

GOAL 13 : CLIMATE ACTION



KERALA

1. 'WE FOR WAYANAD' CAMPAIGN FOR EFFECTIVE DISASTER MANAGEMENT -

For a district prone to natural calamities and floods, the Administration and local population of Wayanad District came together and displayed immense dedication in setting up a 24x7 Control Room under the ambit of "We for Wayanad". The initiative boosts awareness about impending disasters, thus enabling the Administration and the local community to plan mitigation in an efficient manner. In 2018, despite severe floods, the number of casualties were restricted to six due to the proactive disaster management system. A social media campaign was organised under this banner and set in motion to receive maximum support from civil societies. The program also included collection of relief materials at designated Reception Centres set up by the District Administration. The sorting, packaging and distribution of relief materials was undertaken with the active engagement of officers, volunteers from NGOs and members of the civil society.

ANDHRA PRADESH

2. **GREEN ENERGY CORRIDOR** - (with Tamil Nadu, Rajasthan, Karnataka, Maharashtra, Gujrat, Himachal Pradesh and Madhya Pradesh) - (CLOSELY TIES IN WITH **SDG 12**) -

The Green Energy Corridor Project was launched to synchronize electricity produced from all renewable energy sources with conventional power stations in the grid. For large scale renewable energy, Intra State Transmission systems

were implemented by the respective State Transmission Utilities (STUs) in the aforementioned states.

3. **GREEN HOUSE GASES (GHG) INVENTORY -**

In 2017-18, Andhra Pradesh became the first state to keep an inventory of GHG emissions. It identified top 10 GHG emitters which together produce 92.48% of the emissions. A range of measures were proposed to curb the emissions : in the electricity generation sector, power generation from renewable sources will be focused on pursuing clean coal technologies such as Ultra Super Critical will bring down upto 21% of GHG emissions; in the transportation sector, promotion of electric vehicles is being pursued actively.

4. **DON BOSCO GREEN ALLIANCE, HYDERABAD - (CLOSELY TIES IN WITH *SDG 11, SDG 12* AND *SDG 15*) -**

In 2018, Don Bosco School, Bandlaguda, Hyderabad, India, joined Don Bosco Green Alliance, an international collective of youth from Salesian institutions across the world who contribute to global environmental action, thought and policy, aims at creating an environment that is safe and caring for all life on the planet, while building up a new generation of environmentally committed citizens and leaders. The school's environmental programs are based on information, guidelines and campaign projects by Don Bosco Green Alliance. Students identify local environmental issues and work on possible solutions to the problems.

The three areas of focus for environmental projects are reducing pollution, waste management and recycling, and green campus and surroundings. The students thus raise their own funds for their projects. Student leaders are appointed to head and monitor the programs, with the guidance of teachers. Students maintain project reports and records and also have an online site to share ideas and create awareness for campaigns. Students have become a lot more aware of environmental issues, global as well as local, and have been making an effort to reduce their carbon footprints. Parents have encouraged them to participate in environmental protection programs.

COVID-19 IMPACT : The school having been closed for almost a year had a huge impact on the program, yet it has not come to a halt. The students and parents continued with volunteering to bring notebooks for recycling to school and students sharing ideas online. The pandemic allowed the school to rethink its priorities. They plan on making social service a major part of their fundraising programs.

Apart from aforementioned best practices, Andhra Pradesh's SDG Vision Document "ACHIEVING SUSTAINABLE DEVELOPMENT GOALS 2030", details further major policies and strategies to achieve benchmarks for SDG 13 - CLIMATE ACTION, provided as follows-

