

# Policy Brief

on

## *Achieving Sustainable Development Goals: Prospects and Challenges for India and J&K*

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by

**Meenakshi Rajeev**

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Dipankar Sengupta, Manju Singh, Anupam Adarsh,  
Kakali Majumdar, Pabitra Jena, Shafkat Dar, Hardeep Singh*



## Background

The United Nations' 2030 Agenda for Sustainable Development, in 2015, brought out a list of 17 goals and 169 targets that are envisioned to form the basis of development across the globe in the coming years. These goals seek to guide policies to ameliorate the performance of the nations in a number of aspects that ail them, including issues of gender equality, poverty reduction, human rights, access to basic resources, sustainable energy extraction and use, and protection and maintenance of the environment.

In recent decades, India has transitioned into an emerging economy that has demonstrated strong growth in its various sectors. With one-sixth of the global population, the realization of the Sustainable Development Goals in this region would have profound impacts on global average welfare and living standards. To accelerate their achievement, the NITI Aayog has been entrusted with coordinating and assigning certain targets to government ministries. To monitor progress, the Ministry of Statistics and Programme Implementation (MOSPI) has been working on developing national indicators for the SDGs, and has subsequently published the SDG India Index since 2018.

As of 2023-24, the SDG India Index shows that the country has made considerable progress in implementing affordable and clean energy, clean water and sanitation, and introducing sustainable cities and communities, among others. Region-wise, the southern and western states of the country show relatively better levels of goal realization, but some northern and northeastern states require additional attention to address lingering issues. Important facets of the SDGs that are in need of attention include the elimination of hunger and improving gender equality, where India currently performs the worst relative to other goals. Other areas with potential for improvement include, among others, the provision of quality education, infrastructure, and climate action.

Thus, while there have been improvements on several counts, some areas still require special attention, especially due to their complex and interconnected nature. In the Anthropocene era, dominated by marked climatic change, balancing healthy economic growth with the achievement of environmental sustainability, and reaching other sustainable goals needs to be addressed in a holistic and multifaceted manner.

Thus, there is a need for research, discussion, and debate, especially by the young minds of the country, to tackle these issues to provide a clear and actionable path for the citizens as well as policymakers. A conference for building knowledge from various disciplines of humanities and social sciences on the nexus between growth and sustainable development, and improving welfare in the Indian context, is considered to be a valuable addition to the achievement of the Sustainable Development Goals for the country. Thus, a conference was held in Jammu on this theme through a collaboration between IIT Jammu, SMVDU, and YSI-INET, wherein young academicians and experienced scholars presented their views. This document presents a selection of policy recommendations that emerged from the deliberations. Accordingly, the policy brief highlights only those policies that were discussed during the conference across the following thematic areas.

### **Policy Suggestions at a National Level: A Thematic Presentation**

The use of modern technology for achieving SDGs has been adequately emphasized in the conference, and several policies have been suggested by the scholars, especially in the inaugural session.

#### **❖ Use of Technology**

- Use of technology for achieving SDGs has become critical in today's world. We need to scale up the integration of different technologies, including AI-driven

technologies, for various development schemes, such as in rural employment schemes, land management, and disaster forecasting.

- With regard to technology, it is necessary to rebalance investments between urban and rural ecosystems. We need to expand Digital Public Infrastructure (DPI) like UPI and Aadhaar in rural areas. Foster rural technology ventures through targeted funding and incubation for reducing poverty, inequality, and regional imbalance.
- Technology usage should be extended to various domains, most importantly in the domain of the implementation of policies. In this regard, it is necessary to scale up 'Technology-Backed Policy Tools' such as geotagging, satellite monitoring, and real-time SDG dashboards at the local level for better monitoring and implementation of SDGs.

Space-based technologies are critical and need to be harnessed for achieving the SDGs in India. Their usage is wide-ranging for aiding development goals, and some of them are as follows.

