69 Data suggests that mental well-being is not static; indeed, there are a myriad of factors, including workplace culture, hours spent working, and lifestyle, that influence mental well-being. This section presents the results of a short survey conducted to understand how lifestyle, work culture, family bonds, eating habits, etc., are affecting the mental health of citizens in the country. Although a few prior surveys have been conducted to assess mental health in India[124], they do not allow us to have this understanding.[125]

11.70 Since 2021, the Sapien Labs Centre for Human Brain and Mind (the Centre), India[126], has been collecting data on a comprehensive measure of mental well-being from over 150,000 internet-enabled individuals in India. The data is dynamic; each month, an additional sample of about 2,000-3,000 individuals residing in India gets added to the database. In the months of October and November of 2024, a special survey focused on understanding the impact of work culture, family bonds, eating habits, pastimes, and exercise on mental well-being and productivity was conducted by the Centre. This survey was conducted online on 5,233 digitally-enabled individuals between 18-64 years of age.[127]

11.71 The Centre uses a comprehensive measure of mental well-being that explicitly accounts for an individual's ability to function and is not based on a symptom-based assessment that has been widely used previously. The measurement utilises the MHQ or Mental Health Quotient assessment that evaluates 47 aspects of mental function spanning six dimensions **(Chart XI.9.a)**. These aspects include both mental health

124 National Mental Health Survey of India, 2015-2016 Prevalence, Patterns and Outcomes, Supported by Ministry of Health and Family Welfare, Government of India, and Implemented by National institute of Mental Health and Neurosciences (NIMHANS) Bengaluru: In Collaboration with Partner Institutions;

125 Patel V. et.al. Million Death Study Collaborators. Suicide mortality in India: a nationally representative survey. Lancet. 2012 Jun 23;379(9834):2343-51. doi: 10.1016/S0140-6736(12)60606-0. PMID: 22726517; PMCID: PMC4247159.

126 https://www.sapienlabsindia.org/

127 54 per cent were females, 45 per cent males, about 20 per cent reported household incomes less than 1 lakh per year and 10 per cent reported household incomes between 1-3 lakhs/year, and about 70 percent had incomes greater than 3 lakhs/year, 15 percent lived in Delhi, and 45 per cent lived in cities that were not one of the following: Delhi, Mumbai, Kolkata, Hyderabad, Bengaluru, or Chennai. Individuals from 36 states/Union Territories were part of the sample.

'symptoms' as well as the positive aspect of mental function and are queried on a life-impact scale. The score ranges from -100 to + 200, categorised from distressed to thriving **(Chart XI.9.b)**.[128,129] The MHQ score is calculated from the responses provided.[130]

Chart XI.9.a: Mental wellbeing

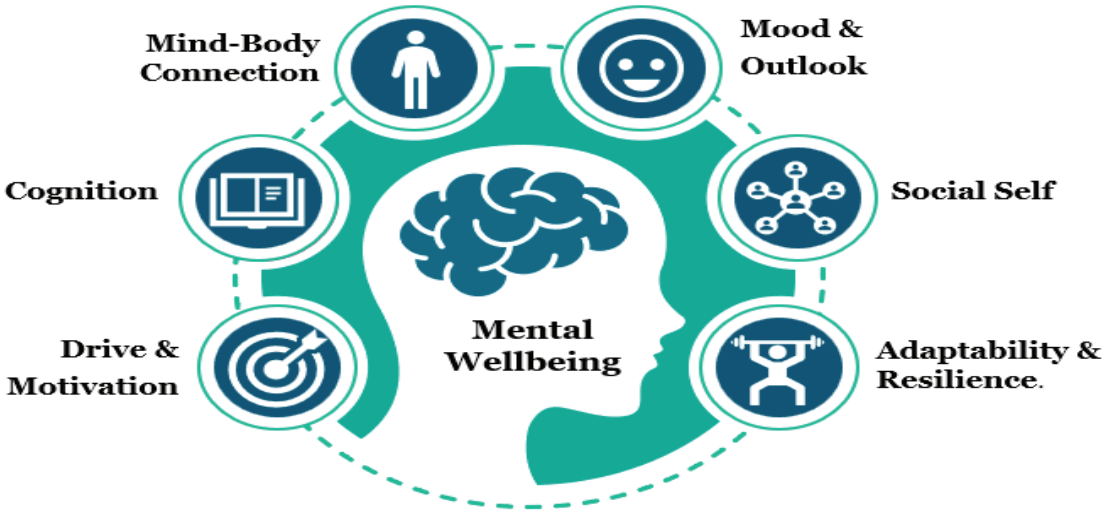
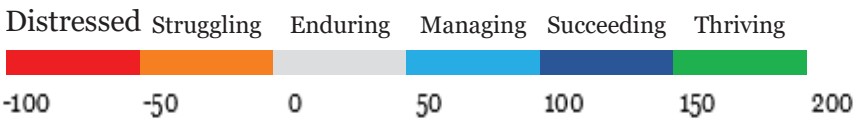


Chart XI.9.b: Life-impact (MHQ) scale



11.72 Work culture comprises the myriad of factors that define an individual's experience at work, including work amount/load, manager and peer relationships, and perceived control. Global data[131], mirrored in India, suggests that work culture strongly impacts mental well-being. In the survey, workers employed in the formal economy in India were asked to rate various work factors on a scale from 1 to 9, where one was the worst, and nine was the best.

128 Newson, J.J., Sukhoi, O. & Thiagarajan, T.C. MHQ: Constructing an aggregate metric of population mental wellbeing. Popul Health Metrics 22, 16 (2024). https://doi.org/10.1186/s12963-024-00336-y.

129 Newson JJ, Pastukh V, Thiagarajan TC. Assessment of Population Well-being with the Mental Health Quotient: Validation Study. JMIR Ment Health 2022;9(4):e34105. https://mental.jmir.org/2022/4/e34105/.

130 Please see: https://tinyurl.com/s6n9j4dc

131 Sapien Labs Rapid Report. Work Culture and Mental Wellbeing. https://tinyurl.com/29hdzyru

11.73 Individuals with the best manager and colleague relationships report a 100-point higher (or 33 per cent[132]) mental well-being score compared to their counterparts working with the worst manager/peer relationships. Similarly, those reporting the best workload report 80 points or 27 per cent greater mental well-being than their counterparts with the worst workload.

11.74 Further, individuals who report the best pride and purpose at work have a 100-point greater mental well-being score (or 33 per cent) and a 120-point (40 per cent) greater well-being score than those who report the worst. In addition, individuals in fully remote work situations have a mental well-being score about 50 points (17 per cent) lower than counterparts in either fully in-person or hybrid work models, suggesting that social interaction at work is essential to preserve mental well-being.

