

JANUARY 2025 EDITION



SECTOR SPECIFIC REPORT
SUSTAINABILITY
& CLIMATE CHANGE

01

SUSTAINABILITY AND GREEN INITIATIVES OF THE COAL SECTOR



The Indian coal sector, often criticized for its environmental impact, is transforming toward sustainability through various green initiatives. With increasing global emphasis on combatting climate change, India's coal industry is also adopting measures to minimize its ecological footprint, ensuring energy security for the nation.



One of the cornerstone efforts is the establishment of the Sustainable Development Cell (SDC) under the Ministry of Coal. The SDC spearheads several programs, including bio-reclamation of mined-out areas, large-scale afforestation, and eco-park development.

As of 2024, more than 2,000 hectares of mined land have been reclaimed and converted into green spaces, supporting biodiversity and benefiting local communities. These initiatives aim to achieve India's commitments under the 2015, Paris Agreement.

KEY BENEFITS	Land Reclamation	Renewable Energy
	Water Conservation	Pollution Mitigation

Another significant step is the push for renewable energy integration. Coal India Limited (CIL) has installed solar power plants across its mining areas, aiming to achieve 3 GW of solar capacity by 2026. These renewable energy projects reduce dependency on fossil fuels, align with India's net-zero targets, and promote clean energy solutions in traditionally non-green sectors. Water conservation measures are also central to the sector's green agenda.



Recycling of Mine water for irrigation and community use has become a standard practice, ensuring efficient resource utilization. Additionally, residential colonies near mining areas now feature green belts to reduce noise pollution and improve air quality. The coal sector's green initiatives also emphasize socio-economic development. Eco-tourism projects, such as eco-parks, have created job opportunities for local communities, integrating sustainability along with economic upliftment.



These efforts reflect a shift toward responsible mining practices, demonstrating the coal sector's evolving role in India's sustainable development journey for clean energy transition. The industry is setting a precedent for greener industrial practices by balancing energy needs with ecological responsibility.

02

THE 25TH HORNBILL FESTIVAL WENT ZERO-WASTE AND SINGLE-USE PLASTIC FREE



The 25th edition of Nagaland's iconic Hornbill Festival, showcasing the rich cultural heritage of the Naga tribes, was held from December 1 to 10, 2024. It achieved a groundbreaking milestone, adopting a zero-waste and single-use plastic-free approach. This year the transformative approach has demonstrated a scalable model for integrating environmental responsibility into traditional celebrations.



This vibrant cultural extravaganza, referred to as the “Festival of Festivals,” showcased not only the State's rich cultural heritage but also set an inspiring example of sustainable event management. The festival organizers collaborated with government agencies, local communities, and environmental organizations to implement sustainable practices to add multifaceted highlights to the event.

HIGHLIGHTS FROM THE HORNBILL FESTIVAL 2024

- *Cultural Extravaganza*
- *Artisanal Craft and Cuisine*
- *Traditional Sports and Competitions*
- *Promotion of Tourism*
- *Economic Impact and Waste Management*

By eliminating single-use plastics and focussing on waste segregation and recycling, the event significantly reduced its ecological footprint. Informative campaigns and volunteer-driven awareness sessions encouraged eco-conscious behaviour among attendees, fostering a culture of sustainability.



The festival attracted a significant number of tourists, boosting the local economy and promoting Nagaland as a key cultural destination. It banned the use of single-use plastic items such as plastic straws, disposable plates, cups, and bags. Vendors adopted eco-friendly alternatives, including bamboo straws, leaf-based plates, and biodegradable cutlery. **The zero-waste strategy averted over 50 metric tons of CO₂ emissions, aligning with global climate goals and enhancing air quality in Nagaland.**



Unique waste collection and recycling units were set up at strategic locations across the festival grounds, and volunteers actively educated attendees about the importance of these sustainable practices. Attendees were encouraged to carry reusable water bottles, and refill stations were installed to minimize plastic waste.