#### ❖ *Valuable Data Generation through Space for Policy Making*



- Space provides very valuable data for monitoring Earth, supporting disaster response, and enabling advancements in agriculture, healthcare, education, and many other vital areas. Thus, policies to use more and more dynamic and real-time data for appropriate interventions at the local level are the need of the hour.
- Sustainability factors, such as water pollution and depleted fish stocks, and other such phenomena, can be assessed better through information that may be accessible only by satellites and other new types of sensors (air, in-situ, and others). This information should be made available at the local level to motivate people on the ground to use resources judiciously.
- Today space-based inputs are indigenously used by almost all ministries like Agriculture & Farmers' Welfare, Jal Shakti, Housing and Urban Affairs, Ministry of Environment, Forests & Climate Change, and many more, and data are effectively used in achieving the goals of sustainable development in India.
- Agriculture: Various vital inputs from space data such as the areas of land use, land cover, wetlands identification, drought assessment, groundwater prospects, aspects of soil and water conservation, crop intensification, satellite **agro-meteorology, precision farming, crop insurance, etc.** enable reliable and timely estimates crop acreage and production, for formulation of marketing strategies. The satellites used for all these are IRS series, Resourcesat, RISAT series, and EOS-04.
- Similarly, space data is used for forest and water management.
- Disaster Management: GIS and remote sensing are highly used of tracking and monitoring, before and after a cyclone.
- National Governance: Today, satellite data is being used very widely in national

A circular diagram with a central blue circle. From this center, 20 colorful lines radiate outwards, each ending in a circular icon. The icons represent various aspects of life and science: a microscope, a sun, a bar chart, a lightbulb, a flower, a person, a fish, a person with a heart, a person with a brain, a person with a heart, a person with a brain, a person with a heart, a person with a brain, a person with a heart, a person with a brain, a person with a heart, a person with a brain, a person with a heart, a person with a brain, a person with a heart, a person with a brain. The lines are in various colors including blue, yellow, green, red, and pink.

- The Ministry of Rural Development signed an MoU with the National Remote Sensing Centre (NRSC), Hyderabad, to geo-tag assets in each Gram Panchayat and create a database for online recording and monitoring. The Bhuvan portal, developed by ISRO's NRSC, is a geospatial platform where information related to geotagged assets is available.
- For achieving SGDs, space data should be used and made freely available in the local rural regions, especially those with difficult geographical terrain and less developed, such as certain Northeastern States. These data can help the sub-national government, including panchayats, to make better planning for achieving SDGs where they are lacking.

❖ *Ensuring Sustainable Development: Issues of Environmental Protection, Climate, and Energy Futures*

- While economic development is important and energy is an essential ingredient for growth to take place, it is necessary to increase the usage of renewable energy and non-polluting means of production to reduce environmental degradation.
- Side by side, it is also necessary to enforce stronger protection laws for forests and water bodies.
- Environment-friendly production needs new investments. For that to happen, climate financing should be available. Policies like subsidies for green investment, green bank credits, etc., should be made available for the investment in sustainable energies on a larger scale, and information should percolate to the grassroots level. Although subsidy policies exist --at the implementation level, informational and procedural bottlenecks create hindrance and hence need to be minimised.
- Most states in India depend on tourism for their state GDP and livelihood. Excessive tourism, however, also creates environmental degradation. Thus, balance needs to be maintained while developing the tourism industry. Investing in sustainable tourism infrastructure to mitigate environmental impacts while supporting economic growth is therefore essential. Thus, there is a need for policies to manage the number of tourists to prevent



environmental degradation. Some of the strategies may include entry fees or caps on tourist numbers, as seen in Bhutan and Sikkim.

- In addition, correct policy mechanisms like pollution tax on the producers of services and appropriately determined entry fees from the tourists by the government can protect the environment and ensure sustainability. Thus, based on proper studies concerning tourist inflow, appropriate policy measures need to be taken.
- Protection of the forest is another aspect that needs the attention of policymakers.

For environment-friendly production and consumption to take place, it is also necessary to raise knowledge on such aspects. Papers in the conference aptly discussed some of these aspects under the human development theme for achieving SDGs.

