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Towards Viksit Bharat

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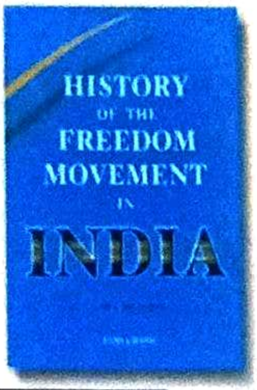

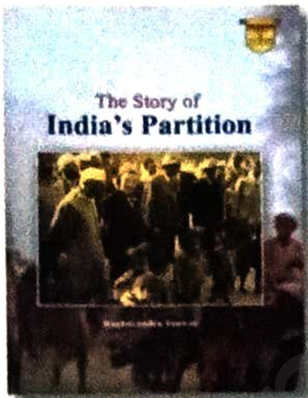

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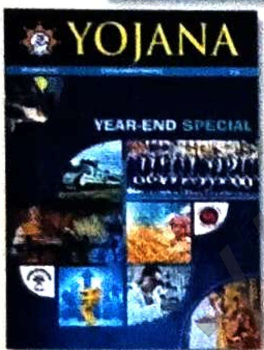

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YOJANA

Since 1957 A DEVELOPMENT MONTHLY

Let noble thoughts come to us from all sides.
Rig Veda

IN THIS ISSUE

UPCOMING ISSUE : NEW FRONTIERS OF FREEDOM

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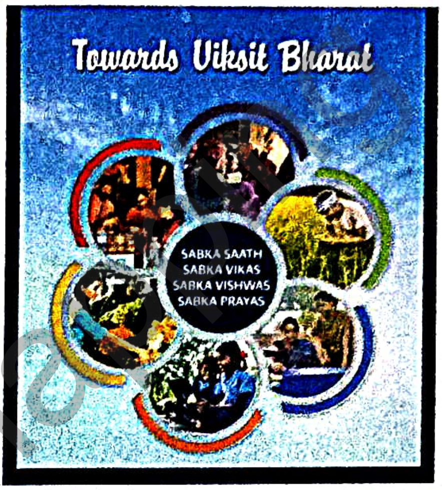
From Vision to Reality:
Charting India's Course to *Viksit Bharat*



Imagine India in 2047 – not just a vision, but a tangible reality fueled by progress across every sector. It's about an India where no one is left behind, where economic growth is inclusive, and opportunities abound for all. This journey, '*Viksit Bharat@2047*,' is deeply rooted in humanising development, ensuring it touches the lives of every citizen.

Consider the transformation in serving the poor and marginalised. In the recent decade, an inclusive development model has guaranteed basic necessities like water, electricity, healthcare, and education. Initiatives like MUDRA Yojana and Stand Up India are not just schemes; they're springboards for young entrepreneurs from marginalised communities. The fact that over half of the 52 crore loans under MUDRA have been given to entrepreneurs from the SC/ST/OBC communities is a testament to this commitment. It's about empowering individuals with the tools to shape their own destinies.

The narrative of a *Viksit Bharat* is incomplete without acknowledging the role of *Nari Shakti*. Development is intrinsically linked to the progress of women. Welfare programmes support women at every stage, addressing malnutrition through *Mission Poshan* and ensuring safety and empowerment via *Mission Shakti*. The improved sex ratio at birth and the increased LPG usage under *Ujjwala Yojana* are indicators of a life of dignity afforded to women.

Empowering the *Amrit-Peedhi*, the country's youth, is another cornerstone. With the world's largest young population, the National Education Policy (NEP) 2020 is overhauling the education system. The focus on skill training under *PM Kaushal Vikas Yojana* and initiatives like the Startup India programme are geared towards fostering entrepreneurship and innovation.

For the middle class, the focus is on ease of living. Access to banking, LPG, and healthcare has been ensured through various programs. The Goods and Services Tax (GST) has reduced everyday expenses, while schemes like UDAN have made air travel affordable. These initiatives collectively contribute to a better quality of life.

Healthcare has seen a paradigm shift with the *Ayushman Bharat- Pradhan Mantri Jan Arogya Yojana*, reducing the economic burden on low-income households. The *eSanjeevani* telemedicine program is revolutionising healthcare accessibility, while *Jan Aushadhi Kendras* provide affordable medicines.

On the global stage, India is not just participating but leading. Becoming the world's 4th largest economy, overtaking Japan, is a landmark achievement. The UPI revolution and the digital stack have transformed financial transactions, making them seamless and efficient. Infrastructure marvels, such as the recently inaugurated Chenab Bridge in Jammu & Kashmir, symbolise connectivity and integration, linking remote regions to the nation's heart. Visionary steps in the semiconductor industry are paving the way for technological self-reliance.

The current edition of Yojana reflects on the remarkable developmental journey of the past decade, while envisioning a promising path forward. With this issue, we are excited to introduce new columns that we believe will resonate with our readers. **'Smart Solutions'** will spotlight grassroots innovators and everyday *'desi jugaad'* that solve real-world problems in simple yet ingenious ways. Another new column focuses on **'Consumer Awareness'** and food safety, empowering readers with practical knowledge to make informed choices. We warmly invite our readers to share their thoughts on these additions—your feedback is invaluable in helping us enrich Yojana and shape it into an even more engaging and meaningful reading experience. ❑

MICROFINANCE

Manoj Mittal

PM Mudra Yojana : A Decade of Hope, Opportunity and Inclusivity

The Pradhan Mantri Mudra Yojana (PMMY) was launched during a time when the MSME sector, and especially the micro-segment was severely credit-starved. PMMY loans not only provides them initial credit support, but also helps create a credit footprints that could work as a critical evaluation criterion for their future formal credit requirements as their enterprise grows in size.

Sima Rani Malakar had realised that education was key to prosperity. While living in her tiny home in Shillong, she always dreamt about giving quality education to her two children. But her husband's meagre income was not enough to afford her dream. She was good at sewing clothes and decided to use that talent to enhance the family income. She availed a *Shishu* loan of Rs 40,000 from a Financial Institution for starting a tailoring business. The additional income generated through this business helped her in admitting her children to a quality school. *Pradhan Mantri Mudra Yojana* (PMMY), popularly known as *Mudra* loan, has given hope to millions like Sima Rani in every corner of the country.

Launched in April 2015 with the objective of providing financial support to micro and small enterprises, PMMY has completed a decade of its existence. It has fostered incorporation and growth of small businesses by providing them access to formal credit and thereby creating more opportunities for employment and economic growth. The resounding success of PMMY can be gauged from the rapidly increasing scale of sanctions and disbursements under the programme; as of 31 March 2025, the cumulative amount disbursed under PMMY reached a figure of Rs 33.32 lakh crore over 52.73 crore loan accounts. Importantly, it has seeded a culture of micro-

entrepreneurship across the length and breadth of the country.

The entrepreneurial spirit embodied by Micro, Small and Medium Enterprises (MSMEs) is crucial for economic growth and development in India. MSMEs in India are not only contributing significantly to production, employment and exports but are also pivotal in promoting inclusive growth. The heterogeneous nature of MSMEs in India, marked by the presence of a wide range of enterprises from small artisans to sophisticated technology-based startups, contributes to the uniqueness of the sector. To promote financial inclusion in India, the Government of India's (GoI)'s policy framework is focused on three pillars:

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i) banking the unbanked, ii) securing the unsecured and iii) funding the unfunded. PMMY was a step specifically towards addressing the third pillar and serving the microcredit market in a much more comprehensive manner. PMMY loans ranging from Rs 50,000 to Rs 10 lakh (*Shishu*, *Kishore* and *Tarun*) were launched at a time when a nuanced approach was required to fill the lacunas in the space of MSME finance and promote inclusive development. Subsequently, the loan limit was enhanced to Rs 20 lakh with the launch of the *Tarun Plus* category.

The mandate of PMMY has been to facilitate entrepreneurship at the grassroots level and develop the micro-enterprise sector into a viable and sustainable economic force. It has achieved considerable success towards that goal by empowering crores of entrepreneurs and providing them with the much-needed tools to drive an economic transformation. Over the past ten years, PMMY has redefined the scope and reach of financial assistance for microenterprises. It has consistently catered to the credit demands of the underserved and unorganised sectors, especially at the bottom of the pyramid. The support through PMMY has made it possible for local entrepreneurs to access the financial resources they need to create jobs and livelihoods and generate income.

Factors Behind the Popularity of PMMY

PMMY was launched during a time when the MSME sector, and especially the micro-segment was severely credit-starved. Neither the banks nor the target customers in this scheme considered each other as a viable business option. While the MFIs provided some relief through micro-finance loans, the requirement largely remained unmet/inadequately met, earning them the tag of 'missing middle'. Today, the PMMY scheme is considered to be one of the most inclusive government programmes and is open to all types of businesses, including individuals, sole proprietors, small businesses, traders, service providers and startups, including existing MSMEs. Certain features of the scheme have made it highly popular across the country.

Zero collateral: This makes the scheme especially beneficial for micro-enterprises and small entrepreneurs who do not have significant assets to pledge. Moreover, PMMY loans are eligible to avail of the credit guarantee facility from either Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) or under the Credit Guarantee Fund for Micro Units (CGFMU), managed by NCGTC.

Competitive rates: While the interest rates under the PMMY scheme vary and are determined by the lending institutions, they are designed to be affordable for small businesses.

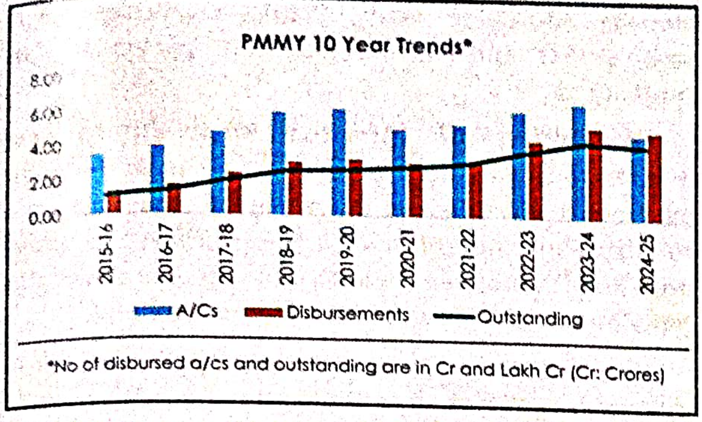
Flexible repayment: The loans under PMMY also come with flexible repayment options, allowing businesses to repay in instalments that match their cash flow and earnings.

Digital accessibility: Applications for PMMY loans can be made through various banks and financial institutions or through the online national portal—*JanSamarth*, making the process more convenient and accessible.

Extensive lender participation: The scheme has been successfully implemented by a wide network of public sector banks, private sector banks, regional rural banks (RRBs), small finance banks (SFBs), micro-finance institutions (MFIs), and non-banking financial companies (NBFCs).

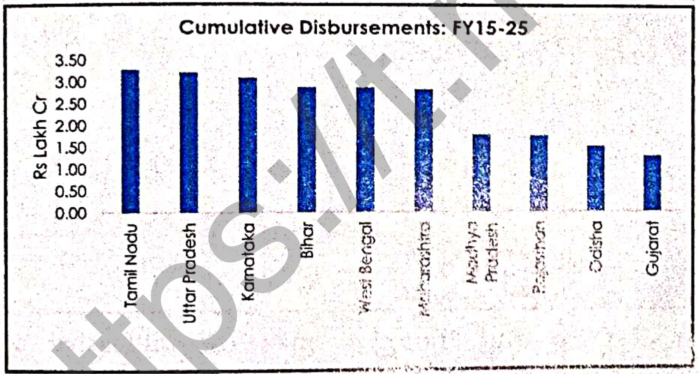
Performance Metrics—PMMY

Since its inception, the cumulative amount sanctioned and disbursed under PMMY stood at Rs [illegible] lakh crore and Rs 33.32 lakh crore as of 31 March [illegible] (provisional figures). The total sanctioned and disbursed amount in the previous fiscal year, i.e., FY 2025, stood at Rs 5.20 lakh crore and Rs 5.09 lakh crore respectively.



Popular Across States – Ensuring Credit Flow to Informal Sector

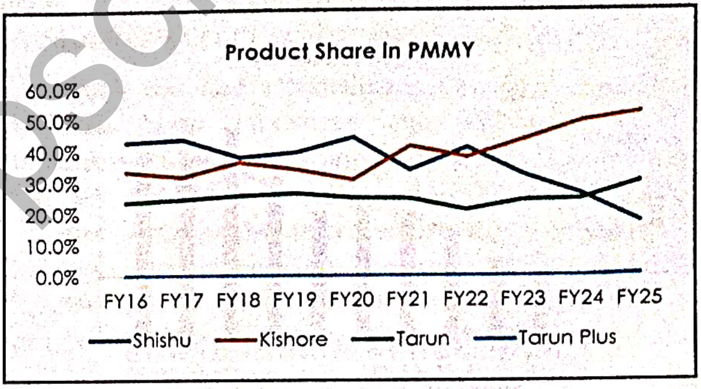
PMMY loan distribution is well spread across most parts of the country, with Tamil Nadu, Uttar Pradesh, Karnataka, West Bengal and Bihar being the top five states in terms of cumulative disbursements, accounting for 46.3% of the total. The top 7 states availing the PMMY scheme are also the top 7 states having maximum Informal Micro Enterprises (IME) registrations in the *Udyam Assist Platform* (UAP), though not in the same order. Banks, NBFCs, and MFIs classified as Designated Agencies (DAs) in UAP have facilitated the formalisation or registration of their IME customers through UAP. These two facts also indicate a possible role the scheme has played in ensuring credit flow to the informal sector.



Category Spread-Increasing Kishore and Tarun Loans Possibly Indicates Increasing Enterprise Activities

'Shishu', the smallest loan category, accounts for a substantial share of the lending under PMMY, with an 80% share in the number of accounts and a 38% share in sanctions and disbursements up to FY 2024, whereas the *'Kishore'* category accounts for an 18% share in the number of accounts and approx 38% share each in sanctions and disbursements. The *Tarun* category accounts for a 2% share in the number of accounts and about one-fourth of the sanction and disbursements amounts under the scheme. The share of *Shishu, Kishore, Tarun* and *Tarun Plus* categories in disbursement the last fiscal i.e., FY25, stood at 18.1%, 50.9%, 30.2% and 0.8% respectively, with disbursements in *Tarun Plus* just having started. The average size of PMMY loans has doubled from the first year of operations, from Rs 39,405 in FY 2016 to Rs 81,108 in FY 2024, and rose further to Rs 1.06 lakhs in the last fiscal, FY 2025.

A product-wise analysis of PMMY loans highlights a steadily increasing share of *'Kishore'* and *'Tarun'* loans in the overall portfolio from 57.2% in March 2016 to 82.7% in March 2025. The share of *'Tarun'*, i.e., loans over Rs 5 lakhs (including a small share of newly started *'Tarun Plus'* over Rs 10 lakhs) stood at 30.7% as at end of FY25.

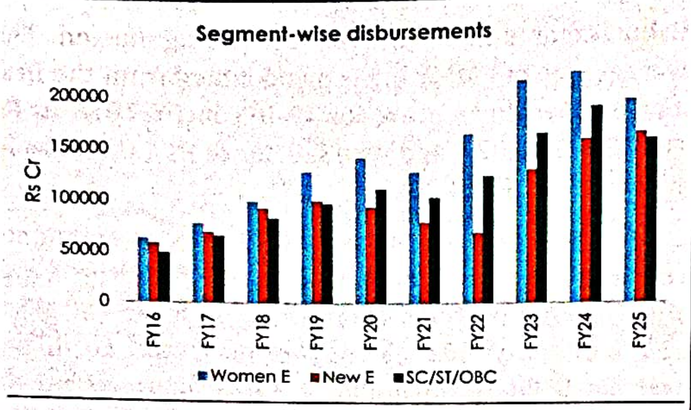


The increasing share of loans in the *'Tarun'* and *'Kishore'* category confirms the higher ticket size orientation in PMMY which in turn possibly indicates that such credit is being increasingly utilised for small businesses by informal micro-enterprises.

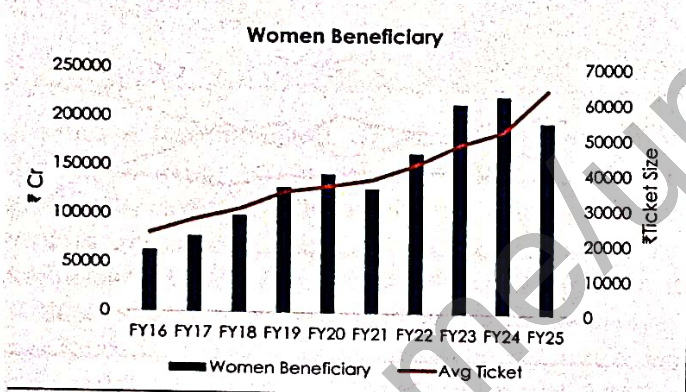
Transformative Impact of PMMY: Inclusivity and Empowerment

Since its launch, PMMY has significantly contributed to the economic empowerment of small businesses in India. Some of the key impacts include:

Financial Inclusion: The scheme has helped millions of micro-entrepreneurs gain access to formal credit for the first time, promoting financial inclusion across the country. As of 31 March 2025, PMMY loan sanctions of Rs 10.56 lakh crore have been provided to 10.97 Cr new accounts, with almost one third (approx 31%) share in cumulative sanctions. What is also worthy of mention is the cumulative sanctions to women entrepreneurs stand at Rs 14.85 lakh crore, a significant 44% (approx) of aggregate cumulative sanctions under the programme. Further, the total sanctions to the SC/ST/OBC categories amount to Rs 11.72 lakh crore, which is about 34.5% of the cumulative total sanctions, highlighting the inclusive character of the program.



*E – Entrepreneurs



While there has been a slowdown in disbursements towards women entrepreneurs and special categories in FY25 due to the challenges in the microfinance and NBFC sectors, the overall impact on financial inclusion has been strong through significant disbursements over the ten-year period in all these categories. Moreover, the disbursement and average loan ticket size of the women beneficiaries have also increased over the years, indicating a gradual rise in the scale of entrepreneurial activities.

While the loans extended to women indicate the role it plays in gender inclusivity, the loans to new accounts are a possible indication of people increasingly looking at entrepreneurship as a viable livelihood option. PMMY loans not only provide them initial credit supports, but the credit footprint also it creates could work as a critical evaluation criterion for their future formal credit requirements as their enterprise grows in size.

