



XV WORLD FORESTRY CONGRESS

Building a Green, Healthy and Resilient Future with Forests

2-6 May 2022 | Coex, Seoul, Republic of Korea

Trajectory of Forest Management to meet Climate Challenge: Policy formulation in Jharkhand (India)

Sanjeev Kumar, IFS¹

1. Additional Principal Chief Conservator of Forest, CAMPA, Jharkhand, India
Department of Forests, Environment and Climate Change, Jharkhand, India

Email id- sanjeevkumar201@gmail.com

ABSTRACT

Climate change is one of the defining issues of contemporary world, closely related to economic development based on natural resources. Impacts and risks related to climate change can be reduced and managed through adaptation and mitigation. A sustainable development approach may render solution for mitigation of Green House Gases and simultaneously, may also delve into the prospects of adaptation. For example ecosystem based adaptation (EBA) to climate change has potential to achieve objectives of REDD+. The economy of Jharkhand state of India is closely tied to its natural resource base and climate sensitive sectors like forestry, agriculture, water and health. An adverse impact on these sectors and climate related hazards exacerbate other factors, often with negative outcome which threatens livelihood option to the poor and marginalized people. The policies and documents enunciated by the government of India and subsequently by the government of Jharkhand recognize the potential for synergies between climate change mitigation and approach adopted for adaptations. Forests play an important role in climate change. Mitigation and Adaptation are two options for addressing climate changes. As per IPCC LULUCF Report, we have three types of mitigation activities in the forestry sector- Afforestation, Reforestation and avoiding deforestation. Forests play a role in adaptation of communities dependent on forests by providing local ecosystem services. A REDD+ approach is necessary for forest conservation and to maintain carbon stock. Sustainability of forests management is an essential component to meet climate challenge. The paper reviews area of vulnerability, area of improvement, action and policy thrusts which can make forests more resilient to natural disasters and shocks. It also discusses future drivers of land use change, connecting REDD+ for Sustainable Forest Management, enhancement of forest carbon stock and achieving Sustainable Development Goals.

Keyword: Climate challenge, Forest management, Jharkhand, Policy

Introduction

Climate change is a major issue for indigenous people around the world. It refers to a change in the state of the climate that can be identified by changes in the mean and/or the variability of its properties, and that persists for an extended period. United Nations Framework Convention on

Climate Change (UNFCCC) defines climate change as: ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.’

Realizing the need of an international effort to address issues of climate changes several conferences, negotiations and treaties have been held at international level and national level. At international level we have Earth Summit, Brundtland Commission Report, and Kyoto Protocol etc.

Forests play an important role in climate change. Mitigation and Adaptation are two options for addressing climate changes. As per IPCC LULUCF Report, we have three types of mitigation activities in the forestry sector- Afforestation, Reforestation and avoiding deforestation.

Forests play a role in adaptation of communities dependent on forests by providing local ecosystem services. A REDD+ approach is necessary for forest conservation and to maintain carbon stock. Sustainability of forests management is an essential component to meet climate challenge. Climate issues have been integrated with other issues of Millennium Development Goals and Sustainable Development Goals. On the basis of goals achieved by MDGs, a new sustainable agenda will take shape to carry forward these goals beyond 2015. On the edifice of SDGs and MDGs, Government of India have enunciated the policy of Sabka Sath, Sabka Vikas “(Together with all, Development for All)”. It makes development economically, socially and environmentally sustainable and promises ‘first claim on development belongs to the poor’.

Against the backdrop of these facts, the paper reviews area of vulnerability, area of improvement, action and policy thrusts which can make forests more resilient to natural disasters and shocks. It reviews present status of India’s various policies related to forestry sector. It also discusses future drivers of land use change, connecting REDD+ for Sustainable Forest Management, enhancement of forest carbon stock and achieving Sustainable Development with special reference to Jharkhand state of India.

