07 October 2025

NITIसंधान

सत्यमेव जयते
NITI Aayog

Quarterly newsletter by Research and Networking (R&N) Division of NITI Aayog

Message from Vice Chairperson

This edition of NITIसंधान underscores NITI Aayog's steadfast commitment to advancing India's developmental vision through evidence-based policymaking, strategic foresight, and cooperative federalism. The diverse research outputs featured herein reflect concerted efforts to address critical national priorities with rigour and depth.

The report on India's chemical industry outlines interventions critical to strengthening competitiveness in global value chains, while the North Eastern Region District SDG Index offers a pioneering framework for monitoring progress in a region of profound strategic importance. The roadmap for strengthening State Science and Technology Councils underscores the imperative of empowering regional innovation ecosystems through structural reforms and capacity building.

Equally noteworthy are sectoral studies on electric mobility, pulses, homestays, and artificial intelligence, each providing forward-looking insights into sustainability, livelihoods, and technological transformation. Collectively, these initiatives embody NITI Aayog's role as a catalyst for inclusive, resilient, and innovation-driven growth, guiding India with conviction towards the vision of a Viksit Bharat @ 2047.

Shri Suman Bery
Vice Chairperson, NITI Aayog

From the desk of CEO

NITI Aayog continues to uphold its mandate of driving transformative reforms through rigorous research, structured policy interventions, and the creation of enabling ecosystems for sustainable development. The recent publications — 'Electric Vehicles: Unlocking a $200 Billion Opportunity' and the 'India Electric Mobility Index 2024' — constitute important contributions to the national discourse on clean mobility. Together, they highlight the considerable progress made while drawing attention to the challenges that remain in achieving the target of 30% electric vehicle penetration by 2030.

In pursuit of this critical agenda, it gives me great satisfaction to announce the establishment of a dedicated Division of E-Mobility within NITI Aayog. This Division shall function as the institutional anchor for inter-ministerial coordination, industry collaboration, and evidence-based policy formulation, thereby accelerating the adoption of sustainable transport solutions and fostering innovation across the ecosystem.

Through NITIसंधान, our endeavour is to disseminate knowledge, catalyse informed debate, and inspire collective action. These initiatives will contribute meaningfully towards shaping an energy-efficient, technologically advanced, and environmentally sustainable future in alignment with the national aspiration of Viksit Bharat @2047.

Shri B.V.R. Subrahmanyam
CEO, NITI Aayog

About Research and Networking (R&N) Division

In 2024, NITI Aayog established a dedicated Research & Networking (R&N) Division to strengthen and streamline its policy research efforts by developing a robust pipeline of high-impact research studies. It also fosters partnerships with premier think tanks and relevant subject divisions to build a resource network and enhance collaboration across the policy ecosystem. The Division further plays a key role in evolving a multi-pronged dissemination strategy—ensuring that findings are shared widely through newsletters, reports, and policy briefs—so that knowledge becomes accessible, actionable, and aligned with national priorities. Through this mechanism, the Research & Networking Division positions NITI Aayog as both a facilitator of research excellence and an enabler of meaningful national and international partnerships.

Ms. Anna Roy (Programme Director, R&N Division, NITI Aayog)

NITI Spotlight: Ideas, Impact, Insights

Scan this QR to access the WEP Website

The Women Entrepreneurship Platform (WEP), established by NITI Aayog in 2018, serves as a comprehensive ecosystem designed to promote and facilitate women-led enterprises. It provides access to mentorship, financial linkages, capacity-building initiatives, and knowledge-sharing networks, thereby fostering innovation, enterprise growth, and inclusive economic development through enhanced participation of women entrepreneurs.

Research Publications this Quarter

- AI for Viksit Bharat - The Opportunity for Accelerated Economic Growth
- Stories of change- Aspirational Districts and Blocks
- A Roadmap for Strengthening State S&T Council
- Strategies and Pathways for Accelerating Growth in Pulses towards the Goal of Atmanirbharta
- Unlocking a $200 Billion Opportunity: Electric Vehicles in India
- North Eastern Region District SDG Index 2023-24
- India Voluntary National Review 2025
- India Electric Mobility Index 2024
- Chemical Industry: Powering India's participation in Global Value Chains
- Rethinking Homestays: Navigating Policy Pathways
- Trade Watch- Quarterly (October - December [Q3] FY25)

SCAN this QR to access NITI publications

For queries or suggestions, reach out to: **Chaheti Singh Sisodia**, Young Professional, R&N Division, NITI Aayog | E-mail: **chahetisingh.s@niti.gov.in**