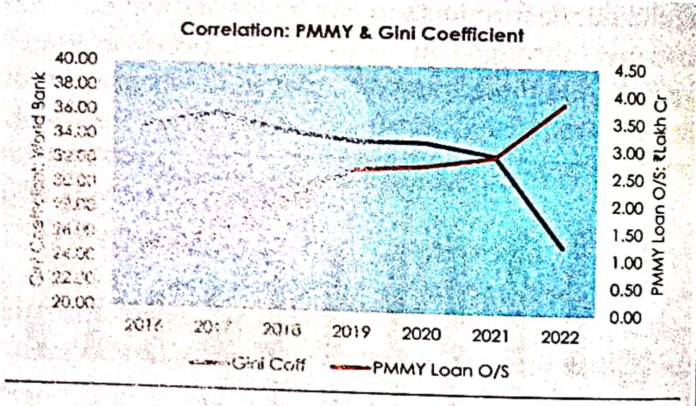
Empowerment of Small Entrepreneurs: By offering affordable loans, PMMY encourages self-employment and entrepreneurship, particularly in rural areas.

Promotion of Informal Micro-Enterprises: It aims to boost the growth of non-corporate small businesses and informal micro-enterprises across the country. Thousands of small businesses have benefitted from PMMY, enabling them to scale up operations and contribute to the growth of the Indian economy.

Job Creation: By supporting small and micro enterprises, PMMY facilitates the creation of jobs and helps reduce unemployment, especially in rural and semi-urban areas. PMMY has played a role in the creation of millions of jobs, as small enterprises typically employ a large number of people per unit of turnover, especially in rural areas.

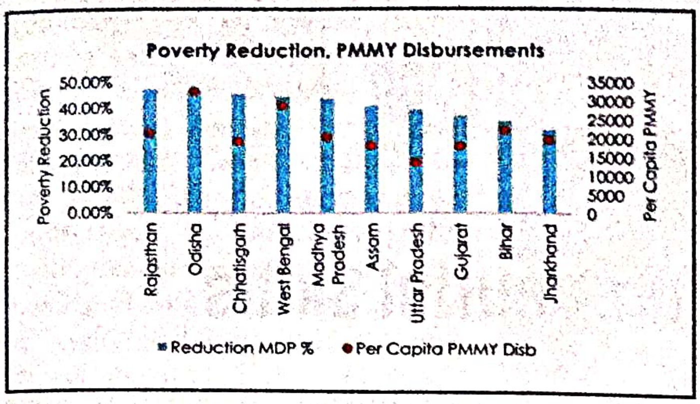
Easier Access to Credit: The initiative has made it easier for small businesses to access credit without the need for traditional banking infrastructure or collateral.

Impact on Economic Inequality and Multi-dimensional Poverty Reduction



* Gini Coefficient data obtained from World Bank Gini Index data.

India's Gini Index, a measure indicative of inequality in the overall economy, has seen a significant decline over the 6-year period (2016-2022) (Source: World Bank Data). An analysis undertaken by SIDBI highlights a highly significant negative correlation of -0.84 between the Gini Index and PMMY loan outstanding. Although correlation does not imply causation, it may be safely stated that the PMMY intervention is one of the key initiatives contributing to the reduction of economic inequality in India.



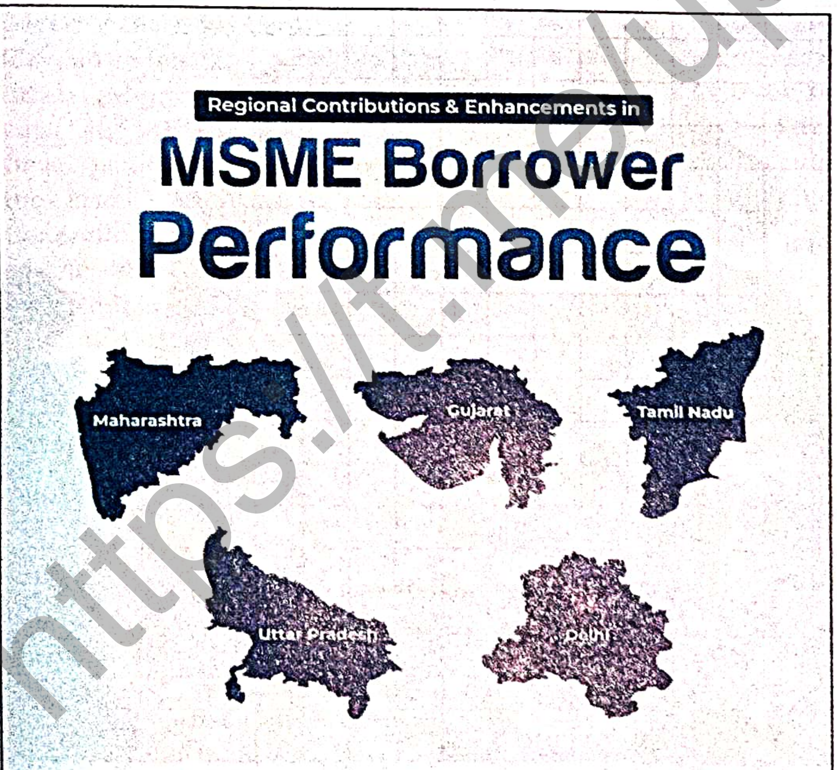
Further, SIDBI also computed the correlation between PMMY disbursements in ten states where there has been a sizeable reduction in multi-dimensional poverty (MDP) over the period 2016-2021 and the per capita cumulative PMMY disbursements. The correlation between them is moderately positive at 0.44.

Challenges for PMMY

PMMY is one of the impactful schemes of the government. Given the per capita availment analysis, there is a large scope for greater penetration of the scheme in high-population states like UP, Bihar, etc., and also in North-Eastern states. While with the rise in industrialisation and entrepreneurship in regions, the availment is likely to improve, there is also a case for popularisation of the scheme in such states. Continuous awareness campaigns and financial literacy programs for availing the benefits and effectively managing loans can help in addressing the issue.

Role of MUDRA, SIDBI's Subsidiary

Established as a subsidiary of SIDBI, Micro Units Development & Refinance Agency Ltd (MUDRA) has been playing a pivotal role in ensuring a seamless flow of credit through the *Pradhan Mantri Mudra Yojana* (PMMY) by refinancing the PMMY loans extended by the various last-mile lenders like Banks, NBFCs and MFIs. One of the critical functions of MUDRA has been coordination among various stakeholders for effective implementation and monitoring of the scheme. As a refinance agency, it has, as of 31 March 2025, sanctioned a cumulative amount of Rs 1.03 lakh crore and disbursed Rs 1.00 lakh crore through the refinancing of PMMY loans. The outstanding refinance portfolio of MUDRA stood at Rs 29,421 Cr as of 31 March 2025 (provisional).



A geographical analysis reveals that five states collectively represent approximately 48% of the overall MSME industry origination by value.

PMMY has had a transformative effect on India's small business landscape by offering financial support to those who want to generate a livelihood for themselves and others around them. By empowering micro-enterprises and fostering entrepreneurship, the scheme aligns with the government's broader vision of promoting self-employment, financial inclusion, and economic growth. PMMY has been crucial in driving socio-economic change by supporting women-led entrepreneurship, promoting entrepreneurship as a livelihood, ensuring credit flow to the informal sector, and establishing credit to IMEs as a viable business model for lenders.

PMMY, with a decade of innovation in financial inclusion, will continue to address the huge, unserved and underserved credit market, thereby ensuring a progressive and sustainable growth of the Indian economy. In this decadal journey, significant progress has already been made towards the objectives of inclusion, formalisation and development. Going forward, the PMMY will undoubtedly continue to play a key role in realising the vision of '*Viksit Bharat*'. Beyond the numbers, PMMY is a story of hope, opportunity and inclusivity. ❑

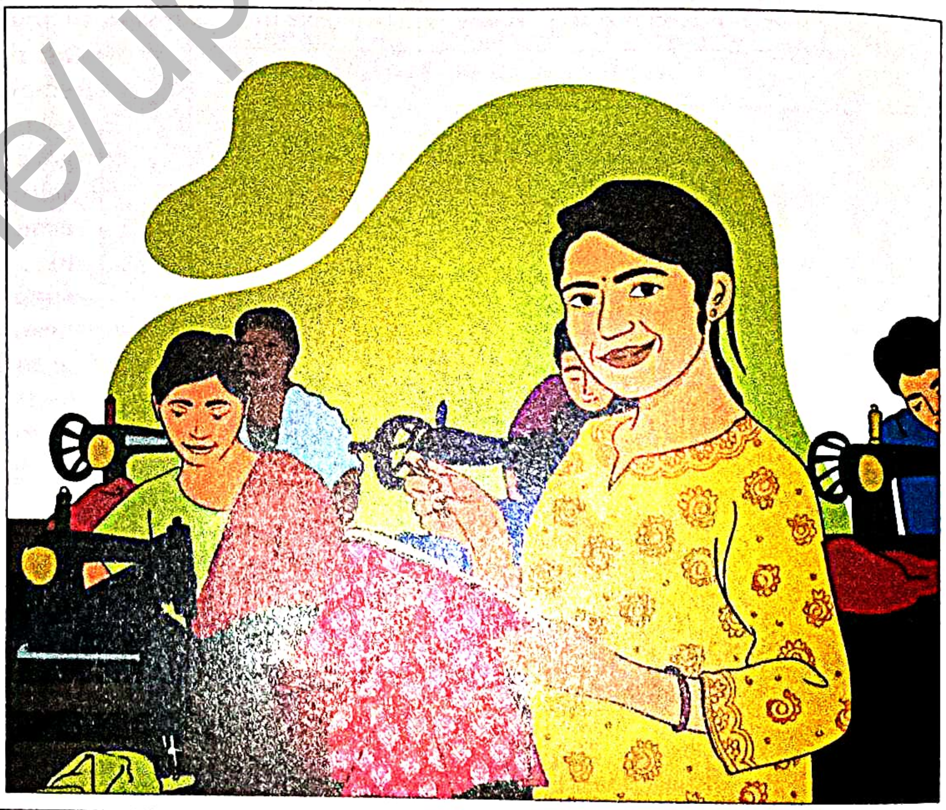
Charanjit Singh

Reimagining Entrepreneurial Skills

The time has come to re-imagine the whole entrepreneurial skilling initiative as we need to address the rising aspirations of young India in line with the vision of the Prime Minister of making India a 'developed nation' by 2047.

In 1982, a historic development took place at Ujire in the Dakshina Kannada district of Karnataka. Here, the first Rural Development & Self Employment Training (RUDSETI) Institute was established. Kudos to the visionaries who thought of entrepreneurial trainings for rural youth so far ahead of the time. Working hand in hand, Canara Bank, Syndicate Bank and Sri Dharmasthala Manjunatheshwara Educational Trust established 27 RUDSETIs in 17 States. The icing on the cake was the adoption of this model of rural entrepreneurial skilling as the 'Rural Self Employment Training Institutes' (RSETIs) programme by the Government of India (GoI) in 2007-08. This remarkable journey of rural entrepreneurship with a motto of short-term courses (6 to 60 days) with long-term hand-holding (two years) has really sparked a great entrepreneurial movement in the country. This reflects in the establishment of over 600 RSETIS, so far across India. There are other programmes also for self-employment training by different ministries, but considering the scope and impact of the RSETIs, it's being discussed here.

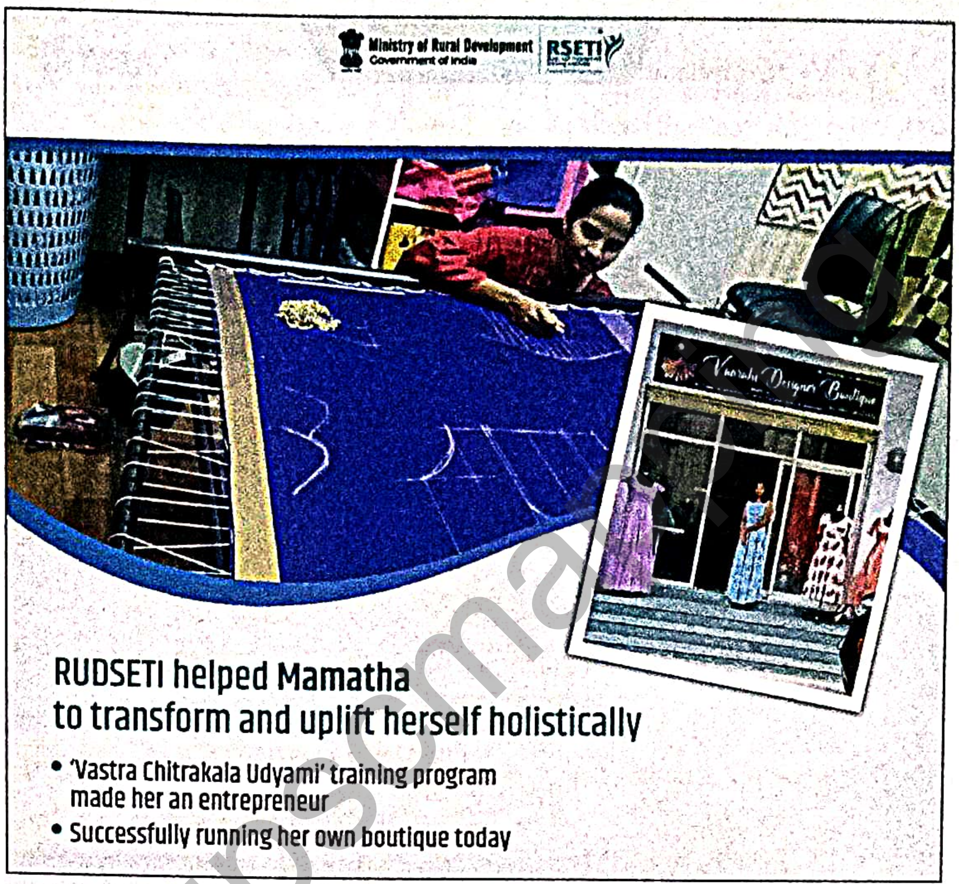
Entrepreneurship excellence begets economic growth, poverty alleviation, employment generation, innovation and inclusive development. In fact, entrepreneurs are being hailed as the architects of India's transformation. So, the performance of RSETIs with figures of training of 55.53 lakh rural youth in various subjects



The author is a former Indian Forest Service Officer of 1990 Batch of Madhya Pradesh Cadre. He served for around fourteen years in the Ministry of Rural Development, Government of India in various capacities before retiring as Additional Secretary (Rural Livelihoods). Email: manncs7@gmail.com

(domain + entrepreneurship) with a settlement rate of around 73 per cent (40.27 lakh) is really impressive. Further, the bank linkage has also been ensured for 20.40 lakh of these trained candidates to start/strengthen their enterprise. Furthermore, the beauty of this programme is that it aligns perfectly well with the Prime Minister's call to the youth to become job creators rather than job seekers. The youth who are supported to establish/strengthen the enterprises under the above programme not only become job providers to other youth, but they also contribute to the economic development of the rural areas.

However, the enterprise ecosystem has changed drastically in the 21st century with remarkable developments in technology, e.g., artificial intelligence, data analytics, online platforms including Government e-Marketplace (GeM) for marketing, etc. A number of other programmes of the GoI, e.g., the Entrepreurship Skill Development Programme and the Prime Minister Employment Generation Programme (PMEGP) of the Ministry of Micro, Small and Medium Enterprises (MSME), have also explored new areas in entrepreneurship. Collaboration with such programmes can act as a multiplier for entrepreneurship. Further, working on the principle of 'leaving no one behind', women from marginalised communities, differently abled individuals, tribals and ex-servicemen, etc., need to be made part of the growth journey. In fact, each group may need a different set of interventions. Then the emerging set of enterprises in logistics, gig and platform-based work, home-based enterprises, etc., present a whole new set of challenges. India has got a remarkable demographic dividend also, which needs to be leveraged properly before it's too late. Around eight million youth are entering the workforce every year in India.



So, the time has come to reimagine the whole entrepreneurial skilling initiative as we need to address the rising aspirations of young India in line with the vision of Prime Minister Narendra Modi of making India a 'developed nation' by 2047. In this regard, rural entrepreneurship has a critical role to play. There cannot be a 'business as usual' approach. For this, large-scale skilling along with appropriate mentoring, financing and marketing is required. In fact, we need to think afresh about the whole gamut of entrepreneurial training, as only 4.7 per cent per cent of India's workforce has undergone formal skill training. In Germany and South Korea, the numbers are 75 per cent and 96 per cent, respectively. It is estimated that by 2028, if skill-building does not catch up with the rate of technological progress, India could forgo USD 1.97 trillion of GDP.

To address the above gaps in skilling, we need to look dispassionately at the issue of the present entrepreneurial ecosystem nurtured by the RSETIs. The first and foremost is the limited number of courses being offered. The sixty-odd courses offered hardly reflect the demands of the changing skill sets in the market and aspirations of the youth. Further, very few candidates (750/1000) are being trained in a district against the huge demand. In this also, the mobilisation of marginalised households is below par. The faraway location of the training

Ministry of Rural Development
Government of India

RSETI

सीखा कौशल बने कुशल

- Navdeep Kaur Sidhu has her own dairy farm today
- Has a stable monthly income of ₹25,000 pm

Name : Navdeep Kaur Sidhu
Bathinda, Punjab

centre in the district makes it even more difficult for them to join the trainings. The women find it particularly difficult to stay whole days at the training centre, so the representation of the women from marginalised sections is still low. The bank linkage is also low. Further, there is no scope for re-skilling and up-skilling because, as per rules, a candidate can be trained only once at the RSETI. So, there is no upgradation of the already acquired skills by the candidates, and their enterprises stagnate.

There are a number of steps which may be taken to address these issues in skilling and leverage the demographic dividend. First and foremost, there is a need to move from the conventional 'top-down approach' to the 'bottom-up approach' to address the needs of skilling in a comprehensive way. The demand for skilling in different sectors needs to be compiled from the districts in a systematic and structured way. Further, the targets need to be allocated as per this demand rather than distributing the targets uniformly to various States and UTs from the national unit.

There is a disconnect with the community in the present setup of skilling, which needs to be addressed. Why can't there be the concept of 'skilling at the doorstep'? The Community Institutions promoted under the *Deendayal Antyodaya Yojana* – National Rural Livelihoods Mission (DAY NRLM) can play a critical role here. These can help in organising the trainings at the village level to ensure inclusive development. The recent experience of the successful trainings organised under the Depositor Education Awareness Funds (DEAF) of the Reserve Bank of India (RBI) by involving community institutions, e.g., Cluster Level Federations (CLFs), buttresses this point. Further, there are Community Managed Training Centres (CMTCs) already in a large number of CLFs which can be utilised for these trainings. In fact, the whole training module can be outsourced to the CLFs, as they have their ears to the ground. This will also enable the marginalised and vulnerable population to be covered in skilling, as they find it difficult to move to faraway places for trainings. Further, the community will ensure that only the most deserving candidates are mobilised for the trainings.

