

National Dalit Watch-National Campaign on Dalit Human Rights (NCDHR)

# Social Inclusion *in* National Action Plan *on* Climate Change



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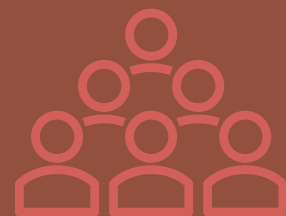
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# Foreword

THE IMPACT OF CLIMATE CHANGE IS NOT EQUAL FOR ALL, ESPECIALLY IN A COUNTRY LIKE INDIA. THE COUNTRY HAS A LONG COASTLINE THAT SUFFERS FREQUENT CYCLONES, THE GANGETIC PLAINS ARE PRONE TO FLOODS, AND TWO-THIRD OF THE AGRICULTURAL BELT THAT IS VULNERABLE TO DROUGHTS.

Gradual erosion of the coastline, inundation of deltas, salinity ingress, high storm surges during tropical cyclones are going to impact millions of people along the Indian coastline. Studies have established that Asian fisheries and aquaculture, including the local communities depending on them for livelihoods, are highly vulnerable to the impact of climate change; about 69 per cent of the commercially important species of India is also vulnerable to the warming of coastal areas. A recent study by the Indian Institute of Technology (IIT) Gandhinagar predicts that the frequency of concurrent hot and dry extremes is projected to rise five-fold, causing approximately seven-fold increase in flash droughts in India. Droughts have significant implications for food and water security, and impact the poorer farmers, usually from marginalised castes, disproportionately.



Individuals living  
in poverty

**31%**  
from the SC  
groups

**45 %**  
from the ST  
groups

Historical injustices against the Scheduled Caste (SC) and Scheduled Tribe (ST) communities have resulted in poor development indicators. About 31 per cent of individuals from the SC groups and 45 per cent from the ST groups still live in poverty, and India is one of the most vulnerable nations in terms of climate-related risks to agriculture impacting small holders and share croppers the most.

In this context, the present study, 'Social Inclusion in India's National Action Plan on Climate Change' reviews five missions under the National Action Plan on Climate Change (NAPCC), and some of the flagship schemes under each of the missions that are of significance to the SC, ST and other marginalised communities. The study is based on the secondary literature review of various guidelines, the information provided on the websites of anchoring ministries, and dedicated portals for the missions. In order to build the context, the study also summarises the impact of climate change in India, and India's position on equity in international negotiations.

As the NAPCC completes 15 years since its formulation in 2008, it is important to revisit the overarching guiding action plan to place equity at the heart of it. It is often assumed that adaptation actions in agriculture, water and forestry will by default benefit the marginalised communities. Or that renewable energy enhancement and energy efficiency measures will automatically be accessible to marginalised groups without any affirmative protective measures. Climate change is an abject part of our reality, and all centralised schemes, research, and campaigns under the various missions need to prioritise inclusion. The monitoring and further evaluation of various missions have not placed equity and access by vulnerable populations as one of the indicators of achieving the targets. As India has been a forerunner on global equity, the government needs to place equal or more importance on domestic equity while planning, designing, and investing in adaptation and mitigation.

# Abbreviations and Acronyms

<b>AJY</b>	Atal Jyoti Yojana	<b>IIT</b>	Indian Institute of Technology
<b>AR6</b>	Sixth Assessment Report	<b>IMD</b>	India Meteorological Department
<b>BE</b>	Budget Estimate		
<b>BEE</b>	Bureau of Energy Efficiency	<b>INDC</b>	Intended Nationally Determined Contribution
<b>BPL</b>	Below the Poverty Line	<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>BPKP</b>	Bhartiya Prakritik Krishi Paddhati	<b>ISA</b>	International Solar Alliance
<b>CBDRRC</b>	Common but Differentiated Responsibilities and Respective Capabilities	<b>JSA</b>	Jal Shakti Abhiyan
		<b>LeadIT</b>	Leadership Group for Industry Transition
<b>CDRI</b>	Coalition for Disaster Resilient Infrastructure	<b>LED</b>	Light Emitting Diode
<b>COP</b>	Conference of the Parties	<b>LGU</b>	Local Government Unit
<b>CPSU</b>	Central Public Sector Undertaking	<b>LPG</b>	Liquefied Petroleum Gas
<b>CS</b>	Central Sector	<b>MGNREGA</b>	Mahatma Gandhi National Rural Employment Guarantee Act
<b>CSE</b>	Centre for Science and Environment	<b>MNRE</b>	Ministry of New and Renewable Energy
<b>CSS</b>	Centrally Sponsored Schemes	<b>MoEFCC</b>	Ministry of Environment, Forest and Climate change
<b>DELP</b>	Domestic Efficient Lighting Programme	<b>MOVCDNER</b>	Mission Organic Value Chain Development in North Eastern Region
<b>DNT</b>	De-notified Tribe	<b>MTEE</b>	Market Transformation for Energy Efficiency
<b>EEFP</b>	Energy Efficiency Financing Platform	<b>NAP</b>	National Afforestation Programme
<b>EU</b>	European Union	<b>NAPCC</b>	National Action Plan On Climate Change
<b>FEEED</b>	Framework for Energy Efficient Economic Development	<b>NBM</b>	National Bamboo Mission
<b>FPCs</b>	Farmer Producer Companies	<b>NCDHR</b>	National Campaign for Dalit Human Rights
<b>FPOs</b>	Farmer Producer Organizations		
<b>GIM</b>	Green India Mission		
<b>GP</b>	Gram Panchayat		
<b>ICAR</b>	Indian Council of Agricultural Research		

<b>NDC</b>	Nationally Determined Contribution	<b>SECC</b>	Socio-Economic and Caste Census
<b>NDW</b>	National Dalit Watch	<b>SEEP</b>	Super-Efficient Equipment Programme
<b>NICRA</b>	National Innovations in Climate Resilient Agriculture	<b>SHC</b>	Soil Health Card
<b>NMEEE</b>	National Mission for Enhanced Energy Efficiency	<b>SHM</b>	Soil Health Management
<b>NMSA</b>	National Mission for Sustainable Agriculture	<b>SLNP</b>	Street Lighting National Programme
<b>NSM</b>	National Solar Mission	<b>SMAF</b>	Sub Mission on Agroforestry
<b>NT</b>	Notified Tribe	<b>SNT</b>	Semi Notified Tribe
<b>NTFP</b>	Non-timber Forest Produce	<b>SSAPs</b>	State Specific Action Plan
<b>NWM</b>	National Water Mission	<b>ST</b>	Scheduled Tribe
<b>PAT Scheme</b>	Perform Achieve and Trade Scheme	<b>TSP</b>	Tribal Sub Plan
<b>PKVY</b>	Paramparagat Krishi Vikas Yojana	<b>ULB</b>	Urban Local Body
<b>PPP</b>	Public-Private Partnership	<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>PRIs</b>	Panchayati Raj Institutions	<b>USA</b>	United States of America
<b>PRSF</b>	Partial Risk Sharing Facility	<b>VGf</b>	Viability Gap Funding
<b>PV</b>	Photovoltaic	<b>AMRUT</b>	Atal Mission for Rejuvenation and Urban Transformation
<b>RAD</b>	Rain-fed Area Development	<b>CAMPA</b>	Compensatory Afforestation Fund Management and Planning Authority
<b>SAPCC</b>	State Action Plans on Climate Change	<b>UNCED</b>	The United Nations Conference on Environment and Development
<b>SC</b>	Scheduled Castes	<b>GDP</b>	Gross Domestic Product
<b>SCP</b>	Special Component Plan		
<b>SCSP</b>	Scheduled Caste Sub Plan		





# Background

A VAST POPULATION OF INDIA IS AT RISK OF CLIMATE CHANGE, AND THE IMPACT OF CLIMATE CHANGE IS NOT GOING TO BE EQUAL FOR ALL, ESPECIALLY FOR PEOPLE WHO ARE DIRECTLY DEPENDENT ON CLIMATE-SENSITIVE SECTORS FOR THEIR LIVELIHOOD – AGRICULTURE, LIVESTOCK, FOREST RESOURCES, PASTURE LANDS AND FISHERIES. INDIA NEEDS TO FRAME AND IMPLEMENT ITS CLIMATE AND DEVELOPMENT POLICIES BY KEEPING VULNERABLE POPULATIONS AT THE CENTRE, TO ENHANCE THEIR RESILIENCE AND ADAPTATION TO CLIMATE CHANGE.

There are further layers of vulnerabilities that the Scheduled Castes (SC), Scheduled Tribes (ST), notified tribes (NTs) and semi notified tribes (SNTs) face due to their socio-economic situation. These marginalised communities have faced historical injustices related to caste hierarchy and exclusion, lack access to skills, basic services and productive resources, depend on climate-sensitive sectors for wage labour and subsistence employment opportunities with less capacity to bear the risks.

As per the Socio-Economic and Caste Census (SECC) 2011<sup>1</sup> of the total SC population in rural India, one out of two households are landless and derive a major part of their income from manual or casual labour. In the absence of access to substantial resources and employment opportunities, a large population migrate internally and work as informal labourers in cities and account for a large proportion of casual labour in the country. Socially marginalised groups, due to the absence of landownership and decent housing, furthered by exclusion and segregation, form a pattern of living on the outskirts of cities and villages and living off the resources from share cropping, public lands, pasturelands, and wastelands. This precarious situation impacts all human development indicators. The prevalence of anaemia in women belonging to SC groups is highest

1 Socio Economic and Caste Census (SECC)

across all types of anaemia ranging from mild to severe, across social groups. Children born in SC families have a significantly higher risk of dying in comparison to others through each of the five-year periods. The social, economic and environmental factors mediate the rate of mortality for these social groups.<sup>2</sup>

Climate change impacts the socially disadvantaged groups disproportionately and exacerbates the existing marginalisation and vulnerabilities, which necessitates keeping social inclusion at the heart of India's Climate Policy. As part of domestic policy on climate change, India launched the National Action Plan on Climate Change (NAPCC) with eight missions in 2008. The missions, comprising several centrally sponsored schemes, are anchored by the relevant central ministries and be implemented by the states, based on the advisories provided. All states have their own action plans based on and integrated with the central missions. The national action plan with the central missions along with the state action plans together are designed to be aligned with India's global commitment – the Intended Nationally Determined Contributions (INDC).

As a first step, there is a need to pause and look at the NAPCC and various mission documents and different schemes under each mission from the social inclusion lens. The missions form the basis of the overall architecture of domestic climate action and the subsequent flow of funds and support to states. In light of multiple stresses coupled with pre-existing vulnerability, independent of climate change faced by Scheduled Castes and Scheduled Tribes, with the additional vulnerabilities due to climate change, it becomes critical that in vulnerability assessments as well the development planning and climate change planning, their resilience to climate risks and access to modern adaptation means and resources is prioritised.