The initiatives were widely acknowledged by the Prime Minister's Office, which commended the efforts as a model for other large-scale events. The initiative also created awareness about the importance of sustainable living among visitors, which included domestic and international tourists as well. The Hornbill Festival 2024 served as a platform to merge cultural celebration with environmental responsibility. **Traditional Naga music, dance, and cuisine were also celebrated alongside a strong message for ecological preservation.**

The event also reinforced Nagaland's commitment to support the global fight against plastic pollution and climate change. The success of the 25th Hornbill Festival's zero-waste initiative is an inspiring example for other large-scale events worldwide, highlighting the feasibility and benefits of sustainable event management. By integrating sustainability into its core planning, the Festival has raised the bar for environmentally responsible event management, paving the way for future festivals to follow suit.



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03

THE CLIMATE SMART AGRO-TEXTILE DEMONSTRATION CENTRE LAUNCHED TO ADVANCE TOWARDS SUSTAINABLE AND INNOVATIVE SOLUTIONS



The Ministry of Textiles, Government of India has taken a significant step toward sustainable agricultural practices by launching the Climate Smart Agro-textile Demonstration Centre in **Navsari, Gujarat**. **By collaborating with the Synthetic & Art Silk Mill's Research Association (SASMIRA), this initiative aims to showcase innovative agro-textile solutions that can enhance agricultural productivity while addressing climate change challenges.**



The purpose is to showcase and demonstrate the use of agro-textile products in improving agricultural productivity and resilience against climate challenges and educate farmers about sustainable and climate-resilient farming practices. **Agro-textiles are specialized fabrics used in agriculture to protect crops, conserve resources, and improve overall farming efficiency.** Spreading across 15000 square metres, **the centre will demonstrate applications such as shading nets, ground covers, and pond liners.**



These technologies are expected to optimize water usage, reduce soil erosion, and shield crops from extreme weather conditions, contributing to sustainable farming practices. **SASMIRA is responsible for maintaining the centre for three years, undertaking eight crop cycles.** Here, demonstrations include shade nets, ground covers, crop covers, and pond liners which are designed to optimize water usage, protect crops, and improve yields. Alongside this, the integration of IoT-based systems for real-time monitoring of environmental conditions and crop performance has been also used.

The centre will serve as a hub for educating farmers and other stakeholders about the benefits of agro-textiles. It is equipped with live applications of agro-textile technologies for different crops and farming methods. Additionally, it focuses on aligning agricultural advancements with environmental goals.