Voice of our Researchers

Unlocking a $200 Billion Opportunity: Electric Vehicles in India

Author:
SHRI SUDHENDU J. SINHA,
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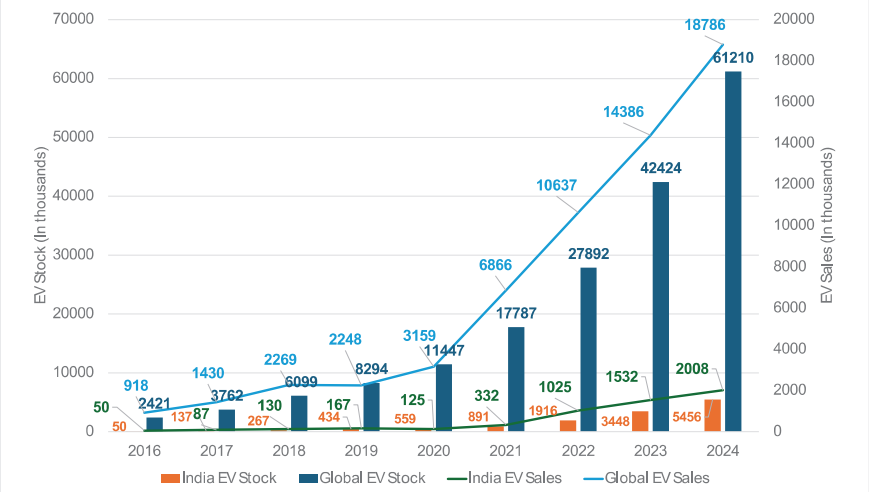
Co-Authors: Shri Amarjeet Singh,
Consultant, e-Mobility Division

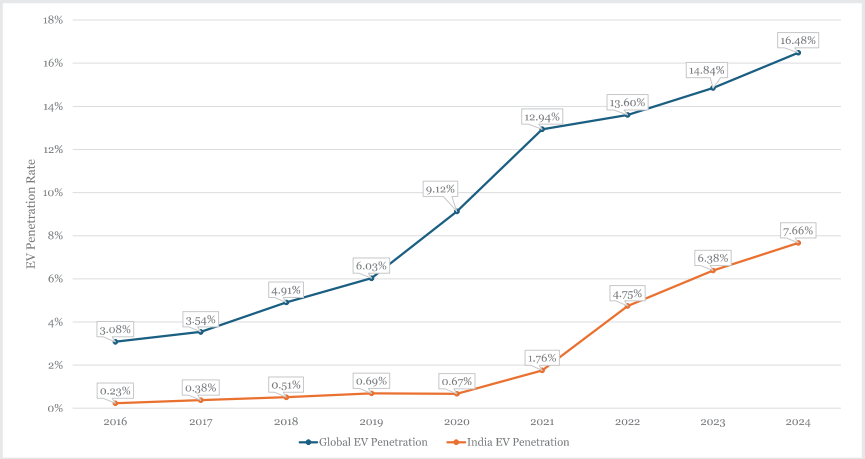
India has committed to an accelerated transition toward electric mobility with the objectives of reducing dependence on imported fuel and lowering greenhouse gas emissions, while simultaneously improving air quality, enhancing renewable energy integration, and positioning itself as a global Electric Vehicles (EV) leader. The country has set an ambitious target of achieving a 30% EV share in total vehicle sales by 2030.

Significant progress has been made in recent years, but the transition remains slower compared to global leaders such as China, the EU, and the US. EV sales in India increased from 50,000 in 2016 to 2.08 million in 2024, against a global increase from 918,000 to 18.78 million in the same period.



EV Sales and EV Stock over the years (Global and India)

India's EV penetration rose from one-fifth of the global average in 2020 to over two-fifths in 2024, yet at ~7.7% of sales, the country remains far behind its 30% goal. Growth has largely been concentrated in e-2W and e-3W, with some progress in e-buses. However, passenger e-car adoption has been sluggish, and the electrification of trucks is still at a nascent stage. Achieving the target will require India to increase EV penetration by 22% within just the next five years, calling for urgent and decisive measures.



EV Penetration Rate – Global & India

To chart the way forward, 7 stakeholder consultations were convened at NITI Aayog in February 2025. These discussions outlined 9 key approaches to accelerate the EV transition. First, India must move from incentives to mandates/ disincentives. Second, policies should prioritize the vehicle segment where electrification yields the greatest benefits. Third, efforts should focus on saturating select geographies rather than thinly distributing resources nationwide, as concentrated adoption brings visibility and encourages replication. Fourth, financing challenges for e-buses and e-trucks must be addressed, given their outsized role in emissions reduction. Fifth, emphasis should be placed on services delivered rather than assets procured, ensuring public value derives from utilisation rather than underused infrastructure. Sixth, shifting capital costs to operating costs. Seventh, Research & Development (R&D) must be scaled on new battery chemistries to reduce costs, improve performance, and lower dependence on imported minerals. Eighth, charging infrastructure should be strategically deployed after viability assessments, avoiding underutilization. Finally, awareness and data systems must be strengthened to enable evidence-based policymaking.

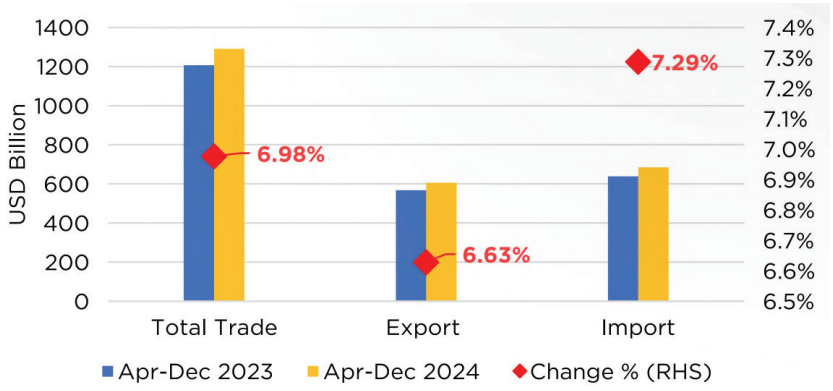
To kickstart the effort, four immediate priorities are identified. First, develop a clear national EV policy with specific targets and timelines. Second, design a program of progressively stringent regulations mandating EV adoption within defined timeframes. Third, launch a new initiative to saturate 5 cities with 100% e-buses, e-paratransit, and e-freight vehicles in urban transport. Fourth, establish and operationalize a blended financing mechanism to bring down the cost of capital for e-trucks and e-buses.