There is a need to narrow down to specific sets of trainings (4-5) for a particular district depending upon the local resources available and industry demand therein. The sectors which have potential for employment, especially self-employment, in the particular districts need to be prioritised. Here also, the sectors which provide better remuneration, e.g., CCTV installation and repairs, plumbing, welding and fabrication, motor rewinding, etc., should be given preference. Focus on particular skill sets for a geographical area may also help in developing clusters; e.g., in banana growing areas, products of banana-fibre may catalyse growth of such an industry in the district. This will not only ensure development of backward linkages but also help in focussed marketing initiatives for particular products or services. Going forward, the Centres of Excellence (CoE) for specific sectors need to be developed in some of these RSETIs in various

States/UTs. In fact, we need to develop the spirit of competition for rural entrepreneurship among the districts based on the concept of the Aspirational District Programme.

The timings of the trainings also need to be kept flexible as per the agreement between the trainers and the trainees. The training duration may be kept for 3 to 4 hours per day as per the agreed decision. This will motivate more women to join, as they need to take care of their household chores also. There should also be more focus on 'on the job' trainings as compared to theoretical sessions. Further, these may preferably be arranged at the work sites of the master trainers only, as this will help in a practical and immersive learning experience for the trainees.

The trades which are providing low returns, e.g., areca leaf paper plate making, paper bag making and embroidery, etc., need not be avoided altogether. There are specific issues with each of them which may relate to obsolete machinery, archaic technology, poor designs, lack of access to the market, etc. These problems need to be studied in depth and issues addressed accordingly. However, the critical thing here is to make these products lucrative by ensuring better marketing support for them. The concept of aggregation, leveraging online platforms for marketing and social media, etc., for such products may help in better returns.

The persons who are already experts in certain sectors need to be engaged as 'Master Trainers'. They should not be rejected solely on the basis of lack of a proper certificate from some institute. Their experience in the specific sector is vital. The community may be involved in zeroing in on such resources. Further, they may be provided certain remuneration (depending on trade and duration) also to motivate them to excel. This not only helps in the recognition of the talent at the local level but also ensures better training as these master trainers work close to the community. Further, it helps the trainees to develop a close bond with the master trainers, which may help them in the future. If the candidates face any difficulty in the future in their enterprises, it will be easier for them to communicate with such master trainers.

There may be enterprises which have become successful due to earlier interventions and are now ready to scale up. These need to be supported through higher credit linkages, proper business development plans and further skilling from higher skilling institutes. There are a number of government schemes, e.g., *Pradhan Mantri Mudra Yojana* (PMMY), Stand Up India and Credit Linked Subsidy Scheme under the Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME), etc., which may be leveraged in this regard. However, some handholding and mentoring may be required to ensure that the benefit of the schemes is availed easily by the beneficiary. Here, the concept of 'business clinics' needs to be developed by the RSETIs, as the entrepreneurship needs become specific.

As the technology is developing very fast, there may be a need for re-skilling and up-skilling of the already trained candidates. However, these courses may be paid, so that only serious candidates are enrolled. In fact, if some candidates desire to move to higher learning institutes, it may also be facilitated. No doubt, fees may be charged for these higher-level courses, but some handholding will still be required to make loose ends meet. In fact, the RSETIs need to become hubs of entrepreneurial efforts. Further, incubator and accelerator support also need to be provided by the RSETIs to the candidates who desire to scale up their enterprises substantially.

The RSETIs need to move from old-fashioned physical '*RSETI Bazars*' to online marketing platforms, as this is the future of marketing. The role of WhatsApp and Instagram has been phenomenal in the new-age marketing. For this, structured interventions need to be made so that rural youth can leverage them properly. The key intervention areas here are the development of '*Marketing Sakhis*', i.e., Community Resource Persons (CRPs) specifically trained in digital marketing, and the 'Fulfilment Centres' at the district level.

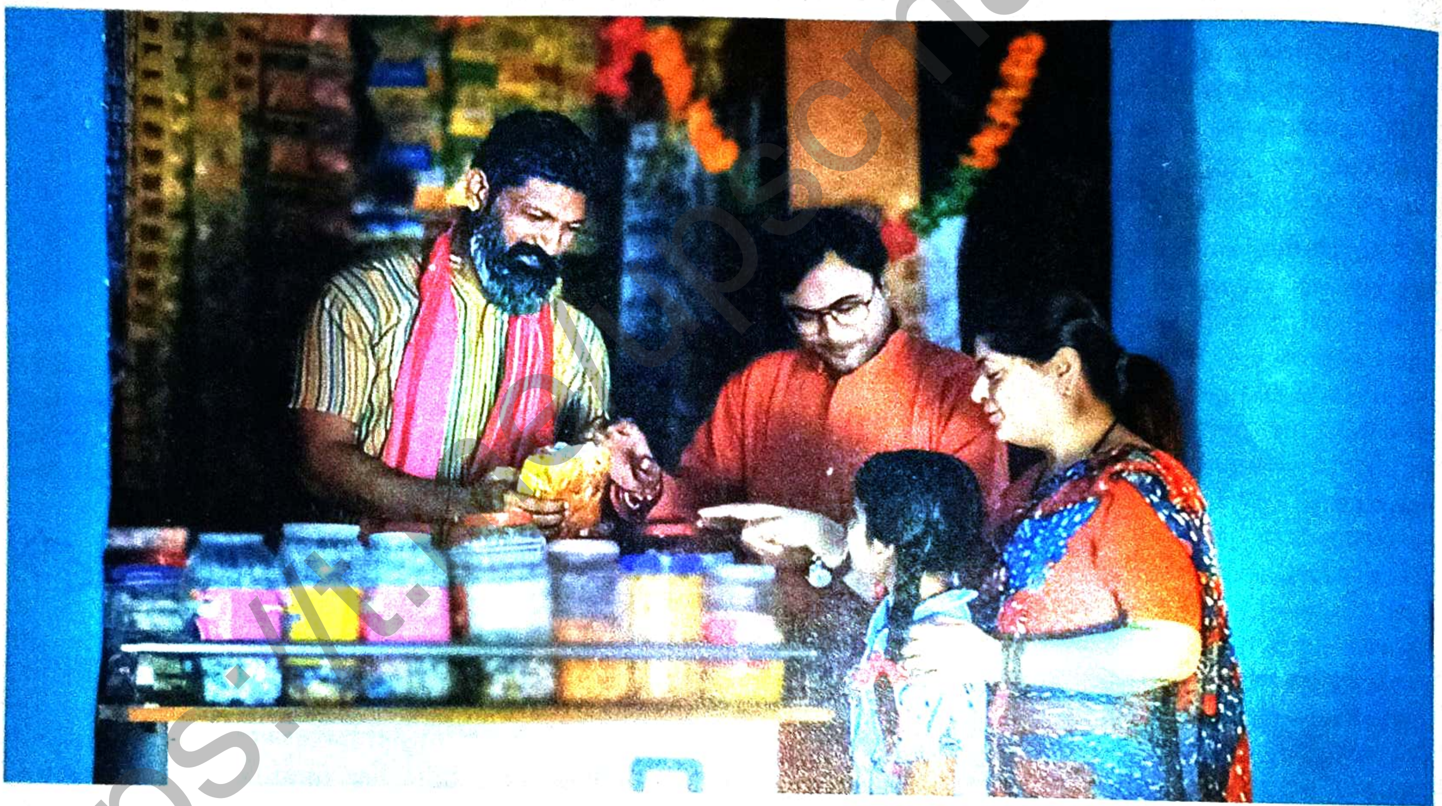
These initiatives of restructured skilling will help in more employment opportunities for youth and women of the rural areas along with a boost to the rural entrepreneurship. In a nutshell, the time has now come to reimagine the rural entrepreneurial skilling initiative, as we need to address the rising aspirations of young India in line with the vision of the Prime Minister of making India a 'Developed Nation' by 2047. In this regard, large-scale skilling, along with appropriate mentoring, financing and marketing, has a great role to play. ❑

ECONOMIC GROWTH

Shishir Sinha

Role of Middle-Class Leading in India's Prosperity

Middle-Class will be a key driver of growth in the next two decades in India's journey towards a Viksit Bharat by 2047, 22 years, and this journey will get fuel from the much more effective empowerment of this category of population during the last decade.



A Britisher, James Bradshaw, in all likelihood can be credited with using the term 'Middle-Class' for the first time in a 1745 pamphlet 'Scheme' to prevent Irish wools from being sent to France. Hardly would he have thought that centuries later, this nomenclature would become so relevant in economic policy management, particularly in India. Today, India's growth story is incomplete without discussing the policy roadmap and welfare measures related to the middle-class.

While much attention has been paid to the economic dimensions of the middle-class, it is equally important to recognise their contribution to the vibrancy and success of India's democratic polity. This was rightly

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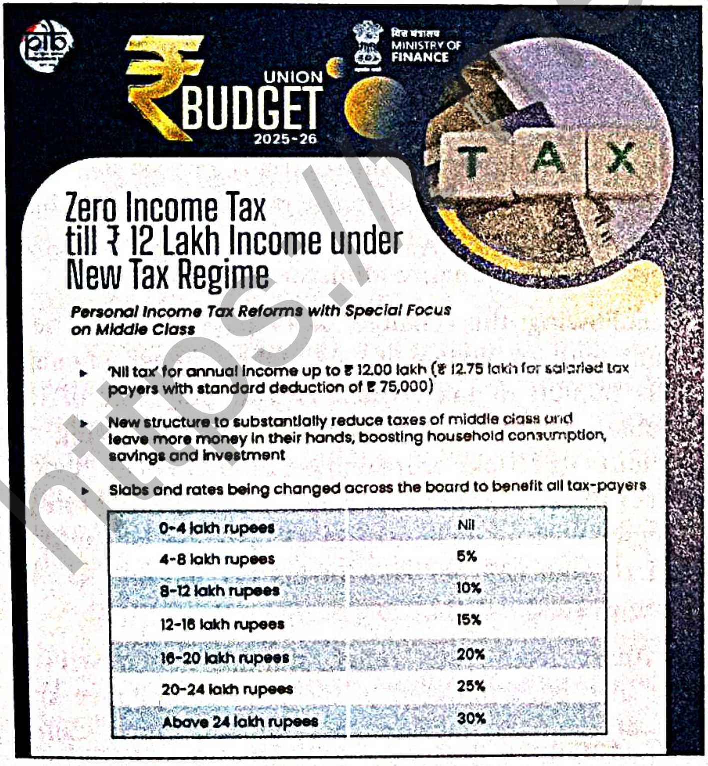
highlighted by well-known political economist, Late Prof Emeritus Lester Thurow, a former dean of the Massachusetts Institute of Technology (MIT, US), and who was known for his research on income inequality.

"According to American conventional wisdom, a healthy middle-class is necessary to have a healthy political democracy. A society made up of rich and poor has no mediating group either politically or economically," he wrote in an article, titled 'The Disappearance of the Middle-class', and published on 05 February 1984 in the New York Times.

In a successful democracy and fastest-growing economy, it is important to assess the role of middle class and the initiatives taken in over a past decade. Before we go ahead, we need to find answers to two important questions—who is middle-class and what are their numbers? As of the date, there is no official definition of the middle-class. However, there is a definition by the National Council of Applied Economic Research (NCAER) and the People Research on India's Consumer Economy (PRICE), and it terms household earnings between Rs 5 lakh and Rs 30 lakh (at Fiscal Year 2020-21 prices) per year as the middle-class.

This definition is widely used for public discourse. PRICE estimated that, based on the defined income range (Rs 5 lakh – Rs 30 lakh per year), the daily income per person would be approximately \$4.11 – \$23.56 (at the exchange rate of Rs 74.28 prevailing in 2020-21),



which is in line with the Globally range. Now the next question is, what is the size of the middle-class in India? PRICE estimates the number at 43.2 crore (31 per cent of the total population) in 2020-21, which is likely to reach over 101 crore (61 per cent of the population) by 2046-47, when India aims to attain the status of 'Developed Nation'.

Hence, it is clear that the middle-class will be a key driver of growth in the next two decades in India's journey towards a *Viksit Bharat* by 2047, 22 years, and this journey will get fuel from the much more effective empowerment of this category of population during the last decade. It's important to note here that the middle-class contributes significantly to the government revenue through both direct and indirect taxes. That is why throughout the last 11 years, the government focused on not just more money in the hands of the people but also on the affordability of goods and services. After all, a rise in consumption leads to a virtuous cycle, an essential process to accelerate growth.

Let us examine various measures for the middle-class during the last decade:

Direct Taxes: Lower Tax, Ease of Compliance

The last decade saw major changes in the Income Tax to benefit the middle-class. In its first tenure (2014-19), the present central government increased the basic exemption limit from Rs 2 lakh to Rs 2.5 lakh and gave a tax rebate so that no tax was payable by persons having income up to Rs 3 lakh. It also reduced the tax rate from 10 per cent to 5 per cent for the tax slab of Rs 2.5 lakh to Rs 5 lakh and introduced a standard deduction of Rs 40,000 for the salaried class. Deduction of savings under section 80C was increased from Rs 1 lakh to Rs 1.5 lakh. Deduction of interest for self-occupied house property was raised from Rs 1.5 lakh to Rs 2 lakh.

Then, in the interim budget of 2019-20, individual taxpayers having taxable annual income up to Rs 5 lakhs got a full tax rebate and therefore were not required to pay any income tax. As a result, even persons having gross income up to Rs 6.50 lakhs may not be required to pay any income tax if they make investments in provident funds, specified savings, insurance, etc. In fact, with additional deductions such as interest on home loans up to Rs 2 lakh, interest on education loans, National Pension Scheme contributions, medical insurance, medical expenditures on senior citizens etc.

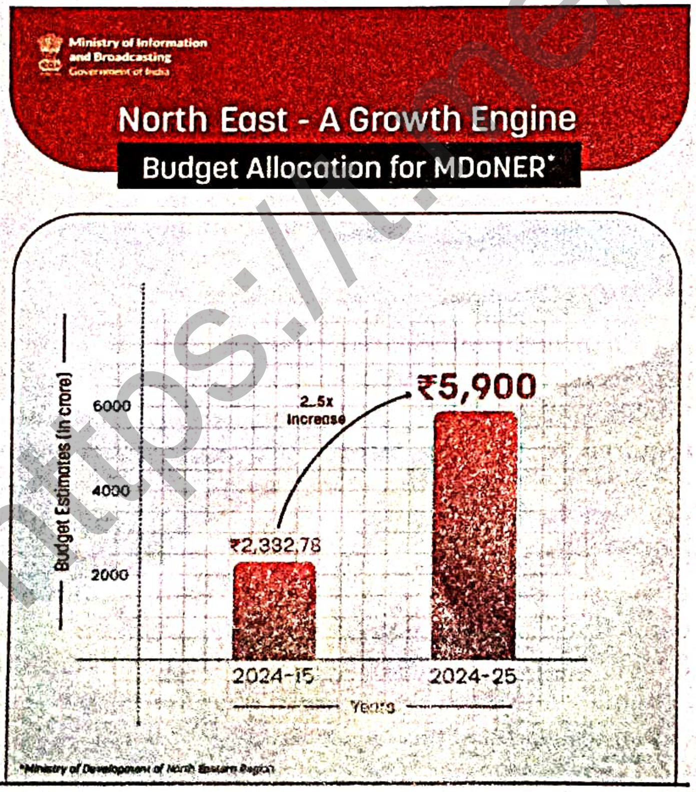
Table Number 1 : Estimated Households, Population and Growth by Income Class

Income Class	Population (Millon, 2026)	Households (Million 2026)	Household size	Annual Growth (per cent)	
				Population	Household
Destitutes	117	31	3.78	(-) 2.12	(-) 3.95
Aspirers	664	153	4.34	(-) 1.39	(-) 0.18
Middle-class	604	127	4.76	4.82	5.93
Rich	109	20	5.46	10.35	11.3
Total	**1494**	**331**	**4.51**	**1.2**	**1.67**

Source: PRICE

It was estimated that such a move would provide a tax benefit of Rs 18,500 crore to an estimated 3 crore middle-class taxpayers comprising self-employed, small business, small traders, salary earners, pensioners and senior citizens. At the same time, for salaried persons, the standard deduction was raised to Rs 50,000 from Rs 40,000, besides exempting levy of income tax on notional rent on a second self-occupied house. Also, the TDS threshold on interest earned on bank/post office deposits was raised from Rs 10,000 to Rs 40,000.

Fiscal Year 2020-21 saw another major change in the Income Tax with the introduction of a new and simplified personal income tax regime wherein income tax rates were reduced but with a condition that individual taxpayers will have to forgo certain deductions and exemptions. It was said that substantial tax benefits will accrue to a taxpayer depending upon exemptions and deductions claimed by him. For example, a person earning Rs 15 lakh in a year and not availing any deductions, etc., will pay only Rs 1.95 lakhs as compared to Rs 2.73 lakhs in the old regime. Thus, his tax burden will be reduced by Rs 78,000 in the new regime. He would still be the gainer in the new regime even if he was taking a deduction of Rs 1.5 lakh under various sections of Chapter VI-A of the Income Tax Act under the old regime.



In 2023, the NIL tax slab was raised to Rs 7 lakh from Rs 5 lakh, but a much bigger surprise came in the Union Budget of Fiscal Year 2025-26. Finance Minister Nirmala Sitharaman announced that there will be no income tax payable up to an income of Rs 12 lakh (i.e. average income of Rs 1 lakh per month other than special rate income such as capital gains) under the new regime. This limit will be Rs 12.75 lakh for salaried taxpayers, due to the standard deduction of Rs 75,000.

At the same time, slabs and rates are being changed across the board to benefit all taxpayers. "The new structure will substantially reduce the taxes of the middle-class and leave more money in their hands, boosting household consumption, savings and investment," the Finance Minister said.

Following this change, a taxpayer in the new regime with an income of Rs 12 lakh will get a benefit of Rs 80,000 in tax (which is 100 per cent of tax payable as per existing rates). A person having an income of Rs 18 lakh crore will get a benefit of Rs 70,000 in tax (30 per cent of tax payable as per existing rates). A person with an income of Rs 25 lakh gets a benefit of Rs 1.10 lakh (25 per cent of his tax payable as per existing rates).

Apart from rate relief, number of measures have also been initiated in terms of compliance and one of them is 'faceless' assessments. It is called 'faceless' simply because the assessee will not get to see the face of his/her assessing officer. Such a process completely eliminates the physical interface between the assessee and the assessing authority and instead involves the electronic interface right from the selection of the cases for the scrutiny purpose with the help of an 'automated allocation system' involving an algorithm for randomised allocation of cases, by using suitable technological tools, including artificial intelligence and machine learning, with a view to optimising the use of resources and the conduct of assessments exclusively in electronic mode via the 'e-Proceedings.'