Results and Discussions

Various Policies of India addressing forestry sector and forest dependent people

Major policies and Reports pertaining to forestry sector and Sustainable Forest Management (SFM) since independence of India (1947) are:

1. Forest Policy of 1952: It provides for a comprehensive guidelines for management and protection of forests and recommends that 33% of the total geographical area of the country should be brought under forest and tree cover.
2. National Commission on Agriculture (1972): The commission recommended large scale plantation on community and private land through social forestry. Massive plantation on forest land was also recommended to meet the timber and fuel wood requirement.
3. Forest Conservation Act 1980: The act was enacted in 1980 to regulate the diversion of forest lands for non-forestry purposes.
4. Forest Policy of 1988: It covers a comprehensive approach for sustainable forest management. The basic guiding objectives are-

- i. Maintenance of environmental stability and restoration of the ecological balance
- ii. Conserving the natural heritage of the country by preserving the natural forests.
- iii. Checking soil erosion.
- iv. Increasing substantially tree /forests cover in the country through massive afforestation and social forestry programmes.
- v. Creating a massive people's movement with the involvement of women, for achieving the objectives of the policy.

5. Joint Forest Management (JFM): The policy was promulgated in 1990 which envisages need for people's participation in the management of natural forests. Accordingly Village Forest Protection and Management Committee are constituted involving local people to manage and protect the forests. It also laid emphasis on the procedure of sharing of usufructs accruing from the forests which they protect.

6. National Forest Action Programme: It was initiated in 1999 for a period of twenty years. The Programme was taken up to rehabilitate degraded forests by assisted natural regeneration, plantations in open forests, on non- forest lands and tree planting through agro forestry and social forestry programmes.

7. Forest Development Agency (FDA): The scheme was initiated in the year 2000-2001. Afforestation and eco-development programmes were initiated on available lands which are situated within or close to forests and where people are dependent on forests for their sustenance and livelihood. The schemes are implemented with the help of JFM Committees. The objectives are to arrest and reverse the trend of forests degradation and ensuring employment opportunities to tribals and other weaker section living in and around forests.

8. Compensatory Afforestation and Management Plant Authority (CAMPA): It also envisages massive afforestation to compensate for loss of forests due to non- forestry activities. The Compensatory Afforestation Fund Act 2016 (CAF Act 2016) and a set of rules made under this act- CAF Rules 2018 govern these activities.

9. Forest Right Act (The Scheduled Tribes and Other Traditional Forest Dwellers, Recognition of Forest Rights, Act 2006): It underpins right of forest dwellers to traditional knowledge related to biodiversity and cultural diversity. It gives right to forest dwellers to protect and conserve forests for livelihood.

We find that basic principles inherent in these policies are the issues discussed in various international conferences on climate change.

National Action Plan on Climate Change

Government of India framed National Action Plan on Climate Change on the basis of principles enshrined in United Nations Framework Convention on Climate Change (UNFCCC).

The guiding principles adopted by Government of India are:

- To undertake inclusive and sustainable development strategy to protect the poor and vulnerable sections of society sensitive to climate change.
- To achieve national growth objectives through a way that enhances ecological sustainability leading to further mitigation of greenhouse gas emissions.
- Deploying appropriate technologies for both adaptation and mitigation of greenhouse gases emissions.

Based on these principles eight National Missions have been formulated to achieve key goals of climate change. These are: *National Solar Mission, National Mission for Enhanced Energy Efficiency, National Mission on Sustainable Habitat, National Water Mission, National Mission for Sustaining the Himalayan Ecosystem, National Mission for a Green India, National Mission for Sustainable Agriculture and National Mission on Strategic Knowledge for Climate Change.*

The government has recently initiated measures and campaigns in other environment areas such as *Namami Gange* for Ganga conservation, revamping the National Disaster Management Authority, more ambitious solar mission, and the 100 Smart Cities initiative.