- *Integrating policy framework along with national and international policies by **mobilizing Green Climate Fund (GCF)** adaptation grants.*
- *Strengthening of **State Action Plan for Climate Change (SAPCC)** for the state in line with India's Nationally Determined Contribution (INDC)*
- *Encourage, develop and promote renewable energy through policies like AP wind and Solar power policy 2015, with provisions like rooftop solar PV.*
- ***State Energy Conservation Mission** – Implementing since 2012 to promote energy efficiency in all sectors.*
- *Emission inventory of all sectors to identify the high emission sectors and monitor it annually.*
- *National Mission for a Green India, National Water Mission, and National Mission for Enhanced Energy Efficiency.*
- *Groundwater level is monitored periodically using a network of sensors. Check dams were constructed and farm ponds were completed.*
- *A comprehensive system with mapping, early warning, monitoring, and dissemination has been put in place to minimize the risk of disasters and improve disaster resilience.*

KARNATAKA

5. EFFECTIVE UTILISATION OF ITC TOOLS UNDER DISASTER MONITORING AND MANAGEMENT AT KSNDMC -

Karnataka State Natural Disaster Monitoring Centre (KSNDMC) has taken up initiatives towards monitoring natural disasters and risk reduction by establishing weather monitoring networks. KSNDMC has established a network of GPRS enabled and solar-powered Telemetric rain gauges and weather stations that monitor and collect data every 15 minutes. These monitoring networks can capture erratic distribution of rainfall and weather parameters in terms of both space and time. Necessary computer/web applications have been developed to collect, store, analyze and transmit accurate and reliable data with the least manual intervention, allowing for almost real time data collection and decision making. The Centre then identifies and maps the hazard vulnerable areas,

prepares reports with advisories and disseminates information to stakeholders based on the collected data.

Operation in Karnataka has enabled:

- Drought / Flood / Thunderstorms and Lightning / Seismic Monitoring
 - An integrated Urban Flood Model (UFM)
 - Weather Forecast at high temporal/spatial resolution
 - Information Dissemination for disaster risk reduction
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- VARUNA MITRA HELPDESK SERVICES : Community Helpdesk For Information dissemination, alerts and forecasting, advising farmers directly through interactive telephony. Farmers have utilised the Varuna Mitra Services for collection of customised information and advisories for planning their agricultural activities.

TELANGANA

As per Telangana's SDG Implementation Document 2018, the state's strategy to achieve benchmarks for SDG 13 - CLIMATE ACTION, the state has focused on the following major policies and strategies-

- Forestry and plantation practices
- Initiatives to promote biodiversity
- Haritha Haram (Afforestation)

PUNJAB

6. NOVEL ENERGY EFFICIENT DESIGN WITH ZIGZAG FIRING TECHNOLOGY -

Kilns were designed and constructed under the supervision of the Punjab State Council for Science and Technology (PSCST) to address the drawbacks in already operational induced draft kilns. To check air pollution in non-attainment cities and towns across Punjab, the state Cabinet approved a draft action plan for conversion of natural draft brick kilns into induced draft brick kilns, which have a rectangular shape and zigzag brick setting as directed by the PSCST.

BENEFITS:

- Reduction in black smoke and stack emission levels by more than 80%
- Reduction of carbon footprint by 190 tons per kiln p.a.
- Lower Specific Energy Consumption (SEC)
- Increase in first quality brick output with newly demonstrated technology kilns.

7. **SIDE SUCTION HOOD (SSH) TECHNOLOGY FOR CAPTURING FUMES FROM INDUCTION FURNACE COUPLED WITH AIR POLLUTION CONTROL SYSTEMS -**

Induction furnaces, commonly used to melt scrap metal, have started using a magnet and pusher for charging raw material into the furnace for faster melt rate. The PSCST demonstrated SSH technology in induction furnaces units at Mandi Gobindgarh after benefits accrued by the method saved heat time, enhanced productivity, and lesser energy consumption. The technology has captured 100-300 kg dust, generated revenue from sale of zinc contained in captured dust, thus improving the ambient air quality of Mandi Gobindgarh and causing economic gain.

8. **MAINTENANCE-FREE WASTE HEAT RECOVERY SYSTEM IN STEEL RE-ROLLING MILLS -**

Realising the benefits of using pre-heated air for combustion, The PSCST has demonstrated a multiple Shell & Shell type recuperator in re-rolling mills at Mandi Gobindgarh and Khanna. Steel re-rolling mills in Punjab are making efforts to recover waste heat from flue gases by installing shell & shell type recuperators that duly address the problems faced by using conventional recuperators. The modified recuperators minimise the problem of choking due to provision of shells replacing small diameter tubes used in conventional recuperators.