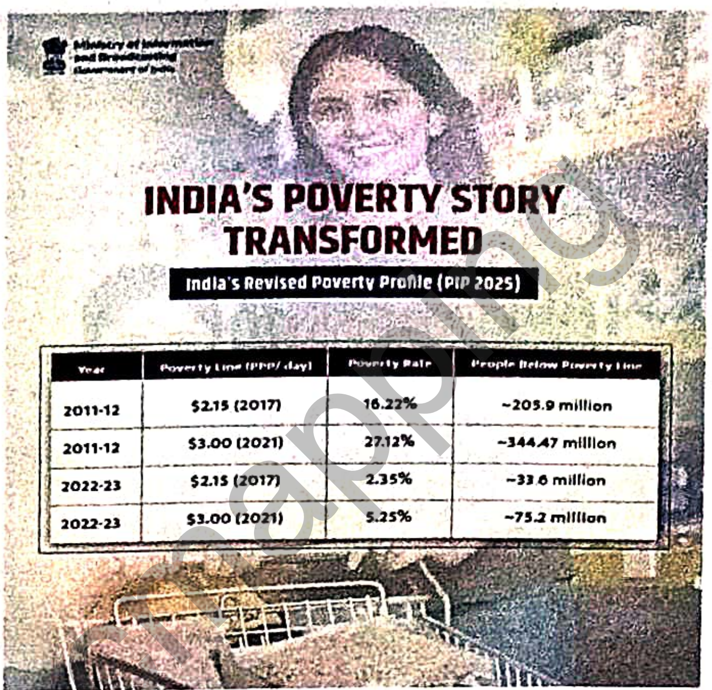
Coupled with 'Faceless Assessment', 'Jurisdiction-less' is another important measure to ease compliance. Under this, assessment is conducted by a team/group of expert income tax officers at multiple-level units, viz. National Faceless Assessment Centre (NaFAC), Assessment Unit, Verification Unit, Technical Unit and Review Unit, and is not conducted by an individual jurisdictional assessing officer. The cases shall be assigned by NaFAC to an assessment unit based on an 'automated allocation system' involving an algorithm for the randomised allocation of cases by using suitable technological tools, including artificial intelligence and machine learning.

Restructuring of rates along with ease of compliance is reflected in the rise of individual ITR filings, which increased to over 9 crore in FY 2024-25 from 3.91 crore in FY 2013–14. Needless to say, a large number of taxpayers are from the middle-class, and this growth shows that more people find it simpler and worthwhile to comply with tax laws. Also, it's important to note here that all the taxpayers, including those from the middle-class continue to have the option of the old income tax regime, where they can take advantage of tax exemptions on various instruments.

Boosting the Consumption

If rate restructuring and ease of compliance gave more revenue to the government, it also provided more money in the hands of the middle-class in particular. In order to bring this additional money to the market, it is important that the price level should be low, which in turn will keep the rate of inflation low and that prompts the monetary authority to keep the interest rate lower.

Data from the Ministry of Statistics and Programme Implementation (MoSPI) showed that during 2004–05 to 2013–14, the average annual inflation stood at a steep 8.2 per cent. However, over the next eleven years, inflation came under firm control. From 2015–16 to



2024–25, the average rate fell to just 5 per cent. Latest data, as released on 12 June 2025, highlighted that the retail inflation rate based on the Consumer Price Index dipped to 75 months low to 2.82 per cent in June.

The difference is visible not only in the numbers but in daily life. Stable prices gave families breathing room. Essentials became more affordable, and planning monthly expenses became easier. This shift was the result of sound policy, strong coordination with the Reserve Bank of India (RBI), and better supply-side management. The middle-class, long hit by rising prices, finally found relief and regained confidence in the economy.

Lower inflation rates helped the RBI and later the RBI's Monetary Policy Committee (MPC) to cut the policy interest rate (technically known as Policy Repo Rate, the rate at which the central bank lends to commercial banks) from 8 per cent on 03 June 2014 to 5.5 per cent on 06 June 2025. Though there are some doubts about the full transmission of the rate cut, still there has been significant transmission. This helped in boosting the consumption sentiments.

Better Option for Government Pensioners

Recognising the importance of social security, the central government first enhanced employers' share under the National Pension System (earlier known as the New Pension Scheme) to 14 per cent from 10 per cent for its employees while keeping their share at 10 per cent.

KEY MEASURES TO EASE INCOME TAX COMPLIANCE FOR MIDDLE-CLASS

1. **New Form 26AS:** This new form contains all information of deduction or collection of tax at source, specified financial transaction (SFT), payment of taxes, demand and refund, etc. Further, details of SFT data in the Form 26AS makes taxpayers aware of their transactions beforehand and encourage them to disclose their true income.
2. **Pre-filing of Income-tax Returns:** In order to make tax compliance easier, pre-filled Income Tax Returns (ITR) have been provided to individual taxpayers. The scope of information for pre-filling includes information such as salary income, bank interest, dividends, etc.
3. **Updated Return:** Section 139(8A) of the Income-tax Act, 1961 (the Act) facilitates the taxpayer to update his return anytime within two years from the end of the relevant assessment year so that he can file an updated return by voluntarily admitting omissions or mistakes and paying an additional tax as applicable. Further, an e-verification scheme was launched to allow taxpayers to disclose their unreported or underreported income in the updated ITR.
4. **Reduction in the Corporate Tax Rate:** Starting from the Finance Act, 2016, the corporate tax rates have been gradually reduced while phasing out the exemptions and incentives available to the corporate so as to increase the tax base.
5. **Simplification of the Personal Income-tax:** Finance Act, 2020 and Finance Act, 2024, has provided an option to individual taxpayers for paying income tax at lower slab rates if they do not avail specified exemptions and incentives.
6. **Expansion of scope of TDS/TCS:** To bring new taxpayers into the income tax net, the scope of TDS/TCS was expanded by including huge cash withdrawals, foreign remittances, purchases of luxury cars and other goods, e-commerce participants, sales of goods, acquisitions of immovable property, purchases of overseas tour program packages, payments on transfers of virtual digital assets, online gaming, payments to partners of a firm, etc.

Source : Income Tax Department

Then as an option, it brought in the Unified Pension Scheme (UPS), implemented from 01 April 2025. The scheme ensures an assured pension of 50 per cent of the average basic pay drawn during the last 12 months before retirement, applicable to employees with at least 25 years of service.

For those with shorter service tenures, the pension will be calculated proportionately, with a minimum qualifying period of 10 years. A minimum assured pension of Rs 10,000 per month will be provided upon retirement after completing 10 years of service. In case of the employee's death, their family will receive a pension equal to 60 per cent of the assured pension. The scheme is expected to benefit around 23 lakh Central Government employees. Several State Governments have also adopted this model, extending its coverage to over 90 lakh individuals currently under the National Pension System.

Housing

Launched in 2015, the Pradhan Mantri Awas Yojana (Urban) stands for a cost-effective hope of having a house for millions of middle-class and low-income families. It has steadily moved toward the goal of a safe and dignified home for every Indian. The Centre has committed Rs 1.97 lakh crore in assistance, out of which Rs 1.69 lakh crore has already been released. From 2014 to 2025, as of May 19, over 1.16 crore houses were sanctioned. Construction has begun on more than 1.12 crore homes. Over 92.72 lakh houses have been completed or handed over. These are not just figures; they represent tangible stories of progress.

Powering the Middle-Class Houses at Cheaper Cost

To enhance participation, particularly for the middle-class who cannot afford high installation costs, as well as rural and economically weaker sections, have low electricity consumption and low contract demand, the *PM Surya Ghar : Muft Bijli Yojana* has a provision of a higher subsidy of up to 60 per cent for the first 2 kW capacity of a rooftop solar plant. Further, the scheme has a provision of higher subsidy for special category states/UTs. Also, the Ministry of New and Renewable Energy (MNRE) has issued the operational guidelines for implementation of the Payment Security Mechanism component and Central Financial Assistance (CFA).

It intends to enable DISCOMs/State Governments/ State Designated Entities to support rooftop solar development under RESCO (Renewable Energy Service Company) and ULA (Utility-Led Aggregation) models primarily for low-income households. In addition, a collateral-free loan at a concessional interest rate of the repo rate plus 50 bps, i.e., 6.75 per cent for the present, with a tenure of 10 years, is also available from nationalised banks for a loan amount up to Rs. 2 lakh. The loan facility can be accessed seamlessly through the *Jan Samarth* portal under the Department of Financial Services, integrated with the National Portal of the *PM Surya Ghar : Muft Bijli Yojana*.

Connectivity Within the Cities and from Cities at Lower Cost

Commuting within cities became easier thanks to Metro Rail, which is now either running or being built in 29 cities. By May 2025, India had 1,013 km of metro lines in operation, up from just 248 km in 2014. That is an addition of 763 km in just eleven years. India now ranks third globally in terms of its total metro rail network. Daily ridership, which stood at 28 lakh in 2013 to 14, has now crossed 1.12 crore. The pace of commissioning new lines has grown nine times. On average, 6 km of metro lines are now operationalised every month, compared to just 0.68 km per month before 2014. The annual budget for metro rail has also increased more than six times, rising from Rs 5,798 crore in 2013-14 to Rs 34,807 crore in 2025-26.

At the same time, effort was made to fulfil the aspiration of middle-class to take air travel. The *Ude Desh Ka Aam Nagrik* (UDAN) scheme, launched on 21 October 2016, made air travel affordable and accessible for the common citizen. In its sixth year, UDAN has connected 88 airports, including 2 water aerodromes and 13 heliports, through 625 routes. The first UDAN flight took off from Shimla to Delhi on 27 April 2017. Since then, over 1.49 crore passengers have benefited from low-cost regional air travel.

India's airport network has grown from 74 airports in 2014 to 160 in 2025. Rs 4,023.37 crore has been disbursed as viability gap funding to support air connectivity in underserved regions. The scheme has boosted tourism, improved access to healthcare, and spurred trade in tier 2 and tier 3 cities, driving inclusive regional development.

This is just an indicative list of initiatives taken to improve the lives of the middle-class. Additional measures are currently in progress, with more being planned for the future.. The government fully recognises that the realisation of Viksit Bharat by 2047 hinges significantly on the increasingly effective and seamless participation of the middle class in shaping the nation's progress. ❑

Kulbhushan Tuteja

Panchayati Raj Institutions: Empowering Rural Women

If we would see our dream of Panchayat Raj, i.e., true democracy realised, we would regard the humblest and lowest Indian as being equally the ruler of India with the tallest in the land.

(Mahatma Gandhi, H., 18-1-'48, p.517)

Women's participation in Panchayati Raj Institutions (PRIs) is transforming grassroots democracy, breaking social barriers, and empowering communities. Their leadership is dismantling corruption, reducing domestic violence, and inspiring economic independence.

Women constitute about half of the world's population. It is estimated that they have only 1/10th of the global income, own 1/100th of the means of production, nearly 70 per cent of the women live below the poverty line, and about two-thirds of them lack access to basic education. Empowerment of women is a necessary basic condition for socio-economic development of any society.

Panchayats have been the backbone of grassroots democracy in the Indian villages since its beginning. Gandhi ji had aptly favoured the Panchayati Raj, and this got translated with the passage of the Constitution (73rd Amendment) Act, 1992 (or simply the Panchayati Raj Act), which introduced the three-tier Panchayati Raj System to ensure people's participation in rural reconstruction in general and that of women in particular. It came into force with effect from 24 April 1993.

Provisions for Women in the Act

- The Act provides for the reservation of not less than one-third of the total number of seats for women (including the number of seats reserved for the SCs, STs and OBCs).
- Further, not less than one-third of the total number of offices of chairpersons and members in the Panchayats at each level shall be reserved for women. This would be rotated among different Panchayats at each level.

Participation of Women in Panchayats

- In 1992, when the 73rd and 74th Constitutional Amendments introduced local self-governance, it was an unparalleled step to consciously empower women as decision-makers with 1/3rd of the seats reserved for women. Today, 14 states have 50 per cent-58 per cent representation of women in Panchayati Raj Institutions. Jharkhand leads the way with 59 per cent, closely followed by Rajasthan and Uttarakhand, as Table-01 indicates.
- The Act provides for the reservation of not less than one-third of the total number of seats for women. It is an attempt to ensure greater participation of women in the election process directly and indirectly. It (PRI) is the nursery of creating women politicians for national politics. After General Election of panchayat in 2015, women constitute more than 33 per cent of the Total Elected

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Representatives (ERs) in India, i.e., out of 29,17,334 ERs, 13,41,773 ERs are women, i.e., 46 per cent are women.

- Uttar Pradesh has the highest number of women sarpanches (Pradhans) at 19,992 out of 59,073 but only 34 per cent per cent of total sarpanches. The state of Odisha has 3,600-woman sarpanches, an above-average 58 per cent of the total number. Manipur has the least percentage of women sarpanches, with just 2 per cent representation, as Table-02 indicates.
- It reveals that women are actively participating in rural development as per their capacity, right from labourers to policymakers.
- The participation of women as elected as well as non-elected members is rising due to reservation for women. It acts as a pull factor for women to participate in the meeting. They give their suggestions for various works and problems faced by them.
- Women are acting as agents of change in the society and raising their voices against injustice and atrocities.
- The influence of coercive political dominance has substantially diminished due to the active participation and heightened awareness of women regarding their rights and authority.
- Domestic violence has substantially declined due to women pradhans or sarpanches. These women representatives actively address such cases, ensuring that victims feel free to share their grievances and seek support.
- The dominance of upper-caste patriarchs has substantially declined, leading to a gradual dissolution of caste-based barriers.
- Growing participation of marginalised sections in general and women in particular is transforming our democratic setup from representative democracy to participatory democracy.
- It is, therefore, necessary to create proper social, economic and also political conditions to enable women to participate effectively in the local governmental institutions. After the 73rd and 74th Constitutional Amendments, many 'household women' have become 'political women'. As chairpersons or ordinary members, these women are expected to play constitutionally mandated roles. The one-third reservation for women in Panchayati Raj Institutions is really empowering the rural women in all spheres (like social, economic, and political) by providing them the opportunity to participate in the administration of local government. It is a bold step forward towards the empowerment of rural women in particular. Women's entry into panchayats, both as members and as heads of panchayat after the implementation of the 73rd Constitutional Amendment Act, has pushed them into the decision-making process in a very big way. Whether their husbands, fathers, brothers or other relatives compelled them to take up these roles or whether they assumed these roles as dummy incumbents, one thing is certain, they have, once and for all crossed the rigid boundaries drawn through their households by the male relatives.

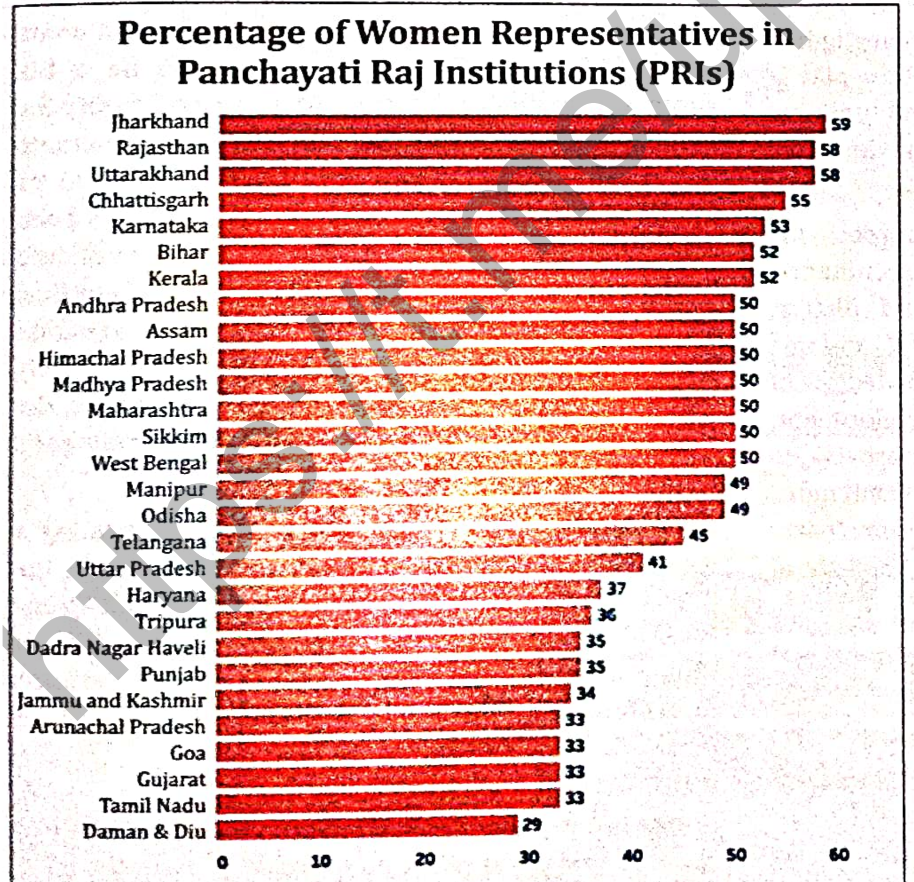

Table-01

Difficulties faced by women Elected Representatives in PRs

- Political intervention in the functioning of Panchayats.

- Women act as proxies for men.
- Husband's intervention of elected woman in her functioning.
- Lack of political awareness among the women in rural areas.
- Negative public opinion regarding women's leadership capacity.
- Illiteracy or low standards of education among the women in rural areas is a stumbling block.
- Lack of training courses, especially for women representatives at their district level.
- Dominance of elected male members of the Panchayat.
- Politically motivated violence against women has seen an increase.