## Scope of the Study

In this context, the desk-based study was undertaken to review the following five missions under the NAPCC and some of the flagship schemes under each of the missions that are of greater significance to the SC, ST, and other marginalised communities.

- National Mission for Sustainable Agriculture
- National Water Mission
- National Solar Mission
- National Mission for Enhanced Energy Efficiency
- Green India Mission

The study has encapsulated the review of various guidelines, the information provided on the websites of the anchoring ministries, and dedicated portals for the missions. In order to build the context, the study also summarizes the impact of climate change in India, and India's position on equity in international negotiations. The report is divided into three chapters. Chapter 1 looks into how climate change is impacting India; Chapter 2 examines how India has taken the cause of equity at the international negotiations, and Chapter 3 analyses the domestic policy framework, specifically the NAPCC and the five missions from the lens of inclusion of vulnerable populations, particularly the SCs and STs.

## Limitations

The present study has not looked into the three missions – National Mission on Sustainable Habitat, National Mission for Sustaining Himalayan Ecosystem, and National Mission on Strategic Knowledge for Climate Change. Further enquiries are needed in these three missions as they are equally important and strategic for climate change adaptation. It is expected that there may be more action

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2 10\_Sector\_Report\_Social\_Inclusion.pdf (dmeo.gov.in)

and programmes at the state-level based on the State Action Plans on Climate Change (SAPCC), taking into consideration the state-specific situation with engagement at the grassroots level, in planning and implementation to get a complete picture. The study has not examined the implementation of the SAPCCs, and as a next step it is important to look at the missions along with the state-specific plans. The study is also limited due to the paucity of existing scholarly work in reviewing the national missions from the SC-ST inclusion lens. It has only looked at the mission documents and some of the flagship schemes to see if there has been explicit attention accorded to vulnerable groups while selecting the beneficiaries. Beyond that it has not applied any specific justice framework related to empowerment or procedural justice lens. In the absence of existing literature, the study is exploratory in nature and in a way, pioneers the review of the climate plan from a social inclusion lens, with a particular focus on communities affected by historic injustices and ensuing generational poverty and deprivations. The study hopes to inspire more research and enquiry into the climate change policy framework to inform the public policy and climate budgeting for the marginalised sections.







# 1

# Climate Change – Already Here and Happening!

WITH HIGH CERTAINTY, THE SIXTH ASSESSMENT REPORT (AR6) OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (IPCC) POINTED OUT THE ATTRIBUTION OF CLIMATE CHANGE TO EXTREME EVENTS WITH MULTIPLE LINES OF EVIDENCE.

The World Weather Attribution Network linked the heatwaves<sup>3</sup> in India and Pakistan to climate change. Every degree of global

warming is likely to increase the global mean precipitation by around 1 per cent to 3 per cent. With high precipitation, natural and artificial drainage systems are unable to contain with increased precipitation overflow the respective natural boundaries, thus enhancing the frequency and intensity of floods. Warmer surroundings also decrease the soil moisture at the surface level leading to droughts. The enhanced frequency of heat waves further makes the land prone to severe droughts. The global surface temperature is around 1.09°C higher than in the pre-industrial period (1850-1900). The last four decades have been successively warmer than any decade that preceded it since 1850. The impact at the current temperature levels of 1.09°C are already overwhelming. The projections for the GHG emissions indicate that 1.5°C would

<sup>3</sup> Climate Change made devastating early heat in India and Pakistan 30 times more likely – World Weather Attribution

be soon at the doorstep, where most of these impacts will intensify further<sup>4</sup>.

The glaciers are projected to lose a quarter of their mass due to the warming of earth causing sea levels to rise by 90mm and even if warming is kept to 1.5°C, 49 per cent of the glaciers could disappear entirely by 2100<sup>5</sup>. The impact on the health and functioning of the major ecosystems including forest, agriculture, urban cities, coastal areas are intertwined with dependence of humanity on these resources for development and well-being.

## 1.1 Impact of Increasing Droughts and Deluge in India

The Ministry of Earth Sciences in its report of June 2020, Assessment of Climate Change over the Indian Region, estimates that the surface air temperature over India has already increased by 0.7°C between 1901 and 2018. It projects that the mean temperature rise over India is likely to be in the range of 2.4 to 4.4°C by the end of the 21st century, relative to corresponding temperatures in the recent past (average of 1976-2005). In the worst-case scenarios, the temperature rise could be approximately 4.7 °C and 5.5 °C<sup>6</sup>. With its socio-economic situation and a large poor population, India is one of the most vulnerable countries with a long coastline prone to frequent cyclones; Gangetic Plains prone to floods, and two-thirds of the agricultural belt prone to frequent droughts. The sea

**“Last year due to the drought I lost all my crops of sesame. I had to take a loan as six family members are dependent on me, and we do not have any other source of income except agriculture. With Rs 32,000 debt, I sowed groundnut but had to lose again the standing crop on the field, this time due to unexpected heavy rains in September 2022. There has not been any computation done on the losses incurred by me, and I have not received any compensation. Now we do not have any source of income and our food security is at risk. We also lost our home to the heavy rains”.**

**Hariprasad, a Dalit farmer with disability from Panari village, Jhansi, Uttar Pradesh**

levels along the Indian coast are rising faster than the global average. Gradual erosion of coastline, inundation of deltas, salinity ingress, high storm surges during tropical cyclones are going to impact millions of people along the Indian coastline<sup>7</sup>.

The IPCC AR6 establishes that Asian fisheries and aquaculture, including the local communities depending on them for livelihoods, are highly vulnerable to the impact of climate change. About 69 per cent of the commercially important species of India is also vulnerable to warming of coastal areas<sup>8</sup>.

A recent study by the Indian Institute of Technology (IIT) Gandhinagar predicts that the frequency of concurrent hot and dry extremes is projected to rise five-fold, causing approximately seven-fold increase in flash droughts in India<sup>9</sup>. Droughts have significant

4 Climate Change 2021: The Physical Science Basis | Climate Change 2021: The Physical Science Basis (ipcc.ch)

5 <https://www.carbonbrief.org/half-of-worlds-glaciers-to-disappear-with-1-5c-of-global-warming/> Assessment of climate change over the Indian region| India Water Portal

6 <https://link.springer.com/book/10.1007/978-981-15-4327-2>

7 <https://www.downtoearth.org.in/news/climate-change/sea-levels-along-indian-coast-rising-at-faster-rate-than-global-average-wmo-report-82910>

8 AR6 Climate Change 2022: Impacts, Adaptation and Vulnerability — IPCC

9 Anthropogenic warming and intraseasonal summer monsoon variability amplify the risk of future flash droughts in India | npj Climate and Atmospheric Science (nature.com)



implications for food and water security, and impact the poorer farmers from marginalised castes more disproportionately<sup>10</sup>.

India is one of the most vulnerable nations in terms of climate-related risks to agriculture impacting small holders and share croppers the most. A loss of 10 to 40 per cent in crop production has been predicted for India by 2100<sup>11</sup>. A recent report by the Centre for Science and Environment (CSE)<sup>12</sup> assessed the extreme weather events of 2022 over nine months between January and September. It concluded that almost every day, parts of India are facing extreme weather events, almost every day, and it is critical to look beyond the number of casualties and to put a human face to the disasters. The disasters claimed 2,755 lives, affected 1.8 million

hectares (ha) of crops, destroyed over 416,667 houses, and killed close to 70,000 livestock.

Extreme events such as heat waves, floods, and cyclones as well as the slow onset of droughts make people migrate internally due to water scarcity, crop failure, storm surges etc. According to the IPCC AR6, Working Group II Report, a project population of 40 million internal climate migrants in South Asia (1.8% of the regional population) would be under high warming by 2050.

Global warming is making the flow of perennial rivers precarious with serious implications on livelihoods, food and water security. All the previous IPCC reports have established that adequate supplies of freshwater resources are under considerable threat due to both the existing pattern of socioeconomic growth and climate change. The ten major rivers originating from the Hindu Kush Himalayas are glacier-fed and perennial in nature and about 1.3 billion people in South Asia rely on fresh water obtained directly

10 Flash droughts set to increase in India, finds study (mongabay.com)

11 <https://india.mongabay.com/2022/09/an-equitable-and-just-growth-pathway-for-agriculture-during-changing-climate/>

12 [http://cdn.cseindia.org/attachments\\_0.20883900\\_1667392565\\_extreme-weather-events-updated \(1\).pdf](http://cdn.cseindia.org/attachments_0.20883900_1667392565_extreme-weather-events-updated (1).pdf)



or indirectly from this mountain system<sup>13</sup>. From 2010 to 2019, glaciers lost more mass since glacier mass balance observations began (World Resources Institute report); and climate-induced glacier melting will initially increase river flows, and over time, this will be followed by a reduction in flows with the decrease in ice mass. The impacts of climate change are going to impact all sectors and Sustainable Development Goals (SDGs) with major pushbacks on poverty eradication, water and food security, health, loss of habitat, biodiversity and culture.



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13 Rasul, G. (2014). Food, water, and energy security in South Asia: A nexus perspective from the Hindu Kush Himalayan region. *Environmental Science & Policy*, 39, 35–48. <https://doi.org/10.1016/j.envsci.2014.01.010>

## 1.3 The Impact is Not Equal for All

In India, due to historical injustices, SC and ST communities are socially and economically disadvantaged compared to the national average and lag on many development indicators. About 31 per cent of individuals from SC groups and 45 per cent from ST groups still live in poverty; this is higher than the national average according to the Suresh Tendulkar Committee's<sup>14</sup> estimate of poverty in India<sup>15</sup>. Furthermore, the National Sample Survey Office (NSSO) Survey of Key Indicators of Situation of Agricultural Households in India, indicated that caste inequalities in ownership and access to resources in rural India have a bearing on economic inequalities among farm households in rural India<sup>16</sup>, and complementary evidence suggests that people on low-incomes are more affected by climate change<sup>17</sup>.

With high certainty, the IPCC AR6 indicates that vulnerability at different spatial levels is exacerbated by inequity and historical marginalisation linked to gender, ethnicity, low income etc. It also warns that adaptation planning and implementation that do not consider the adverse outcomes for different groups can lead to maladaptation, increase the exposure to risks, marginalise people from certain socio-economic or livelihood groups, and exacerbate inequity. For assessing and managing the climate risks, vulnerability is a key determinant as hazard and exposure, the other two determinants, are relatively more difficult to change in ways that reduce risk.

14 Panagariya A More V Poverty by social, religious and economic groups in India and its largest states 1993–94 to 2011–12. *Indian Growth and Development Review*. 2014; 7: 203–230

15 [https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196\(18\)30212-2/fulltext](https://www.thelancet.com/journals/lanplh/article/PIIS2542-5196(18)30212-2/fulltext)

16 Krishna. 2019. Does caste determine farmer access to quality information? Retrieved from <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0210721#sec012>

17 Hallegatte S Rozenberg J Climate change through a poverty lens. *Nat Clim Chang*. 2017; 7: 250–256



Vulnerability is highly context specific and specific to communities.