BENEFITS:

- Maintenance-free waste heat recovery system
- Reduction in specific fuel consumption by 5-10%
- Reduction in associated greenhouse gas (GHG) emissions
- Increased furnace efficiency and productivity

9. **TECHNOLOGICAL ADAPTATION FOR GAINFUL UTILISATION OF PADDY STRAW -**

Lack of techno-economical viable options for management of paddy straw that gets burnt in open fields, has resulted in environmental pollution and consequent

health hazards, soil degradation, loss of micro flora and fauna, and promotion of cleaner technologies to enhance state climate resilience capacity.

The project established the first paddy straw-based briquetting plant of 24 TPD capacity at Village Jalalabad East, District Moga in order to prevent stubble burning and provide revenue to farmers at the same time.

BENEFITS:

- Employment generation for plant operation, seasonal employment for collection of paddy straw
- Reduction of greenhouse gases (GHG)
- Replacement of fossil fuel with locally available biomass briquettes.

10. "PANI BACHAO, PAISE KAMAO" -

This program was introduced by Punjab State Power Corporation Limited to bring down the wastage of water and electricity in the villages. Agricultural farmers were given the incentive of saving money by saving electricity. All consumers who consume less units of electricity get money at Rs. 4 per unit directly into their bank accounts. This program benefits farmers while conserving electricity and water. It also involves educating farmers about the scheme and ensuring the voluntary adoption of the same. It improves efficiency in production, promotes judicious use of water and protection & conservation of groundwater and electricity.

More than 200 farmers have been provided subsidies of Rs. 15.74 lakhs for judicious use of water in the pilot project in 3 districts.

11. SUSTAINABLE SOURCES OF ENERGY -

The role of the Punjab Energy Development Agency as a state designated agency is to create general awareness about the importance and benefits of energy conservation, coordinate, regulate and enforce the Energy Conservation Act 2001 within the state, and to institutionalize the energy efficiency project implementation in the industry, government and commercial buildings. The Act provides institutionalizing and strengthening delivery mechanisms for energy efficiency programs and provides a framework for coordination between various government entities.

Schemes involved :

- Solar Street Lights Program
- Solar Water Pumping and Heating Systems

- Canal Top Solar- Unique Projects
- Family Size Biogas Plants
- Biomass Based Power Generation Projects
- Biomass / Bagasse Cogeneration Projects

The following demo projects of energy efficiency have been implemented:

- Replacement of existing street lights of Municipal Corporation (Mohali) with energy efficient 90W LED lights to increase annual energy savings
- Replacement of existing lights with LED street / area lights at Grain Market, Sirhind Mandi achieving an annual energy saving of 40%
- Distribution of 14900 LED lamps of 7W / 9W / 10W in 23 different identified villages under LED Village Campaign scheme
- Energy efficiency projects of revamping the drinking water supply system of 13 water pumps of Mohali replaced with energy efficient pump sets
- Implementation of energy efficiency activities in the Institute for Auto parts and Hand tools Technology, Ludhiana under demonstration project
- Replacement of existing electrical appliances with energy efficient appliances at Punjab Police Housing Corporation, SAS Nagar, (Mohali)
- Implementation of demonstration projects of revamping rural drinking water pumping systems at 4 locations in association with Department of Water Supply & Sanitation under AgDSM scheme
- Investment Grade Energy Audit (IGEA) of 38 government / public buildings and government hospitals for implementation of energy efficiency projects
- Development of curriculum on Energy Conservation for its incorporation in the ITI and Diploma Engineering Colleges
- Energy Clubs were established in schools to impart knowledge of energy conservation to the school children
- MoUs were signed with 12 Engineering Institutions / Technical Universities for undertaking Research & Demonstration activities in Energy Efficiency under "State Energy Efficiency Research & Outreach Program"
- Van Activation and Promotion Campaign for Space Cooling through Optimum Temperature Setting of ACs to 24°C