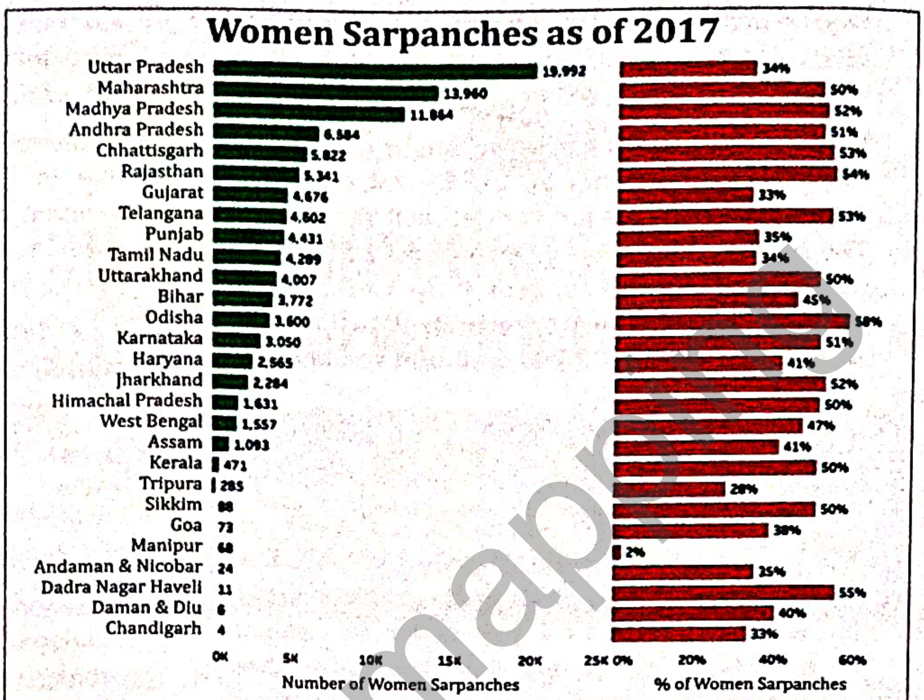

Table-02

Suggestions for Effective Participation of Women in Panchayati Raj System

- Elections should be conducted in a free and fair manner.
- In rural areas, due to illiteracy or low literacy levels, political awareness among the women is negligible. The government and local administration play a crucial role in educating women about political issues and fostering awareness to empower their participation.
- Special training and refresher courses for women representatives should be conducted from time to time at their block and district level. It gives them confidence and creates political awareness, power and knowledge of various programmes/activities of development. The government should make special provisions for the women representatives and give them more powers as compared to their male counterparts and educate them about their powers. It helps them to work efficiently and effectively.
- There should be a provision to give honour and more financial rewards schemes to the best women members for their exemplary works.

The rotation period for reserved seats should be set at a minimum of 10 years, allowing women representatives ample time to establish themselves and make a lasting impact in the panchayats.

The establishment of PRIs in our country provides women with the opportunity to demonstrate their capabilities as effective administrators, decisive policymakers, and strong leaders. The 73rd Constitutional Amendment Act, 1992, is a milestone in this regard. It provides women a chance to come forward. This experiment is proving to be a big success, particularly by providing an opportunity for women to come out of their houses and participate in the administrative and political field. Despite its implementation, the system in many areas has been dominated by elite groups. The government should provide extra financial, administrative or political assistance to women for the success of the provision of the amendment. The government should actively support research and development to enhance the effective implementation of the 73rd Amendment's provisions.

Through PRIs, women can help in eradicating a number of evils like alcoholism, child marriages, the dowry system, violence against women, untouchability, class conflicts, etc. With women's participation in PRIs, rural women are increasingly aspiring to engage in economically productive activities. Many Self-Help Groups have been formed by women in rural areas, and various development schemes like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) are empowering them economically by providing them some source of income. ❑

Empowering Consumers with Simple Food Safety Tests

Food is the cornerstone of life and good health. But when it's adulterated—intentionally contaminated with harmful or low-quality substances—it not only deceives consumers but can also pose serious health risks. To combat this growing concern, it is essential to empower everyday consumers with the knowledge and tools to identify adulterants in their food. Fortunately, many such adulterants can be detected using simple, home-based tests. In this column, we introduce DART — Detecting Adulterants with Rapid Testing, a set of easy-to-perform methods that anyone can use to check for common food adulterants. These include artificial and toxic colors, extraneous or harmful substances added deliberately or unintentionally, and other contaminants. The goal of this initiative is to promote consumer awareness and enhance household-level food safety. By learning these basic tests, you can take charge of what you eat—and help ensure a safer plate for your family.

DETECTION OF MALACHITE GREEN IN GREEN VEGETABLES LIKE BITTER GOURD, GREEN CHILLI AND OTHERS

Testing method:

1. Take a cotton piece soaked in water or vegetable oil. (conduct the test separately).
2. Rub the outer green surface of a small part of green vegetable/chilli.
3. If the cotton turns green, then it is adulterated with malachite green (dye).

Before Test

After Test

DETECTION OF LEAD CHROMATE IN TURMERIC WHOLE

Testing method:

1. Add small quantity of turmeric whole in a transparent glass of water.
2. Pure turmeric will not leave any colour.
3. Adulterated turmeric appears to be bright in colour and leaves colour immediately in water.

Before Test

After Test

Source : FSSAI

GENDER BUDGETING

Farida Siddiqui

Advancing Women-Led Development through Equity and Capability Building

Gender budgeting represents a transformative fiscal approach that seeks to integrate gender perspectives into budgetary processes, expenditure frameworks, and policy planning.

The pursuit of gender equality has increasingly been recognised not only as a moral imperative but also as an essential strategy for achieving inclusive economic growth and sustainable development. While significant strides have been made in improving women's access to education, healthcare, and political representation, persistent structural disparities continue to undermine their full participation in the economy and society. These disparities are often reinforced by conventional budgeting frameworks that assume gender neutrality, thereby neglecting the differentiated needs, roles, and contributions of women and men.

In this context, gender budgeting has emerged as a transformative policy tool that integrates gender perspectives into the planning, allocation, and assessment of public expenditure. It challenges the neutrality of fiscal policy by systematically examining how budgetary provisions impact women and men differently, thereby fostering greater transparency, equity, and accountability in governance. By aligning fiscal priorities with gender-sensitive objectives, gender budgeting seeks to redress historical imbalances and promote the capability development of women as active agents of change.

Empirical evidence suggests that gender-responsive budgeting contributes not only to individual empowerment but also to broader developmental goals—enhancing workforce participation, supporting women-led enterprises, and improving human capital outcomes across generations. As such, gender budgeting is

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increasingly viewed as central to building resilient economies and inclusive societies.

Gender Budgeting: Building a Strategic Framework for Women-Led Growth

Gender budgeting represents a transformative fiscal approach that seeks to integrate gender perspectives into budgetary processes, expenditure frameworks, and policy planning. Rather than treating public budgets as gender-neutral instruments, it emphasises the need to assess and restructure existing allocations to address gender-based disparities and improve socio-economic outcomes for women. By embedding gender analysis into the core of public financial management, this approach seeks to ensure that developmental priorities are inclusive, equitable, and responsive to the differentiated needs of women and men.

The evolution of gender budgeting in India reflects a growing recognition of the need for inclusive governance. Its foundations were laid in the late 1990s, culminating in the landmark 2001 Report of the Working Group on the Empowerment of Women for the Tenth Five-Year Plan, which formally advocated the adoption of gender budgeting as a strategic policy instrument. This recommendation catalysed institutional reforms, and in 2005–06, the Ministry of Finance introduced the Gender Budget Statement (GBS) as a regular component of the Union Budget. This positioned India among the early adopters of gender-responsive budgeting in South Asia, signalling a shift from welfare-oriented approaches to a framework aimed at empowerment and structural transformation.

India's gender budgeting efforts have evolved from a focus on welfare-based schemes to a broader framework that supports women's participation in education, employment, entrepreneurship, and governance. Over the years, institutional mechanisms such as Gender Budget Cells across ministries and capacity-building initiatives coordinated by the Ministry of Women and Child Development have strengthened the framework.

In the Union Budget 2025–26, the Gender Budget has reached an unprecedented Rs 4.49 lakh crore, reflecting a substantial 37.7 per cent increase from Rs 3.26 lakh crore in 2024–25. This allocation constitutes 8.6 per cent of the total Union Budget expenditure and approximately 1.9 per cent of the GDP—both marking the highest recorded levels to date. These figures underscore the government's growing commitment to fostering inclusive and gender-responsive economic development.

The Gender Budget Statement (GBS) is categorised into three components, which are outlined in the table-1.

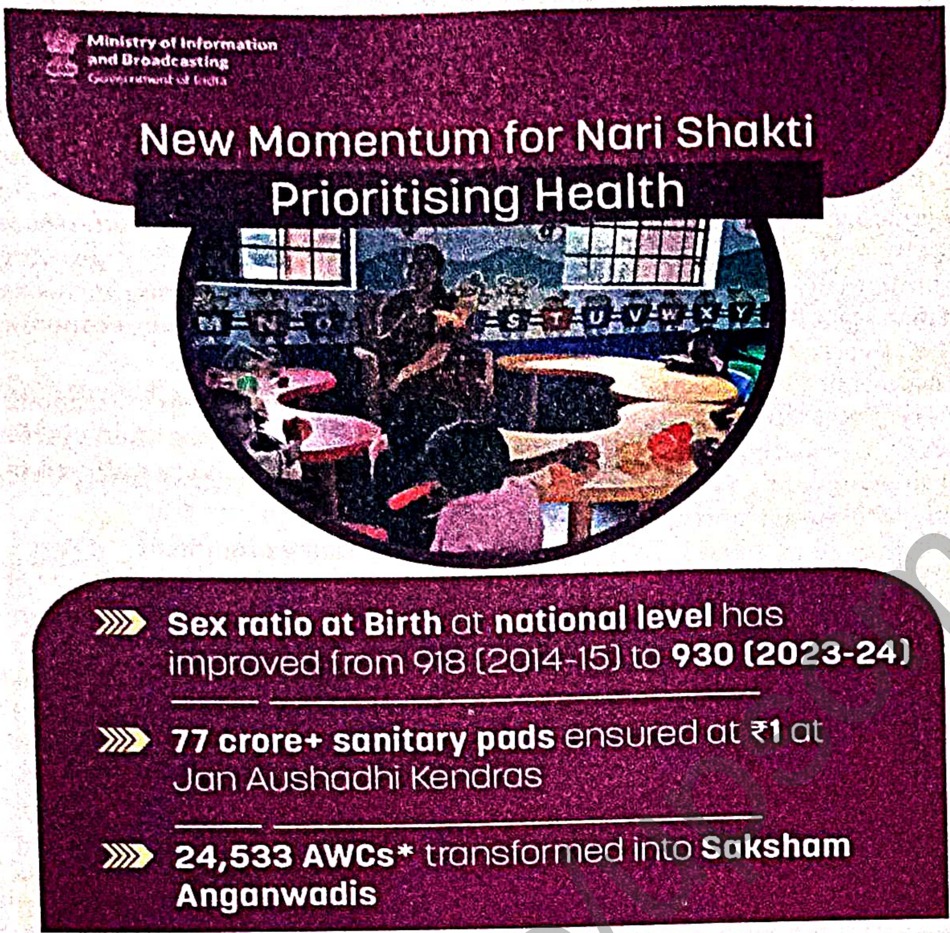
The rising prominence of Part B illustrates a deliberate move toward mainstreaming gender concerns across ministries and development sectors. While this approach has led to debates over the potential dilution of targeted, women-exclusive schemes, it reflects a broader paradigm shift aligned with international standards. In particular, this trajectory resonates with Sustainable Development Goal (SDG) 5 on Gender Equality, which emphasises integration of gender perspectives across all levels of policymaking and implementation (UN Women, 2021).

This trend signifies a transition from narrowly focused welfare measures to a more holistic

Table-1: Classification of Gender Budget Components (Union Budget 2025–26)

Component	Definition	Per cent Share of Gender Budget	Representative Schemes
Part A	Schemes with 100 per cent allocation for women	39 per cent	Maternity Benefit Programme, One-Stop Centre Scheme, Women Helpline
Part B	Schemes with 30–99 per cent allocation for women	61 per cent	Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), *PM Awas Yojana, Samagra Shiksha*
Part C	Schemes with less than 30 per cent allocation for women (Rs Rs 16,821.28 crore)	3.75 per cent	Multi-sectoral programmes in health, sanitation, and skill development with partial gender targeting

Source: *Gender Budget Statement, Expenditure Profile, Union Budget 2025–26, Ministry of Finance, Government of India.*



empowerment agenda—aimed at ensuring that women are not just beneficiaries but also active agents of economic transformation.

A closer examination of the Gender Budget 2025–26 reflects a substantial commitment to women's development across key ministries. The Ministry of Women and Child Development has been allocated Rs 43,000 crore, reflecting the government's continued focus on integrated support systems such as *Mission Shakti* and the restructured *Saksham Anganwadi* and *Poshan 2.0* initiatives. Simultaneously, the Ministry of Rural Development commands a significantly larger share, with Rs 1.2 lakh crore dedicated to programmes like MGNREGA and *Pradhan Mantri Awas Yojana-Gramin*, both of which embed gender-responsive provisions to enhance women's participation in wage employment and ensure secure housing ownership. The Ministry of Skill Development and Entrepreneurship, meanwhile, expands its scope to empower nearly five million women through digitally driven skilling and employability training under the *Pradhan Mantri Kaushal Vikas Yojana*. In a progressive step toward financial inclusion, the government has introduced the *Mudra Plus Initiative*, designed to support first-time women entrepreneurs by offering term loans of up to Rs 2 crore along with a 2 per cent interest subvention. The cumulative effort—spanning 49 central ministries and

Table-2: Key Government Interventions Promoting Women's Employment, Skilling, and Entrepreneurship (2025–26)

Scheme/Initiative	Target Group	Financial Support	Objective
New Entrepreneurship Scheme (2025–26)	Women, SCs, and STs (first-time entrepreneurs)	Term loan up to Rs 2 crore	Promote inclusive entrepreneurship and skill development
Stand-Up India (Extended Model)	Women, SCs, and STs	Institutional support with training	Facilitate credit and managerial training for new businesses
Pradhan Mantri MUDRA Yojana	Women micro-entrepreneurs	Collateral-free loan up to Rs 20 lakh	Enable access to working capital and expansion for MSMEs
Lakhpati Didi Initiative (SHGs)	One crore rural women	Livelihood and enterprise-based support	Achieve an income generation of Rs 1 lakh per annum per woman

Sources: *Ministry of Finance (2025a); Ministry of Skill Development and Entrepreneurship (2025); Ministry of Rural Development (2024); Small Industries Development Bank of India (SIDBI, 2024)* departments as well as five Union Territories—underscores a whole-of-government approach that increasingly favours long-term empowerment over short-term welfare, signaling a transformative phase in India's gender budgeting framework.

Gender Budgeting 2025–26: Advancing Gender-Equitable Development

The Union Budget 2025–26 underscores India's reinforced commitment to gender-equitable growth through enhanced allocations and focused initiatives to promote women's employment, skill development, entrepreneurship, asset ownership, and digital empowerment. With a substantial gender budget allocation of Rs 4.49 lakh crore—representing 8.86 per cent of the total Union Budget—this year marks a strategic shift toward mainstreaming gender concerns across sectors. The approach moves beyond welfare to structural empowerment, aiming to integrate women into the economy as active agents of transformation.

Employment, Skilling, and Entrepreneurship

Women's employment and economic participation remain central to the gender budgeting framework in 2025–26. The government continues to leverage flagship employment programmes and introduces targeted entrepreneurial financing schemes to empower women across rural and urban economies.

The Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) received an increased allocation of Rs 40,000 crore, up from Rs 37,654 crore in the previous fiscal. Women continue to account for 57.8 per cent of total person-days generated under the scheme, demonstrating its vital role in securing rural women's livelihoods. However, only about one-third of this expenditure is captured under the gender budget, indicating the need for better ways to track how funds are used for different genders.

In a significant step towards entrepreneurship promotion, a new scheme has been launched to offer term loans of up to Rs 2 crore to five lakh first-time entrepreneurs from among women, Scheduled Castes (SCs), and Scheduled Tribes (STs) over the next five years. This initiative builds upon the lessons from the Stand-Up India programme and incorporates provisions for online capacity-building in entrepreneurial and managerial skills.

Further support is provided under the *Pradhan Mantri MUDRA Yojana*, where women can access collateral-free loans of up to Rs 20 lakh, aimed at fostering micro-enterprises. Simultaneously, the Self-Help Group (SHG) ecosystem receives a significant boost, with the continued focus on transforming one crore women into *'Lakhpati Didis'*—rural women earning Rs 1 lakh annually—thereby encouraging collective entrepreneurship and sustainable livelihoods.

Table-3: Budget Allocations and Women's Asset Ownership through Key Government Schemes (2024–25 to 2025–26)

Scheme / Ministry	Key Features	Budget Allocation (Rs crore)	per cent Change	Women-Centric Provisions / Outcomes
Pradhan Mantri Awaas Yojana–Gramin (PMAY–G)	Rural housing scheme aiming to provide pucca houses to BPL families	54,832 (2025–26 BE)	68.7 per cent ↑[1]	- Mandatory registration in the woman's name (sole/joint) - ~74 per cent of houses owned solely/jointly by women[2]: • 1.02 crore jointly owned • 64.31 lakh solely in women's name
Ministry of Women and Child Development (MWCD)	Central ministry focused on policies and programmes for women and children	26,890 (2025–26 BE)	16 per cent ↑[1]	- Comprehensive schemes for empowerment and welfare
Mission Shakti	Umbrella programme under MWCD for women's empowerment	3,150 (2025–26 BE)	117 per cent ↑[1]	- Includes sub-schemes like *Samarthya* and *Sambal*
Samarthya Sub-Scheme	Component of Mission Shakti focused on socio-economic development	2,521 (2025–26 BE)	145 per cent ↑[1]	- Includes PM Matru Vandana Yojana (PMMVY), Working Women's Hostels, National Creche Scheme

Notes: 1. Percentage change calculated based on the difference between 2025–26 Budget Estimates (BE) and 2024–25 Revised Estimates (RE). 2. Data on women's housing ownership derived from cumulative progress reports under PMAY–G.

Sources: Ministry of Finance (2025a); Ministry of Rural Development (2023); Ministry of Women and Child Development (2024).

On the skilling front, the government announced the training of five million women in emerging and digital skills, an important step to bridge the gender digital divide. The National Mission on Education through ICT (NMEICT)—a 100 per cent women-focused scheme under Part A of the gender budget—received an allocation of Rs 229.25 crore. Although this marks a reduction from the previous year, the continued investment indicates sustained attention towards digital inclusion for women.

Education and Digital Infrastructure: Enablers of Equity

Education and digital connectivity form foundational pillars of equitable development in the 2025–26 Budget. The Department of School Education and Literacy received an all-time high allocation of Rs 78,572 crore—a 16.3 per cent increase from the revised estimates of 2024–25. Notably, the *Samagra Shiksha Abhiyan*, India's flagship school education programme, saw a funding increase of Rs 4,240 crore, totalling Rs 41,250 crore, which constitutes over 52 per cent of the department's outlay.