Recently, two vulnerability assessments were undertaken at the national level and covered all the districts of India. The risk and vulnerability assessment of Indian agriculture conducted by the National Innovations in Climate Resilient Agriculture (NICRA), took into consideration certain specific vulnerability indicators of marginal farmers, and the SC and ST populations, apart from other socio-economic indicators of exposure, in locations where hazards are likely to occur in computing the overall risk index. Based on this measure of risk that considers both intensity and extensity, 55 districts were categorised as very high risk and are largely in the states of Rajasthan (17), Uttar Pradesh (10), Karnataka (5), Bihar (5), Maharashtra (4), and West Bengal (4). Of the 154 districts categorized into high risk, 31 are in Uttar Pradesh, 17 in Madhya Pradesh, 14 in Bihar, 13 in Odisha, 11 in Karnataka, 9 in Rajasthan and others in the states of Punjab, West Bengal, Kerala, Andhra Pradesh, Assam, and Jharkhand<sup>18</sup>.

The Department of Science also launched the Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework, which identified the most vulnerable states and districts in India with respect to the current climate risk and key drivers of vulnerability. While the proportion of marginal and small landholdings and the percentage of the population living below the poverty line (BPL) have been taken as indicators in this assessment, no specific indicators related to the vulnerabilities of the SC/ST populations have been considered. It also took the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) scheme and access to forest area per 1,000 rural population as indicators with negative correlation to risk assessment, assuming that the MGNREGA and having access to forest

18 <http://www.nicra-icar.in/nicrarevised/images/publications/Risk%20&%20vulnerability%20assessment%20of%20Indian%20agriculture%20to%20climate%20change.pdf>

## Disproportionate Impacts as listed in IPCC AR6



**The impact of heat** will impact particularly farmers and outdoor labourers who are increasingly exposed to high outdoor temperatures.



**Salinisation-associated changes** may disproportionately burden women responsible for securing drinking water and fuel, such as in the Indian Sundarbans.



**Malnutrition** among the poor and marginalised sections of the population in Asia is further rendered complex by climate change.



**Low income, resourceless, indigenous people** may be more susceptible to disease, live in areas that do not promote good health or well-being.



**Climate change enhances water-related extremes** in informal settlements due to poverty, overcrowding and lack of basic infrastructure.

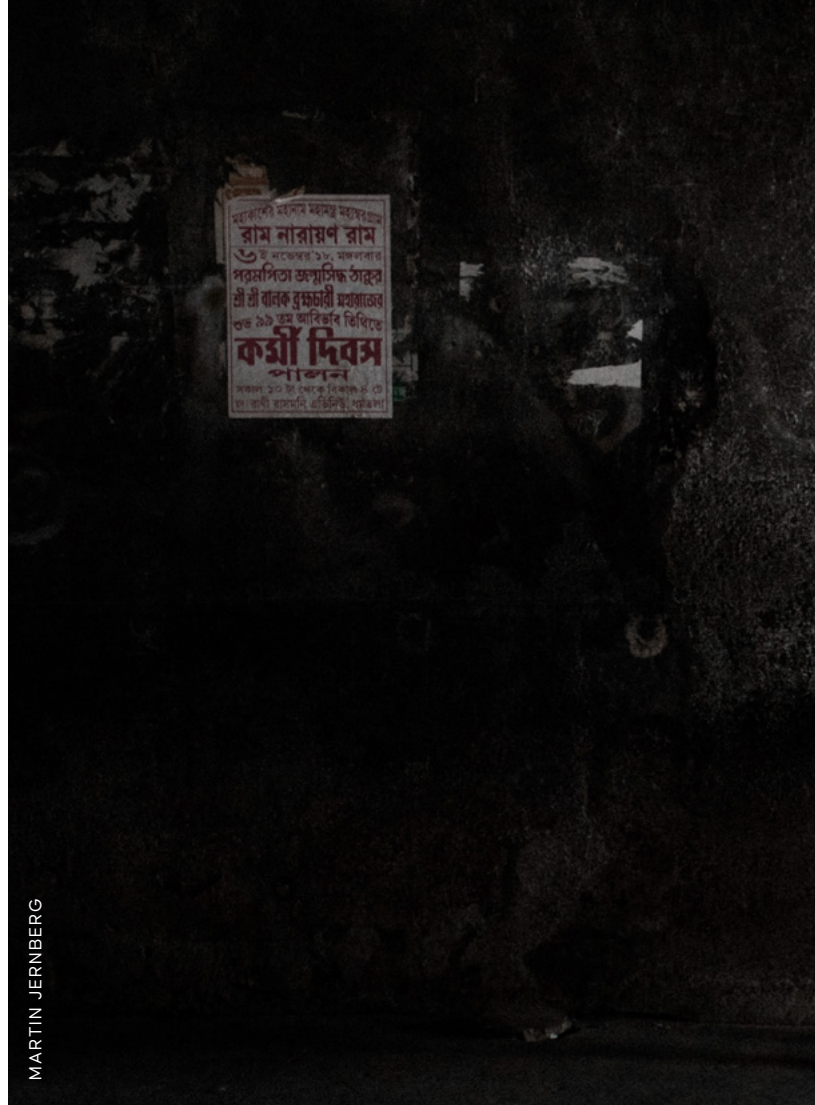
**“I am landless and rear goats for livelihoods. I lost 25 goats to a disease spread due to heavy rains, however received no compensation for loss of livestock.”**

**Jangbahadur, a landless Dalit youth, from Chinutha village, Block Moth, Jhansi district, Uttar Pradesh**

areas strengthen the adaptive capacity. However, the utilisation of the MGNREGA also indicates vulnerability in terms of dependence on daily wage employment; and most of the ST populations in rural areas are dependent on the scheme. The ST communities predominantly reside in forest rich areas, and through this assessment, tribal dominated areas may come across as less prone to climate risk, whereas the harsh reality is that STs are socio-economically vulnerable. The analysis shows that approximately 90 per cent of districts in Assam, 80 per cent of districts in Bihar, and 60 per cent of districts in Jharkhand are most vulnerable<sup>19</sup>.

The two vulnerability assessments show that the results vary depending on the indicators, objectives, and the overall methodology, and accordingly will inform the national and state level planning and financial flow on adaptation and resilience building. There is a need for very robust examination as well as a nuanced understanding of disadvantaged and vulnerable groups in the vulnerability and risk assessment. Vulnerability could also be independent of climate change as a pre-existing situation due to socio-economic development and many other reasons and informs the development policy. However, in the context of climate change, it is also the fulcrum to formulate the response for adaptation, disaster risk management and to ensure equity.

The CSE report card on the extreme weather cautions that India still lacks adequate data



MARTIN JERNBERG

on the impact of extreme weather conditions and events. There is data which informs that heat waves claimed 45 lives, but the data is not captured to inform the impact of the prolonged high temperatures on people's well-being – from farmers to construction workers – and how they would have coped with the intense heat. As per the Socio Economic and Caste Census of 2011, of the total SC population in rural India, one in two households are landless and derive a major part of their income from manual labour. This is a sizable vulnerable population belonging to the SC groups that migrates to cities and work on agricultural lands as informal casual labour. The case stories collated by the National Dalit Watch (NDW) of the National Campaign for Dalit Human Rights (NCDHR) in the Bundelkhand region of Uttar Pradesh, shows damage to crops, houses, livestock, and distress migration. However, there is no computation of the losses incurred or access to compensation by the affected people

19 Full Report (1).pdf (dst.gov.in)



### Income based Carbon Inequalities

Oxfam estimated that between 1990 and 2015, The richest 10% people accounted for 52% of the cumulative emission depleting one third of the global carbon budget.

The 40% of the global middle class accounted for 41% of the cumulative emissions, depleting one fourth of the carbon budget, while the poorest 50% accounted for just 7% of cumulative emissions, and a mere 4% of the budget.

*(Oxfam International 2020)*

owing to lack of ownership of these land in most cases (as illustrated in box items). It is important to look at the push and pull factors for migration while gathering data on the impact of climate change on construction workers and labourers working in the field. Considering the inadequate access and ownership of resources constituting higher vulnerability, interventions in the form of land reforms and favourable government policies can strengthen diversified options for livelihoods.

Apart from the nuanced understanding of vulnerability assessments and the system of data collation on the loss and damage incurred by vulnerable populations, there is also an issue of last-mile delivery. A study done by the NDW-NCDHR in the Marathwada region in Maharashtra<sup>20</sup>, a sample-based survey of a focus group of SC and ST

populations, found that the discrimination based on untouchability norms and exclusion extends to drought relief distribution either through a delay (11%) or a reduction in amount of relief materials (21%) despite the economic vulnerability of SC and ST populations. People coped with the drought by migrating (76%), selling livestock, and compromising on food choices (75%). Nearly all respondents (93%) denied having benefitted from the government's drought mitigation measures, and were neither enrolled in the MGNREGA (80%) nor in any health scheme (89%). The study concluded that given that caste-based discrimination persists, it is important that schemes adapt to specific vulnerabilities to reach out to the most marginalized on priority.

India needs to prioritise and speed up its policy and programmes for building resilience of its vast vulnerable populations and build the required ecosystems to strengthen their adaptation capacity.

20 <http://www.ncdhr.org.in/wp-content/uploads/2022/09/NCDHR-Drought-Report-low-res.pdf>





FREE CONE  
10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000



# 2

## Our Common Space – Skewed Occupation by a Few

GLOBAL WARMING DUE TO THE EMISSIONS OF GREEN HOUSE GASES (GHGS) IS A SLOW AND ACCUMULATIVE PROCESS AND FROM THE EQUITY PERSPECTIVE, THE PRESENT DISCOURSE OF CLIMATE CHANGE IS PEGGED ON THE ACCUMULATED STOCK OF GHGS, AND NOT THE ANNUAL FLOW.

The European Union (EU), and the United States of America (USA) and China together emit 41.5 per cent<sup>21</sup> GHGs, accounting for almost half of the cumulative emissions since 1751, whereas India has emitted only 3 per cent historically. Per capita emissions also bring in the distributive justice framework, and India's emissions (1.58 tons of CO<sub>2</sub> per capita) accounts for only 10 per cent of that of the US, and 17 per cent of the emissions of Germany.<sup>22</sup> The expenditure of all the carbon budget by the present generation will leave the future

21 World's Top Emitters Interactive Chart | World Resources Institute ([wri.org](http://wri.org))

22 [affordable-favourable-sustainable-lifestyles-stockholm50-background-paper.pdf](http://affordable-favourable-sustainable-lifestyles-stockholm50-background-paper.pdf) ([ceew.in](http://ceew.in))

generations gasping for air irrespective of which country had the most emissions.