National REDD+ STRATEGY 2018

Ministry of Environment, Forests and Climate Change, Government of India has released National REDD+ STRATEGY on 30.06.2018. The strategy identifies the role and responsibility under implementation framework at each level right from central government to state government to local levels too. In order to coordinate implementation of this strategy three committees /groups have been constituted at central government level—

1. National Governing Council for REDD+
2. Thematic Advisory Group
3. REDD+ Technical Working Group

The way ahead for Jharkhand

Jharkhand was carved out of the southern part of Bihar state on 15 November 2000. Jharkhand shares its border with the states of Bihar to the north, and Chhattisgarh to the west, Orissa to the south, and West Bengal to the east. It has an area of 79,714 km² Or 30,778 sq. mi (79,710 km²). The name "Jharkhand" means "The Land of Forests". Jharkhand accounts for 3.4% of the total forest cover of the country and ranks 10th among all states. The recorded forest area of the state is 23,605 sq. km which is 29.61 % of the geographical area of the state. As per Champion and Seth (1968) Classification for Forests, the state has five forest types viz. Moist Peninsular Low Level Sal-3C/C2e (ii), Dry Peninsular Sal-5B/C1c, Northern Dry Mixed Deciduous Forest-5B/C2, Dry Deciduous Scrub-5/DS1, Dry Bamboo Brakes- 5/E9. These belong to two major forest type groups viz. Tropical Moist Deciduous-Group -3 and Tropical Dry Deciduous Forests-Group -5. The Forest Types of India: Revisited (2013) by ICFRE, Dehradun has revised them as Moist Peninsular Sal-III/IIID, Dry Mixed Deciduous Forests-V/VC, Dry Sal Bearing Forests-V/VD and Dry Grasslands- V/VE. The important sps. which constitute the forests are-Sal, Teak, Mahua, Asan, Dhaura, Gamhar, Kusum, Palas, Arjun, Chiraunji etc. Jharkhand is predominantly an agrarian state with 80% of the population depending

on agriculture and allied industries for economic development and sustenance. The state has proven reserves of 40% of the mineral resources of the country. The economy of Jharkhand is highly dependent upon on mineral resources. The stock of carbon in the forests of Jharkhand can be summarised in the table below:

Table: Carbon sequestration by the forests of Jharkhand, FSI Report 2019

Year	Carbon stock	Growing stock (m cum)	000 tones –C sequestered
2019	In Forest	168.15	178012

The state GDP is expanding at the rate of 6.35% per annum. But in infrastructure and social development ranking, Jharkhand fares poorly in comparison to other states of India. As the state came into existence in November 2000, mitigation and adaptation targets can be achieved only through some concrete thrusts in policies.

Various Policies adopted by Government of Jharkhand

1. Jharkhand State water Policy 2011: The policy envisages a sustainable water resource management and minimizing regional imbalance. It emphasizes decentralized water resource planning.
2. Jharkhand Disaster Management Plan: The authority designs plans and strategies to handle disaster. It also undertakes projects for restoration and strengthening of infrastructure damaged by disaster.
3. Jharkhand Energy Policy 2012: Jharkhand adopted Energy Policy in 2012 to reduce emission of Green House Gases. It emphasizes on use of non -conventional source of energy.
4. Forestry Sector Policies: The state is carrying out schemes of afforestation under FDA, CAMPA and Green India Mission Programmes.
5. Forest Right Act (The Scheduled Tribes and Other Traditional Forest Dwellers, Recognition of Forest Rights, Act 2006): Rights are being given to forest dwellers under this act to protect and conserve forests for livelihood.
6. Jharkhand State Action Plan on Climate Change 2014 (JAPCC): It has been drawn in tandem with National Action Plan on Climate Change. The vision of JAPCC is-

“To achieve economic growth and poverty alleviation objectives and enhancing livelihood opportunities while ensuring ecological sustainability. The strategic approach has to be extensive and has to be based upon identification and use of appropriate technologies for adaptation and mitigation.”
7. State Climate Change Action plan is being revised based on recommendation of Ministry of Environment, Forests and Climate Change, Government of India to align the existing Jharkhand State Action Plan on Climate Change 2014 (JAPCC) with the national target under NDC and SDG.