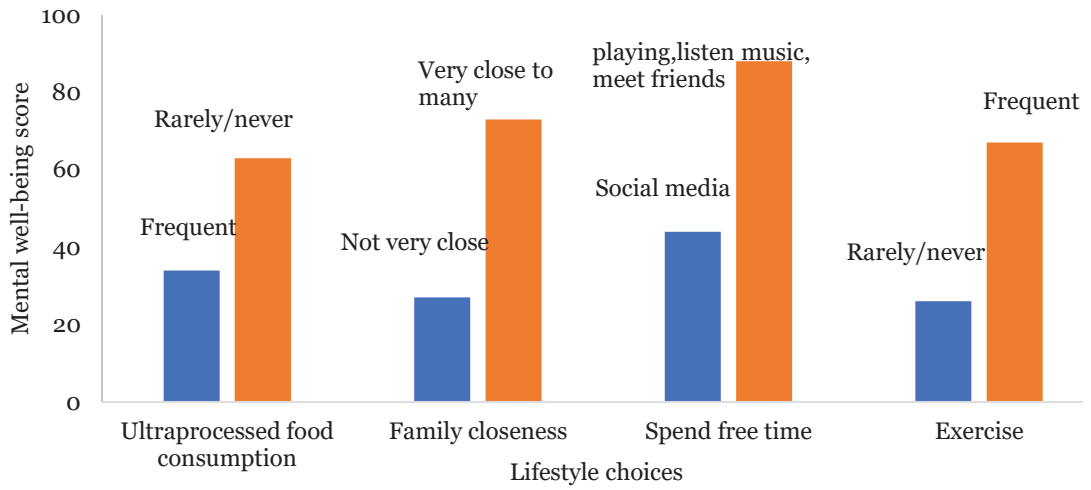
11.75 While the hours spent at work are informally considered a measure of productivity, a previous study has documented adverse health effects when hours exceed 55-60 per week.[133] Spending long hours at one's desk is equally detrimental to mental well-being. Individuals who spend 12 or more hours at a desk have distressed/struggling levels of mental well-being, with a mental well-being score approximately 100 points lower than those who spend less than or equal to two hours at a desk, according to the survey.

11.76 While promoting a better workplace culture will lead to better mental well-being, lifestyle choices and family situations also play a significant role. Results of the survey show that individuals who rarely consume ultra-processed or packaged junk food have better mental well-being than those who regularly do. Similarly, those who rarely exercise, spend their free time on social media or are not close to their families have worse mental well-being. **(Chart XI.10)**

132 Since MHQ is calculated on a 300-point scale (-100 to +200), a 100 point higher score translates into a (100/300)*100=33 percent.

133 Pega F, Náfrádi B, et al (2021). Global, regional, and national burdens of ischemic heart disease and stroke attributable to exposure to long working hours for 194 countries, 2000-2016: A systematic analysis from the WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury. Environ Int. Sep;154:106595. doi: 10.1016/j.envint.2021.106595.

Chart XI.10 Mental Well-Being and Lifestyle



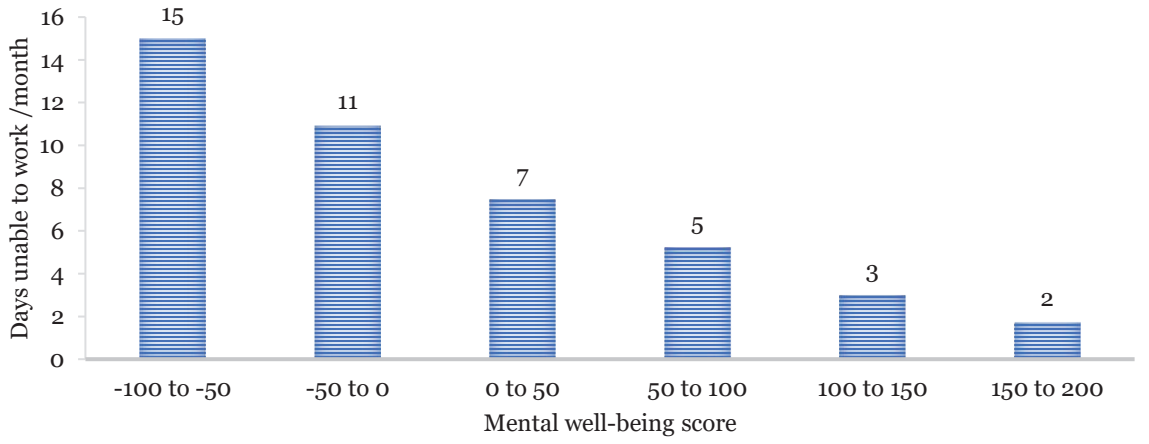
11.77 While the low levels of mental well-being are worrying, the ramifications of these trends on the economy are equally disturbing. **Chart XI.11** shows that individuals with well-being scores between -100 and -50 are unable to work about 15 days a month, while those with scores between 100 and 150 are unable to work three days a month, and those with scores about 150 are unable to work only two days a month. In addition to impacting mental well-being and lifestyle, the workplace culture also affects productivity.

11.78 The survey results show the extent to which lifestyle choices and workplace culture are associated with the number of days an individual is unable to work/month.[134] Better lifestyle choices/workplace cultures and family relationships are associated with 2-3 fewer days lost per month at work. Having poor relationships with managers and low (worst) pride and purpose at work are associated with the largest increases in the number of days one is unable to work. The findings also suggest that multiple factors affect productivity. For example, even in jobs with the best managerial relationships, about 5 days per month are lost. This is because workplace culture is but one factor (among several) in the determination of productivity (and mental well-being). A study[135] by the WHO finds that globally, about 12 billion days are lost annually due to depression and anxiety, amounting to a financial loss of $1 trillion. In rupee terms, this translates to about ₹7,000 per day.

134 Self-reported measure of productivity is used.

135 Chisholm, D., Sweeny, K., Sheehan, P., et al. (2016). Scaling-up treatment of depression and anxiety: A global return on investment analysis. The Lancet Psychiatry, 3(5), 415–424. https://doi.org/10.1016/S2215-0366(16)30024-4

Chart XI.11 Mental well-being and days unable to work/month



11.79 Lifestyle choices and workplace culture are critical for mental well-being and, hence, productivity. If India's economic ambitions are to be met, then immediate attention must be given to lifestyle choices that are often made during childhood/ youth.[136] Furthermore, hostile work cultures and excessive hours spent working at the desk can adversely affect mental well-being and ultimately put the brakes on the pace of economic growth.[137]

11.80 The increase in mental health issues in children and adolescents is often linked to the overuse of the internet and, specifically, social media. Jonathan Haidt, in his book '*The Anxious Generation: How the great rewiring of children is causing an epidemic of mental illness*', which has now been voted as the book of the year by Goodreads,[138] provides a researched assessment of adolescent mental health. He suggests that the arrival of the "phone-based childhood" is rewiring the very experience of growing up. The recent announcements by government of Australia to ban the use of social media by children below 16 years of age is a testimony to the gravity of the situation. Similar interventions are being discussed in Sweden and Spain, as per news report.[139]

11.81 While these interventions at government level are being contemplated, there is an urgent need for school and family-level interventions to encourage healthy pastimes (meeting with friends, playing outside). Investing time in building close family bonds would go a long way towards keeping children and adolescents away from internet and

136 Sapien Labs, India Rapid Report. Mental State of India: The Internet Enabled Youth. https://tinyurl.com/rwz6rws9

137 A caveat to these findings is that the data used here is only from the digitally-enabled population. Google and Facebook ads were used to recruit respondents to take the MHQ survey. It is therefore possible that the data are skewed towards those for whom mental health is a problem who took the survey to know their mental well-being score. However, this worry is not completely justified since the sample also includes individuals with good mental health scores- over 30 per cent report MHQ scores 100 or higher placing them in the succeeding/ thriving range. Finally, the associations shown here-of lifestyle and work culture on mental well-being and productivity cannot strictly be interpreted as a causal effect.