Equity has been the central piece of climate change negotiations over the years, with varying perspectives of the countries in framing the equity framework. Equity needs to be assessed not just from an international perspective of the emission comparison between the Global North and Global South, but also from the viewpoint of varying socio-economic inequalities existing among countries. This necessitates analysing climate impacts and actions encompassing mitigation and adaptation from a class, caste, and gender perspective within the country as well. A study by the Research Institute for Humanity and Nature<sup>23</sup> assessed that compared to low expenditure households, the top 20 per cent of high expenditure households generate nearly seven times the carbon emissions in India.

Climate change also needs to be seen in tandem within a set of nine critical earth-system processes – planetary boundaries – within which humanity can continue to develop and thrive for generations to come<sup>24</sup> (Rockström, et al. 2009). The world has crossed the threshold for four processes: biosphere integrity (biodiversity loss and extinctions), biogeochemical flows (disrupted nitrogen and phosphorus cycles), land system change, and climate change. Sustainable production and consumption, especially lifestyle changes, are an important part of the climate justice framework and to look at the right solutions for climate change.

## 2.1 International Climate and Negotiations – Climate Justice

The Earth Summit/The United Nations Conference on Environment and Development (UNCED, 1992), Kyoto protocol (1997), Copenhagen Accord (2009) and Paris Agreement (2015) are the four significant milestones in the journey of climate negotiations for setting the tone and tenor of climate justice over the last two decades. Over the years, there has been a cumulative historical appropriation of the carbon space by the industrialised nations and a trend of quickly filling up the remaining carbon space by emergent economies and in this tragedy of commons, there are vast populations of poor people that need access to modern energy and basic services to get out of poverty. In such a scenario who should first vacate the carbon space? Considering the gravity of this situation, if the carbon budget is not cut afresh equally along with action by all, including those who did not create the problem in the first place, who would pay the cost? There are some critical questions that different nation parties grapple with at the annually held Conference of the Parties for Climate Change (COP) under the aegis of the United Nations Framework Convention on Climate Change (UNFCCC). These are, who should take responsibility for the loss incurred by the vulnerable populations; what about the future generations; and how would intergenerational equity be managed to handover a safe earth for living?

In 1999, at the Earth Summit held by the United Nations Conference on Environment and Development in Rio de Janeiro, 154 nations signed the United Nations Framework Convention on Climate Change (UNFCCC) and established an international

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23 Study Finds India's Rich Emit 7x More Emissions Than the Poor – The Wire Science

24 Ecology and Society: Planetary Boundaries: Exploring the Safe Operating Space for Humanity

environmental treaty to stabilise GHG concentrations in the atmosphere<sup>25</sup>. All the subsequent agreements on climate change are under the umbrella framework of the UNFCCC. However, the momentum of the Earth Summit was itself set by the report of Brundtland Commission - Our Common Future in 1987. The term 'sustainable development' was first coined in the Brundtland Report as 'Development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.' Sustainable development embodies the principle of intergenerational equity. It advocated for a societal transformation to a new era of economic growth – growth that is socially and environmentally sustainable<sup>26</sup>.

The first Principle (Article 3.1) adopted by the UNFCCC put the cornerstone of intergenerational justice and recognised the differential responsibilities of the nations for the common goal. It stated that 'the parties will protect the climate system for the benefit of present and future generations based on equity and in accordance with their Common but Differentiated Responsibilities and Respective Capabilities (CBDRRC).'" The convention also put responsibility on developed nations to provide finance and technology to the developing countries<sup>27</sup>. Operationalization of the UNFCCC conventions was done with the Kyoto protocol in 1997 in COP, with a binding legal protocol to reduce GHG emissions from 1990 levels and responsibility on developed countries with specific targets<sup>28</sup>. The Copenhagen Accord<sup>29</sup> agreed in to raise \$100 billion per year by 2020, to help developing countries cut carbon emissions, it also brought the US back into the climate change discussion. However, it did not bring clarity in terms of the extent



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of differential treatment between developed and developing nations<sup>30</sup>.

The Paris Climate Agreement adopted in 2015 at COP21 put the key objectives to limit the average global temperature increase to well below 2°C from pre-industrial levels, with a target of Net Zero GHG emissions by 2050. It laid the foundation of non-binding, bottom-up national pledges referred to as the Nationally Determined Contributions (NDCs) to reduce emissions by the parties. Keeping together both side by side – ambition and differentiation – is a key to climate justice. The Paris Agreement, considered a milestone in the climate negotiations, did so balancing the ambition for mitigation and differentiation of responsibilities between developed and developing countries<sup>31</sup>.

25 What is the United Nations Framework Convention on Climate Change? | UNFCCC

26 [www.un-documents.net/our-common-future.pdf](http://www.un-documents.net/our-common-future.pdf)

27 [conveng.pdf \(unfccc.int\)](http://conveng.pdf(unfccc.int))

28 [kpeng.pdf \(unfccc.int\)](http://kpeng.pdf(unfccc.int))

29 Microsoft Word - cp11add.1.doc (unfccc.int)

30 606 Lavanya Rajamani, Neither fish nor fowl (india-seminar.com)

31 S0020589316000130jra 493..514 (cambridge.org)



## 2.2 India in the International Negotiations on Climate Justice

As part of its global commitment, India has committed to the net-zero emissions goal by 2070. In the updated NDCs, India has committed to achieving about 50 per cent cumulative electric power installed capacity from non-fossil; reduce the emissions intensity of its Gross Domestic Product (GDP) by 45 per cent by 2030, and the creation of additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover. It has also committed to adopt a climate-friendly and cleaner path for the required economic development and propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation, including a mass movement for LIFE – Lifestyle for Environment. India is contributing to many global platforms such as the International Solar Alliance (ISA), Coalition for Disaster Resilient Infrastructure (CDRI) and Leadership

### Paris declaration:

**“The Government of India declares its understanding that, as per its national laws; keeping in view its development agenda, particularly the eradication of poverty and provision of basic needs for all its citizens, coupled with its commitment to following the low carbon path to progress, and on the assumption of unencumbered availability of cleaner sources of energy and technologies and financial resources from around the world; and based on a fair and ambitious assessment of global commitment to combating climate change, it is ratifying the Paris Agreement.”**

**“The delicate balance reached between developed and developing countries must be retained, and the principles such as equity and Common but Differentiated Responsibility and Respective Capabilities must be given its due”. “We must stand with the poor, marginalized and vulnerable communities who would be most impacted by climate change to show that “WE CARE”.**

*(Statement in the ministerial session of the COP24 in the Polish city of Katowice)*

Group for Industry Transition (LeadIT). India acknowledges that the global common problem of climate change needs to be tackled collectively and actively by all the nations at the same time.

India has long standing views on three key issues; first that climate change is caused by historical and high per capita annual emissions of GHGs of the developed countries. Hence, the developed nations need to take greater responsibility for mitigation. The ambitions of all nations and the urgency of time should not become a shield to add to the burden of the developing and least developed countries and the unequal distribution of the carbon budget. Thus, India has been a staunch supporter and a key spokesperson on the principle of CBDRRC, enshrined in the UNFCCC. Secondly, and related with the first issue, is the demand for space for developing countries to prioritise poverty alleviation and economic growth over climate mitigation and a differentiation between luxury and subsistence emissions. At the COP8 held at New Delhi, 2002, India pointed out that climate change and sustainable development are inter-linked and it was necessary to focus on poverty, land degradation, access to water and food and human health to effectively address climate change concerns<sup>32</sup>. In

32 Outcome and Indian stance in COPs 1 - 21 - Indian Council of World Affairs (Government of India) (icwa.in)

October 2016, as an outcome of the COP 21, India formally ratified the Paris Agreement and reiterated<sup>33</sup> its long standing view on the development space for eradication of poverty and basic service for all its citizens.

Thirdly, India holds the developed world accountable on the commitment of finance and transfer of technology. During COP25, held in Madrid, India argued for a stocktaking exercise for the fulfilment of pre-2020 commitments of developed countries, financing for developing countries, and financial teeth for the Warsaw International Mechanism on Loss and Damage<sup>34</sup>. In COP26 held in Glasgow, Scotland, India called on the developed countries for climate justice. It demanded for deeper cuts by the developed countries as they have already consumed more than their fair share of the carbon budget and all countries should have equitable access to the global carbon budget, which is a finite global common. It also demanded to track climate finance and ratchet the ambitions on climate finance by the developed countries<sup>35</sup>. Recently, India has also brought a fourth dimension related to lifestyle change and sustainable consumption, to its international stand on climate change. In Egypt, at COP27, while launching the Mission LiFE (Lifestyle for Environment), India advocated for a paradigm shift from mindless and destructive consumption to mindful and deliberate utilisation through sustainable lifestyles that optimises the use of resource and minimises waste<sup>36</sup>.

In the recently released Economic Survey 2022-23, in the chapter on climate change, India has reiterated its stand on all the four issues discussed above, thus placing equity at the centre of its position globally and a commitment to show global leadership on

**“India sees any measures which deprive its citizens of a dignified human development as a violation of human rights.”**

*COP4, Buenos Aires, 1998, Indian Environment and Forests Minister*

many fronts despite being one of the most vulnerable countries. The Economic Survey 2022-23 has acknowledged that the jobs that are likely to be created in the so-called ‘green economy’ are focused on skills and technology, rather than traditional industries. This implies that without targeted budgets for climate-resilient livelihood options both on-farm and off-farm, these communities would be ill-prepared to eke out a living with dignity and security since most of them are engaged in informal labour.<sup>37</sup>

On the domestic front, India’s climate action goals are sector specific with an intention to mainstream climate action as part of the development goals. The impact of climate change is not going to be the same for all, and investing in climate change and designing specific actions on adaptation and mitigation for resilience building may still increase the existing inequalities and vulnerabilities of the at-risk communities if the programmes are not designed based on the specific locational, social, economic and ecological vulnerabilities and risks to the poorest groups. In this context, as India has taken leadership at the global level on climate equity, it would need to showcase the same rigour in implementing the domestic climate action to place equity and inclusion at the centre of its intent.

33 XXVII-7-d.en.pdf (un.org)

34 <https://pib.gov.in/PressReleasePage.aspx?PRID=1597047>

35 <https://pib.gov.in/PressReleasePage.aspx?PRID=1795071>

36 <https://pib.gov.in/PressReleasePage.aspx?PRID=1876119>

37 Union Budget 2023-24, An Analysis of Allocations for Disaster and Climate Resilience for Scheduled Castes and Scheduled Tribes, NCDHR (2023). Available at: [http://www.ncdhr.org.in/wp-content/uploads/2023/05/UB-2023-24-DRR-CCA\\_Policy-brief-1.pdf](http://www.ncdhr.org.in/wp-content/uploads/2023/05/UB-2023-24-DRR-CCA_Policy-brief-1.pdf)







# 3.

## National Action Plan on Climate Change

THE NAPCC OF INDIA PROPOSED EIGHT MISSIONS IN 2008 TO DEAL WITH CLIMATE CHANGE WITH A CO-BENEFIT APPROACH. IT AIMS FOR HIGH ECONOMIC DEVELOPMENT TO REDUCE THE VULNERABILITY OF ITS VAST POPULATION BY ENABLING SOCIAL DEVELOPMENT.