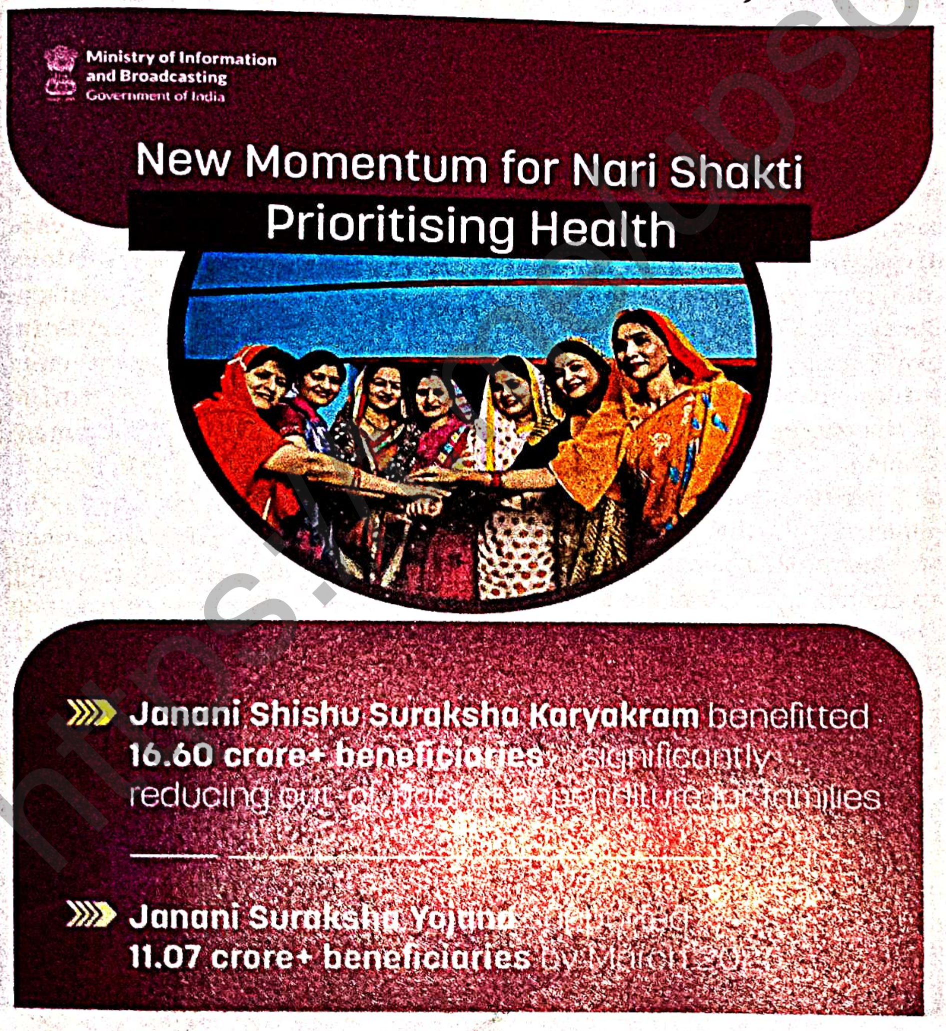
Enhancements in the budget allocations for key educational and nutritional programmes reflect a strong commitment to improving outcomes for girls. The *PM POSHAN* (mid-day meal) scheme received a 25 per cent increase in funding, reaching Rs 12,500 crore, aimed at supporting nutritional security and enhancing learning capacity. Similarly, the *PM-SHRI* scheme, which focuses on strengthening 14,500 schools, saw a significant 66 per cent budgetary increase to Rs 7,500 crore. These investments are poised to improve the quality of education and help reduce dropout rates among adolescent girls.

The *BharatNet* project has been allocated funds to bring broadband connectivity to every government secondary school and primary health centre in rural areas over the next three years. This initiative is critical in ensuring access to digital learning, especially for girls in remote areas. In addition, the creation of 50,000 *Atal Tinkering Labs* in government schools over five years will embed a culture of innovation and technological learning.

The convergence of educational reforms and digital infrastructure investments is expected to yield long-term dividends. These measures enable remote learning, reduce rural-urban disparities, and provide women with tools for lifelong learning—key for re-entering the workforce post-life events such as childbirth or caregiving responsibilities.

Asset Ownership and Housing Security

Asset ownership is critical for women's long-term empowerment. The *Pradhan Mantri Awaas Yojana–Gramin* (PMAY-G), which aims to provide housing for rural households, was allocated Rs 54,832 crore in the Union Budget 2025–26, marking a 69 per cent increase over the revised estimate of 2024–25 (Ministry of Finance, 2025a). A key gender-sensitive provision of the scheme is the mandatory registration of houses in the name of the woman, either solely or jointly with a male household member. This provision serves not only as a formal recognition of women's contribution to the household but also as a strategic step toward enhancing their economic agency in rural India (Ministry of Rural Development, 2023).



According to government data, approximately 74 per cent of houses constructed under the *Pradhan Mantri Awaas Yojana–Gramin* (PMAY-G) are owned solely or jointly by women. Of the 2.41 crore houses completed, around 64.31 lakh are solely registered in women's names, while 1.02 crore are jointly owned by husbands and wives (Ministry of Rural Development, 2023). This significant level of ownership not only enhances women's economic security but also provides them with access to institutional credit through collateral, thereby strengthening their decision-making authority within households.

In the Union Budget 2025–26, the Ministry of Women and Child Development (MWCD) was allocated Rs 26,890 crore, reflecting a 16 per cent increase from the revised estimates of Rs 23,183 crore in 2024–25 (Ministry of Finance, 2025a). Within this budget, *Mission Shakti*—a flagship programme promoting women's empowerment—received Rs 3,150 crore, with Rs 2,521 crore specifically designated for its *Samarthya* sub-scheme. *Samarthya* includes key initiatives such as the *Pradhan Mantri Matru Vandana Yojana* (PMMVY), Working Women's Hostels, and the National Creche Scheme, all geared toward improving women's socio-economic outcomes (Ministry of Women and Child Development, 2024).

These concerted efforts reflect the government's commitment to women's empowerment through asset ownership, housing security, and supportive welfare schemes. In a traditionally male-dominated society, such policy instruments mark a progressive shift toward gender parity in asset control.

Financial and Digital Empowerment

The 2025–26 Union Budget places increased emphasis on bridging the gender divide in financial inclusion and digital empowerment. Recognising that access to credit and digital tools is central to modern economic participation, several targeted initiatives have been introduced:

1. **New Term Loan Scheme for Women Entrepreneurs:** The term loan scheme for five lakh first-time women, SC, and ST entrepreneurs is backed by managerial skill-building, enabling long-term sustainability and scalability of women-led enterprises.
2. **Customised Credit Cards for Micro-Enterprises:** A novel provision introduces customised credit cards with limits up to Rs 5 lakh, targeted at micro-enterprises. Ten lakh such cards are to be issued in the first year, easing access to formal finance for women-led small businesses.
3. **Targeted Funding for Women-Led Enterprises:** A dedicated allocation of Rs 5,000 crore has been earmarked for the promotion of women-led enterprises. This targeted financial provision is anticipated to serve as a catalyst for fostering grassroots entrepreneurship, particularly in financially underserved and underbanked rural areas.
4. **Digital Infrastructure for Service Access:** In alignment with the *BharatNet* initiative and efforts to enhance educational connectivity, digital empowerment is being conceptualised as a cross-sectoral enabler of development. When integrated with targeted digital skilling programmes, this infrastructure framework strategically enhances women's capacity to participate meaningfully in the digital economy.

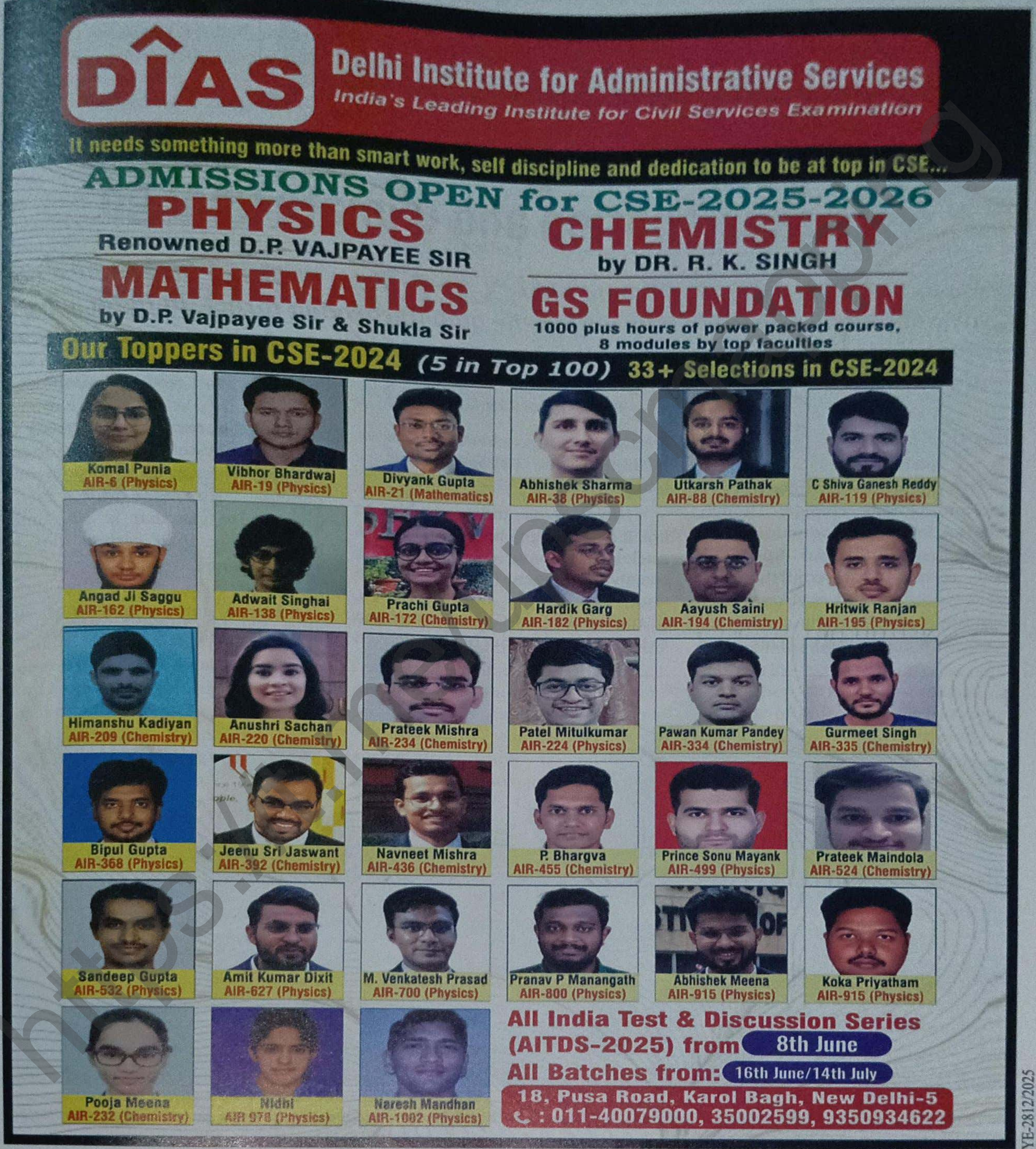
These integrated initiatives address multiple constraints simultaneously—access to capital, skills, and markets—enabling women. The multi-pronged strategy of financial literacy, credit support, and digital enablement has the potential to reduce the persistent gender gap in entrepreneurship and employment.

Advancing Gender-Responsive Governance and Institutional Accountability

The 2025–26 Union Budget reiterates the government's commitment to 'women-led development,' backed by the continuing presence of a Gender Budget Statement (GBS) for over two decades. While commendable strides have been made—such as increasing allocations to key schemes and the mainstreaming of gender components across ministries—further enhancement of institutional coherence and accountability frameworks is essential to ensure that fiscal intent translates into meaningful outcomes. This section explores the strengths of current institutional mechanisms and proposes forward-looking, data-backed suggestions to strengthen gender-responsive governance.

Aligning gender budgeting outcomes with international frameworks—particularly Sustainable Development Goal (SDG) 5 (Gender Equality) and SDG 8 (Decent Work and Economic Growth)—can facilitate benchmarking of progress, identification of lagging areas, and enhancement of policy precision through data-driven monitoring. The NITI Aayog's SDG India Index (2023) offers a foundational framework for such alignment; however, greater integration at both central and state government levels remains imperative.

The Union Budget 2025–26 underscores a significant advancement in India's pursuit of gender-responsive fiscal policy, reflecting a strategic commitment to women-led development through enhanced allocations and initiatives that promote employment, financial inclusion, and digital empowerment. While these measures represent important progress, the true efficacy of gender budgeting hinges on bridging the gap between policy design and implementation by fostering institutional coherence, embedding intersectional sensitivity, and institutionalising outcome-oriented monitoring mechanisms. Strengthening accountability and prioritising investments that build women's capabilities are crucial to transforming gender budgeting into an effective instrument for equitable and sustainable development. By centring gender budgeting as a catalyst for equity and capability building, India moves decisively towards a development paradigm that recognises women as pivotal economic actors and architects of inclusive growth. In doing so, the nation not only advances gender equity but also lays the foundational framework for resilient and transformative socio-economic progress. ❑



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Bedanga Bordoloi

A Silent Storm: Why India Must Act on Nitrogen Pollution and Climate Change

Nitrogen pollution mitigation could offset 5–10 per cent of Global Greenhouse Gas (GHG) reductions needed to stay within the global warming target. In India, where agriculture is the largest source of N_2O emissions, coordinated nitrogen policies can yield enormous climate co-benefits.

Nutrients lie at the core of the triple planetary crisis—pollution, biodiversity loss, and climate change. Though essential for food production, both organic and industrial nutrients, when mismanaged, contribute to soil degradation and environmental pollution, particularly through excess nitrogen (N). This has disrupted biogeochemical cycles, pushing them beyond planetary boundaries.

Nitrogen is indispensable to life. It is a building block of proteins, nucleic acids, and chlorophyll. Yet, reactive nitrogen (Nr) forms like ammonia (NH_3), nitrate (NO_3-), nitrous oxide (N_2O), and nitrogen oxides (NO_x) are now being released at rates that exceed the capacity of Earth's ecosystems to absorb them, causing widespread environmental damage. Nitrous oxide is a greenhouse gas that is 300 times more potent than carbon dioxide. The challenge is particularly acute in South Asia, where high-input agriculture, dense populations, and poorly managed waste systems are

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creating a nitrogen overload.

India, home to 1.4 billion people and a significant contributor to global agricultural output, finds itself at the centre of this storm. A 2018 *Nature Index* report labelled the country a global hotspot for nitrogen pollution, citing low nitrogen use efficiency (NUE), excessive urea application, and unregulated livestock and waste emissions as key contributors. Global estimates show that only half of the nitrogen applied in agriculture is utilised by crops. The rest is lost to the environment, contaminating water, air, and ecosystems. The environmental cost of nitrogen pollution in India is estimated to be around USD 78 billion annually (Sutton et al., 2017).

India's agricultural intensification relies heavily on nitrogen (N) fertilisers, but the system is inefficient. An assessment finds India applies about 17 million tonnes of nitrogen fertiliser per year, yet plants absorb only roughly 33 per cent of the N added to the major cereal crops (rice and wheat). In other words, about two-thirds of applied N remains in the soil or escapes to the environment. This enormous 'loss' of fertilizer N translates into a massive pollutant load: nutrients leach into groundwater and surface water or volatilise into air. Nutrient-tracking studies show that key states in India's grain belt—Punjab, Haryana, Western Uttar Pradesh and nearby regions— carry the highest N surpluses. For example, recent data indicate nitrogen surplus in Punjab reached an astonishing 234 kg N/ha/yr by 2017 (up from approx 24 kg N/ha in 1966), and in Haryana it rose to 276 kg N/ha/yr. These 'breadbasket' states, plus Bihar, Telangana, Andhra Pradesh and West Bengal consistently exhibit far higher N surpluses per hectare than the national average.

Large surpluses also arise from India's internal trade of crops. One recent analysis mapped N flows via interstate grain trade: states like Maharashtra, Uttar Pradesh, Tamil Nadu and Karnataka send crops (with embedded N) to deficit regions, while Punjab and Haryana accumulate N surpluses of about 710 gigagrams/year. In other words, agricultural trade is effectively concentrating nitrogen pollution in production zones. Converting these nutrient surpluses into emission estimates showed that domestic rice/wheat trade alone gives rise to roughly 42.8 Gg N/year of N_2O emissions, with over 70 per cent of that coming from just four leading producing states (Haryana 28.3 per cent, Punjab 20.0 per cent, Chhattisgarh 12.4 per cent, Andhra Pradesh 12.3 per cent). These figures illustrate that inefficiency in fertiliser use—especially in Punjab, Haryana and parts of UP—is driving large environmental loads of reactive nitrogen.

Poor farm-level practices exacerbate the problem. Many farmers (an estimated 70 per cent nationally) apply fertiliser without adequate soil testing or adherence to recommended doses. Subsidies and price controls make urea and other N-fertilisers cheap, so farmers often 'overapply' nitrogen. For example, a recent survey in South Asia found 55 per cent of rice farmers were applying more N than needed, suggesting the region could save approx 18 kg N/ha on average without yield loss. Over-application in the Indo-Gangetic plain is already causing nutrient build-up: soil studies in parts of Punjab, Haryana and western UP have found nitrate levels in wells two or more times above safe limits. In Haryana, for instance, the average nitrate (NO_3^-) concentration in shallow well water was 99.5 mg/L, nearly double the 50 mg/L threshold set by the World Health Organisation. Such contamination highlights that India's nitrogen use efficiency is low and

generating large pollution burdens.

Further, there is robust scientific consensus that nutrient pollution—driven by fossil fuel combustion, fertiliser overuse, and wastewater from agriculture and industry—is intensifying air and water pollution, accelerating biodiversity loss, soil degradation, ozone depletion, and contributing significantly to climate change. However, governance remains fragmented, and integrated global frameworks for nitrogen and phosphorus are lacking despite their profound cross-sectoral impacts.

The Government of India has acknowledged this silent crisis and has taken numerous proactive measures. Fertiliser industries are now mandated to meet strict emission norms with 24x7 Continuous Emission Monitoring Systems (CEMS) in place. The Indian Council of Agricultural Research (ICAR) promotes neem-coated urea, soil test-based nutrient management, and the 4R principle of nutrient stewardship—right source, right rate, right time, and right place. The Soil Health Card Scheme has been instrumental in collecting data and guiding farmers on balanced fertiliser application.

Urban nitrogen loads are being addressed through upgrades in sewage treatment infrastructure under schemes such as AMRUT and the National Mission for Clean Ganga. Meanwhile, real-time air quality monitoring by the Central and State Pollution Control Boards has identified nitrogen oxides as major urban pollutants. Stricter vehicle emission norms (BS-VI), fuel upgrades, and enforcement of pollution control in industries have also been rolled out.

Despite these efforts, the urgency for integrated action is mounting. Nitrogen pollution mitigation could offset 5–10 per cent of global greenhouse gas (GHG) reductions needed to stay within the global warming target. In India, where agriculture is the largest source of N_2O emissions, coordinated nitrogen policies can yield enormous climate co-benefits. While India's Nationally Determined Contributions (NDCs) currently do not make specific reference to nitrogen, the scope for incorporating it in future strategies remains considerable.