138 https://www.goodreads.com/choiceawards/readers-favorite-nonfiction-books-2024

139 Le Monde. (2024, September 10). Australia plans to implement age limit to ban children from social media. https://tinyurl.com/dxsy2h4r

improving mental well-being. In many ways, returning to our roots may allow us to reach further for the skies in terms of mental health.

11.82 In summary, given the direct costs to human welfare and the spirit and sentiment of the nation, putting mental well-being at the centre of the economic agenda is prudent. The scale of the problem is immense as discussed in the Economic Survey 2023-24 (Chapter 7, para 7.28). Post-facto treatment will not be sufficient. It is about time to find viable, impactful preventive strategies and interventions. India's demographic dividend is riding on skills, education, physical health and, above all, mental health of its youth.

11.83 Recognising this, the government is committed to creating an accessible and inclusive mental health ecosystem. The Economic Survey 2023-24 (Chapter 7, Table VII.3) highlighted various initiatives aimed at addressing mental health and well-being. The National Mental Health Policy, 2014 provides an overarching vision for mental health in the country. The Mental Healthcare Act, 2017 lays down a rights-based framework for accessible and dignified mental health services. Currently, 47 Mental Health Institutes are operational across the country. Additionally, the government supports mental health services at primary, secondary, and tertiary levels under the National Mental Health Program. A dedicated Tele-MANAS Cell at the Armed Forces Medical College, Pune, supports Armed Forces personnel and their dependents. The Tele-MANAS Mobile Application, launched on 10 October 2024, provides a comprehensive mental health mobile platform. Additionally, video consultations on Tele MANAS have been initially rolled out in Karnataka, Jammu & Kashmir, and Tamil Nadu and will be scaled nationwide.

Impact of lifestyle choices on health

11.84 An individual's lifestyle, encompassing habits like diet, sleep, device use, and exercise, profoundly impacts overall well-being. This section discusses the crucial role of lifestyle on an individual's health.

11.85 According to WHO, non-communicable diseases (NCDs) are the reason behind the death of 41 million people each year, equivalent to 74 per cent of all deaths globally. Of all NCD deaths, 77 per cent are in low- and middle-income countries.[140] The burden of NCD risk factors arises partly from population growth and ageing.

11.86 According to the 2017 study report 'India: Health of the Nation's States' by the Indian Council of Medical Research (ICMR), the proportion of deaths due to NCDs in India increased from 37.9 per cent in 1990 to 61.8 per cent in 2016. The four major NCDs are cardiovascular diseases (CVDs), cancers, chronic respiratory diseases (CRDs), and

140 https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases

diabetes. These diseases share four common behavioural risk factors: unhealthy diet, lack of physical activity, tobacco use, and alcohol consumption.[141]

11.87 Recognising the growing NCD challenge, the MoHFW launched the National Programme for Prevention and Control of NCD (NP-NCD), the erstwhile National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS). The programme has significantly strengthened healthcare infrastructure, decentralising services and ensuring quality care reaches rural and remote areas.

Table XI.5: Healthcare infrastructure developed under NP-NCD

	770 District NCD Clinics at District Hospital		**6410** Community Health Centres NCD Clinics
	233 Cardiac Care Units		**372** daycare cancer centres
Source: MoHFW			

11.88 **Population-Based Screening (PBS) initiative:** To enhance early NCD detection, the government launched the PBS initiative targeting individuals aged 30 and above for screening for common NCDs. The National NCD portal[142], introduced in 2018, manages patient data and integrates health records with ABHA IDs. As on date, 42.2 crore individuals enrolled (aged more than 30 years), and 39.80 crore individuals were screened for diabetes, hypertension, and common cancers, enabling timely interventions, and reducing long-term healthcare burdens.

11.89 Among other factors, lifestyle choices play a crucial role in the prevention of NCDs.[143] Reducing excess calorie intake and improving dietary quality may help prevent many primary and secondary cardiovascular events.[144] The section on mental well-being discussed how the intake of ultra-processed food (UPFs) is associated with mental well-being. **Box XI.11** dwells on the impact of intake of UPF on the physical health of an individual.

Box XI.11: Ultra-processed food and health impacts

From sweetened breakfast cereals, soft drinks, and energy drinks to fried chicken and packaged cookies, UPFs have undeniably marked their formidable presence in everyday

141 PIB release of MoHFW dated 8th Februray 2022 (https://tinyurl.com/vbsk3bk7)

142 https://ncd.nhp.gov.in/

143 Di Cesare M. Global trends of chronic non-communicable diseases risk factors. Eur. J. Public Health. 2019;29:ckz185.196. doi: 10.1093/eurpub/ckz185.196.

144 Yu E., Malik V.S., Hu F.B. Cardiovascular disease prevention by diet modification: JACC Health Promotion Series. J. Am. Coll. Cardiol. 2018;72:914–926. doi: 10.1016/j.jacc.2018.02.085.

diet. The NOVA food classification system[145],[146] categorises UPFs broadly as ready-to-eat products characterised as industrial formulations composed of substances extracted from food, along with additives for taste enhancement. These foods are generally energy-rich with high levels of sugar, salt and unsaturated fats and are nutrient deficient as they are made from ingredients derived from a limited variety of crops such as wheat or soy.

The National Dietary Guideline 2024[147] identifies UPFs as food and beverage products that have undergone extensive industrial processing and contain a high number of additives such as preservatives, sweeteners, emulsifiers, and other substances that are not commonly used in culinary preparations.

Convenience, hyper palatability, affordability, longer shelf life and vigorous advertising and marketing strategies have made a conducive environment for the thriving business of UPFs in India. WHO India[148], reports that, between 2011 and 2021, the value of retail sales in the UPF segment grew at a CAGR of 13.7 per cent. Though there was a YoY growth rate decline from 12.7 per cent to 5.5 per cent during 2020, the very next year, it was 11.29 per cent. According to the HCES 2022-23, almost 9.6 per cent of the food budget in rural areas and 10.64 per cent in urban areas is spent on beverages, refreshments, and processed food.[149]

There is enough research to show that the shift in dietary practices from unprocessed to semi-processed and to UPF items exposes an individual to a wide range of adverse health outcomes ranging from obesity, chronic inflammatory disorders, cardiovascular diseases, and mental disorders.[150,151,152] Being lower in fibre content, UPFs are observed to lead to weight gain and obesity in adults and children.[153,154,155] Studies from across countries show a

145 Monteiro, C. A. et.al. (2016). NOVA. The star shines bright [Food classification. Public health]. World Nutrition, 7(1–3), 28–38. https://tinyurl.com/NOVA2016WN.

146 NOVA Food Classification system, which was designed by Center for Epidemiological Studies in Health and Nutrition, School of Public Health, University of Sao Paulo, Brazil. NOVA helps people "group foods according to the extent and purpose of the processing they undergo. The NOVA system classifies foods into four categories: (i) NOVA1 includes unprocessed or minimally processed foods, (ii) NOVA2 comprises culinary ingredients (iii) NOVA3 covers processed foods, and (iv) NOVA4 includes ultra-processed foods.