The co-benefit approach, centered on modern energy security, enhances energy efficiency, and reduces the reliance on fossil fuels, for its vast population. In this process, it envisages that the action for climate change is not limited and can open new vistas. The NAPCC is presented as a social, ecological, and economic project in tandem. Of the eight

national missions proposed under NAPCC, four are related to adaptation – sustainable habitat, water, agriculture, and the Himalayan ecosystem. Water and agriculture are sector specific, whereas the Himalayan ecosystem and sustainable habitat with a focus on the hilly states and cities are spatial in nature. The Green India Mission (GIM) is linked with forestry and has twin objectives of adaptation and mitigation. Apart from GIM, the other two missions focusing on mitigation are solar energy and enhanced energy efficiency.

Out of the six principles underpinning the NAPCC, the first three are based on the principles of equity – (1) protecting the poor through inclusive, sustainable, and climate-sensitive development; (2) objectives of national growth and poverty alleviation linked with ecological sustainability; and (3) cost-effective strategies for end-use and demand-side management. The last three are related to strengthening an ecosystem for implementation – (4) extensive and

1. National Mission for Sustainable Agriculture
2. National Water Mission
3. National Solar Mission
4. National Mission for Enhanced Energy Efficiency
5. Green India Mission
6. National Mission on Sustainable Habitat
7. National Mission for Sustaining Himalayan Ecosystem
8. National Mission on Strategic Knowledge for Climate Change

accelerated deployment of technology for adaptation and mitigation; (5) innovative market, regulatory and voluntary mechanisms for sustainable development; (6) unique linkages with civil society, local government units (LGUs), and public-private partnerships (PPPs)<sup>38</sup>.

The NAPCC identifies the poor as vulnerable, but beyond that it does not specify vulnerable populations. It also acknowledges the pre-existing deprivations faced by women and draws attention to gender adaptations in programmes. The eight national missions flow from the overarching NAPCC framework and further implementation at the sub-national level takes through the SAPCC. Many of the missions are implemented as through various centrally sponsored schemes under respective thematic missions. In the following sections, five missions (water, agriculture, forest, solar, energy efficiency) and various schemes under each of the missions are analysed from the lens of social inclusion. This is an attempt to ensure that the social development project has not lagged and that while managing forest or water resources or bringing large solar projects, the poor are still at the center of planning and implementation.

## 3.1 National Mission for Sustainable Agriculture (NMSA)

Agriculture is the most sensitive sector to climate change. Climate change is projected to impact most of the crops in all the agro-climatic zones and have a bearing on food security. More than 50 per cent of the rural families are dependent on agriculture in India, of which more than 85 per cent were small and marginal farmers with very low income. Apart from that a large rural population work as labourers and sharecroppers on agricultural fields, facing the vagaries of climate change on their livelihoods. The sustainability of agriculture is contingent on the relevance and accessibility of climate resilient production



38 Inner 01-54-C 7.6.08 (moef.gov.in)

technology to small and marginal farmers. The impact of climate change in agriculture also needed to be looked at from the perspective of shareholders and farm labourers, who are mostly landless or with very meagre landholdings of their own. The SC community has the least of the total area operated at 8.6 per cent, the total operational holding is 11.9 per cent and 92.33 per cent of the total SC farmers are small and marginal as per the agriculture census of 2015-2016. There is also a trend of feminisation of agriculture with women operational holders reaching around 14 per cent as men migrate out and leave the women to manage the fields. Around 75 per cent of rural women are engaged in agriculture. It is important to design the adaptation in agriculture and climate smart agriculture by considering the disaggregated data while designing specific programmes and schemes as part of the climate change goals.

Operational since 2014-15, under the Ministry of Agriculture and Farmers Welfare, the

National Mission for Sustainable Agriculture is an important mission that aims to transform Indian agriculture. The goal is to focus on a climate resilient production system through suitable adaptation and mitigation measures in the domains of crops, animal husbandry and agro-forestry with a focus on diversification, conservation of natural resources, organic and integrated farming etc.

Apart from the scheme under NMSA, the Indian Council of Agricultural Research (ICAR) under the Ministry of Agriculture and Farmers Welfare is also implementing a network project – National Innovations in Climate Resilient Agriculture (NICRA). The project aims to study the impact of climate change on agriculture to develop and promote climate-resilient technologies and crop varieties to address vulnerable areas of the country. The ICAR under NICRA has also developed a district-level risk and vulnerability assessment of Indian agriculture and undertakes the development of agricultural contingency plans to take decisions in the event of delayed monsoons and other extreme weather events. The ICAR in collaboration with India Meteorological Department (IMD) issues Agromet advisories twice a week through Gramin Krishi Mausam Seva programme<sup>39</sup> (PIB, Ministry, December 2022). However, despite the advancements in climate resilient sustainable agriculture, the programme designs typically exclude the sharecroppers and other landless communities dependent on agriculture. The government programmes seemingly fall short of innovative solutions for this vast section of the farming population, which does not always own land or other means of production, but invest in labour, finance and other inputs to eke a living from sharecropping and lease farming against the surging threats of climate change.



SHAIL SHARMA

39 <https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1884236>



### 3.1.1 Schemes under NMSA

Some of the centralised schemes under the Ministry of Agriculture have been clubbed together as the NMSA. The adaptation measures as envisaged under NMSA focus on ten key dimensions—improved crop seeds, livestock and fish cultures, water use efficiency, pest management, improved farm practices, nutrient management, agricultural insurance, credit support, markets, access to information, and livelihood diversification. The intervention is through four functional areas: research and development, technologies, products and practices, infrastructure, and capacity building<sup>40</sup> (PIB, Ministry of Agriculture, 2013). The sub-mission on agroforestry and the bamboo mission, apart from livelihood diversification, also has the potential to contribute to the required tree cover and carbon sequestration. Soil health management are the technical investments on soil testing, laboratories, and facilities.

**Rain-fed Area Development (RAD):** The programme is focused on integrated farming systems and diversified farming. A cluster-based approach is proposed with water harvesting and resource conservation, soil and nutrient management activities, reclamation of problem soils, vermicomposting, and through the promotion of rain-fed areas specific crops (pulses, oilseeds, millets), horticulture, livestock, fishery and agro-forestry-based systems. It aims to enable farmers to maximise their farm returns for sustained livelihood and mitigate the impact of droughts, floods, and other extreme weather events with the income opportunity from allied activities. The rain-fed area development programme is based on the convergence of various schemes in identified rainfed districts. From the perspective of the SC and ST small and marginal farmers, rain-fed area development programme is of relevance, as they are largely dependent on rain-fed agriculture.

**Soil Health Management (SHM):** This includes initiatives like the soil health card (SHC) and strengthening soil testing labs. The health card and analysis are aimed at developing activities for improving fertility and the reclamation of problem soils.

**Integrated nutrient management and organic farming:** Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development in North Eastern Region (MOVCDNER) are two flagship schemes under this initiative. The PKVY promotes natural, resource-based, integrated and climate-resilient sustainable farming systems in a cluster mode (cluster size of 1000 ha in plain area and 500 ha in hilly area) to facilitate the marketing of organic produce. It promotes natural resource conservation, on-farm nutrient recycling and minimises the dependence on external inputs. The Bhartiya Prakritik Krishi Paddhati (BPKP) scheme, a sub-scheme of PKVY is aimed at promoting traditional indigenous practices and largely based on on-farm biomass recycling with a major stress on biomass mulching, use of cow dung-urine formulations, and the exclusion of all synthetic chemical inputs. The MOVCDNER is a focussed scheme for the north eastern states to help farmers develop value chains of production, processing, certification, and marketing through farmer producer organisations (FPOs) and farmer producer companies (FPCs) formation.

**Sub Mission on Agroforestry (SMAF):** The Sub Mission on Agroforestry has been launched to encourage tree plantation on farmland 'Har Medh Par Ped,' along with crops and cropping systems. The scheme aims at ensuring the availability of quality planting material and provide capacity building support to the agroforestry sector.

**Restructured National Bamboo Mission (NBM):** The NBM focuses on comprehensive development of the bamboo sector. It includes activities related to the development of the complete value chain of the bamboo sector

<sup>40</sup> <https://pib.gov.in/newsite/PrintRelease.aspx?relid=>



to link growers with consumers The rationale for keeping NBM in NSMA is that bamboo plantations in non-forest government and private lands is going to contribute towards resilience to climate change by supplementing farm incomes. Bamboo also stores substantial carbon in belowground parts and becomes a key to carbon sequestration and mitigation. It restores soil fertility and can grow without any fertilisers.

### 3.1.2 Specific Focus on Vulnerable Groups

Agriculture is a state subject and the implementation of all the centrally sponsored schemes is done by the state agriculture departments. However, some of the NMSA's centrally sponsored schemes may be parked with different departments under the Ministry of Agriculture. Some of the centrally sponsored

schemes are bound by the standing instruction to align the allocations with the Scheduled Caste Sub Plan (SCSP) and Tribal Sub Plan (TSP) with SC-ST disaggregation, particularly for direct benefit transfer schemes . The budgetary allocation also directs the states for 30 per cent allocation to women beneficiaries. The operational guidelines of the NMSA mission to the states stipulates the use of at least 50 per cent of the allocation for small, marginal farmers of which at least 30 per cent are women beneficiaries. Further, 16 per cent and 8 per cent of the total allocations, or in proportion of the SC and ST population in the district is to be utilized for the Special Component Plan (SCP) and the TSP, respectively<sup>41</sup> (Operational guidelines, NMSA,2014). For instance, in the current budget (2023-24) the agriculture ministry has

<sup>41</sup> [https://agricoop.nic.in/Documents/Final\\_guidelines\\_1.pdf](https://agricoop.nic.in/Documents/Final_guidelines_1.pdf)



allocated 16.62 per cent for SCs and 8.63 per cent for STs of its Central Sector (CS) and Centrally Sponsored Schemes (CSS) budget of Rs 113655.00Cr<sup>42</sup>.

The website on NMSA provides yearly disaggregated state-wise beneficiary data on the specific categories of the SC, ST, OBC and women for three schemes – RAD, NBM and SMAF<sup>43</sup>. Given that Indian agriculture is predominantly rain-fed and prone to climate risks and characterised by low levels of productivity, specific support through RAD, through diversified integrated farming, is important for the risk reduction and livelihood support for poverty alleviation. However, the total number of beneficiaries over a period of nine years gives a dismal picture and varies from 34 in Tripura to 78,686 in Tamil Nadu and less than 30,000 in most of the states. Cluster-based diversified integrated farming requires specific processes such as watershed development, convergence, and stakeholder consultation to ensure participation and ownership from the SC, ST and women beneficiaries. Same is true for all the schemes adopted in a cluster approach such as PKVY and NBM. It would be important to review the implementation of the scheme in various states from the lens of inclusion, not limited to the number of beneficiaries and disaggregated data but also the process of cluster formation and its sustainability based on stakeholder participation, engagement, and governance mechanisms. All the schemes under the NMSA have a common objective of enhancement of incomes of the farmers for resilience building. It would also be key to have the baseline data on the farmers' incomes with third-party monitoring done of income augmentation.