#### ❖ *Development of Human Capital*

To catalyze **green and inclusive development**, India must **re-strategize towards a knowledge-based economy** by prioritizing **qualitative human capital formation**. This includes:

- Integrating **climate literacy, digital skills, and sustainability education** into mainstream curricula.
- Integrating **sustainability and climate adaptation modules** in school and higher education curricula becomes important in this regard.
- Enhancing investments in **vocational training, research institutions, and innovation ecosystems** focused on green technologies, therefore, needs to be encouraged.
- Scaling up **green skills training programs** under the Skill India Mission, aligned with clean energy, waste management, and

sustainable agriculture sectors.

- Shifting emphasis from quantity to **quality in educational outcomes**, particularly in STEM and environmental sciences. Simultaneously, policies addressing **poverty reduction and income inequality** must be woven into the knowledge economy framework to ensure broad-based and sustainable growth.
- Promoting **inter-ministerial coordination** between education, environment, and labour ministries to create a unified roadmap linking **human capital development with ecological sustainability**.

Such interventions will ensure India's growth path is both inclusive and environmentally responsible.

#### ❖ *Health and well-being*

While health and well-being have been an important emphasis of the Government of India (GoI) certain segments need special attention as discussed in this conference. Two such areas are the health of mining workers and the mental and emotional health of people.

- Policymakers should enforce stricter environmental regulations, promote cleaner energy alternatives, and improve healthcare access through free health camps and mobile clinics in mining areas. Public awareness campaigns on healthy lifestyles and reducing coal dependency are also essential. Mining companies should contribute to health funds to cover medical expenses, while better data collection and monitoring systems are needed for informed policymaking. Encouraging sustainable mining practices and ensuring fair compensation and relocation for affected communities should also be prioritized through appropriate policy interventions.
- In mining-intensive regions, the government may mandate Environmental

and Social Health Impact Assessments (ESHIA) before license approvals. Mining companies must be required to establish Community Health Funds, finance periodic health screenings, and deploy mobile health units in partnership with state health departments. Real-time pollution monitoring and transparent public reporting should be made legally binding.

- While physical health care has received sufficient consideration, mental and emotional health have not received similar emphasis in the country, which needs focused interventions.
- It is often observed that women do not receive as much attention for health care needs as men, and this disparity needs to be reduced. Health insurance schemes like Ayushman Bharat should include gender-sensitive premium waivers, with automatic enrollment for women-headed households. Further, local female health navigators could be trained and deployed to increase awareness and uptake, especially in rural and backward regions where insurance coverage among women is disproportionately low.

This brings us to another important goal of achieving sustainable development, that is, ensuring gender equality.

#### ❖ ***Reducing Gender Disparity***

Advancing gender equality is critical for India's inclusive growth and achieving the SDGs. Various dimensions for ensuring gender equality and women's empowerment are discussed in the conference, and they are theme-wise listed below.

#### Advancing Gender Equality through Skills, Technology, and Economic Inclusion

- Building Future-Ready Skills for Women (SDG 4.4): Experts at UNESCO and the ILO recommend launching national

programmes to equip women

with 21st-century skills—digital literacy, coding, data analysis—integrated into school curricula and vocational schemes. Incentives like scholarships and placement assurances, proposed by the World Economic Forum, can drive women's entry into technology-led sectors and hence need to be initiated in India through an appropriate policy framework.

- Targeted Skill Development in High-Growth Sectors (SDG 8.5): The World Economic Forum (2023) and McKinsey Global Institute underline the economic gains of gender parity in STEM. They advocate sector-specific training hubs in AI, renewables, and blockchain, with mandated gender diversity benchmarks in public-private partnerships. Policies towards making women skilled in these areas may be introduced.
- Digital Financial Literacy for Economic Empowerment (SDG 8.10 & 10): The World Bank's Global Findex recommends expanding digital financial literacy tailored for women entrepreneurs, linking these to microfinance, alongside regulatory measures to ensure fair lending to women-led enterprises.
- Women in STEM: Bridging the Innovation Gap (SDG 9.5): According to McKinsey, scaling scholarships, mentorship, and innovation challenge funds for women in STEM is essential for closing the innovation gap and boosting GDP.