147 Indian Council for Medical Research - National Institute for Nutrition National Dietary Guidelines, https://tinyurl.com/bdsdn9w6

148 World Health Organization. (2023). The growth of ultra-processed foods in India: An analysis of trends, issues, and policy recommendations. World Health Organization Country Office for India. https://tinyurl.com/madajds2

149 https://pib.gov.in/PressReleasePage.aspx?PRID=2026672

150 Beslay M, Srour B, Méjean C, Allès B, ..& Galan P. (2020). Ultra-processed food intake in association with BMI change and risk of overweight and obesity: a prospective analysis of the French NutriNet-Santé cohort. PLoS Med. 2020;17(8):e1003256.

151 Levy RB, Rauber F, Chang K.,& Vamos EP. (2021). Ultra-processed food consumption and type 2 diabetes incidence: a prospective cohort study. Clin Nutr. 2021;40(5):3608–14.

152 de Miranda RC, Rauber F, de Moraes MM,& Levy RB. (2021) Consumption of ultra-processed foods and non-communicable disease-related nutrient profile in Portuguese adults and elderly (2015–2016): the UPPER project. Br J Nutr. 2021;125(10):1177–87.

153 Dicken, S.J., Batterham, R.L. (2024) Ultra-processed Food and Obesity: What Is the Evidence? Curr Nutr Rep 13, 23–38. https://doi.org/10.1007/s13668-024-00517-z

154 Martini D, Godos J, Bonaccio M, Vitaglione P, and Grosso G. (2021). Ultra-processed foods and nutritional dietary profile: a meta-analysis of nationally representative samples. Nutrients. 2021;13:3390.

155 Poti JM, Braga B, Qin B. (2017). Ultra-processed Food Intake and Obesity: What Really Matters for Health-Processing or Nutrient Content? Curr Obes Rep. 2017 Dec;6(4):420-431. doi: 10.1007/s13679-017-0285-4. PMID: 29071481; PMCID: PMC5787353.

direct association between exposure to UPFs and 32 health parameters spanning mortality, cancer, and mental, respiratory, cardiovascular, gastrointestinal, and metabolic health outcomes. They also indicate that greater exposure to UPFs leads to anxiety outcomes, mental disorder outcomes, prevalent adverse sleep-related outcomes, heart disease-related mortality, type 2 diabetes, depressive outcomes, wheezing, obesity, and cancer and higher risks of mortality.[156,157] Further, there are also evidences that UPFs may hamper with immunity and may lead to increasing gut impermeability and can cause bacterial imbalance in the gut, with adverse implications to immunity.[158] Increased and frequent consumption of UPF is associated with an increased risk of multimorbidity, which refers to the prevalence of multiple chronic conditions due to non-communicable diseases for an extended period of time.[159]

Historically, the correlation between poor dietary intake and adverse mental health has been documented. There is growing evidence that the level of food processing influences dietary quality and impacts mental health.[160] Studies also substantiate that increased consumption of UPF has an adverse impact on the mental well-being of children and adolescents.[161] Multiple studies link highly processed food with low mood, depression, and anxiety. Increased frequency of intake of UPF impacts mental health function, including cognition, adaptability, and resilience. Also, they can lead to depression, anxiety, and long-term psychological distress.[162,163]

India has made strides in addressing its growing disease burden as a result of UPF through notable interventions such as Advertising and Claims Regulations, 2018; School Children Regulation, 2020; and the Food Safety and Standards (Labelling and Display) Regulations, 2020. The Consumer Protection Act, 2019 addresses the issue of lack of a clear definition of misleading advertisement and prescribes fines for such advertising of unhealthy food products.

To date, much of the policy and public messaging about 'unhealthy food' or the regulations have focused on specific nutrients—saturated fats, sodium, and sugar.

156 Lane, M. M. et.al.(2024). Ultra-processed food exposure and adverse health outcomes: Umbrella review of epidemiological meta-analyses. BMJ, 384, e077310. https://doi.org/10.1136/bmj-2023-077310

157 Fiolet, T., et.al. (2018). Consumption of ultra-processed foods and cancer risk: Results from the NutriNet-Santé prospective cohort. BMJ, 360, k322. https://doi.org/10.1136/bmj.k322

158 Whelan, K., Bancil, A.S., Lindsay, J.O. et al. Ultra-processed foods and food additives in gut health and disease. Nat Rev Gastroenterol Hepatol 21, 406–427 (2024). https://doi.org/10.1038/s41575-024-00893-5

159 Cordova, R. et.al (2023). Consumption of ultra-processed foods and risk of multimorbidity of cancer and cardiometabolic diseases: a multinational cohort study. The Lancet Regional Health–Europe, 35.

160 Lane MM, Gamage E, Travica N,. & Marx W. (2022).Ultra-Processed Food Consumption and Mental Health: A Systematic Review and Meta-Analysis of Observational Studies. Nutrients. 2022 Jun 21;14(13):2568. doi: 10.3390/nu14132568. PMID: 35807749; PMCID: PMC9268228.

161 O'Neil A, Quirk SE, Housden S, & Jacka FN. (2014). Relationship between diet and mental health in children and adolescents: a systematic review. Am J Public Health. 2014 Oct;104(10):e31-42. doi: 10.2105/AJPH.2014.302110. PMID: 25208008; PMCID: PMC4167107.

162 Hecht, E. M., Rabil, A., Steele, E. M.,& Hennekens, C. H. (2022). Cross-sectional examination of ultra-processed food consumption and adverse mental health symptoms. Public health nutrition, 25(11), 3225-3234.

163 Ejtahed HS, et.al. (2024). Association between junk food consumption and mental health problems in adults: a systematic review and meta-analysis. BMC Psychiatry. 24. 10.1186/s12888-024-05889-8.

The Way Forward

The huge business of UPF segments has been built on hyper palatability of food items and marketing strategies involving misleading advertisements and celebrity endorsements targeting consumer behaviour. Often unhealthy packaged food items are advertised and marketed as healthy products. For example, breakfast cereals, tetra pack juices and chocolate malt drinks, often advertised as healthy and nutritious, come under the category of UPF based on their ingredients. Misleading nutrition claims and information on UPFs need to be tackled and should be brought under the scanner. Setting standards for permissible levels of salt and sugar and ensuring checks for UPF brands to adhere to the regulations are also required.

Many countries, including Brazil, Canada, Chile, France, Mexico, Israel, Peru, the UK and Uruguay, have been implementing the Nutrient Profile Model for labelling and restricting marketing as proposed by the Pan American Health Organisation (PAHO) in 2016. In 2011, Denmark introduced a tax on saturated food products.[164] Mexico has imposed a surcharge on carbonated drinks and a tax on junk food.[165]

Making consumers conscious about what they eat, its ingredients and associated side effects is important not only to counter the intake of UPF but also to maintain a healthy lifestyle. Understanding the ingredients of packaged food, the ill effects of UPF, and healthy food choices should be a part of the school curriculum. Since UPF brands often target children and adolescents, massive awareness of the potential risk factors of UPF is of utmost necessity. Generating health-conscious consumers can further motivate and incentivise various UPF brands to come up with healthy alternatives or minimise the extent of the negative effects of the UPFs. This calls forth for enormous behaviour change campaigns and awareness-generating sessions. Efforts also need to be directed to promote local and seasonal fruits and vegetables and facilitate positive subsidies for healthy foods such as whole foods, millet, fruits, and vegetables to improve their availability, affordability, and consumption.