42 An Analysis of Allocations for Disaster and Climate Resilience for Scheduled Castes and Scheduled Tribes, NDW-NCdHR 2023, [http://www.ncdhr.org.in/wp-content/uploads/2023/05/UB-2023-24-DRR-CCA\\_Policy-brief-1.pdf](http://www.ncdhr.org.in/wp-content/uploads/2023/05/UB-2023-24-DRR-CCA_Policy-brief-1.pdf)

43 National Mission for Sustainable Agriculture (dac.gov.in)







## 3.2 National Water Mission (NWM)

The National Water Mission, one of the most critical missions under the NAPCC, was endorsed in 2011 with the objective of water conservation, minimising wastage and ensuring its more equitable distribution both across and within states, through integrated water resources development and management. It is anchored within the Department of Water Resources, River Development and Ganga Rejuvenation under the Ministry of Jal Shakti. The NWM has five goals, each espousing strategic interventions. The NWM's overall approach can be summarised as supply side management – rainwater harvesting, watershed development and eliminating inefficiencies and leakages in the system, and demand side management – water use efficiency, and balancing of demand across sectors. It also emphasises on the research on the impact of climate change on water resources geo-tagging and coding of water resources to develop a baseline for conservation. One of the criticisms that NWM faced is that it has broader objectives and lacks a climate-specific approach in its framework. It assumes that managing the overall water resources will lead to an autonomous adaptation, which means 'adaptation in response to experienced climate impacts, without planning explicitly or consciously focused on addressing climate change'<sup>44</sup>.

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44 report.cdr (ceeindia.org)

### 3.2.1. Major Schemes taken under NWM<sup>45</sup>:

Apart from the Jal Shakti Abhiyan under the mission based on people's participation on ground, the rest of the initiatives were linked with knowledge management or research by the technical agencies. In the absence of a comprehensive evaluation of the NWM in the public domain, it is difficult to assess how various research outcomes and investments in the missions are contributing towards the objectives of the mission.

Some of the key schemes under the NWM are listed below:

**Jal Shakti Abhiyan:** Catch the rain – a campaign mode programme focused on collecting and conserving rainwater during pre-monsoon and monsoon periods across urban and rural areas.

**Bureau of Water Use Efficiency:** This is a new initiative and in the formulation state, in order to fulfil the requirement of one of the goals – to improve the water use efficiency by 20 per cent. The proposed Bureau will be a facilitator for the promotion of improving water use efficiency across various sectors namely irrigation, drinking water supply, power generation, industries and more, in the country<sup>46</sup> (Notification, BWUE).

**Research, Action Research and Baseline Studies:** The NWM has been extending financial assistance for research on assessing the impact of climate change on water resources. Currently, a project is on the rejuvenation and restoration of Nainital Lake and another demonstration implemented by the IIT Roorkee is on Irrigation efficiency improvement through on-farm management. Aligned with the goal on water use efficiency at least by 20 per cent, the NWM is also supporting 26 baseline studies<sup>47</sup> in the irrigation projects conducted by four technical

#### Goals of NWM

- Comprehensive water data base in public domain and assessment of impact of climate change on water resource;
- Promotion of citizen and state action for water conservation, augmentation and preservation;
- Focused attention to vulnerable areas including over-exploited areas;
- Increasing water use efficiency by 20%, and
- Promotion of basin level integrated water resources management.

institutions covering six states.

**State Specific Action Plans (SSAPs):** The state specific action plans were envisaged as a comprehensive policy at the state level for integrated water management to be developed in each state/UT to promote sustainable water governance, and later after 2015, integrated climate change adaptation. In practice, most states prepared irrigation sector improvement plans, and in 2017, the states were provided with a template to track all sources and uses of water in the form of sub-basin-level balance sheets<sup>48</sup>.

### 3.2.2 NWM from the Lens of Building Resilience of the Vulnerable Populations

There is pre-existing inequity in the adequacy of supply and access to water, especially faced by the SC and ST populations in rural areas. The nexus between untouchability, water access and caste is well established. A study of the National Dalit Watch of NCDHR

<sup>45</sup> <http://nwm.gov.in>

<sup>46</sup> Notification\_BWUE-20.10.2022.pdf (nwm.gov.in)

<sup>47</sup> <http://nwm.gov.in/climate-change>

<sup>48</sup> 27\_Chapter\_27\_498-518.indd (silverchair.com)





(Girija, 2022)<sup>49</sup>, in the Marathwada region found that 72 per cent of people lacked access to adequate water for drinking and maintaining hygiene during droughts; insufficiency of public wells and natural water bodies whereby 45 per cent of the respondents had to walk up to a kilometer to fetch water; a considerable lack of school water tanks, with even public water tanks

catering to just around 30 per cent of the respondents. Access and control of public water resources is one way in which caste hierarchies are manifested. Therefore, it is imperative for climate and social justice to integrate special protection focus on SC-ST communities in public water resource interventions.

The National Water Mission document and its schemes are silent on the equity aspect. The reference to vulnerability or vulnerable is made only in the context of water-stressed areas and it identifies vulnerable areas as (a) drought-prone areas, (b) flood-prone areas,

49 'Droughts, Dalits and Adivasis- A Study on the Impact of Droughts catalysed by Climate Change on the Dalits and the Adivasis of Marathwada region of Maharashtra', NCDHR. (2022) <http://www.ncdhr.org.in/wp-content/uploads/2022/09/NCDHR-Drought-Report-low-res.pdf>



(c) the coastal regions, (d) the region with deficient rainfall, (e) areas with over-exploited, critical, and semi-critical stage of ground water development, (f) water quality affected areas, and (g) snow-fed river basins. Explicit participation with the grassroots stakeholders appears only in the context of Goal 2 of the NWM, 'Promote Participatory Irrigation Management', focusing on the empowerment and involvement of Panchayati Raj Institutions (PRIs), urban local bodies, water users' associations and primary stakeholders in water conservation, augmentation, and preservation.

Aligned with goal 2, in March 2020, *Catch the Rain* was started by the National Water Mission. This was built on the previous campaign Jal Shakti Abhiyan (JSA) run by the Department of Drinking Water and Sanitation, which focussed on water-stressed districts. After the launch in 2021, the campaign used the existing NREGA funds in rural areas, Atal Mission for Rejuvenation and Urban Transformation (AMRUT) funds in urban areas, and Compensatory Afforestation Fund Management and Planning Authority (CAMPA) funds in forest areas. However, the campaign monitoring dashboard lacks the data on participation of marginalised populations and those who benefitted from the rejuvenated water sources. In the absence of such data particularly where the dedicated funds for the SC-STs are being utilised for such schemes, it is difficult to assess the last-mile connectivity of the scheme with SC-ST communities as well as the ownership, management and sustainability of the water structures created at the local level. Therefore, it is essential to have participatory water governance and

planning approach for the NWM.

## 3.3 National Solar Mission

The National Solar Mission (NSM) was launched on 11<sup>th</sup> January 2010, and anchored by the Ministry of New and Renewable Energy (MNRE). The mission targets the installation of 100 GW grid-connected solar power plants by the year 2022. This is in line with India's INDC target to achieve about 50 per cent cumulative electric power from non-fossil fuel-based energy resources. The NSM is considered a major initiative for India's climate change mitigation efforts on the one hand and to meet India's energy security challenges while promoting ecological sustainable growth on the other. The mission envisages the active participation of states at the country level by creating policy conditions for solar technology diffusion across the country, and to establish India as a global leader in solar energy<sup>50</sup> (Solar Current status; MNRE).

### 3.3.1 Major Schemes and Initiatives under NSM

There are centralised grid-connecting schemes, which require large infrastructure, especially land for installations such as the Solar Park Scheme, Central Public Sector Undertaking (CPSU) Scheme, Defence Scheme, Canal Bank and Canal Top Scheme, Bundling Scheme, and Grid Connected Solar Rooftop Scheme. All the schemes under grid connection are large scale with production at the centralised level, except for the solar roof top and a part of the solar pump schemes, which are smaller in scale and decentralized. The development of solar parks and ultra-mega solar power projects were rolled out in December 2014, with an objective to facilitate the solar project developers to set up projects

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50 solar mission; MNRE's website; current status



expeditiously with all statutory clearances<sup>51</sup>. As on 30 September 2022, the government has sanctioned the entire target capacity of 40 GW for the development of 59 solar parks in 16 states<sup>52</sup>. The CPSU Scheme is also a large-scale scheme by the government producers for setting up solar power projects with viability gap funding (VGF) support.<sup>53</sup> The Indian Railways has been committed to achieving net zero carbon emission by 2030 by orienting its energy demand towards renewable sources. As of November 2022, plants generating about 143 MW of solar power (both on rooftops and on land) and about 103 MW of wind power have been commissioned<sup>54</sup>.

Prime Minister Kisan Urja Suraksha Evam Utthaan Mahabhiyan (PM Kusum Scheme), implemented by the Ministry/Department

of Agriculture is a major initiative at the decentralized level. The PM-KUSUM scheme targeted to achieve 10,000 MW capacity through the installation of grid-connected solar power plants each with a capacity of up to 2MW and solarisation of 35 lakh agriculture pumps. Additionally, the scheme aims to provide additional income for farmers by generating solar power. As per the Scheme, the implementation agencies in the States/UTs have to provide priority to the small and marginal farmers while selecting the beneficiaries. Further, separate budgetary allocations are made under the Scheme for the beneficiaries belonging to SC and ST and those living in the north-eastern states. However, the scheme is silent on the targeted number of SC/ST households coverage despite the allocation of the Scheduled Caste Sub Plan and Tribal Sub Plan (SCSP-TSP) funds<sup>55</sup>.

51 <https://mnre.gov.in/solar/schemes>

52 Economic Survey (indiabudget.gov.in)

53 <https://mnre.gov.in/solar/schemes>

54 Economic Survey (indiabudget.gov.in)

55 <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1881947>



The MoNRE budget estimate (BE) for FY 2023-24 is Rs. 9874.81Cr for transitioning to renewable energy sources. This is a 45 per cent increase from FY 2022-23 BE. Solar power bagged 75.61 per cent of the Ministry's total central sector scheme budget. Under the solar schemes, three lakh solar street lights, distribution of 25 lakh solar study lamps, and the installation of solar power packs was undertaken. These schemes have drawn resources from SCSP and TSP but lack clear targets on SC-ST beneficiaries.

### 3.3.2 From the Lens of Social Equity

As the transition takes place from conventional to renewable energy, it is important to consider the following three aspects:

The impact of energy transition on the marginalised communities and how the labour force employed in coal plants would get adequately and decently employed in other sectors, including the renewable energy sector.