**KEY FOCUS OF
THE SMART
AGRO-TEXTILE
DEMONSTRATION
CENTRE**

Rising temperatures and water scarcity

Shading nets, ground covers, pond liners

Field trials and training sessions

Cost-effective, yield-enhancing tools

Soil, water, and resource conservation

Eco-friendly, climate-resilient farming

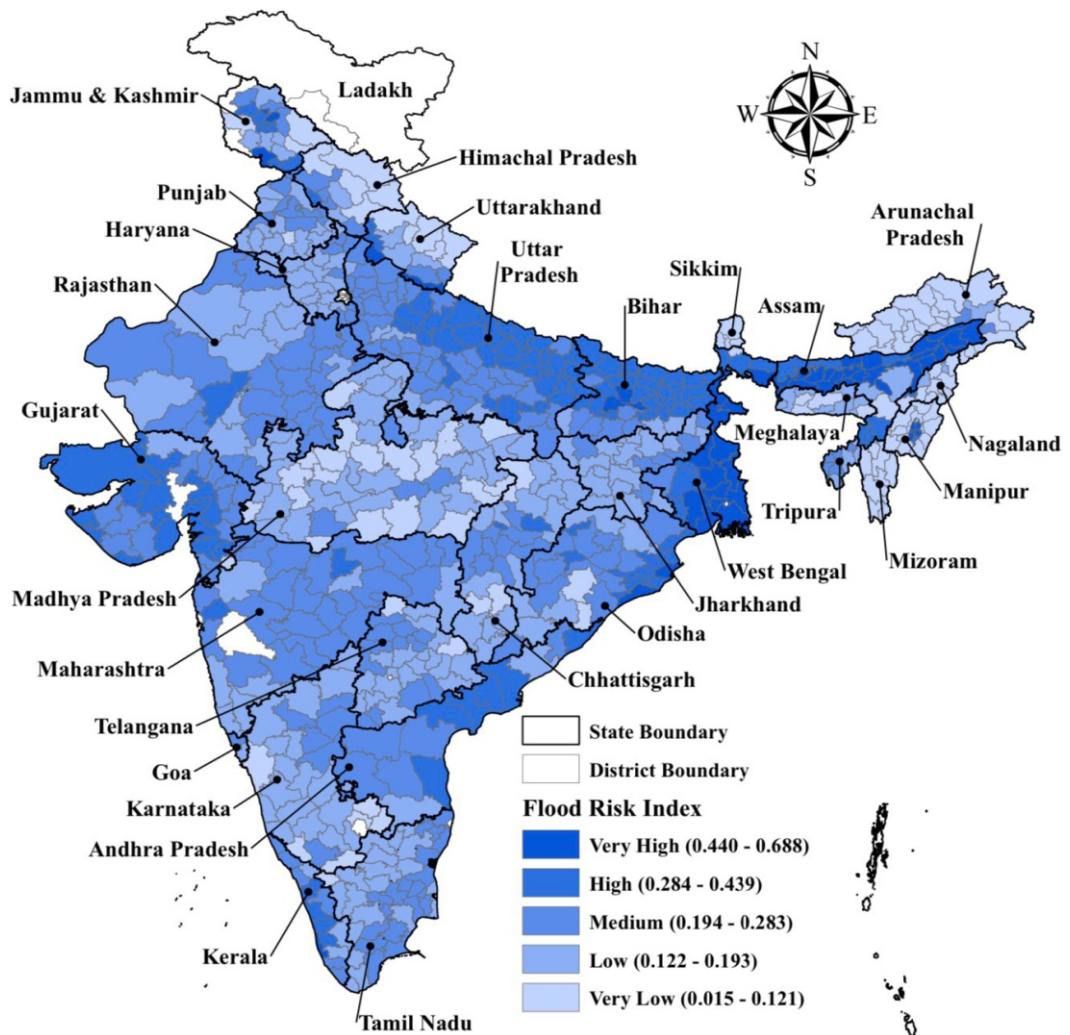
Agro-textiles can potentially reduce the dependency on chemical inputs and minimize water wastage, making them a climate-smart alternative for farming communities. This is in line with India's commitment to sustainable development and resource conservation. The initiative contributes to the promotion of technical textiles under the Ministry's National Technical Textiles Mission (NTTM) and is expected to encourage the widespread adoption of agro-textiles across the country.



It highlights the importance of integrating traditional farming knowledge with modern technology to achieve long-term agricultural sustainability. By empowering farmers with practical and innovative tools, the initiative aims to create a ripple effect, driving environmental and economic benefits for the Indian agricultural sector. This initiative aligns with India's goals of improving agricultural sustainability, addressing climate risks, and empowering farmers with innovative tools for better productivity in the years to come.

04

"DISTRICT-LEVEL CLIMATE RISK ASSESSMENT FOR INDIA: MAPPING FLOOD AND DROUGHT RISKS" REPORT RELEASED TO UNDERTAKE CLIMATE RISK MAPPING



India released the report “District-level Climate Risk Assessment for India: Mapping Flood and Drought Risks,” at IIT Delhi on 13th December 2024, thereby taking a significant move towards climate adaptation. The study, conducted under the Department of Science and Technology (DST), employs the IPCC framework to analyze and map climate vulnerabilities across 698 districts.



It provides actionable insights for local-level planning and risk mitigation strategies, vital in a country highly vulnerable to climate extremes. The report focuses on assessing risks posed by floods and droughts, two of the most frequent and destructive climate events affecting India. Using indicators such as exposure, sensitivity, and adaptive capacity, the study identifies districts that are most susceptible to climate-induced hazards.