A study by Nutrition Advocacy in Public Interest (NAPi)/Breastfeeding Promotion Network of India (BPNI) 2023 recommended that efforts to curb the harmful impact of UPFs should be free from food industry influence. The MoHFW should urgently define nutrient thresholds for sugars, salt, and saturated fats to regulate advertising, adopt warning front-of-pack labels (FOPL), and impose stricter marketing restrictions on unhealthy foods, especially targeting children under 18. Schools, hospitals, and public areas should eliminate UPFs, while incentives should promote affordable healthy food production. High GST rates and amendments to consumer protection laws could deter misleading advertising. Additionally, a coalition of civil society and government entities, free from conflicts of interest, is vital to educate the public and counter food industry interference.[166]

164 Jensen JD, Smed S, Aarup L, Nielsen E. Effects of the Danish saturated fat tax on the demand for meat and dairy products. Public Health Nutr. 2016 Dec;19(17):3085-3094. doi: 10.1017/S1368980015002360. Epub 2015 Aug 26. PMID: 26306542; PMCID: PMC10270788.

165 World Trade Organization. (2007). Mexico - Tax measures on soft drinks and other beverages - Status report regarding implementation of the DSB recommendations and rulings in the dispute Mexico - Tax measures on soft drinks and other beverages (WT/DS308/16). https://www.wto.org

166 Junk Push - rising ultra-processed food consumption in India - policy, politics and reality" 2023 (https://tinyurl.com/3hzjauc6).

The government has been making dedicated efforts to promote healthy foods and an active lifestyle by implementing initiatives such as Eat Right India[167] and Fit India Movement.[168] By prioritising whole, minimally processed foods rich in nutrients, fibre, and essential vitamins, individuals can lower their consumption of unhealthy additives, excess sugar, and refined grains often found in processed foods. This proactive shift not only enhances physical health but also supports mental clarity and sustained energy.

A multi-pronged approach would be required to address the concerns emerging from the increased inclusion of UPFs in diets in India. The Food Safety and Standards Authority of India (FSSAI) could consider bringing UPFs under regulation with a clear definition and standards, including stricter labelling requirements. Improved monitoring of branded products to ensure compliance would help build consumer confidence. A 22-country study established that self-regulation has not been very effective in this regard.[169,170] Further, consumer protection efforts can be strengthened to deal with aggressive marketing and distribution practices and misleading nutrition claims in advertising, especially when they are targeted towards children and youth. A higher tax rate for UPFs may also be considered as a 'health tax' measure targeted specifically at brands/products that advertise. There is a need to generate greater awareness of the adverse impact of the consumption of UPFs through campaigns targeted at schools and colleges alongside existing health and lifestyle campaigns of the governments.

RURAL ECONOMY

11.90 The government's emphasis has been on improving the quality of life in rural areas to ensure more equitable and inclusive development. Various measures have been taken in this regard by focusing on infrastructure encompassing rural housing, drinking water and sanitation, clean fuel, social protection, and rural connectivity, along with enhancing rural livelihoods. The financing needs of rural households and small businesses are being met through microfinance institutions, SHGs, and other financial intermediaries. Taking digitisation and technology to the rural economy has also been a key aspect of the rural development agenda, be it in agricultural activities or governance. For instance, the emphasis on digital land records through SVAMITVA shows a structural shift in rural land management and individual economic empowerment. A primary focus has also been on the health parameters of the rural population, with enhanced emphasis necessitated by the pandemic.

167 https://tinyurl.com/yre63w5k

168 https://fitindia.gov.in/

169 Kelly, B. et al. (2019). Global benchmarking of children's exposure to television advertising of unhealthy foods and beverages across 22 countries. Obesity reviews: an official journal of the International Association for the Study of Obesity, 20 Suppl 2(Suppl 2), 116–128. https://doi.org/10.1111/obr.12840

170 Gupta, Arun (2024). Why there is a Need to Priortise Regulation of Ultra-processed Foods and HFSS Foods in India?. Preventive Medicine Research & Reviews 1(2):p 90-93. | DOI: 10.4103/PMRR.PMRR_59_23 (https://tinyurl.com/34dyy7bx).

Rural Infrastructure

11.91 The summary of progress made under various schemes and initiatives for rural infrastructure development is as follows.

Table XI.6: Progress of Rural infrastructure development schemes

Roads	Pradhan Mantri Gram Sadak Yojana (PMGSY) (as of 9 January 2025)[171] • 8,34,695 km of road length sanctioned. • 7,70,983 km of road length completed. • 99.6 per cent of the targeted habitations provided connectivity.
Housing	**2.69 crore houses** completed since 2016 under **Pradhan Mantri Awaas Yojana-Gramin (PMAY-G).**[172]
Water bodies	**68,843 *Amrit Sarovars*** (ponds) constructed under Mission Amrit Sarovar.[173]
Health Infrastructure National Health Mission[174] (Figures in '000s.)	165.6 Sub-centres (SCs) 25.4 Primary Health Centres (PHCs) 5.5 Community Health Centres (CHCs) 32.9 Doctors at PHCs 4.4 Total Specialists at CHCs 79.3 Nursing Staff at PHCs & CHCs 27.7 Pharmacists at PHCs & CHCs 23.2 Lab Technicians at PHCs & CHCs
Drinking Water	**12.2 crore households** provided with tap water connections under Jal Jeevan Mission (as of 27 January 2025).[175]

171 https://www.omms.nic.in/

172 https://dashboard.rural.nic.in/dashboardnew/pmayg.aspx

173 https://amritsarovar.gov.in/Masterreport

174 https://tinyurl.com/3ufvys6p

175 https://ejalshakti.gov.in/jjmreport/JJMIndia.aspx

Sanitation	**11.8 crore toilets** and **2.51 lakh community sanitary** complexes were constructed under Swachh Bharat Mission (Gramin) (As of 27 January 2025).[176]
Comprehensive transformation	Saansad Adarsh Gram Yojana (SAGY) (as of 10 January 2025)[177] • 3,361 Gram Panchayats (GPs) adopted by MPs. • 3,120 GPs uploaded Village Development Plans. • 2,30,206 projects completed.

11.92 For the development of Particularly Vulnerable Tribal Group (PVTG) under Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM-JANMAN), a separate vertical has been launched under PMGSY by relaxing the population norms upto 100 to provide the connectivity to unconnected PVTG habitations. A total of 8,000 Km of Road length is targeted to be constructed under this vertical. The implementation period is till March 2028. A total of 1,557 road works of 4,781.44 Km of road length have been sanctioned till 9 January 2025.

Rural Housing: A Milestone for identity and economic growth

11.93 For most families in India, owning a house is both a milestone and a leap in living standards, especially for the rural poor, where it signifies identity and well-being. Beyond meeting basic needs, rural housing drives local employment and the economy and serves as a durable credit asset that enhances family welfare.

11.94 Providing housing for economically deprived rural households has long been integral to India's development strategy. Aligning with SDG Goal 11.1 on 'Safe and affordable housing' and India's vision of 'Housing for All,' the Pradhan Mantri Awaas Yojana-Gramin (PMAY-G) was launched on 1 April 2016. The Government of India has approved Phase-IV of PMGSY to provide all-weather connectivity to 25,000 rural habitations based on the population criteria of Census 2011. The PMGSY-IV will incorporate international benchmarks and good practices in road construction. The survey of habitations has started through GIS based App. The PM Gati Shakti is being utilized to plan and implement the programme. **Box XI.12** discusses the outcomes of PMAY-G, which is not merely providing housing but also many attended benefits that the scheme is bringing to the lives of the rural people.