This report thus serves as a blueprint for accelerating India's EV transition. By identifying barriers, proposing strategic unlocks, and recommending actionable steps, it highlights a pathway for India to achieve its EV targets. Through data-driven decisions, financing innovation, and cross-sector collaboration, the country can deliver a unified national push toward zero-emission mobility.

Scan this QR to access full report

Trade Watch Quarterly [October - December (Q3) FY25]

Economics & Finance-I Division



Source: Department of Commerce, MoC&I, GOI

Trade performance in Apr-Dec FY25

Global trade in goods and services increased by approximately 3.7% in the Q3 FY25, driven by modest expansion in goods trade (2%) and strong momentum in services trade (9%). Over the past four quarters, developing economies have generally registered higher overall trade growth than their developed counterparts.

India's merchandise and services trade performance remained steady between April and December. During this period, total trade amounted to $1290.35 bn, reflecting a year-on-year increase of ~7%. In Apr-Dec 2024, exports rose by 6.63% year-on-year, reaching $606 bn, while imports grew by 7.29%, reaching $684.4 bn.

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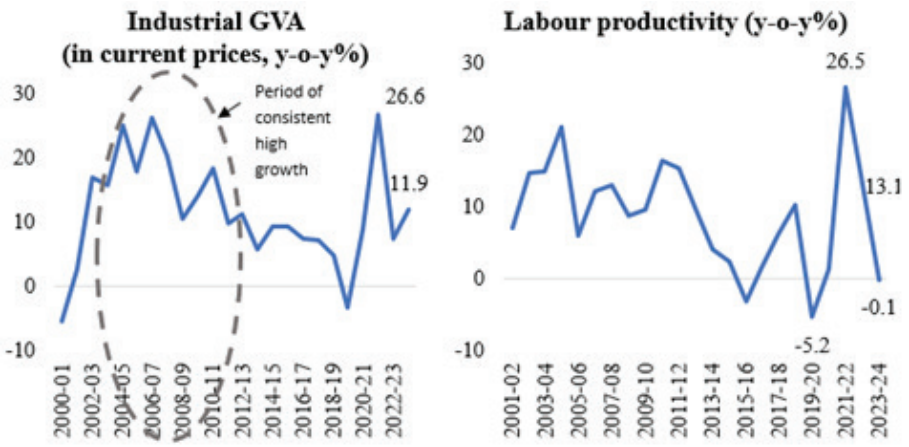
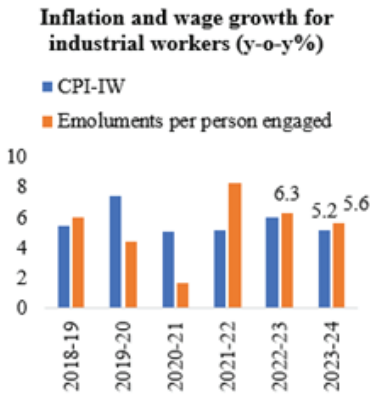
Harnessing Industrial Growth, Bridging Productivity and Output Gap

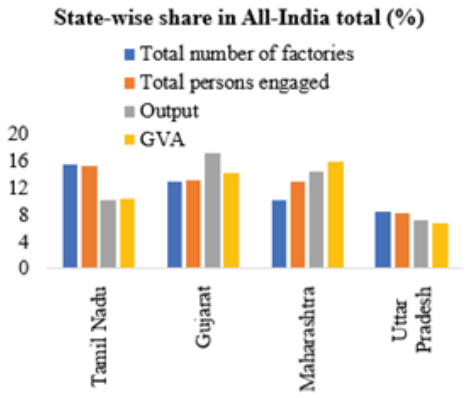
Services and Economic Intelligence Unit Division

In FY25, India's Gross Value Added (GVA) recorded a growth of 6.4%, moderating from 8.6% in FY24. GVA reflects the value of goods and services produced across agriculture, industry, and services. The manufacturing sector, contributing 17% of overall GVA, registered the fastest growth at 12.3% in FY24, surpassing agriculture and services. The services sector, with the largest share of 55%, expanded by ~9%, while agriculture continued to engage 46% of the workforce, compared to 29.7% in services and 24.2% in industry. The Annual Survey of Industries (ASI) 2023-24 offers a detailed assessment of the organised manufacturing sector, covering industrial GVA, labour productivity, wage growth, and capital formation.



Source: ASI 2023-24, MoSPI





Source: ASI 2023-24, MoSPI

The ASI 2023-24 underscores a dual trend—strong industrial GVA growth coupled with a contraction in labour productivity. Industrial GVA rose by 11.9% in FY24, the second-highest in the past decade, though below the 2003–13 average of 17%. Total invested capital increased to ₹68.01 lakh crore in FY24 from ₹61.4 lakh crore in FY23, with formal manufacturing employment rising to 1.95 crore from 1.85 crore. However, labour productivity contracted by 0.1%—the first decline since FY20—following 13.1% growth in FY23. Output growth also slowed sharply to 5.8% in FY24 from 21.5% in FY23. Industrial activity remains concentrated, with the top 10 industries contributing 71% of manufacturing GVA; basic metals, motor vehicles, chemicals, food, and pharmaceuticals together accounted for ~48%.