Seamless access of the SC-ST population to solar and renewable energy sources with systems for maintenance and repair particularly as the SCSP and TSP funds are being utilised for the scheme

The requirement of land and other natural resources for transition is not in conflict with the resources needed by the vulnerable population for livelihoods.

The documents pertaining to various schemes under the solar mission are not explicit on the issue of equitable and sustainable access. The scheme focuses on achieving the committed energy generation targets and not the beneficiary targets, let alone disaggregated beneficiary data. There have been instances of land conflicts in large centralised schemes. Schemes such as solar parks contribute to overall energy security, however, they require massive land acquisitions and demand other natural resources such as water. There are

existing claims on these resources by the poor and marginalised communities and becomes a key area of concern if the mitigation and energy security efforts are not detrimental to climate resilience and adaptation of the local population.

In Pavagada, Karnataka, the government acquired 13,000 acres through leases, which impacted the livelihood options of women and Dalit farmers without farm livelihood and grazing land<sup>56</sup>. More than half of the rural households, mostly SCs and STs, do not own any agricultural land and are dependent on common pastures, public lands, and wastelands for subsistence, but with no clear land rights. On the other hand, the identification of such land for the large solar parks is the cause of many conflicts across the country. In Gujarat's Charanka, a 600 MW solar park has cut off a semi-nomadic shepherd community from their customary migratory routes. In Kerala, villagers protested the Kasaragod Solar Park that was coming up on community-used land, and got the government to scale its capacity down from 200 MW to 50 MW<sup>57</sup>. The conflict between land usage for fuel and food need to be settled by respecting the usage rights of the local communities and by siting the projects on low impact lands focusing on just energy transition<sup>58</sup>.

A study on the solar power policies at the state level from the energy democracy and justice lens concluded that while energy justice concerns are not the core of state solar policies, there are innovative provisions in some of them that could create a more fair and participatory system if scaled<sup>59</sup>.

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56 In Karnataka's Biggest Solar Park, As Land & Livelihoods Lost, A Warning To India's Solar Dreams — Article 14 ([article-14.com](https://www.article-14.com))

57 How solar farms fuel land conflicts | Mint ([livemint.com](https://www.livemint.com))

58 Land conflicts on the horizon as India pursues a clean energy future ([mongabay.com](https://www.mongabay.com))

59 [how-just-and-democratic-is-indias-solar-energy-transition-an-analysis-of-state-solar-policies-in-india.pdf](https://www.cambridge.org/core/terms/https://doi.org/10.1017/9781108888888.003) ([cambridge.org](https://www.cambridge.org))



## 3.4 National Mission for Enhanced Energy Efficiency (NMEEE)

The NMEEE aims to enhance energy efficiency through market mechanisms by creating a conducive regulatory and policy regime. It is based on the approach of fostering innovative and sustainable business models to achieve energy efficiency across various sectors. The mission under the Ministry of Power was approved in 2010, and seeks to upscale the efforts to unlock the market for energy efficiency through the Bureau of Energy Efficiency (BEE). The approach on decreasing the carbon intensity of India's future growth is important not only as part of the domestic policy for future energy security, but also as part of India's international pledges. Under its Nationally Determined Contribution

(NDC) to the 2015 Paris Agreement, India has committed to reduce the emissions intensity of its GDP by 33 to 35 per cent.

### 3.4.1 Major Schemes under NMEEE<sup>60</sup>

1. Perform Achieve and Trade Scheme (PAT), a market-based mechanism to enhance the cost effectiveness in improving the energy efficiency in energy intensive industries through the certification of energy saving, which can be traded.
2. Market Transformation for Energy Efficiency (MTEE) for accelerating the shift to energy efficient appliances in designated sectors through innovative measures to make the products more affordable.
3. Energy Efficiency Financing Platform (EEFP) for creation of mechanisms that would help finance demand side management programmes in all sectors by capturing future energy savings.

60 Energy Efficiency | Government of India | Ministry of Power ([powermin.gov.in](http://powermin.gov.in))



4. Framework for Energy Efficient Economic Development (FEEED) for development of fiscal instruments to promote energy efficiency.

The PAT scheme targets big energy intensive industries with market mechanisms. The EEP scheme provides a platform between financial institutions and project developers for energy efficiency projects; and FEEED is designed to develop fiscal instruments like Partial Risk Sharing Facility (PRSF) to provide partial credit guarantees to cover risks (PIB 10 Aug, 2021). The three schemes work towards transforming the overall approach and strengthening an energy efficient ecosystem. Under MTEE, UJALA<sup>61</sup> [Unnat Jyoti by Affordable Light Emitting Diode (LED) for All] was launched in 2015, under the LED-based Domestic Efficient Lighting Programme (DELP) scheme to provide energy-efficient LED bulbs to domestic consumers at an affordable price. The Street Lighting National Programme (SLNP) was launched in 2015 as Prakash Path – a national programme for the adoption of LED street lighting with an objective to convert conventional street lights with energy efficient LED street lights. The other component under MTEE, is a new programme called Super-Efficient Equipment Programme (SEEP). Under this programme, ceiling fans have been identified as the first appliance to be adopted. The goal is to support the introduction and deployment of super-efficient 35W ceiling fans, as against the current average ceiling fan sold in the Indian market with about 70W rating.

### 3.4.2 NMEEE with Focus on Vulnerable Populations and Equity

The UJALA programme focussed on replacing of incandescent lamps with LED bulbs for domestic consumers. The programme is universal in nature, and 36.79 crore LED

bulbs were distributed as of March 2022.

The programme was successful in bringing down the retail price of the LED bulbs by 85 per cent (from Rs. 300- 350 to Rs. 70-80 per bulb)<sup>62</sup>. For the street light programme, the EESL joined hands with the urban local bodies (ULBs), municipal bodies, gram panchayats (GPs) and central and state governments to implement the SLNP across India and has installed over 1.23 crore (as on 16.03.2022) LED street lights<sup>63</sup>.

Given the no-subsidy approach, but lowering the cost through demand aggregation, the initiative is universal in nature, and there has not been any focus target group under this scheme. The initiative has been cited as successful in creating a large and sustainable market for LED bulbs at reduced prices, and by bringing new users at an exponential rate. A study cited that despite the large outreach, low-income households, and small commercial establishments continue to buy incandescent bulbs due to their lower upfront costs<sup>64</sup>. The UJALA scheme requires proof of identity and the latest electricity bill to avail the scheme. If the buyer wants to purchase the bulb in instalments, the latest electricity bill is required so that the subsequent instalments get added to the bill. However, it may constrain populations living in rented houses in low-income areas, especially in slums. In the Street Light Programme also, there is no specific focus for outreach in low-income areas in the cities. Though the overall approach is market-based, the most vulnerable populations need access to affordable modern energy for resilience and development needs. Therefore, it would be critical, that the BEE takes some of the studies from the inclusion perspective and required reforms for last-mile delivery.

61 also known as the LED-based Domestic Efficient Lighting Programme (DELP)

62 <https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1808264>

63 <https://pib.gov.in/PressReleaseDetailm.aspx?PRID=1808264>

64 [https://shaktifoundation.in/wp-content/uploads/2017/10/UJALA\\_Low-res.pdf](https://shaktifoundation.in/wp-content/uploads/2017/10/UJALA_Low-res.pdf)





## 3.5 Green India Mission (GIM)

The mission is vested with the Ministry of Environment, Forest and Climate Change (MoEFCC), which is also the nodal ministry for overall climate negotiations at the international level. Forest ecosystems are an important part of India's domestic climate policy. Millions of people in India are dependent on forests for their livelihoods. Launched in 2014, the GIM aims at a mix of adaptation and mitigation measures. There are three goals under the GIM, the first two are related to the quantity and quality of the forest ecosystem, and the third is focussed on forest dependent communities. The mission targets increasing the forest cover by 10 million hectares of forest and non-forest lands and

### Goals of Green India Mission

- To increase forest/tree cover to the extent of 5 million hectares (mha) and improve quality of forest/tree cover on another 5 mha of forest/non-forest lands;
- To improve/enhance eco-system services like carbon sequestration and storage (in forests and other ecosystems), hydrological services and biodiversity; along with provisioning services like fuel, fodder, and timber and non-timber forest produces (NTFPs);
- To increase forest-based livelihood income of about 3 million households.



improving the quality of the existing forest. Sequestration from forests as a mitigation measure is one of the key targets by India under the INDC. It has committed to create an additional carbon sink of 2.5 to 3 billion tonnes of CO<sub>2</sub> equivalent through additional forest and tree cover, to increase forest cover from 25 per cent at present to 33 per cent, and to restore 26 million hectares of land by 2030 as part of its international commitment.

There are many claims on forests – industry, mining, infrastructure, forest dependent communities, climate mitigation, and defence projects. Hence, the governance of forests through the lens of equity is critical. The forest policy shift in 1988 emphasized the primary claim of the forest for the tribal and poor people, including SCs, living within and near forests over fuel-wood, fodder, non-timber forest produce (NTFP) and construction timber. These rights and concessions enjoyed by them need to be fully protected.

### 3.5.1 Major Initiatives and Schemes under GIM

The GIM has been divided into five sub missions and an intervention area. The GIM prepared the operational guidelines for the sub missions and the funds are provided by the centre to the state forest departments for its implementation. These sub missions are:

SM-1: Enhancing quality of forest cover and improving ecosystem services

SM-2: Ecosystem restoration and increase in forest cover

SM-3: Enhancing tree cover in Urban & Peri-urban areas (including institutional lands)

SM-4: Agro-Forestry and Social Forestry (increasing biomass & creating carbon sink)

SM-5: Restoration of Wetlands

Intervention: Promoting alternative fuel energy and livelihood support to households (biogas, solar devices, liquefied petroleum gas (LPG),

biomass-based systems, improved stoves)

### 3.5.2 GIM from the Inclusion Lens

The GIM document in its context setting acknowledges that nearly 27 per cent of the total population of India, including 89 million tribal people depends on forests for their livelihoods.<sup>65</sup> (GIM Mission Document). However, within the mission document, the approach on livelihoods is seemingly diluted. The diversified livelihoods and target are not further operationalised as a sub-mission or intervention area, assuming that the labour and wages generated through plantation work will automatically augment the income of forest dependent communities.

The third-party evaluation of the scheme by the Forest Research Institute (FRI,) is limited to the number of saplings and survival rates and says nothing about livelihoods, tribal people, SC, poor people, women or any of the dimensions related to the third objective of the mission. The GIM approach for carbon sequestration in India's forested areas has been concentrated on promoting large-scale mono-cultural plantation activities, mostly eucalyptus and teak, using CAMPA funds. There is little role for the forest communities in the decision-making process of such plantation activities and livelihood incentive for the community to restore the forested landscape. Union Budget allocation for the National Green India Mission stood at BE Rs. 220.00 Cr in 2023-24, of which 6.82 per cent has been allocated for SCs and 9.09 per cent for the STs.<sup>66</sup> Yet from the evaluation report and the guidelines of GIM, it is difficult to assess how these communities are being engaged and how many (households, villages/ communities) benefit from the scheme.