176 https://sbm.gov.in/sbmgdashboard/statesdashboard.aspx
177 https://saanjhi.gov.in/

Box XI.12: The many outcomes of Pradhan Mantri Awaas Yojana-Gramin

PMAY-G aims to provide a pucca house with basic amenities to all houseless families and families living in *kutcha* and dilapidated houses in rural areas by 2029. The construction of 2.69 crore houses has been completed with support under the scheme since 2016. The scheme has been extended to construct an additional two crore rural houses over the next five years, i.e. till 2029.[178] Holistic design and efficient implementation elements of the scheme have contributed to its success.

The target beneficiary identification is made on the basis of a waitlist derived from the Socio-Economic Caste Census, 2011 and Awaas+ survey, 2018, done for this purpose and then verified by the Gram Sabhas. Recently, the number of objective exclusion criteria used for the identification of beneficiaries has been reduced from 13 to 10 (ownership of a fishing boat or motorised two-wheeler, raising the income threshold to ₹15,000 per month were removed) to enhance inclusivity in the target group. The Awaas+ survey, 2024 is also underway to verify eligible beneficiaries.

The scheme operates on the DBT model, where assistance is credited directly into the beneficiary's bank account, and construction work is monitored through geo-tagged photographs. Evaluation study (National Institute for Public Finance and Policy (NIPFP), July 2019[179]) shows that the introduction of DBT, as well as geotagging, has reduced the levels of administrative clearances required and the time taken for funds to be released as verification became more efficient. It improves fund utilisation of the scheme as it reduces leakages. DBT under the scheme has improved financial inclusion in rural areas (NIPFP, Dec 2019[180]).

PAHAL - a repository of designs of housing typologies that are suitable to different regions/ states has been developed and made available to the beneficiaries. These designs incorporate elements of disaster resilience, the use of eco-friendly local materials and skills, the use of cost-effective technologies etc. A rural mason training programme has been developed in partnership with the Construction Skill Development Council of India (CSDCI) and the National Skill Development Corporation (NSDC) and launched as part of the scheme to improve the availability of skilled/trained masons in rural areas for construction under the scheme and other works. So far 2,86,843[181] masons have been trained and certified. With the above measures on average, the time taken for the construction of one unit has improved to 114 days under PMAY-G from 314 days under IAY.[182]

The scheme has been a source of employment for labourers, masons, and artisans. The construction of a house under PMAY-G generates direct employment of approximately 314

178 https://tinyurl.com/22fbpm48

179 National Institute for Public Finance and Policy NIPFP, July, 2019: Impact of Reforms in Pradhan Mantri Awaas Yojana -Gramin (A Secondary Data Analysis) available at https://tinyurl.com/3yxpafzu.

180 NIPFP, December, 2019: Evaluation of Governance Parameters of Pradhan Mantri Awaas Yojana- Gramin, available at https://tinyurl.com/39wxz2kz.

181 As on 2 December 2024 and on basis of information received from CSDCI

182 Ibid note 179 above.

person-days, which includes 81 skilled, 71 semi-skilled, and 164 unskilled person-days. The total direct employment generated for houses completed in the first two years of the scheme was 4.82 crore person days for skilled labour and 7.60 crore person days for unskilled labour (NIPFP, 2018[183]). Extrapolating the estimates, it is seen that more than 192 crore man-days of skilled labour and almost 250 crore man-days of unskilled labour could have been employed since 2016. The study also shows that indirect employment from the backward and forward linkages to construction activities is considerable and beneficial to the rural economy.

The AwaasSoft MIS and AwaasApp enable the implementation of all functions and transactions of the scheme and evidence-based monitoring. This is open to the public, allowing more transparency. The use of emerging technologies, such as AI/ML-based object detection in house images and geo-referencing, enhances transparency and enables better deduplication of PMAY-G assets. Additionally, an eKYC app integrated with Aadhaar and equipped with AI-enabled face authentication technology is used to verify PMAY-G beneficiaries.

The scheme reserves a minimum of 60 per cent of targets for SC/ST households, with 59.58 lakh SC houses and 58.57 lakh ST houses completed. Five per cent of the target is reserved for differently-abled beneficiaries, and another five per cent prioritises housing for families affected by natural disasters. Scheme has placed a special focus on women's empowerment, with 74 per cent of sanctioned houses owned by women solely or jointly.

PMAY-G converges with schemes like MGNREGA[184], SBM-G, Jal Jeevan Mission, and *Surya Ghar*, ensuring beneficiaries access to water, toilets, LPG, electricity, and solar energy. An evaluation shows that the ease of living of beneficiaries is enhanced due to the construction of the house and 88 per cent of respondents confirmed improvements in the standard of living with the construction of houses.[185] The scheme is one of the key interventions facilitating SDG achievements, specifically in terms of the percentage of households living in kuccha houses.[186]

Localising SDGs: Powering rural progress

11.95 Localisation of SDGs ensures that rural development aligns with global goals, addressing basic amenities such as housing, sanitation, water supply, and electrification. This approach drives inclusive growth and improved quality of life at the grassroots level. SDGs localisation is being pursued at the Gram Panchayat (GP) level through Village Panchayat Development Plans under Mission Antyodaya[187] and the

183 NIPFP, April 2018 Impact of PMAY-G on Income and Employment https://tinyurl.com/2aw8erjx .

184 Mahatma Gandhi National Rural Employment Guarantee Act.

185 NITI Aayog, Evaluation of CSS Scheme – Rural Development Sector, in respect of PMAY-G - 2020-21

186 NITI Aayog SDG India Index 2023-24 https://tinyurl.com/bddb4733

187 Mission Antyodaya. Mission Antyodaya Dashboard 2020. Ministry of Rural Development, Government of India, https://missionantyodaya.nic.in/ma2020/.

Transformation of Aspirational Districts Programme (TADP), adopted in 2018[188] with districts as the lowest level of implementation. Accelerating forward, the preparation for a Local Indicator Framework (LIF) at the GP level is already in the process where nine themes have been designed spanning across the 17 SDGs. **Box XI.13** discusses these initiatives.

Box XI.13: Localisation of Sustainable Development Goals

The adoption of 17 SDGs in 2015 marked a paradigm shift in how the world understood and prepared itself to pursue the development agenda. India continues to wholeheartedly accept, engage, and progress with the idea of SDG implementation. Our timely submission of Voluntary National Reviews of 2017, 2020 and 2023[189] and the adoption of the SDG Index[190] reflects India's commitment to the cause. The call for **'Sabka Saath, Sabka Vikas'** and the vision of Viksit Bharat by 2047 lays the roadmap for achieving the SDGs.

A 'whole-of-the-government' strategy with an emphasis on cooperative and competitive federalism among states is being followed. The 'collaborative competition' approach, supported by comparative rankings on SDG progress, has generated momentum among states and complements the strategy.

There is a global shift towards the 'localisation' of SDGs to achieve the goals by 2030 and increase the rate and impact of progress. SDG localisation is the process of adapting and customising these goals and translating them into local development plans and strategies that fit the needs, context and priorities of a particular region or locality in coherence with national frameworks (United Nations, 2024).[191] This approach places local communities at the centre of sustainable development and anchors development action on the principles of subsidiarity, inclusion, partnership and multilevel governance, with adequate data and financing availability at the local level.