Wage growth continues to lag. Average wages rose by 5.6% in FY24, marginally ahead of inflation (5.2%), limiting real income gains. At the state level, Tamil Nadu retained the highest share of factories (15.4%) and employees (15%), while Gujarat (17.2%) and Maharashtra (14.5%) led in output. While India's industrial sector demonstrates robust expansion, the policy priority lies in translating scale into productivity gains by strengthening efficiency, fostering innovation, and investing in workforce upskilling.

Authors: Dr. Sonia Pant, Programme Director; **Ms. Mansi Nautiyal,** Young Professional; **Ms. Anisha Sawhney,** Young Professional

Rethinking Homestays: Navigating Policy Pathways

Tourism and Culture Division

Post-pandemic, India's tourism sector is recovering strongly, led by booming domestic travel and demand for experiential journeys. Homestays present a significant opportunity, offering localised cultural experiences while expanding accommodation capacity. By scaling successful models from states like Goa and Kerala, India can unlock growth, support micro-entrepreneurs, and strengthen tourism's future.

For tourism to truly be a driver in achieving the Government's vision for a Viksit Bharat by 2047, an enabling regulatory framework for homestays is an essential step. Following the introduction of the Incredible India Bed & Breakfast by the centre, 18 states in India have formulated their guidelines/schemes for homestays, offering various fiscal, non-fiscal, tax, marketing, and capacity-building incentives and focusing on diverse purposes from livelihood promotion to rural tourism development.

The homestay sector in India is constrained by regulatory ambiguities, onerous registration processes, and stakeholder divergences, impeding its growth potential. Nevertheless, it offers significant opportunities to enhance livelihoods, expand tourism-linked services, and promote cultural exchange.

Registration Roadmap – Goa

The report recommendations outline a model policy framework for the homestay sector, drawing on best practices from across states. Core proposals include streamlined digital registration, single-window clearances, proportionate fee structures, and targeted incentives. Emphasis is placed on experiential tourism, destination promotion, anchor hubs, thematic circuits, and homestay clusters. Streamlined, forward-looking regulations, coupled with capacity building and targeted incentives, can foster a sustainable, inclusive ecosystem that advances India's tourism sector.

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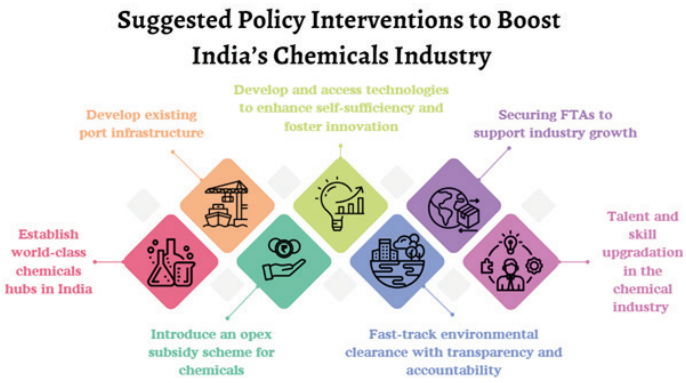
Chemical Industry: Powering India's participation in Global Value Chains

Industry & Foreign Investment Division



With a market size of $220 billion in 2023, the chemical industry is a pillar of India's economy. India is the world's sixth-largest and Asia's third-largest producer, supplying raw materials to pharmaceuticals, textiles, automotive, agriculture, and construction. The sector contributes 7% to GDP and is key to India's $5-trillion economy goal.

Despite its strengths, India accounts for only 3–3.5% of global consumption. Heavy import reliance, especially in petrochemical intermediates and specialty chemicals, has created a $31-billion trade deficit.

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Targeted government interventions—across infrastructure, technology, trade, and skills—are vital to make India a global hub. With a structured roadmap, India can raise its global market share to 5–6% by 2030, achieve net-zero import dependence, and create 700,000–1 million jobs.

A Compendium on NITI-State Workshop Series

State Support Mission

The Compendium on NITI-State Workshop Series FY 2024-25 presents a collection of workshops held across Indian states under NITI Aayog's "States Support Mission." It covers themes like climate change, governance, economy, health, infrastructure, and capacity building, summarising key discussions, best practices, and lessons for state-level policy implementation.

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Your Data Genie for Effortless Research

National Data and Analytics Platform Initiative

Are you a student struggling to find reliable secondary data for your dissertation? A market analyst juggling economic indicators across sectors? A journalist racing against deadlines? Or maybe a policymaker, NGO leader, or bureaucrat who needs socio-economic metrics but has no time to dig through multiple reports?

Your data struggles end here. Meet the National Data Analytics Platform (NDAP), launched by NITI Aayog in 2022. It's not just another portal—it's an open-access platform democratising government data with an intuitive, NLP-powered interface that feels like magic. Imagine exploring over 6,000 standardized datasets from 52 ministries across 31 sectors, all interoperable and ready for analysis with a click.