#### Social Protection

- A Life Cycle Approach to Gender-Based Violence:

UN Women and WHO advocate embedding a life cycle perspective in policies to prevent violence at every stage,

combined with stricter enforcement, expanded survivor support, and integrating economic empowerment to break cycles of abuse and poverty. India should innovatively create policies for survivor support and coping mechanisms.

#### Digital Public Infrastructure for Women's Economic Empowerment

- **DPI for Social Protection and Safety Nets:** Following best practices from India's own DPI experience and World Bank guidance, experts recommend unified platforms linking women to social benefits using biometrics, coupled with AI grievance systems, and regular gender-disaggregated reporting.
- **Smart Agricultural DPI for Women Farmers:** FAO and IFAD studies suggest mobile platforms with satellite data, climate insights, and AI crop advisories for women farmers, combined with digital payments and cooperative digital marketplaces to secure fair prices. Women farmers in India are highly deprived and operate at a subsistence level. Connecting them with digital technology can go a long way in empowering such farmer households.

#### Rethinking Work, Family, and Gender

- **Redefining Fatherhood and Shared Care:** ILO conventions and global evidence highlight the importance of legislating longer paternity leave and fostering “father-friendly” workplace policies to redistribute care.
- **AI and the Future of Care Work:** The OECD and emerging innovation research recommend supporting household AI solutions (tutors, planners, elder care) with subsidies to lighten unpaid domestic workloads.
- **Gender Equality as an Economic Multiplier:** UNDP and McKinsey stress

institutionalising gender-responsive budgeting, sectoral scorecards, and embedding gender targets in economic plans to unlock the multiplier effect of gender equality for sustainable growth. While in India, we have gender budgeting, output and outcome evaluation may be strictly adopted to arrive at the impacts.

#### ❖ *Addressing the Issues of Poverty and Inequality: Actions for the Marginalised*

- While India has done well in terms of poverty reduction based on head headcount ratio, poverty today is defined more broadly through the multidimensional poverty index (MDPI). MDPI incorporates different components, including health, education, and standard of living. Each of these components incorporates different indicators, and it is necessary to take note of deficiencies, especially by the marginalised sections, in some of these indicators. Thus, rather than a general policy, targeted policies need to be formulated to reduce poverty in a broader sense and enhance inclusivity.
- Policies targeting inclusive development and poverty reduction must incorporate climate vulnerability indices to ensure that assistance reaches adverse climate-impacted regions, especially heat-stressed populations. While floods, storms, cyclones, etc, get emphasis, heat stress has also become a critical climate aberration that needs equal attention, and the poor face its adverse impacts in a greater proportion. Investments in cooling infrastructure, green cover expansion, and heat-resilient housing for the poor through awas yojanas should be prioritized in high-risk rural and urban zones.
- Ministries handling rural development, health, housing, and climate should coordinate to build heatwave-adaptive social protection systems. It is necessary to integrate climate risk into poverty alleviation strategies by mapping heatwave-

prone districts and prioritizing them under programs like MGNREGA, PMAY, and NFSA.

- **While overall inequality in India may not be high, significant regional disparities persist, particularly in environmentally stressed and drought-prone areas. These regions experience acute deprivation and require focused policy attention. Targeted development initiatives aimed at uplifting these backward areas are essential to narrowing regional inequalities and addressing the root causes of both poverty and socioeconomic disparity.**
- **It is not only the rural regions, vulnerable groups in cities, such as those living in slums need policy protections in the face of environmental degradation and climate change. Informal workers from the unorganised sectors in cities who reside in slums need special attention from the local government in the areas of shelter, health, sanitation, and education.**

**Most importantly, for addressing the challenges of achieving SDGs, one needs finances. Finances are required both at the level of the Government to carry out various policies, as well as at the level of households.**

#### ❖ *Finance, Growth, and Industry and Infrastructure*

Financial inclusion drive through programmes such as Jan Dhan Yojana are extremely important initiatives to enhance access to finances by households. While access has been provided by such programmes, usage has not reached the desired level. Thus, policy initiatives are necessary to improve the usage of financial services by the poor and marginalised.