In India, state governments have been proactive and have laid out strategies and frameworks for achieving SDGs at various administrative levels. Some states have extended their indicator frameworks to the district and block levels, ensuring that local budgets align with SDG objectives. This multi-layered approach to SDG implementation is based on the Indian model of SDG Localisation[192] comprising four key pillars: creating institutional ownership, fostering collaborative competition, enhancing capacities, and embracing a whole-of-society approach.

188 NITI Aayog. Aspirational Districts Programme. Government of India, https://tinyurl.com/bdhfrbxx.

189 United Nations, Voluntary National Reviews (VNRs) https://hlpf.un.org/vnrs.

190 https://sdgindiaindex.niti.gov.in/

191 United Nations, Inter-agency Policy Briefs: Accelerating Progress on the 2030 Agenda from Local to Global Levels (United Nations, 2024)https://tinyurl.com/mvwcm8ye.

192 NITI Aayog, SDG India Index 2023-24 (NITI Aayog, 2024) https://tinyurl.com/bdhdr8kx

Kerala offers a replicable model for SDG localisation.

Kerala uses a robust, community-based model that leverages its strong local governance institutions. Awareness and community engagement efforts focus on educating local officials on the relevance of poverty alleviation and environmental resilience, which are led by state and national leaders. The Local Self Government Department, with technical support from the Kerala Institute for Local Administration (KILA), have developed comprehensive guidelines and processes to incorporate SDGs into local planning. They also train stakeholders in SDG-aligned development and data collection. The state has a real-time SDG dashboard to monitor the panchayats and is able to use such localised data for decision-making and to provide insights on development indicators.

Localisation efforts are driven by the SDG Coordination Centres (SDGCCs) in states and UTs by governments in partnership with implementing agencies. Currently, SDGCCs are operational in 10 states/UTs, namely Andhra Pradesh, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Nagaland, Punjab, Tamil Nadu, Uttar Pradesh, and Uttarakhand. These centres play a pivotal role in supporting and facilitating implementation on the ground. This is achieved through integrated policymaking, fostering interlinkages and synergies, establishing monitoring systems, adopting a convergence-based approach, and fostering participation at all levels of government among all stakeholders.

Over the past six years, the SDGCCs have established a strong foundation for understanding and ownership of the SDGs at the state level. With all levels of government fully committed to achieving the SDGs, there has been a shift in departmental mindsets towards adopting result-based, integrated planning. Through continuous training and handholding support, departments are increasingly aligning their efforts with outcome-linked planning and budgeting. This evolution has fostered evidence-based decision-making and the identification of viable solutions, to reach the most vulnerable population first, realising the principle of 'Leaving No One Behind'.

NITI Aayog is transitioning to SDG Coordination and Acceleration Centres (SDGCACs)[193] as we approach the 2030 deadline. The SDGCACs will uphold the current SDGCC approach while encouraging innovative solutions, scaling up successful initiatives and fostering synergistic collaborations among diverse stakeholders. They aim to (a) go beyond the planning department and intensify engagement with other key departments, especially the finance department (b) go beyond the whole of the government approach and foster the whole of the society approach for the systematic and sustained participation of civil society organisations (CSOs) and private sectors and (c) have an interconnected approach to challenges by identifying critical actors and working towards a collaboration.

In conclusion, the localisation of SDGs ensures that rural development is in harmony with international goals, focusing on essential services like housing, sanitation, water supply, and electrification. This strategy promotes inclusive growth and enhances the quality of life at the grassroots level.

193 SDGCCs are Specialised Project Management Units within State Government departments of Planning, Economics and Statistics or Finance to align the planning process with the SDGs. (https://sdgknowledgehub.undp.org.in/sdgcc/)

Other measures towards rural welfare

11.96 **Food, Nutrition, Health, and WASH (FNHW):** To address health, nutrition, WASH, and sanitation issues, DAY-NRLM implements FNHW interventions, focusing on promoting the consumption of produce from nutri-gardens, poultry, small ruminants, and dairy. Currently, FNHW interventions are being implemented in 5369 blocks across 682 districts.[194]

11.97 **Social Inclusion and Gender:** State Rural Livelihoods Missions (SRLMs) have developed state-specific strategies to integrate DAY-NRLM components and community institutions, addressing issues such as child education, early marriage, asset creation for women, and violence against women. Currently, 32 SRLMs are implementing these gender interventions.

11.98 Gender Resource Centres (GRCs) are being established to address gender issues at the local level, supported by Gender Point Persons (GPPs) who sensitise SHG members on gender-based violence and discrimination. GPPs are trained by Gender Community Resource Persons (Gender-CRPs), who build capacity in both SHG members and the wider community.

11.99 Over 25 lakh GPPs and more than 89,000 Gender-CRPs work within more than 31,000 Cluster Level Federations (CLFs) and 5,00,000 Village Organisations (VOs), tackling gender issues with the support of 40,061 GP-level Gender Forums and 1927 Block-level Gender Forums. A total of 3997 GRCs are operating across 18 States and UTs under DAY-NRLM, empowering women and gender-diverse persons to address violence and access their rights.

11.100 **Free legal assistance in remote and rural areas:** The National Legal Services Authority (NALSA), established under the Legal Services Authorities (LSA) Act of 1987, provides free legal services to disadvantaged sections of society to ensure equal access to justice, as outlined in Section 12 of the Act. It operates through legal service institutions from the Taluk Court to the Supreme Court, offering services such as legal aid, advice, awareness programmes, Lok Adalats, and the Victim Compensation Scheme.

11.101 Additionally, the government has launched the 'Designing Innovative Solutions for Holistic Access to Justice in India' scheme, which strengthens pre-litigation advice through Tele-Law, facilitates pro bono legal services via the Nyaya Bandhu programme, and promotes legal literacy through pan-India awareness campaigns, utilising technology, and region-specific IEC materials to improve accessibility for the poor and marginalised.

194 Based on inputs received from MoRD

11.102 The Gram Nyayalayas Act, 2008 aims to provide access to justice at the grassroots level in rural areas. As of October 2024, 313 Gram Nyayalayas have disposed of over 2.99 lakh cases from December 2020 to October 2024.[195]

11.103 The National Social Assistance Programme (NSAP) is a social security programme for the vulnerable section of our society. The objective of the programme is to provide a basic level of financial assistance to old age, widows, and disabled persons as well as to bereaved households in the event of the death of the breadwinner belonging to the Below Poverty Line. NSAP caters to 3.09 crore BPL beneficiaries. Further, States/UTs are also providing financial assistance to additional 5.86 crore beneficiaries through State Pension Schemes. Therefore, around nine crore beneficiaries (central NSAP plus additional state beneficiaries) are covered under the pension safety net of the country at an estimated annual expenditure of more than ₹1 lakh crore.[196]

Enhancing rural incomes

Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM)

11.104 DAY-NRLM is a flagship poverty alleviation programme, launched in 2011 with the aim to reduce poverty by enabling poor households to access gainful self-employment and skilled wage employment opportunities, resulting in sustainable and diversified livelihood options for the poor. This is one of the world's largest initiatives to improve the livelihoods of the poor.