Apart from the monoculture, the other concern

65 GIM\_Mission-Documents-1.pdf (moef.gov.in)

66 Dalit Adivasi Budget Analysis 2023-24, National Campaign on Dalit Human Rights-Dalit Arthik Adhikar Andolan

of tree plantation as a solution to climate change has further led to narrow framing of the forest for carbon and not as an ecosystem with decentralised forest governance. Resolving the governance issue will be crucial to improving the synergies and reducing trade-offs between carbon sequestration, local livelihoods, and conservation, and for seeing lasting impact on the ground. Various studies have shown that the legal forest rights for communities and government protection of their rights tend to lower carbon dioxide emissions and deforestation<sup>67</sup>.

According to state-level stakeholders interviewed by the NITI Aayog as part of the evaluation of centrally sponsored schemes on climate change, awareness generation activities pertaining to climate change were not being undertaken. Sub-schemes of GIM, like the National Afforestation Programme (NAP) are meant to address climate change, but the monitoring of the level of carbon sequestered was not being done by most states and climate change was not considered as an explicit factor while planning activities under the sub-schemes. The evaluation report further suggests that more efforts are needed to incorporate the effects of climate change into the planning of scheme activities and awareness generation on the subject among the state forest departments and communities. Reinforcing the action point in the fourth meeting of the National Executive Council for the GIM, recommended the MoEFCC to undertake a consultative process involving states, experts, and civil society stakeholders and to prepare a strategic plan. It further envisages that this strategic plan can also have scheme-specific outputs developed and incorporated in the guidelines along with clear targets, timelines, and funding requirements to achieve their contribution to

the national and international goals<sup>68</sup>.

Going ahead, it would be important to prepare a strategic plan in consultation with various stakeholders as suggested by the NITI Aayog as well as the GIM's Executive Council. In the strategic plans, due recognition to decentralised governance of the forest through gram sabhas with adequate participation of SCs, STs and women need to be ensured with a measurable target of enhanced and diversified livelihoods in a time bound manner.



67 Securing Rights, Combating Climate Change, a report by WRI analyzes the growing body of evidence linking community forest rights with healthier forests and lower CO2 emissions from deforestation and forest degradation.

68 Thematic-report-Climate-change-and-Sustainability\_15-09-2022.pdf (dmeo.gov.in)



## 3.6 Means of inclusion in NAPCC Missions- An Overview

Name of the mission	Key centralized schemes and interventions under the mission	Inclusion of SC, ST and women in guidelines	Disaggregated data on inclusion in implementation
National Mission on Sustainable Agriculture	<ul style="list-style-type: none"> <li>Rain-fed Area Development</li> <li>Soil Health Management</li> <li>Integrated Nutrient management and organic farming</li> <li>Sub Mission on Agroforestry</li> <li>Restructured National Bamboo Mission</li> </ul>	At least 50% of the allocation is to be utilized for small, marginal farmers of which at least 30% are women beneficiaries/ farmers. Further 16% & 8% of the total allocation or in proportion of SC/ST population in the district will be utilized for Special Component Plan (SCP) and Tribal Sub Plan (TSP) respectively.(Operational guidelines, NMSA,2014	The website on NMSA provides disaggregated state wise and year wise beneficiary data on the specific categories of SC, ST, OBC and women for three schemes - Rain-fed Area Development Sub Mission on Agroforestry and Restructured National Bamboo Mission
National Water Mission	<ul style="list-style-type: none"> <li>Jal Shakti Abhiyan</li> <li>Bureau of water use efficiency</li> <li>Action research and Baseline studies</li> <li>State specific Action plans</li> </ul>	Omission in guidelines about SC, ST, women or any specific vulnerable group	Monitoring dashboard is only available on the campaign- Jal Shakti Abhiyan. It also does not give an idea that how many beneficiaries belonging to marginalized populations participated or benefitted from the water sources rejuvenated
National Solar Mission	<p><b><u>Centralized Grid Schemes</u></b></p> <ul style="list-style-type: none"> <li>Solar Park Scheme; Central Public Sector Undertaking (CPSU) scheme, Defence Scheme, Canal bank &amp; Canal top Scheme, Bundling Scheme</li> </ul> <p><b><u>Decentralized Scheme</u></b></p> <ul style="list-style-type: none"> <li>PM Kusum Scheme</li> </ul> <p><b><u>Deployment of appliances</u></b></p> <ul style="list-style-type: none"> <li>Atal Jyoti Yojan; Saubhagya</li> </ul>	None of the major schemes mention about vulnerable populations except for PM Kusum scheme targeting small and marginal farmers, implementing agency - agriculture line departments, where budget allocation for SC and ST is mandated.	Not available

Name of the mission	Key centralized schemes and interventions under the mission	Inclusion of SC, ST and women in guidelines	Disaggregated data on inclusion in implementation
National Mission for Enhanced Energy Efficiency	<ul style="list-style-type: none"> <li>• Perform Achieve and Trade Scheme</li> <li>• Market Transformation for Energy Efficiency (UJALA and “Prakash Path)</li> <li>• Energy Efficiency Financing Platform</li> <li>• Framework for Energy Efficient Economic Development</li> </ul>	<p>Omission in guidelines and various schemes about provisioning to vulnerable population.</p> <p>UJALA is universal in nature, market based intervention. No specific mention to reach out to low income group</p>	No disaggregated data on inclusion under UJALA
Green India Mission	Formulation of any specific centralized scheme is missing .	<p>Mission document mentions about dependence of tribal population on forest. Beyond that it does not specifically mention in mission document and its guidelines about inclusion of SC, ST or women</p>	Not available



# 4.

## Strengthening Inclusion– Conclusions & Recommendations

AS THE NAPCC COMPLETES 15 YEARS OF EXISTENCE, IT IS IMPORTANT TO REVISIT THE OVERARCHING GUIDING ACTION PLAN TO PLACE EQUITY AT THE HEART OF ITS VISION AND MISSIONS. IT IS FURTHER RECOMMENDED THAT THE CENTRALISED SCHEMES, RESEARCH, AND CAMPAIGNS UNDER VARIOUS MISSIONS ARE REMODELLED AND BOLD ON EQUITY AND INCLUSION INDICATORS.

The same needs to be enforced by the MoEFCC in the states during the revision of the state climate action plans through advisories. Following are the main conclusions of the study with recommendations for policymakers and the concerned national authorities on climate change.

1. The NAPCC identifies the poor as vulnerable, but beyond that it does not specify vulnerable populations. It also acknowledges the pre-existing deprivations faced by women and draws attention to gender adaptations in programmes, but masks caste and ethnicity and intersectionality with gender. Caste and ethnicity induced vulnerability is a pre-existing condition that determines the differential impact of climate change on SCs, STs and other marginalised communities.

Recognise the socio-economic vulnerabilities of the SCs, STs and women from these communities in implementing and monitoring the NAPCC missions.

2. The absence of recognition of the pre-existing caste and ethnicity-induced vulnerabilities make it difficult to assess the extent of climate change impact on the SC and ST populations. It could be those forced to migrate due to recurrent droughts and failure of agriculture, those severely affected by heat waves or those who are ravaged by unseasonal rains, floods, and cyclones. It becomes unviable to ensure the efficient and effective last mile delivery of climate adaptation programmes/schemes unless they are designed considering the conditions of SC, ST, and other vulnerable groups.

Utilise demographic data on human development and deprivations for the SC and ST populations from government data sources to inform the NAPCC missions on climate adaptation of the actual needs for adaptation of these segments.

3. The Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework, by the Department of Science and Technology is a laudable initiative. The indicators chosen for the assessment need to be more relevant and related directly to the SC and ST peoples' socio-economic vulnerabilities and needs for adaptation. General indicators of poverty and those such as enrolment in schemes like MNREGA, and presence of forests in their habitat, which have been chosen do not capture the real vulnerabilities.

It is crucial that the assessments that form the basis of CCA planning/programming the leaders of the SC and ST communities and the academics

who have scientifically studied their vulnerabilities are consulted.

It is recommended that the next round of the Climate Vulnerability Assessment for Adaptation Planning in India Using a Common Framework considers the above aspects.

4. The NAPCC missions which are the basis for climate mitigation and adaptation schemes at the national and state levels are generally silent on physical targets for the SC and ST beneficiaries, particularly where allocations for welfare of Scheduled Castes and Scheduled Tribes, respectively, are being utilised for the implementation of the schemes, which violates the guidelines of the NITI Aayog. Moreover, the inadequate or absence of lack of disaggregated data makes it unfeasible to assess the benefits of adaptation programmes/schemes realised by the communities.

As mandated by the NITI Aayog guidelines on the allocations for the welfare of Scheduled Castes and Scheduled Tribes,<sup>1</sup> set clear targets for the SC/STs under the NAPCC programmes/schemes ensuring the budgets are utilised in a targeted manner for these segments.

5. Government of India has always emphasised climate justice as the cornerstone of its climate negotiations. It has spearheaded the demand for space for developing countries to prioritize poverty alleviation and economic growth over climate mitigation and a differentiation between luxury and subsistence emissions. It has also highlighted the necessity to focus on poverty, land degradation, access to water and food and human health to effectively address climate change concerns.

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1 Guidelines for earmarking of funds for Development Action Plan for SCs and STs (DAPSC & DAPST)



It is imperative that the same principles are applied rigorously to the internal situation within India too considering the socio-economic inequalities prevalent between diverse population groups as available from various data sources of the Government of India.

Collect disaggregated data; and include indicators on inclusion in key impact indicators for the missions.

6. The notion of climate justice needs to be based on an analysis of climate impacts and actions encompassing mitigation and adaptation from class, caste, and gender perspectives within the country as well. The principle of equity has been advocated internationally by the Government of India. This is essential to address inequalities that cause unequal impact of climate change on the poorest and marginalised segments. It is important to acknowledge that compared to low-expenditure households, the top 20 per cent of high expenditure households emit nearly seven times more carbon in India.

Enforce the principle of equity-based climate just actions within the country as well-being in consultation with CSOs and leaders from these communities.

Invest in and enable climate champions from across diverse population groups, including the SC and ST segments at various levels through trainings and workshops for which additional budgetary allocations and initiatives are required and recommended.





## National Dalit Watch- NCDHR

NCDHR (1998) through a dedicated disaster and climate resilience unit, the National Dalit Watch (NDW), has been working on making disaster response, risk reduction and climate change resilience measures inclusive, just, and equitable. Towards this, NDW facilitates social inclusion assessments of losses and damages; people's awareness on rights-in-disasters, and accompanies the disaster affected population in accessing social protection schemes; enabling community leaders on DRR & CCA, and people's representations to the authorities for disaster and climate resilience. NCDHR, at present, is Chairing the Sphere India Governing Board, a national coalition of humanitarian, development and resilience organisations.



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