- The government should integrate financial literacy education into school curricula and vocational training

programs. State and district-level task forces should be created to monitor financial access equity, focusing on digital transaction infrastructure in rural areas. Schemes like Jan Dhan Yojana should be linked to targeted credit products to support



micro-entrepreneurship among vulnerable households.

- Urban poor are often seen to be financially excluded due to the crowding out effect, as the urban banks have a large number of educated and relatively richer clients. Thus, localized kiosk-based banking through the banking correspondent model should be instituted in the urban slums and peri-urban regions where a large number of unorganized workers and entrepreneurs reside.

#### **Policy suggestions at the Sub-National level: UT of J&K**

- A special session was held to discuss the current status of Jammu and Kashmir, highlighting both its challenges and achievements. According to the latest NITI Aayog report on the Sustainable Development Goals (SDGs) for 2023–24, the Union Territory (UT) has made commendable progress across multiple development indicators. Notable advancements include improvements in health and well-being, the reduction of hunger, sustained economic growth, and the promotion of decent work.



- While Jammu and Kashmir have performed well in several areas, there is still considerable scope for improvement. In the area of poverty reduction, for example, the region is currently classified as a "Performer." However, it holds the potential to advance to the "Front Runner" category and eventually become an "Achiever" with sustained effort and targeted interventions.
- In the domain of quality education, the region continues to perform steadily but must scale up efforts to achieve more impactful outcomes.
- Gender equality remains another key area where progress is needed. Although J&K is categorized as a performer, greater emphasis on inclusive policies and empowerment initiatives is essential to



close gender gaps.

- Similarly, in the sector of industry, innovation, and infrastructure, J&K shows promise but needs to intensify its efforts to move beyond the performer category. Strategic investment and policy focus will be crucial in accelerating progress in this area.

#### ❖ ***Enhancing private participation and generating the UT's own resources***

- It was highlighted during the conference that, while the UT of Jammu and Kashmir has witnessed improvements in its Gross Domestic Product (GDP) growth, its per capita income remains below the national

average. In 2024–25, the estimated per capita income of J&K stands at ₹1,54,703, compared to the national average of ₹2,00,162. Moreover, industrial growth in the Union Territory continues to lag behind the national level, indicating substantial scope for improvement.

- One of the key objectives of the Sustainable Development Goals (SDGs) is to achieve higher income levels, typically measured by GDP and per capita GDP. These are driven by both public and private expenditure, including investment and consumption. However, data from 2018–19 (pre-COVID-19) reveals that government expenditure constituted approximately 57% of Jammu and Kashmir's Gross State Domestic Product (GSDP), with the majority financed by the Central Government. This reflects a high dependency on public spending and a relatively underdeveloped private sector. By contrast, in Himachal Pradesh—a comparable hill state—government expenditure contributes only about 28% to the GSDP.
- This stark contrast underscores the urgent need to stimulate private sector investment in J&K. A vibrant private sector not only contributes to income generation but also plays a crucial role in employment creation and boosting the state's own revenue base. To attract and sustain such investments, creating a more conducive business environment through robust ease-of-doing-business reforms is imperative.
- Additionally, the fiscal dependence of the state on the Central Government remains significant. Nearly 40% of the state government's total receipts are transferred from the Centre, rising to over 50% when considering only revenue receipts. A large portion of these transfers is discretionary—above and beyond the constitutionally mandated share of centrally

collected taxes. This fiscal arrangement reinforces structural dependency and limits financial autonomy.

- To ensure long-term fiscal sustainability and economic resilience, it is essential for Jammu and Kashmir to gradually reduce its dependence on central transfers by expanding its own tax base, encouraging private investment, and enhancing the productivity of its local economy. Strategic policy initiatives aimed at fostering entrepreneurship, industrial growth, and service sector development can pave the way for a more self-reliant and prosperous future for the region.