11.105 The Mission seeks to achieve its objective through investing in four core components viz., (a) social mobilisation and promotion and strengthening of self-managed and financially sustainable community institution so the rural poor women; (b) financial inclusion; (c) sustainable livelihoods; and (d) social inclusion, social development, and access to entitlements through convergence.

11.106 The programme leverages community resources (social capital) to build institutions and promote livelihoods, with trained SHG members serving as CRPs in various roles like Pashu Sakhi, Krishi Sakhi, Bank Sakhi, Bima Sakhi, CRP-EP, *Poshan Sakhi* etc. The key programme components and their progress is as follows.[197]

195 https://pib.gov.in/PressReleasePage.aspx?PRID=2078998

196 Based on inputs received from MoRD

197 Cumulative progress of key components (till October 2024)

Table XI.7: Progress under key programme components of DAY-NRLM

Capacity Building	Financial Inclusion	Farm Livelihoods	Non-Farm Livelihoods
Mobilised 10.05 crore **rural poor** Households into 90.90 lakh SHGs, 5.96 lakh VOs and 32,439 CLFs **in 7,143 blocks of 745 districts**	• **1.37 lakh SHG women** members positioned as Banking Correspondent Sakhi. • **₹49,284 crore** capitalisation support provided to SHGs. • **₹ 9.85 lakh crore** of bank credit accessed by SHG.	• More than **2.64 crore households** have agri-nutri gardens • Around **36,205 Custom Hiring Centres** established to help small and marginal farmers hire farm tools and services at a nominal cost. • **4.30 crore** Mahila Kisan covered	• Start-Up Village Entrepreneurship Programme (SVEP): nearly **3.13 lakh enterprises** in 280 blocks of 31 States/UTs. • Aajeevika Grameen Express Yojana: **2297 vehicles** operational in 26 states connecting remote villages.

Mahatma Gandhi National Rural Employment Guarantee Scheme

11.107 The MGNREGA 2005 aims at enhancing the livelihood security of households in rural areas of the country by providing at least 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual work. The physical progress of MGNREGS (the Scheme through which MGNREGA is implemented) is indicated below:

Table XI.8: Key indicators on MGNREGS

Indicator	2020-21	2021-22	2022-23	2023-24*	2024-25*
Person-days generated (in crore)	389.1	363.3	293.8	308.9	220.11
Average person-days per household	51.5	50.1	47.8	52.1	42.77
Women participation rate (%age)	53.2	54.7	57.5	58.9	57.97
**As per MIS (as of 10 January 2025)*					

11.108 Multiple efficiency reforms have been introduced to fully utilise the scheme. To ensure probity and elimination of leakages, geotagging before, during, and after the work is being done, 99.98 per cent payments are through National Electronic Fund Management System, wages are transferred under DBT, Aadhaar-based payment has been enabled for 96.3 per cent of total active workers, 99.23 per cent of total successful transactions for wage beneficiaries has been processed through APBS (Aadhaar Payment Bridge System) in Dec 2024and social audit units have been set up in 28 states/UTs.

11.109 While MGNREGS began as a wage employment scheme, it has evolved into a durable rural asset creation programme for sustainable livelihood diversification, as seen in the rise in the share of individual beneficiary 'works on individual land' from 16.2 per cent of total completed works in FY15 to 71.2 per cent in FY25 (the share in terms of expenditure is much lower, yet rose from 11.65 per cent in FY15 to 28.9 per cent in FY25). MGNREGS has also helped in boosting rural ecological health through improvement of soil quality and plantation and has improved rural water management for agriculture through integrated watershed management (IWM) assets. Capacity development of workers is being promoted through initiatives like Bare Foot Technicians (BFT)[198] and UNNATI[199] skilling project.

11.110 Further, the scheme is converged with various initiatives, including Nutri-Gardens with NRLM, fodder farms with the Department of Animal Husbandry and Dairying (DAHD), horticulture with the Ministry of Agriculture, medicinal plantations with the Ministry of Ayush, Gram Panchayat buildings with the Ministry of Panchayati Raj, community sanitary complexes with SBM Grameen, construction of Anganwadi Centres with Ministry of Women and Child Development, promoting sericulture plantations with Ministry of Textiles, supporting rubber plantations with Rubber Board (Ministry of Commerce), promoting aquaculture in ponds and farm ponds with Department of Fisheries, rural roads with PM Gram Sadak Yojana, and all-weather roads with BRO for border areas. Apart from that, convergence is also made at the state level with different state departments such as Forest Department, agriculture Department, Horticulture Department, Tribal Development Department and others for implementation of developmental works in rural areas.

OUTLOOK

11.111 The Indian economy's growth story emphasises a welfare-enhancement approach by the government, focusing on empowering all citizens and ensuring the efficient delivery of welfare measures. The government's initiatives aim to provide opportunities

198 So far, 9186 BFTs have been trained in 20 States.

199 A total of 2,00,000 beneficiaries to be trained till March 2025 with an estimated financial expenditure of Rs.307.34 Crore. A total of 73,628 beneficiaries have been trained till 30th September 2025.

for everyone, enabling them to achieve their professional and personal goals. With the focus on education, health, skilling, and innovation, with improved social and economic infrastructure the aim is to achieve welfare for all.

11.112 While the education and health system has made significant progress through various initiatives aimed at achieving national goals, there is a critical need to enhance the delivery mechanisms. By rethinking and improving these systems and integrating innovation and technologies, one can ensure that benefits effectively reach the last mile and are fully realised by those who need them most.

11.113 The importance of focusing on learning outcomes is underscored by reports revealing the gap between class standards and actual learning levels. To address this gap and enhance learning outcomes, it is crucial to implement innovative teaching methods and strategies that prioritise peer learning, social and emotional development, digital literacy, and life skills. These approaches will not only boost academic performance but also foster cognitive and critical thinking skills among students.

11.114 Policymaking in India emphasises preventive health to enhance life expectancy, quality of life, and economic growth through lower healthcare costs and improved productivity. The National Health Policy 2017 advocates universal health coverage, affordable care, and prevention of NCDs. Advancements in physical and digital infrastructure, including eSanjeevani, UWIN, NDHM, drones, and AI, have improved healthcare access, particularly in underserved areas. Mental health initiatives and strategies to promote healthier lifestyles are crucial for addressing NCDs and boosting productivity.

11.115 The government's focus on rural infrastructure, housing, and livelihoods reflects a comprehensive ‘welfare for all’ approach. By improving rural connectivity, sanitation, housing, access to drinking water, and social inclusion, alongside supporting microfinance, SHGs, and localisation of SDGs, these initiatives ensure inclusive development. Together, they uplift rural communities, bridging gaps in equity and quality of life.

11.116 Regulatory institutions in the areas of health and education must constantly balance the needs of the society and that of the ease of provision of such services by the providers. Where the market can do an effective job, regulations can either be withdrawn or compliance made voluntary with disclosure. Tight regulations increase the compliance and supervision burden on state capacity that is already stretched. This gives rise to unfulfilled expectations on the part of the public. Therefore, for India to receive the demographic dividend in full in the coming years, regulatory institutions need to evolve to focus on allowing outcomes to happen without being fixated on

inputs. Trust-based regulation backed up by transparency and disclosure on the part of the regulated deserves a chance. Regulators must develop their assessment parameters and report on their own effectiveness transparently. There is no better way to demand right behaviour than to set an example.

******