NDAP's 'use-case-based approach' suits all users. Want to link a state's per-capita GDP, literacy, and infant mortality rates? Traditionally, you'd gather GSDP from MoSPI, literacy from NSSO, and mortality from NFHS—a tedious task. NDAP consolidates these into one platform, standardising data (e.g., state names, year formats) for instant merging and comparison across themes without manual cleaning. As a market researcher exploring the textile or processed-food trade without knowing HS codes, you'd once hunt through Ministry of Textiles and APEDA reports, extracting tables manually. NDAP's NLP search finds the right datasets with keywords like 'textile exports.' Need FDI inflows? Forget downloading and merging quarterly Excel files—NDAP filters data by state, year, or variables instantly, using only official sources to avoid verification hassles.

Beyond finding data, NDAP offers built-in analytics. A few clicks create line graphs, bar charts, bubble plots, or scatter plots to export or share. Its pivot-table feature lets you drag 'state' into rows, 'year' into columns, and indicators like literacy rate into values for instant averages or sums. In short, NDAP transforms raw numbers into clear insights — fast. Next time you need numbers, skip the chaos — just head to NDAP.

Author: Ripudaman Bharadwaj, Young Professional

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Strategies and Pathways for Accelerating Growth in Pulses towards the Goal of Atmanirbharta

Agriculture Technology Division

Pulses, nutrient-dense legumes, play a critical role in ensuring food security, promoting human and animal health, and advancing sustainable agriculture. Their nitrogen-fixing properties enhance soil fertility, reduce dependence on synthetic fertilizers, conserve water, and lower the carbon footprint. By contributing to SDGs on hunger, health, climate action, land, and responsible consumption, pulses are integral to nutrition, environmental sustainability, and resilient agricultural systems. India recognises their strategic importance as the world's largest producer and consumer of pulses.

Pulses are a vital, affordable source of plant-based protein in India. Following a production shortfall in 2015–16, the Government introduced various farmer-focused initiatives, including irrigation, crop insurance, organic farming, soil health management, and digital market platforms, supported by price stabilization mechanisms and the e-Samridhi portal, to ensure procurement, price support, and market access for pulse producers.

The report outlines a dual approach of horizontal and vertical expansion. Horizontal expansion focuses on increasing cultivation area through rice fallows and intercropping, while vertical expansion emphasizes yield enhancement via improved seed varieties, timely sowing, and integrated nutrient and pest management. A district-wise quadrant approach tailors interventions to local conditions. Key initiatives include promoting climate-resilient varieties, implementing data-driven monitoring systems, and strengthening local seed systems through Farmer-Producer Organizations. Special programs target major pulse crops like pigeonpea, black gram, and lentil to reduce import dependence.

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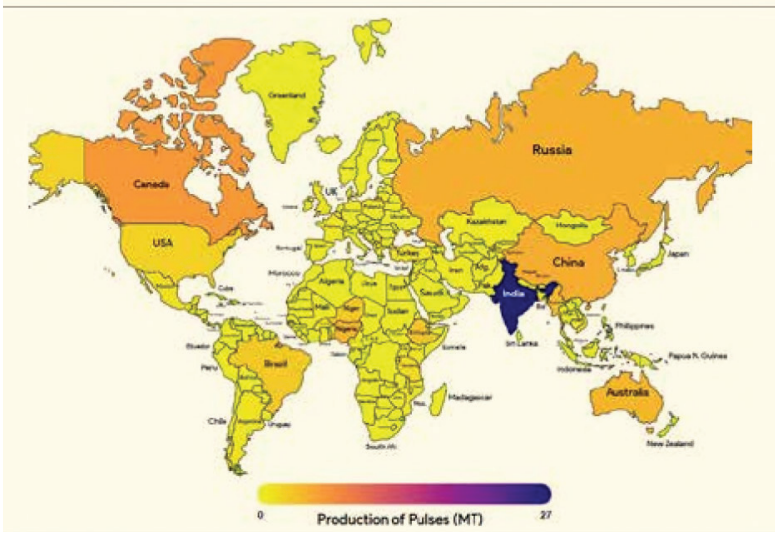

07 October 2025

North Eastern Region District SDG Index 2023-24

Sustainable Development Goals Division

The North Eastern Region (NER) District SDG Index, a collaborative effort by the Ministry of Development of North Eastern Region (MDoNER) and NITI Aayog – with technical support from United Nations Development Programme (UNDP), is the first of its kind progress tracking tool for the NER, which is of critical significance to the country's development trajectory. The Index measures the performance of the NER districts on the Sustainable Development Goals (SDGs). It is based on the methodology adopted by the NITI Aayog's SDG India Index, the principal and official tool for monitoring progress on the SDGs at the national and State/Union Territory levels.

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SDG 1 No Poverty

There has been an impressive improvement, with 36 districts (30 percent) in the Front Runner category (score of 65-99.99), up from 21 districts (20 percent). The Aspirant category (score of 0-49) has dropped from 20 districts (19.5 percent) to just 3 districts (2.5 percent).

SDG 2 Zero Hunger

There is significant progress, with Front Runner districts increasing from 49 (47.5 percent) to 83 (69 percent). Number of Aspirant districts have dropped from 21 (20 percent) to just 1.

SDG 3 Good Health and Well-being

There is a strong improvement in Front Runner districts increasing from 14 (14 percent) to 48 (40 percent). The Aspirant category has reduced from 18 (17.5 percent) to just 6 (5 percent) only.