### ❖ *Industry and Innovation*

Over the years, the Union Territory of Jammu and Kashmir has made significant progress in formulating modern industrial and land development policies. Efforts are also underway to develop a comprehensive logistics strategy to enhance connectivity and supply chain efficiency. However, geographical challenges persist—J&K is predominantly a hilly, landlocked region with limited access to raw materials. As a result, transportation costs are high, reducing the competitiveness of manufacturing industries.

Despite these constraints, there are several sectors with strong potential for focused development in the future.

- Growth of Service-Based Industries:

A promising area for development is the service sector, particularly information technology (IT) and IT-enabled services (ITES). These industries are not reliant on physical transportation or raw materials, making them well-suited to J&K's geographic context. However, a robust digital infrastructure is essential for the growth of these sectors. Investments in high-speed internet, reliable power supply, and digital service frameworks will be key to fostering a competitive IT/ITES

ecosystem.

- Enhancing Human Capital Through Quality Education:

Competing in the knowledge economy requires a skilled workforce. Therefore, upgrading the quality of education, particularly in technical and digital



domains, is critical. Strengthening higher education institutions, vocational training centers, and IT-related curricula can help prepare local youth for employment in emerging sectors.

- Reversing Brain Drain Through Local IT Industry Development:

A thriving in-house IT sector can create meaningful employment opportunities for skilled professionals from J&K who are currently working in other parts of the country. By offering comparable opportunities closer to home, the UT can retain and even attract back its talent pool, fostering inclusive regional development.

- Unlocking the Untapped Potential of Tourism:

Tourism remains a key pillar of the J&K economy with significant untapped potential. While destinations like Pahalgam, Gulmarg, and Sonmarg have traditionally attracted visitors, there is immense scope for developing lesser-known but equally beautiful regions such as the Basholi and Bhadarwah corridors. To

unlock this potential, targeted investments in tourism infrastructure—such as roads, accommodation, sanitation, and connectivity—are needed. Public sector investment will be essential to catalyze private participation and attract tourists to these emerging destinations.

- Ensuring Sustainable Development:

While expanding the tourism and service sectors, it is essential to ensure that development remains sustainable. Overdevelopment, particularly in ecologically sensitive areas, should be avoided to preserve the natural environment and cultural heritage. Strategic planning and adherence to environmental regulations will help strike a balance between growth and sustainability.

- Creating a Conducive Environment for Investment:

For investments to truly take root and flourish in Jammu and Kashmir, it is essential to improve the ease of doing business in the Union Territory. Several critical aspects—particularly at the implementation level, such as streamlined land allocation—require focused attention and reform.

- E-Governance as a Catalyst for Ease of Doing Business:

Strengthening e-governance is vital for enhancing the overall business environment. A comprehensive, multi-pronged strategy is needed to address infrastructural, educational, and service delivery gaps. To overcome geographical challenges, the UT can explore strengthening its digital infrastructure through satellite-based internet connectivity and solar-powered telecom towers. Public-private partnerships can play a key role in expanding access and improving service delivery.

Promoting digital literacy is equally important. Awareness campaigns involving

Panchayati Raj Institutions, NGOs, and ASHA workers can help bridge the knowledge gap at the grassroots level. The Digital Literacy strategy may also include advanced IT training for Common Service Center (CSC) operators, offline access through digital kiosks, and region-specific content in local languages to ensure inclusivity and broader adoption. Collectively, these measures can help build a robust e-governance ecosystem that not only narrows the digital divide but also supports the attainment of Sustainable Development Goals (SDGs).

- Beyond Subsidies: Encouraging Sustainable Investment:

While financial incentives and subsidies can attract initial investment, relying solely on them is unlikely to yield long-term success. The evolving economic landscape demands deeper, more sustainable engagement from investors. What is needed is a shift toward long-term partnerships, where investors actively contribute to the region's economic development and remain committed beyond the initial phase of incentives. This approach will foster a more resilient and self-sustaining growth trajectory for Jammu and Kashmir.





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