- Monitoring & Verification of 38 Designated Consumers of Perform, Achieve & Trade (PAT) Scheme of the Bureau of Energy Efficiency (BEE)

TRIPURA

12. **COMBATING CLIMATE CHANGE AND ITS IMPACTS -**

The Tripura Forest Department is taking continuous efforts for afforestation and reforestation through participatory forest management in the forest area and raising plantation area. A new scheme has been launched under which will raise plantation area plantation, thus ameliorating the conditions along the roadsides. Under the Jal Shakti Abhiyan, roadside plantation was done in the drought affected districts.

As per order of the Nation Green Tribunal (NGT), 6 polluted rivers were identified wherein plantation over 855.5 hectare area was taken up. Tripura Forest Department has set up an in-hour GIS Lab to carry out GIS related activities.

In an effort to combat climate change, the state has taken measures to -

- maintain the forest coverage and afforestation in degraded areas,
- environment management and ecology for protection,
- implement innovative technology solutions
- invest in disaster risk management
- adopt climate change adaptation projects and programs
- adopt integrated planning to reduce underlying risk factors.
- legislate on protected areas
- conduct environmental impact assessments for experiencing changes in climate conditions

ODISHA

13. **International Charter and Early Detection to Assist in Cyclone 'Fani' - (CLOSELY TIES IN WITH *SDG 17*) -**

The 2019 cyclonic storm 'Fani' was one of the severest cyclones to hit the Bay of Bengal, affecting around 100 million people in South Asia. The death toll was thankfully low at 81 people due to early warning systems, detection, robust

disaster preparedness and response systems, and accurate forecasts. The Indian Meteorological Department (IMD) picked up signals of 'Fani' as a tropical depression, 7 days before its landfall in Odisha. Meteorologists used imagery from ISRO's SCATSAT-1 satellite to track the location, direction, and intensity of winds close to the ocean surface. Informed by accurate predictions, IMD was able to alert state authorities and district administrations of the cyclone, and provide ground authorities with hourly updates through bulletins, WhatsApp groups, and emails. As a result, India successfully evacuated and sheltered 1,470,197 people with the 1 million population evacuated in Bangladesh.

JHARKHAND

As per the Jharkhand Vision & Action Plan 2021, Jharkhand's best practices, policies and strategies to achieve benchmarks for SDG 13 - CLIMATE ACTION, are mentioned as follows-

- Enhancing the density of the forest cover to achieve a decadal growth to 33%, through schemes such as Mukhyamantri Jan Van Yojana.
- Upscaling coverage of Joint Forest Management (JFM) committees and Village Forest Management and Protection Committees (VFMPs); cultivate biofuel producing plants and fuel trees/crops in the degraded and wastelands and; creating Bamboo high tech nurseries as per National Guidelines
- Enhancement of NTFP based employment opportunities
- Strengthening 'Jharkhand State Climate Change Action Unit' to tackle and mitigate the climate change impact; District Management Plan to combat climate change and increase awareness.
- Integrating ICTs at ground level operations to decrease manual dependency and increase precision of department activities.
- Increase state forest cover to ensure water retention and sustainable development

NORTH-EAST

14. **Clean & Green Sikkim** — Sikkim - (CLOSELY TIES IN WITH **SDGs 2, 6, 14 AND 15**) -

The initiative aims at

- An Open defecation free (ODF) rural and urban Sikkim - Under the 'Total Sanitation Campaign' of 1998, toilets were constructed using local materials by collaborating with the local people. The government made it mandatory to have a toilet at home, making people eligible for any benefits from the government or to contest in village-level elections.
- Banning use of non-biodegradable materials - In 2016, the state government restricted the use of mineral water bottles in government programs, and banned state-wide use of foam food containers.
- Going fully organic by forming clear roadmaps and targeting for organic farming; organisation of The Sikkim Organic Festival.