China set a target for a zero increase in fertiliser use in 2015, which has shown results. The EU's Nitrates Directive limits nitrogen application in vulnerable zones and has seen improvements in groundwater quality and farm efficiency. Sri Lanka's abrupt ban on synthetic fertilisers in 2021, however, led to sharp declines in crop yields and farmer protests, highlighting the dangers of blanket bans without transition support.

While the climate gains of managing nitrogen pollution are significant, the greater value lies in local air and water quality improvements, making it politically attractive for countries prioritising domestic benefits. However, challenges remain in policy design, farmer behaviour change, and avoiding pollution trade-offs, requiring integrated, context-specific nitrogen management.

To secure India's agricultural future and reduce the growing risks of nitrogen pollution, a set of actionable and coordinated strategies are needed. These must be rooted in India's development goals while aligning with climate, health, and water security priorities.

1. **Strengthen Collaborative Partnerships with Agriculture:** India can deepen its partnerships across the agriculture sector to reduce nutrient losses. Taking cues from global models like the EPA–USDA collaboration, ICAR, state agriculture universities, *Krishi Vigyan Kendras* (KVK), and private innovators could collaborate to build strong field-level networks. This will help target nutrient management interventions—such as promoting neem-coated urea or precision application—in areas where pollution is most severe, like the Gangetic basin. Highlighting success stories from progressive farmers and state-led initiatives (e.g., Andhra Pradesh's natural farming programme) can inspire others to adopt cleaner practices.

2. **Support States and Rural Communities with Integrated Water Strategies**: The One Water approach—treating all water sources (groundwater, surface water, and wastewater) holistically—can guide nutrient management. States should be encouraged to use integrated nutrient budgeting across sectors like agriculture, wastewater, and rural sanitation. Special support must go to small, rural, and disadvantaged communities, such as tribal districts in Odisha or Northeast India, with financing options to adopt biofertilisers, drip irrigation, or decentralised waste management systems that reduce nitrogen runoff.

3. **Use India's Environmental Regulations to Drive Progress and Innovation:** India's existing legal frameworks—such as the Water (Prevention and Control of Pollution) Act and the Environment Protection Act—can be strengthened to include numeric standards for nitrate levels in lakes, rivers, and groundwater. Just as the Clean Water Act enables states in the US to implement Total Maximum Daily Loads (TMDLs) for pollutants, Indian states could use similar basin-level plans. The Central and State Pollution Control Boards must be empowered to incentivise innovation in effluent standards, especially in food processing and agro-industries.

4. **Launch a National Nitrogen Mission:** A dedicated National Nitrogen Mission should be created to provide high-level, cross-sectoral coordination across the Ministries of Agriculture, Environment, Health, and Water. The mission can set national goals to improve Nitrogen Use Efficiency (NUE), reduce nitrous oxide (N_2O) emissions, and enhance soil and water quality. The mission should fund research on nitrification inhibitors, mobile soil labs, and innovation pilots.

5. **Integrate Nitrogen into India's Climate Commitments:** Currently, N_2O emissions are not included in India's Nationally Determined Contributions (NDCs). Including these emissions would reflect the full environmental cost of nitrogen use and could open doors to international climate finance. For example, setting a goal to reduce nitrogen fertiliser emissions by 20 per cent over 10 years could become part of India's national climate reporting under the Paris Agreement.

6. **Reform Fertiliser Subsidies for Efficiency**: India spends

roughly Rs 2 lakh crore annually on fertiliser subsidies, mostly on urea. A phased shift to Direct Benefit Transfers (DBT)—linked to soil health data—can incentivise precise and balanced fertiliser use. The government should also promote slow-release, neem-coated, sulphur-coated urea and support the scaling of biofertilisers and organic inputs through public-private partnerships.

7. **Strengthen Regulation and Enforcement in Pollution Hotspots:** Areas like Punjab and Western Uttar Pradesh are facing serious groundwater nitrate contamination. These zones require stricter nitrogen application caps, akin to the EU's Nitrate Directive. River basin authorities like those managing the Yamuna or Ganga should be empowered to include nitrogen load limits and enforce compliance through digital tracking and field inspections. At the same time, farmers must be supported with advisory services and demonstration plots to transit smoothly.

8. **Promote Integrated Soil Remediation, Nutrient and Soil Health Management** The Soil Health Card Scheme has built a large soil data repository, which can be made actionable via mobile apps, AI advisories, and geo-tagged nutrient maps. Promoting crop rotations with legumes, N-efficient crop varieties, and conservation agriculture will optimise nitrogen input. The 4R strategy (Right Source, Right Rate, Right Time, Right Place) should be embedded in KVK training programs and state-level extension efforts. States can establish Nitrogen Management Hubs to incubate, test, and scale up farmer-centric innovations. State Pollution Control Boards can house remediation hubs to promote remediation technologies for nitrogen pollution including constructed wetlands, denitrifying bioreactors, and permeable reactive barriers. These systems use natural or engineered processes to convert harmful nitrates into harmless nitrogen gas and are effective in treating runoff, wastewater, and groundwater in both urban and agricultural settings.

9. **Raise Awareness and Create Market-Based Incentives** Public campaigns are needed to highlight the risks of nitrogen overuse—such as health issues, groundwater contamination, and crop losses. Certification schemes like 'Low Nitrate Vegetables', when linked to e-commerce or institutional buyers (e.g., hospitals, midday meal schemes), can create demand-driven incentives for farmers. Government support for precision agriculture tools like remote sensors, decision dashboards, and handheld nutrient meters can further drive adoption.

10. **Scale Research, Innovation, and Indigenous Knowledge** India must ramp up public investment in nitrogen research, particularly through ICAR, IITs, and the agricultural university system. There's great scope to support the development of climate-smart, nitrogen-efficient crop varieties, affordable diagnostic kits, and real-time tracking tools. Equally important is integrating traditional farming wisdom—such as mixed cropping and organic soil enrichment—with modern agronomic insights to create location-specific, low-input solutions.

Nitrogen is both a miracle nutrient and a potential menace. If used judiciously, it can drive agricultural productivity and ensure food security. If mismanaged, it degrades soil, air, and water, and undermines climate goals. India has already laid the foundation for nitrogen reform through regulatory frameworks, subsidy reforms, and international cooperation.

Yet the scale of the challenge calls for more. A National Nitrogen Mission can coordinate fragmented efforts, while integration into NDCs will enhance global accountability. Trade-offs of promoting green ammonia and its related emission impacts need consideration. Smart subsidies, strong regulation, and farmer-centric extension will ensure that nitrogen remains a boon, not a burden.

Nitrogen pollution in India is a silent storm gathering strength. Under current practices, every harvest season adds more nitrogen waste to our soils, waters and atmosphere. If unchecked, the fallout will deepen India's water contamination, degrade soils, worsen air quality and further complicate India's path toward achieving its climate commitments. But the situation is also an opportunity: improved nitrogen management can raise crop productivity, reduce greenhouse emissions, and save subsidy money—in short, a win–win for agriculture, health and the climate. For India to chart a truly sustainable future, this powerful yet underused lever for addressing climate change is an option. Policymakers should act now: develop a cohesive national, multi-sectoral nitrogen strategy, align it with climate commitments, and reform incentives so that use of this 'miracle nutrient' is efficient, not excessive. It is through coordinated policy action that India can weather this silent storm—ensuring ecological stability and long-term growth.

With improved nitrogen management, India can move closer to a sustainable future—boosting yields, safeguarding ecosystems, and delivering cleaner air and water to millions. The time to act is now. Let India lead the way in making this invisible crisis a visible policy priority. ❑

(The co-author, Etali Sarmah, is an agribusiness expert having worked in India and abroad on large scale agricultural and rural transformation programs.)

India's Digital Decade

India's digital journey over the past decade has not only transformed services and governance but also laid the groundwork for strong economic growth. Digital industries have been growing at a faster pace than traditional sectors, showing how technology is becoming a key driver of progress. By 2030, the digital economy is expected to make up nearly one-fifth of the country's total economy.

India has made remarkable progress in its journey towards becoming a digitally empowered society and knowledge economy. From expanding internet access in remote villages to revolutionising public service delivery through digital platforms, the country has bridged the urban-rural divide like never before. The digital economy, which contributed 11.74% to the national income in 2022-23, is projected to **grow to 13.42% by 2024-25,** driven by advancements in artificial intelligence, cloud computing, and digital infrastructure.

Connectivity and Infrastructure

A robust digital infrastructure forms the backbone of a modern economy. India has significantly expanded mobile networks and improved internet connectivity in rural areas.

Telecom and Internet Penetration

Total telephone connections in India grew from **93.3 crores in March 2014 to 120+ crores in April 2025.**

- The overall tele-density in India which was 75.23 % in March 2014 rose to 84.49% in October 2024.

- **Urban telephone connections** rose to **661.36 million in October 2024** as compared to 555.23 million in March 2014 while rural telephone connections increased from 377.78 million in March 2014 to **527.34 million** in **October 2024.**

Internet and Broadband Penetration

Internet connections jumped from **25.15 crore in March 2014 to 96.96 crore in June 2024**, registering a growth of **285.53%.**

- Broadband connections rose from **6.1 crore in March, 2014 to 94.92 crore in August, 2024** growing by 1452%.
- Out of 6,44,131 villages, **6,15,836 villages** have 4G mobile connectivity in the country, as of December 2024.

5G and Connectivity

Since 2016, the rapid expansion of 4G coverage brought high-speed connectivity to every corner of the country. Building on this momentum, the launch of 5G in October 2022 further accelerated India's digital journey, enabling even faster and smarter services. In just 22 months, India set up **4.74 lakh 5G Base Transceiver Stations (BTSs). As of now,** 5G services cover 99.6% of the country's districts, with 2.95 lakh BTSs installed in 2023–24 alone. This leap in infrastructure supports a **mobile subscriber base of 116 crore in 2025,** highlighting the scale and reach of India's digital surge.

This improved mobile infrastructure has driven a massive surge in internet access. At the same time, the cost of wireless data has fallen steeply, from Rs 308 per GB in 2014 to just Rs 9.34 in 2022, making digital services far more affordable.

BharatNet: Linking Villages to the Internet

A major part of this digital push has been about connecting rural India. As of January 2025, the BharatNet project has brought high-speed internet to over **2.18 lakh Gram Panchayats**. Nearly **6.92 lakh km** of optical fibre cable has been laid under the initiative. Villages that once lacked basic internet access now have digital tools at their doorstep.

Digital Finance and Inclusion

Technology has brought financial services closer to people, especially in rural and remote areas.

UPI: Digital Payment Boom

The Unified Payments Interface (UPI) transformed digital transactions across the country. **In April 2025, over 1,867.7 crore transactions worth** Rs **24.77 lakh crore** were carried out using UPI in just one month. The (UPI) system is now used by close to 460 **million individuals and 65 million merchants.** According to the ACI Worldwide Report 2024, India accounted for 49% of global real-time transactions in 2023, reaffirming its position as a global leader in digital payments innovation.

UPI is now live in over seven countries, including the **UAE, Singapore, Bhutan, Nepal, Sri Lanka, France, Mauritius**, making India a global trailblazer in digital payments. Its growing international adoption is boosting remittances, promoting financial inclusion, and strengthening India's position in the global fintech landscape.

Aadhaar: Building Trust with Technology

The Aadhaar-based e-KYC system has helped simplify processes in both banking and public services. It made verification faster, reduced paperwork, and brought transparency across sectors. **As of April 2025, 141.88 crore Aadhaar IDs** have been generated. Aadhaar has now become a crucial part of India's digital backbone, helping people access services with ease.

Direct Benefits Transfer: A Cleaner Welfare System

Direct Benefits Transfer (DBT), supported by Aadhaar authentication, changed the way subsidies and welfare payments are delivered. It helped remove fake beneficiaries and saved the government more than Rs **3.48 lakh crore between 2015 and March 2023.** As of May 2025, the total cumulative amount transferred through **DBT has crossed** Rs **44 lakh crore.** People now receive what is rightfully theirs, directly and on time.

The system has also helped clean up beneficiary databases. Over 5.87 crore ineligible ration card holders have been removed, and 4.23 crore duplicate or fake LPG connections have been cancelled, making the welfare system more targeted and transparent.

Open Network for Digital Commerce (ONDC)

Launched in **2022, The Open Network for Digital Commerce (ONDC)** is a transformative initiative aimed at democratising digital commerce. It envisions creating a level playing field for sellers, buyers, and service providers across India, particularly small and medium enterprises (MSMEs).

Key Achievements

- As of **January 2025**, the sellers and service providers are spread across **616+ cities** expanding the geographical coverage of the ONDC network.
- As of **January 2025**, there are more than **7.64 lakh sellers/service providers** registered on the ONDC platform.

Government e-Marketplace (GeM)

Launched in **2016**, **Government e Marketplace (GeM)**, created in a record time of five months, facilitates **online procurement** of common use Goods and Services required by various Government Departments / Organisations / PSUs.

Key Achievements:

- As of **January, 2025**, GeM has clocked a GMV of Rs **4.09 lakh crore** within 10 months of the current Fiscal Year 2024-25, which marks a growth of nearly **50%** over the corresponding period last FY.
- GeM has a network of **1.6 lakh+** government buyers and over **22.5 lakh** sellers and service providers.

E-Governance: Empowering Citizens, Enabling Change

In India, e-Governance has revolutionised the way citizens interact with the government by making services more accessible, transparent, and efficient. Through robust digital platforms, it has empowered both citizens and officials, enhancing ease of governance across the country.

Karmayogi Bharat + iGOT

Karmayogi Bharat, under the Mission Karmayogi National Programme for Civil Services Capacity Building (NPCSCB), is reshaping the learning landscape for civil servants in India. The initiative aims to nurture a future ready civil service by equipping officials with the right Attitude, Skills, and Knowledge (ASK) to deliver efficient and citizen-centric governance.

As of May 2025, over 1.07 crore Karmayogis have been onboarded onto the platform, which **offers 2,588 courses** spanning diverse governance domains. With **more than 3.24 crore** learning certificates issued, the platform facilitates continuous learning through online, face to face, and blended formats. It also supports peer learning via forums, career path guidance, and robust assessments, building a credible, agile, and capable public workforce aligned with the vision of a New India.

DigiLocker

Launched in **2015**, DigiLocker aims at 'Digital Empowerment' of citizen by providing access to **authentic digital documents** to citizen's digital document wallet. DigiLocker users as of April 2025 reached to a significant number of **51.6 crores.**

Key Achievements

- From January 2025 to June 11, 2025, a total of 9.42 crore users signed up, including 33.06 lakh sign-ups in the month of June alone.
- **2031.99 lakh yearly user signups** recorded in 2024 as compared to 9.98 lakh signups recorded in 2015.

UMANG

Launched in **2017**, **UMANG (Unified Mobile Application for New-age Governance)** is developed to drive Mobile Governance in India. UMANG provides a single platform for all Indian Citizens to access pan India **e-Gov services** ranging from Central to Local Government bodies.

Key Achievements

- **8.21 crore** user registrations and **597 crore** transactions recorded as of **May 2025.**
- **2,300 government services** are available on the UMANG portal in 23 Indian languages as of May 2025.

Digital Capacity Building

India's digital transformation is not just about access; it's also about enabling people and institutions to use technology effectively. Over the past 11 years, this approach has driven inclusive growth, empowered citizens, and strengthened digital governance across the nation.

Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA)

The Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) was approved by the Union Cabinet in February 2017 to promote digital literacy and empower rural India through technology. The initiative aimed to make at least 6 crore individuals digitally literate, enabling them to confidently access digital services and information.

Implemented by CSC eGovernance Services India Limited, the scheme leveraged a vast grassroots network of **5.34 lakh Common Service Centres spread across 2.52 lakh Gram Panchayats.** As of its formal conclusion on March 31, 2024, the PMGDISHA scheme had enrolled approximately 7.35 crore candidates, with 6.39 crore individuals successfully trained and 4.77 crore certified. This makes it one of the largest digital literacy initiatives globally.

In addition to PMGDISHA, several other initiatives have been launched to expand digital literacy, enhance technical skills, and nurture innovation:

- **NIELIT (National Institute of Electronics and Information Technology) Deemed to be University:** On July 15, 2024, the Ministry of Education notified NIELIT Ropar and 11 of its units as a Deemed University under a distinct category, with a target to skill 37 lakh candidates over the next five years.
- **Skill Development in ESDM (Electronics System Design and Manufacturing) Sector:** Under the two ESDM skill development schemes, a total of 4,93,928 candidates have been registered so far. Out of these, 4,93,926 have received training, 3,74,456 have been certified, and 1,37,762 have successfully secured job placements.
- **Future Skills Prime (Programme for Re-skilling/Up-skilling of IT Manpower for Employability):** Under the programme more than 22 lakh candidates signed-up, more than 11 lakh candidates enrolled, more than 5.3 lakh candidates completed their courses, 11,519 Government Officials trained.
- **Information Security Education and Awareness (ISEA) Project:** 95,206 candidates trained, 31 awareness programmes conducted.
- **Chips to Start-up (C2S) Programme:** Under the Chips to Start-up (C2S) Programme, support has been extended to 113 organisations, including 100 academic institutions and R&D organisations, along with 13 start-ups and MSMEs. The initiative has led to the development of 58,652 specialised professionals and the filing of 26 patents, strengthening India's semiconductor and innovation.
- **Visvesvaraya PhD Scheme:** *Scheme supported 1619 full-time and 420 part-time PhD candidates.*

Bhashini – Breaking Language Barriers

BHASHINI (BHASHa INterface for India) is a pioneering initiative under the National Language Translation Mission (NLTM), aimed at bridging India's linguistic diversity through technology. By harnessing the power of artificial intelligence and natural language processing, BHASHINI enables access to digital content and public services in multiple Indian languages. Implemented by the Digital India BHASHINI Division under the Ministry of Electronics and Information Technology, the platform is helping realise the vision of a truly inclusive Digital India.