SDG 4 Quality Education

There has been a significant growth in the Front Runner districts rising from 36 (35 percent) to 80 (66 percent). Only 11 districts (9 percent) remain in the Aspirant category.

SDG 5 Gender Equality

The region now has 112 districts (93 percent) in the Front Runner category, up from 71 districts (69 percent) in the last edition. The Aspirant category has nearly disappeared, dropping from 5 districts (5 percent) to just 1 district (<1 percent).

SDG 6 Clean Water and Sanitation

Over 114 districts (94 percent) are now in Front Runner category up from 81 districts (79 percent), reflecting the impact of Jal Jeevan Mission - Har Ghar Nal and Swachh Bharat Mission on access to piped water and improved sanitation facilities.

SDG 7 Affordable and Clean Energy

The number of Achiever districts (score of 100) has doubled from 7 to 14. This goal tracks village electrification and the use of clean cooking fuel.

SDG 8 Decent Work and Economic Growth

There has been a substantial improvement, with Front Runner districts increasing from 69 (67 percent) to 111 (92 percent).

SDG 9 Industry, Innovation and Infrastructure

There has been significant progress in Front Runner districts, increasing from 55 (53 percent) to 92 (76 percent).

SDG 10 Reduced Inequalities

The number of Front Runner districts has gone down from 59 (57 percent) to 43 (35.5 percent). 33 districts (27 percent) remain in the Aspirant category (score of 0-49), up from 12 (12 percent), requiring focused attention on relevant indicators.

SDG 12 Responsible Consumption and Production

There is a decline in Front Runner districts from 67 (65 percent) to 51 (43 percent). 18 districts (15 percent) remain in the Aspirant category (score of 0-49).

SDG 13 Climate Action

4 districts (3.3 percent) have reached Achiever status (score of 100), and the number of Front Runner districts have gone up from 36 (35 percent) to 59 (49 percent), However, 49 districts (41 percent) still remain in the Aspirant category, indicating a need for targeted action across the North Eastern region.

SDG 15 Life on Land

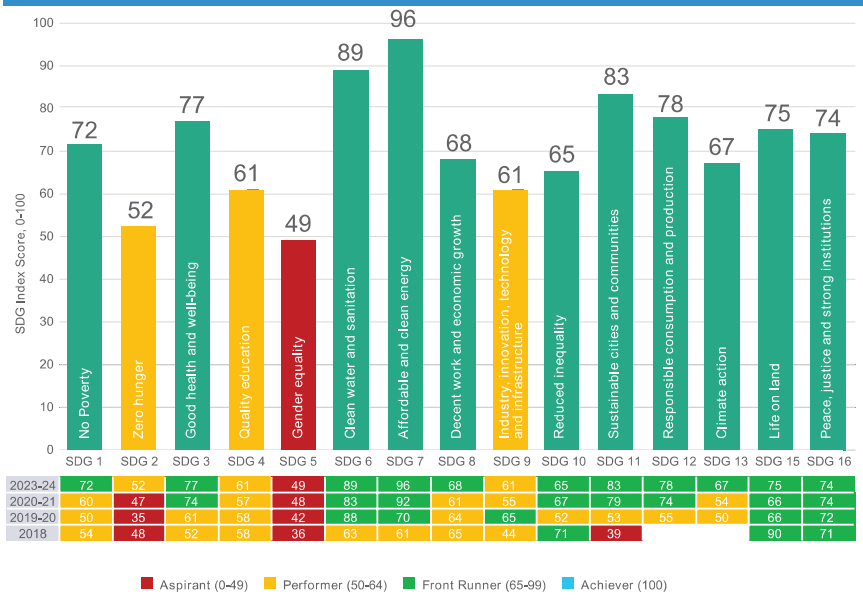
There has been a significant improvement, with 26 districts (21.5 percent) achieving Achiever status, up from 12 districts (12 percent). Similarly, 87 districts (72 percent) are in the Front Runner category.

SDG 16 Peace, Justice and Strong Institutions

There is a positive trend with Front Runner districts increasing from 64 (62 percent) to 90 (74 percent). However, number of Aspirant districts have also increased from 1 (<1 percent) to 5 (4 percent).

India Voluntary National Review 2025

Sustainable Development Goals Division



Source: SDG India Index 2023-24

SDG Goal Wise Performance

India's Third Voluntary National Review 2025, prepared by NITI Aayog, showcases the country's progress towards the UN Sustainable Development Goals (SDGs). Highlighting poverty reduction, clean energy transition, digital inclusion, and localised implementation, the report emphasises India's data-driven, inclusive, and participatory approach to achieving SDGs, aligned with the vision of Viksit Bharat @2047.