In order to accelerate urban programs for ODF status, the state government leveraged funding under the 'Swachh Bharat Abhiyan' for toilet construction. Geotagging technology was leveraged by the state government for effective monitoring of ODF-status and progress.

15. **Environmentally Friendly 'SaCReD' Initiative** — Assam -

The Government of Assam launched 'Sustainable Action for Climate Resilient Development' (SaCReD) initiative in collaboration with IORA Consultancy Services to reduce greenhouse gases. District level committees were set up under the chairmanship of the Deputy Commissioner to oversee implementation and a clear roadmap was drawn up. The initiative allowed for sensitising multiple stakeholders (including government) on carbon neutrality. The 'Forests are Lives' campaign was also undertaken to stress on the importance of Assam's rich flora and fauna.

The program includes the following components -

- Disaggregated renewable energy generation projects to cater to the increasing energy demands of the island
- A green sustainable integrated transport system
- Green norms for buildings and surrounding landscapes
- Waste recycling mechanisms leading to zero waste emissions
- Adopting practices in agriculture revolving around the efficient use of water and carbon neutral packages
- Afforestation across Majuli landscape

16. **Climate Change and Disaster Risk Reduction** — Meghalaya

The Government of India-UNDP partnership project on 'Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change'

supported by USAID covers Shillong, Meghalaya from the North East. Under the project, the following activities were implemented in Shillong:

- Development of City Disaster Management Plan
- Review of the Early Warning System (EWS)
- Preparation of hazard, risk and vulnerability assessment
- Training of master trainers on psychosocial care
- Incident Response System training for government officials
- Sensitization and training on Disaster Risk Reduction and Climate Change Adaptation
- Preparation of school disaster management plan
- Simulation exercises on hospital safety

17. **Strengthening State Strategies for Climate Action** — Sikkim

'Strengthening State Strategies for Climate Actions' was implemented by the UNDP in partnership with Swiss Agency for Development and Cooperation (SDC) and the Ministry of Environment, Forest and Climate Change (MoEFCC) in Sikkim. Its goal was to integrate climate actions into sub-national planning benefiting local communities. Key interventions included capacity building of resource persons/institutes, provision of support to strategy implementation, and knowledge sharing among states on subnational planning for climate change.

18. **Glacier Lake Outburst Flood (GLOF) Risk Reduction** — Sikkim

The pilot intervention was implemented to reduce the risk of GLOF at South Lhonak Lake through engineering interventions along with a state-of-the-art EWS. It also enhanced the adaptive capacity of vulnerable communities through awareness and training on evacuation and disaster risk response strategies. Three clear key capacity building tasks were identified - vulnerability prioritization of all glacial lakes vulnerable to GLOF risk, installation of integrated EWS along the Teesta Basin, and implementation of GLOF Hazard Management Plan, including capacity building of the down-stream communities.

19. **Spring Shed Development program** —Sikkim

Dhara Vikas is a UNDP-SDC spring development project that aims at catching surface runoff by digging trenches and recharging groundwater sources. The salient features of the pilot were -

- Analysis of geotagged spring points
- Analysis of spring discharge with meteorological data.
- Analysis of long term plans that can be undertaken by the government.

20. **Implementation of State Climate Change Action Plan** — Manipur

UNDP partnered with MoEFCC and Global Environment Facility (GEF) to implement a project on 'Market Transformation and Removal of Barriers for Effective Implementation of the State Climate Change Action Plan.' Interactions, interventions and partnerships between various state government departments, academic institutions, Energy Efficient and Renewable Energy equipment suppliers, project developers and financial institutions are being worked upon that also focus on mobilization of low-cost financing to upscale climate change mitigation actions.

21. **Clean Goalpara, Green Goalpara** — Assam

To protect and improve the environment, the District Administration of Goalpara with the Department of Social Forestry, Civil Society and citizens came together and planted more than 12.6 lakh saplings within a period of 20 days. Saplings have been planted along highways, schools, health centres, forest lands and villages. Consequently, the forest coverage area of Goalpara has increased from 19% to 23%.