OBJECTIVES OF THE REPORT

To develop district-level flood and drought hazard, exposure, and vulnerability maps leading to India's flood and drought risk map

To develop district-level flood and drought hazard, exposure, and vulnerability maps for individual states and UTs of India

Promote capacity building of the state climate-change cells and allied departments in India's flood and drought risk assessment for adaptation planning

Key findings in the report, highlight that nearly 51 and 118 districts fall under “very high” and “high” flood risk categories, respectively, while 91 and 188 districts fall under “very high” and “high” drought risk categories respectively. Further, 11 districts face the dual risk of flood and drought among which are Patna, Alappuzha, Charaideo, Sivasagar, Uttar Dinajpur, and Golaghat. The assessment integrates vulnerability analysis with exposure to flood and drought hazards, utilizing the Intergovernmental Panel on Climate Change (IPCC) framework.

KEY FINDINGS

51 and 118 districts fall under "very high" and "high" flood risk categories respectively.

91 and 188 districts fall under "very high" and "high" drought risk categories respectively

Flood hotspots: (Bihar, UP, Assam, West Bengal, Gujarat, Odisha, Jammu & Kashmir)

Drought hotspots: (Bihar, Assam, Jharkhand, Odisha, UP, West Bengal, Maharashtra, Karnataka, Tamil Nadu).

The assessment emphasizes the critical need for district-level climate action plans. It advocates for integrating these findings into existing disaster management frameworks to prioritize investments in infrastructure, water conservation, and climate-resilient agriculture. **Adaptive measures, such as early warning systems, reforestation, and improved water management, are essential to mitigate risks and protect communities.** The report serves as a critical tool for policymakers, enabling resource allocation through guiding the distribution of resources to districts most at risk.

Besides this, it will also help in **adaptation planning and policy formulation** to enhance resilience against climate-induced hazards and the development of tailored strategies. This pioneering effort underscores the importance of localized data in developing specialized responses to India's diverse climate challenges. By equipping policymakers, researchers, and local authorities with district-specific information, the report aims to strengthen India's capacity to withstand climate shocks while ensuring sustainable development for its vulnerable populations.



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05

GOI SIGNED CLIMATE ADAPTIVE WATER HARVESTING PROJECT WITH ADB IN MEGHALAYA



The Government of India, in collaboration with the Asian Development Bank (ADB), is implementing a \$50 million Climate Adaptive Water Harvesting Project in Meghalaya to enhance water security and strengthen resilience against climate change in the state. This initiative seeks to combat climate change's growing challenges in one of India's most ecologically sensitive regions.



The project focuses on constructing 532 small water-storage facilities with sustainable water systems integrating advanced technologies and traditional practices across 12 districts in Meghalaya. It will enable better rainwater collection and ensure year-round water availability for domestic and agricultural use. Special emphasis will be on improving irrigation infrastructure and enhancing local livelihoods through climate-resilient practices by developing 3000 hectares of command areas.



With Meghalaya receiving one of the highest annual rainfall levels globally, the project aims to harness this potential while mitigating the adverse effects of erratic rainfall patterns. It adopts an integrated approach, combining water conservation with community-led watershed management and reforestation.

KEY COMPONENTS OF CLIMATE ADAPTIVE WATER HARVESTING PROJECT

Sustainable water harvesting systems

Rainwater collection and storage

Improved irrigation infrastructure

Community-led watershed management

Capacity-building for locals

Climate-resilient practices

Benefitting 3 million people

The project aligns with India's broader commitments under the Paris Agreement, focussing on adaptive measures to address climate vulnerabilities. **It aims to establish 50 weather stations to gather and monitor climate data while establishing micro-irrigation systems in Khasi, Jaintia, and Garo regions.** By reducing dependence on traditional water sources and adopting sustainable practices, this collaboration aims to promote long-term ecological balance.



This partnership between the Government of India and ADB underscores the importance of regional cooperation in tackling climate challenges ensuring inclusive development for vulnerable communities in this region. The project sets a benchmark for the development of climate adaptation strategies in other water-stressed regions of the country.

06

EXPERT
INSIGHT



“ India's energy transition journey stands at a crucial junction of ambition and necessity, driven by its dual pursuit of economic growth and environmental sustainability. As the nation faces the urgent challenges of climate change, it seeks to redefine its energy landscape by balancing the imperatives of decarbonization with the growing energy demands of its population.

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Mr Chaitanya Kala
Climate Change and
Sustainability Services
Leader
EY India



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