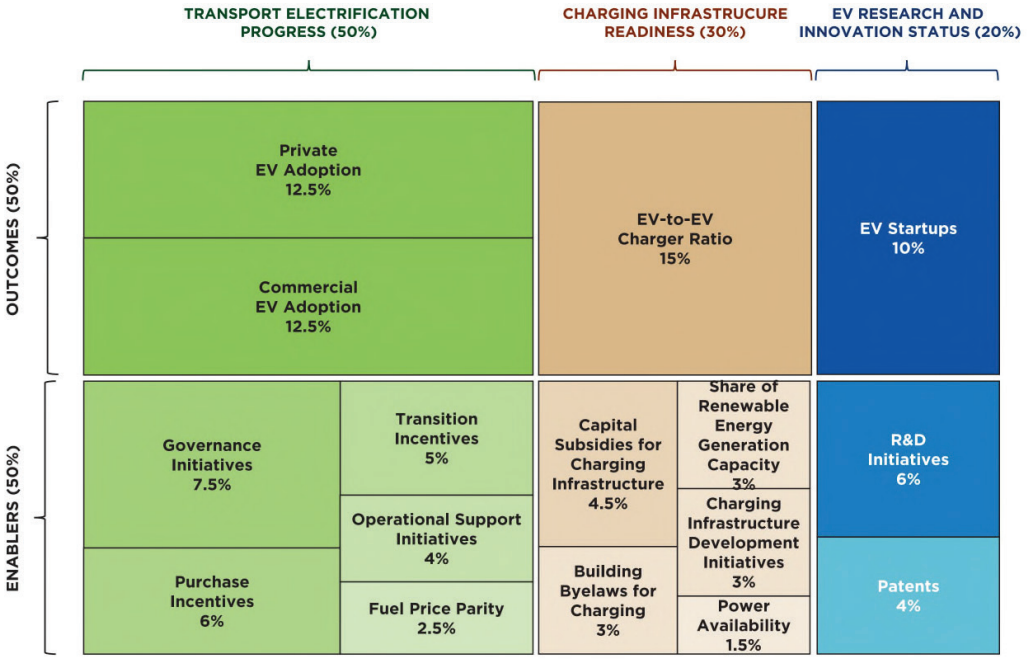
The report underscores substantial progress in poverty alleviation, healthcare access, clean energy advancement, and the expansion of digital public infrastructure. Localisation through state and district-level programmes, supported by data-driven tools and participatory governance, has significantly advanced SDG implementation. Nonetheless, regional disparities, health outcomes, and environmental sustainability remain pressing challenges, necessitating accelerated action, enhanced investment, and inclusive policy measures.

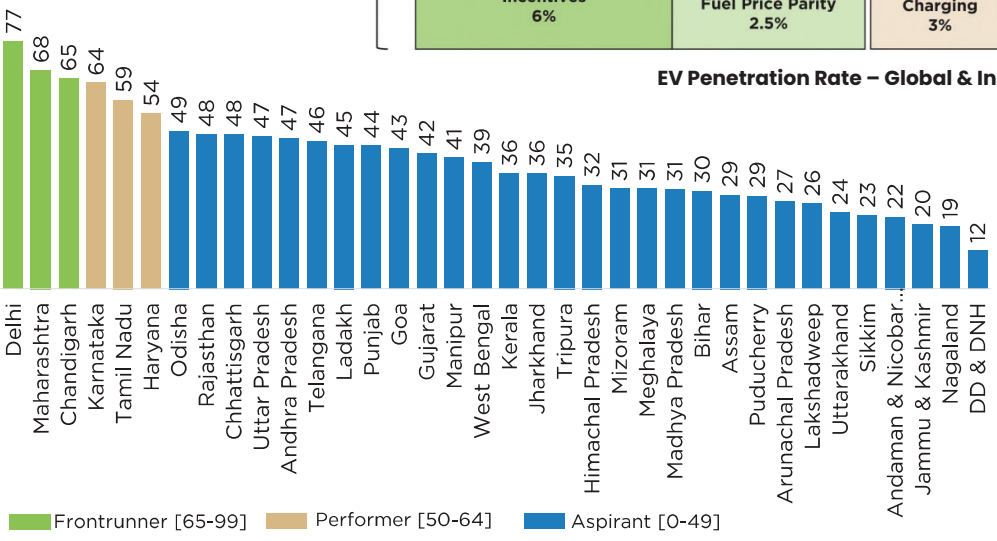
Scan this QR to access full report

India Electric Mobility Index (IEMI) 2024

e-Mobility Division

The IEMI is a first-of-its-kind tool to benchmark the progress of states and UTs in achieving e-mobility goals. By promoting data-driven decision-making, fostering healthy competition among States/UTs, and enabling the sharing of best practices, IEMI serves as a catalyst for accelerated and harmonized EV adoption across India. The 3 themes and 16 indicators of the India Electric Mobility Index (IEMI) 2024, along with their weightages are Indicated in the diagram.





IEMI Scores 2024

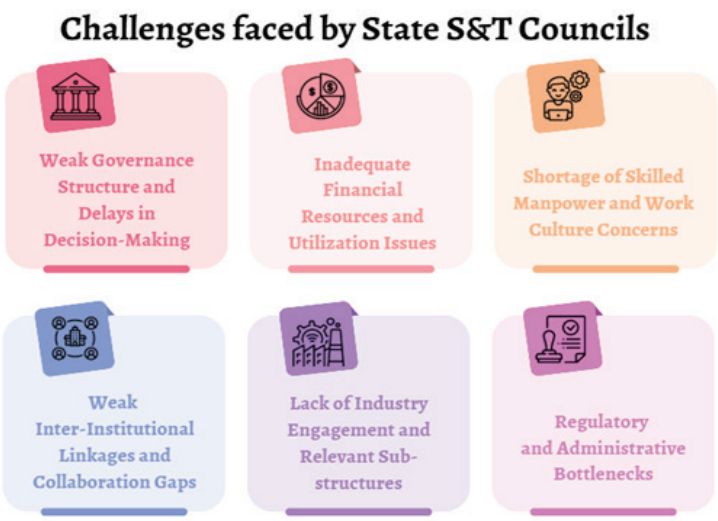
EV Penetration Rate – Global & India

Scan this QR to access full report

A higher score reflects stronger progress in e-mobility. States are classified as frontrunners (robust ecosystems), performers (steady progress), or aspirants (needing intervention).