National Quantum Mission

With the broader aim to harness quantum technologies in India to bolster sectors like communication, cryptography, and computing, National Quantum Mission has outlined specific objectives to advance India's capabilities in the quantum realm:

- **Quantum Computing Evolution:** Develop intermediate-scale quantum computers with 20-50 physical qubits (3 years), 50-100 physical qubits (5 years), and 50-1000 physical qubits (8 years) across platforms like superconducting and photonic technologies to advance computational capabilities.
- **Satellite-Based Quantum Communication:** Establish satellite-enabled quantum-secured communication between two ground stations over 2000 km within India and extend this technology for long-distance secure quantum communication with other countries.
- **Inter-City Quantum Key Distribution (QKD):** Implement quantum-secured communication spanning 2000 km using trusted nodes and wavelength division multiplexing (WDM) on existing optical fiber infrastructure, enhancing secure data transmission.
- **Multi-Node Quantum Networks:** Develop a multi-node quantum network incorporating quantum memories, entanglement swapping, and synchronised quantum repeaters at each node, enabling scalable and robust quantum communication (2-3 nodes).
- **Advanced Quantum Sensing and Clocks:** Design highly sensitive quantum devices including

magnetometers with 1 femto-Tesla/sqrt(Hz) sensitivity in atomic systems and better than 1 pico-Tesla/sqrt(Hz) in Nitrogen Vacancy centers, gravity sensors with better than 100 nano-meter/second^2 sensitivity, and atomic clocks with 10^{-19} fractional instability for precision timing, navigation, and secure communication.

- **Quantum Materials and Devices**: Develop and synthesise next-generation quantum materials such as superconductors, novel semiconductor structures, and topological materials for the fabrication of qubits, single-photon sources/detectors, entangled photon sources, and quantum sensing/metrological devices for applications in computing and communication.

Equipped with state-of-the-art experimental set-ups Defence Research and Development Organisation (DRDO) has formed the Quantum Technology Research Centre (QTRC) in Delhi. The facility aims to further strengthen indigenous quantum capabilities for strategic and defence applications. QRTC is designed to propel research and development in critical quantum domains. The key capabilities of this centre include Characterisation of Vertical-Cavity Surface-Emitting Lasers and Distributed Feedback Lasers; Test-beds for evaluating single-photon sources; set-up for characterisation of Micro Fabricated Alkali Vapor Cell; and experimental platforms for developing and validating Quantum Key Distribution techniques to enable ultra-secure communication and safeguard national security in the post-quantum era.

Advancing Strategic Tech Capabilities

India is rapidly advancing in cutting-edge technologies to strengthen its position as a global innovation hub. Focused efforts are being made to boost AI capabilities, enhance compute infrastructure, and develop a self-reliant semiconductor ecosystem.

IndiaAI Mission

The IndiaAI Mission, approved by the Union Cabinet under the leadership of the Hon'ble Prime Minister on 7 March 2024, is a landmark initiative to build a comprehensive and inclusive AI ecosystem in India. It focuses on seven strategic pillars: Compute Capacity, Innovation Centre, Datasets Platform, Application Development Initiative, FutureSkills, Startup Financing and Safe & Trusted AI. With a total outlay of **Rs 10,371.92 crore over five years**, the mission aims to advance responsible AI innovation aligned with national priorities.

As of 30 May 2025, India's national compute capacity has crossed 34,000 GPUs, laying a strong foundation for AI-led research and development.

India Semiconductor Mission

The India Semiconductor Mission is key to India's digital transformation, as semiconductors power all modern digital technologies. By boosting local chip manufacturing, it lays the foundation for a self-reliant, faster and more secure digital economy.

The India Semiconductor Mission is a strategic initiative approved by the Government with a total outlay of Rs 76,000 crore to build a robust semiconductor and display manufacturing ecosystem in the country. The programme provides 50 per cent fiscal support on a pari passu basis for the setting up of Semiconductor Fabs, Display Fabs, Compound Semiconductors, Silicon Photonics, Sensors, and ATMP/OSAT facilities. It also offers a Product Design Linked Incentive of up to 50 percent of eligible expenditure and a Deployment Linked Incentive of 6 to 4 per cent of net sales turnover over five years to promote chip design.

The mission aims to boost domestic value addition in electronics manufacturing, reduce reliance on imports and integrate India's electronics industry with global supply chains. **As of May 14, 2025, six semiconductor manufacturing projects had been approved** under the programme, with a cumulative **investment of over Rs 1.55 lakh crore**. Already, five semiconductor units are in advanced stages of construction. The latest project, approved on May 14, 2025, is a joint venture between HCL and Foxconn to set up a display driver chip manufacturing plant near Jewar airport in Uttar Pradesh.

India's digital journey over the past decade has not only transformed services and governance but also laid the groundwork for strong economic growth. Digital industries have been growing at a faster pace than traditional sectors, showing how technology is becoming a key driver of progress. By 2030, the digital economy is expected to make up nearly one-fifth of the country's total economy. This shift highlights how digital advancements are helping create new opportunities, boost innovation, and make India a leader in the global digital landscape. ❑

Source: PIB

Anti-Emergency movement reaffirmed the vitality of preserving our democratic framework: PM

On the solemn occasion marking fifty years since the imposition of the Emergency, Prime Minister Narendra Modi paid heartfelt tributes to the countless Indians who stood tall in defence of democracy during one of the darkest chapters in the nation's history.

Recalling the grave assault on constitutional values, the Prime Minister said that June 25th is observed as Samvidhan Hatya Diwas — a day when fundamental rights were suspended, press freedom extinguished, and countless political leaders, social workers, students, and ordinary citizens were imprisoned. The Prime Minister also reiterated the commitment to strengthen the principles in our Constitution and working together to realise our vision of a Viksit Bharat.

He further remarked that the anti-Emergency movement was a learning experience, which reaffirmed the vitality of preserving our democratic framework.

Shri Modi called upon all those who remember those dark days of the Emergency or those whose families suffered during that time to share their experiences on social media to create awareness among the youth of the shameful time from 1975 to 1977.

In a series of posts on X, he wrote:

"Today marks fifty years since one of the darkest chapters in India's democratic history, the imposition of the Emergency. The people of India mark this day as Samvidhan Hatya Diwas. On this day, the values enshrined in the Indian Constitution were set aside, fundamental rights were suspended, press freedom was extinguished and several political leaders, social workers, students and ordinary citizens were jailed. It was as if the Congress Government in power at that time placed democracy under arrest! #SamvidhanHatyaDiwas"

"No Indian will ever forget the manner in which the spirit of our Constitution was violated, the voice of Parliament muzzled and attempts were made to control the courts. The 42nd Amendment is a prime example of their shenanigans. The poor, marginalised and downtrodden were particularly targeted, including their dignity insulted. #SamvidhanHatyaDiwas"

"We salute every person who stood firm in the fight against the Emergency! These were the people from all over India, from all walks of life, from diverse ideologies who worked closely with each other with one aim: to protect India's democratic fabric and to preserve the ideals for which our freedom fighters devoted their lives. It was their collective struggle that ensured that the then Congress Government had to restore democracy and call for fresh elections, which they badly lost. #SamvidhanHatyaDiwas"

Source: PMO

Constitutional Amendments

During 1975 Emergency in India

38th Amendment Act, 1975

- *Barred the courts from questioning the President's decision to declare Emergency*

39th Amendment Act, 1975

- *Elections of President, VP, PM & Speaker could not be challenged in the Court*

42nd Amendment Act, 1976

- *Gave primacy to Directive Principles over Fundamental Rights*
- *Barred judicial review of Constitutional Amendments*
- *Curtailed powers of the Supreme Court & High Courts*
- *Duration of the legislature in the country was extended from 5 to 6 years*

MINISTRY OF INFORMATION AND BROADCASTING

The 1975 Emergency

- From **June 26, 1975**: pre-censorship imposed on all newspapers
- Editors were required to get Government clearance before publishing news, editorials & photographs
- A national censor & regional censors appointed to monitor press content
- Radio-photo transmissions were also brought under Government clearance

June 27, 1975: Articles 358 & 359 invoked

Article 358

- Suspended protections under Article 19
- Affected freedom of speech, expression, assembly & movement

Article 359

- Allowed the State to suspend enforcement of Fundamental Rights under Articles 14, 21 & 22
- This included equality before law, right to life & liberty, and protection against detention

Citizens were barred from approaching courts for redressal

Maintenance of Internal Security Act (MISA)

- Used extensively during the Emergency
- Nearly 35,000 people were detained under preventive detention without trial
- Opposition leaders & others were arrested under the Act

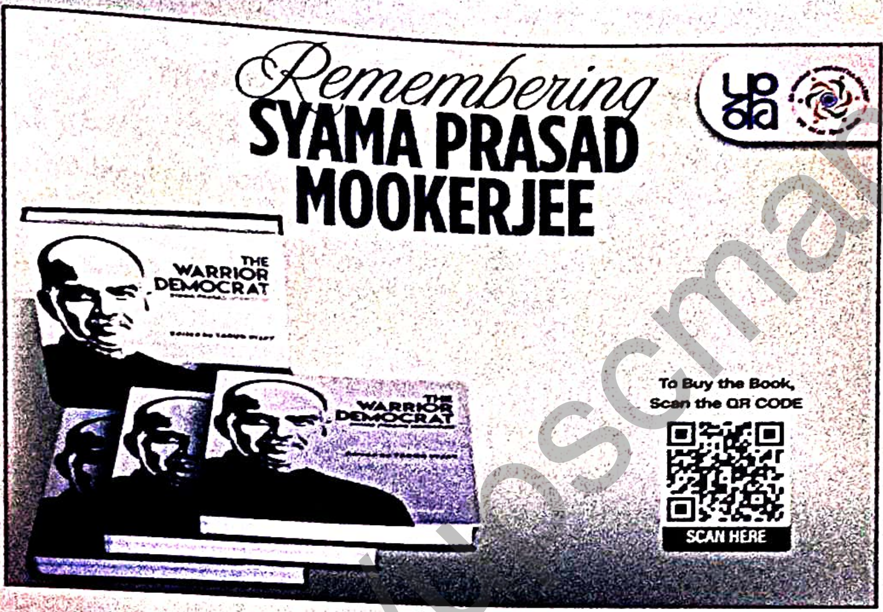
- **July 5, 1975**: Telex messages by foreign correspondents restricted & subjected to prior screening
- **July 20, 1975**: Board of Film Censors restructured under Cinematograph Act to tighten control over cinema
- Press Council of India, a statutory watchdog, abolished
- Campaign began in **1975** as part of an intensified population control effort
- **1975-76**: 26.42 lakh sterilisation procedures conducted
- **1976-77**: Number rose to 81.32 lakh
- 1.07 crore sterilisations performed over 2 years
- Access to essential services linked with sterilisation in several States
- People with more than 2 or 3 children who refused to undergo the procedure were denied:
  - Rations
  - Housing
  - Jobs
  - Healthcare
  - Loans

The Warrior Democrat: Syama Prasad Mookerjee – A Pictorial Biography

Edited by **Tarun Vijay**

Published by: Publications Division, Ministry of Information & Broadcasting, GoI

Price: Rs. 2100/-, Language: English



A timeless journey through photographs delving deep into the life of Dr. Syama Prasad Mookerjee, one of the greatest statesmen of Indian political history and an ardent freedom fighter. A pictorial homage to Dr. Syama Prasad Mookerjee on the occasion of his 119th birth anniversary, the book highlights a legacy of some of the rare historic moments from his life. The 'Warrior Democrat' is the first of its kind book to swathe the colossal life of Dr. Mookerjee and bring forth his childhood days to his growing up years and consequently emerging as one of the greatest Parliamentarians of our country. The book has tried to capture his monumental ideology by collating pictures from his momentous journey through the freedom struggle and thereafter.

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CELEBRATING 'DESI JUGAAD' INNOVATORS

SMART SOLUTIONS

Innovation is the driving force behind progress, and these grassroots engineering solutions exemplify how simple yet powerful ideas can revolutionise industries. From optimising traditional crafts to mechanising labour-intensive processes, innovators have redefined efficiency, safety, and sustainability. Whether it's enhancing agricultural productivity, improving accessibility, or creating cost-effective solutions for daily challenges, these engineering marvels are reshaping lives across India. Each technology not only simplifies work but also uplifts communities by making it accessible, empowering individuals, and preserving heritage.

Suren Barua, Tinsukia, Assam

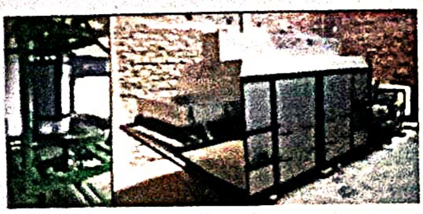
Innovating for Small Tea Growers and Everyday Comfort

Suren Barua (51), a serial innovator and skilled fabricator from Assam, has been transforming lives through practical engineering solutions. Operating from his fabrication unit, *Tea Engineering Works*, Suren has developed a range of cost-effective and impactful machines — especially for small tea growers. His acclaimed innovations include the **Sheetal Bichona (Cooling Bed)** and the **Belt System Dryer (BSD)** for green tea and other agricultural products.

Sheetal Bichona: The Cooling Bed

In regions like Assam, summer heat can be intense and unbearable. Air conditioners, though effective, are often out of reach for many due to high costs. To address this, Suren designed the Sheetal Bichona, a bed with an integrated air-cooling system, offering an affordable alternative for thermal comfort. This innovative steel-box-type bed comes fitted with an electric motor, air compressor fans, a voltage regulator, and an air duct system. Cool air is circulated through a perforated rubber mat on the bed's surface, delivering relief during hot days or nights. The user can control the bed's temperature by adjusting the voltage. With a price tag of Rs 20,000, it is especially useful for the elderly or those confined to bed for long durations.

Belt System Dryer (BSD) for Green Tea and More



Tea drying is a crucial process, particularly for small producers. Traditional dryers often come with drawbacks—stuck trays, noise, frequent maintenance, and the need for multiple trained operators. Suren's *Belt System Dryer* is a revolutionary solution. This dryer features a heat chamber, drying chamber, power source, and a smooth belt-driven tray system made of stainless-steel mesh. It's suitable for drying green tea leaves, turmeric, ginger, paddy, and similar items. The drying temperature can reach up to 200°C, ensuring high-quality output. Available in three space-saving models — Turbo Type, L-Type, and Straight Type — these dryers offer capacities ranging from **150 kg to 3000 kg per 8 hours**, priced between Rs 4.85 lakhs and Rs 12 lakhs. With over **35 units already sold**, the BSD is gaining traction among small and medium-scale agri-processors.

Empowering Local Innovation

From tea steamers to domestic room heaters, Suren Barua continues to address local needs with smart engineering. His efforts not only bring comfort and efficiency but also empower rural entrepreneurs and small-scale producers with affordable technology.

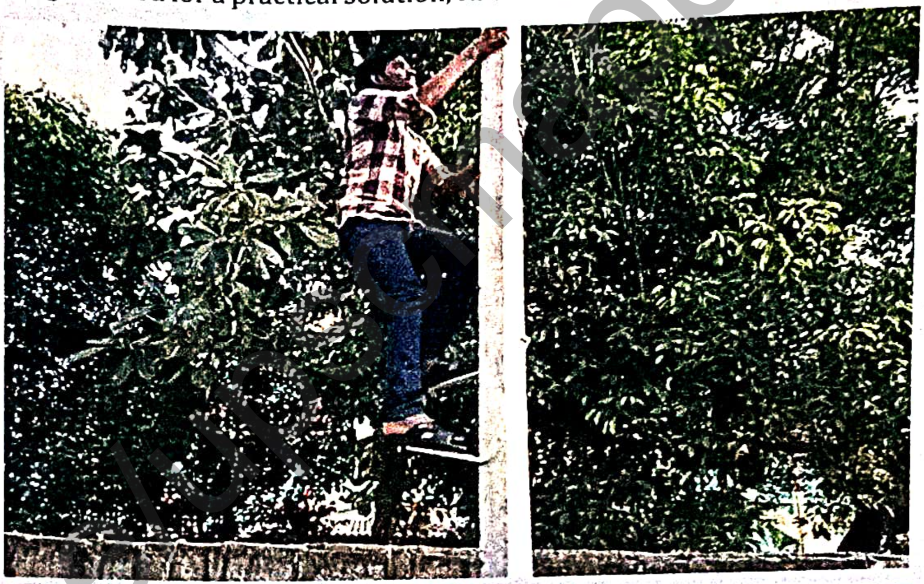
Nannem Tirupathi Rao, Prakasam District, Andhra Pradesh
From Hardship to Innovation

At just 27 years old, electrician Nannem Tirupathi Rao overcame economic hardship and limited formal education—ending his studies post-intermediate—to take on demanding jobs as a sub-contractor installing power lines. Over a span of 12 years, he worked extensively across Andhra Pradesh, Telangana, Maharashtra, Uttar Pradesh, Karnataka, and Tamil Nadu.

Revolutionising Electric Pole Climbing

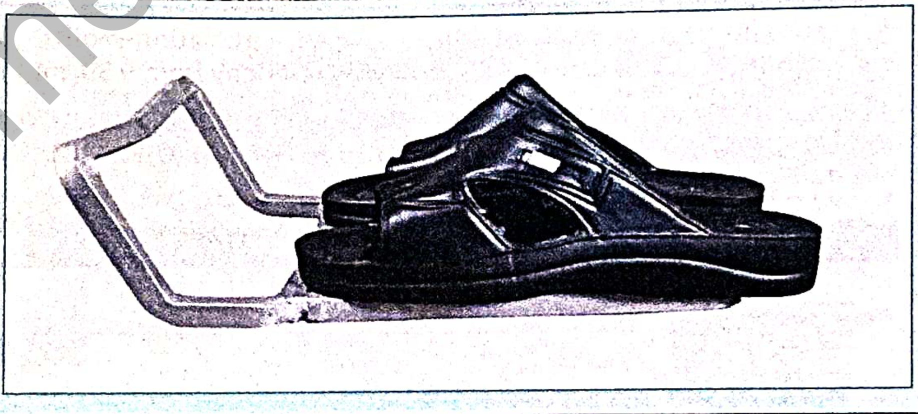
The Problem: Cement Pole Climbing

Traditional methods of climbing electric poles—especially cement ones—posed significant safety and efficiency challenges. Recognising the urgent need for a practical solution, Rao embarked on a mission to create an affordable, reliable climbing aid.



Introducing the Pole Climber

Rao's innovation is deceptively simple yet life-changing in its impact. Crafted from bent 16 mm steel rods arranged in a square frame, the device incorporates leather-strapped sandals that climbers can easily slip their feet into. Using two frames—one for each leg—workers can ascend poles step by step, much like climbing stairs.



Design Highlights & Safety

- **Ease of Use**: Climbers simply slip into the sandals—no tools or special skills required.
- **Comfort & Confidence:** Rao personally tested the prototype, encouraging others to adopt the device.
- **Robust & Tested**: Each unit is tested to support weights up to 150 kg. Users can comfortably sit and work hands-free.

Impact

This grounded innovation is more than just a tool—it offers safe, practical relief from a risky job. It allows line workers to focus on their tasks with both hands free, boosting efficiency and reducing fatigue. By transforming a simple steel rod into a vital occupational aid, Rao exemplifies how grassroots innovation can protect and empower workers across India.

Source: National Innovation Foundation – India, Department of Science & Technology

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