A Roadmap for Strengthening State S&T Council

Science & Technology Division



The Roadmap for Strengthening State Science & Technology (S&T) Councils outlines a strategic vision to transform these bodies into dynamic enablers of regional innovation and sustainable development. Despite limited resources, councils have made notable contributions in patent facilitation, remote sensing, grassroots innovation, science popularisation, and state-specific initiatives such as digital heritage, healthcare equipment, farm-to-food products, and lab-to-market projects. However, councils face wide heterogeneity in governance, funding, manpower, and focus.

The roadmap calls for a shift from ad-hoc initiatives to an integrated, forward-looking ecosystem built on structural reforms, capacity building, and strategic partnerships. It proposes a Key Coordination Group to oversee implementation, prioritise actions, and monitor progress through dynamic feedback mechanisms. Success will depend on strong coordination among governments, funding bodies, academia, and industry. If executed effectively, the roadmap can empower State S&T Councils as engines of innovation-led growth, contributing to technological self-reliance, knowledge-based development, and India's long-term vision of a resilient, self-reliant Viksit Bharat.

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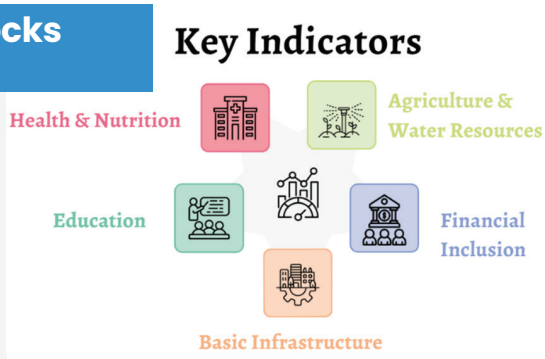
Stories of Change - Aspirational Districts and Blocks

Aspirational Districts/ Blocks Programme

Scan this QR to access full report

The report highlights innovation from India's most underdeveloped districts/blocks under the Aspirational Districts Programme (ADP) and the Aspirational Blocks Programme (ABP). It showcases how data-driven governance, inter-departmental convergence, community participation, and adaptive local solutions have improved outcomes in key indicators.

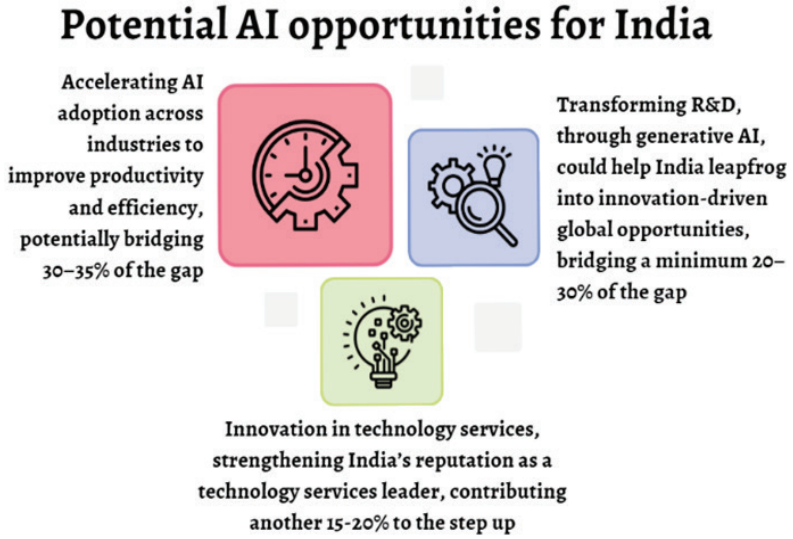


AI for Viksit Bharat - The Opportunity for Accelerated Economic Growth

Frontier Tech Hub Initiative

Over the next decade, the adoption of Artificial Intelligence (AI) across sectors is expected to add $17–26 trillion (T) to the global economy. India's combination of a large STEM workforce, expanding R&D ecosystem, and growing digital and technology capabilities positions the country to participate in this transformation, with the potential to capture 10–15% of global AI value.

Placed against India's economic outlook, this potential becomes more significant. At its current growth rate of 5.7% (as of writing of the roadmap), India's GDP is projected to reach $6.6T by 2035. However, under the aspirational 8% growth trajectory outlined in the government's vision for the nation, India's GDP could increase to $8.3T, representing an incremental $1.7T compared with the current growth path.



The roadmap underscores AI as a pivotal driver of economic growth, capable of enhancing productivity and fostering innovation across sectors. Key insights include AI's transformative potential in industries such as banking and manufacturing, its role in advancing research and frontier technologies, and the necessity of coordinated efforts among government, industry, and academia.

The roadmap recommends establishing a robust policy framework to guide AI adoption, investing in advanced digital infrastructure, fostering public–private–academic collaboration for research and innovation, and implementing inclusive, ethical governance. These measures aim to accelerate AI-driven productivity, innovation, and equitable economic growth, positioning India as a global AI leader.

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