Policy Thrust in Forestry Sector to meet climate challenge

i. Vulnerability Mapping: A Vulnerability Mapping of the forests ecosystem and livelihood option of forest dependent people with reference to climate change will be helpful in adaptation plans.

ii. Data on Carbon Sequestration: A data on carbon stock of forests and soil will be useful in REDD+ approach.

iii. Indigenous peoples have to be involved in the design and implementation of REDD+ projects. Their Traditional knowledge (TK) can be utilized in this field. Indigenous and local communities have developed knowledge on how to cope with local climatic shifts including agricultural techniques for managing and conserving forests, water, and soil resources. These are passed orally over generations. These practices can help guide the design of mitigation measures that involve carbon sequestration and forest conservation.

iv. Use of non- conventional source of energy: People living around forests heavily depend on forests for fuel wood. They need to be encouraged for the use of non-conventional source of energy (e.g. solar) for this purpose.

v. People's Participation: Joint forest management committees have been constituted to manage and protect the forests. Local people are the member these committees. All the schemes of afforestation are implemented with their active cooperation. Their capacity building will yield a better result.

vi. Soil and Moisture conservation in Forest Management: The role of forests in conserving soil and moisture needs to be re-emphasized to meet the challenges posed by climate change. Integrated watershed management programme can be extended to treat catchment area. An integrated approach is required to treat various landscape i.e. forests, agriculture, grassland, tree outside forests etc.

vii. Promotion of Forest based Livelihood: Forests of Jharkhand are abound in NTFPs like bamboo, Kendu leaves, Lac, Silk, medicinal plants etc. Livelihood initiatives and value addition to these NTFPs help in achieving mitigation and adaptation objectives.

viii. Research in Forestry Sector: To predict impact of climate change and to formulate measures required to be adopted to meet these problems, research is necessary. Such research work can be used to study potential of carbon sequestration and REDD+ projects in Jharkhand.

Constitution of REDD+ Cell

As per the guidelines issued under National REDD+ Strategy, a REDD+Cell will be constituted to facilitate the implementation of National REDD+ Strategy. It will also prepare state REDD+ action plan, Sub national level /state level reference emission level/ reference level, forest monitoring system and safeguard information system.

Project under National Adaptation Fund for Climate Change (NAFCC):

Jharkhand has received funding of INR 24.73 crore under the NAFCC to execute the adaptation project titled as "Enhancing Climate Resilience of Forests and its Dependent Communities in Two Landscapes of Jharkhand". It aims to protect the livelihoods of communities that are vulnerable to changes in climate and to enhance their adaptation. The project is being implemented in two districts of Jharkhand – Ramgarh and Jamtara.



Photographs: Water harvesting structure under NAFCC Project



Photographs: Meeting with villagers

Conclusion

To meet climate challenge the existing policies in forestry sectors need some additional thrust. There is paradigm shift in forest management. The Working Plan Code 2014 prepared to manage forests also underpins issues on climate change, REDD+ and carbon sequestration. A direct discussion on how REDD+ funds may be linked to an overall strategy to address the causes or drivers of deforestation and degradation is needed. A close supervision of policies on Climate Change, associated area of thrust, forests policy and utilising traditional knowledge are the demand of time.

“The views expressed in this information product are those of the author and do not necessarily reflect the views or policies of FAO.”

Acknowledgements

The author is thankful to Divisional Forests Officers, members of Village Forest Management and Protection Committees for sharing valuable facts.

“The views expressed in this information product are those of the author and do not necessarily reflect the views or policies of FAO.”

References

Amarasinghe, U. A., Shah, T., & Anand, B. (2010). *India's Water Supply and Demand from 2025-2050: Business- as- Usual Scenario and Issues*. New Delhi: International Water Management Institute.

Forest Survey of India. (2019). *India State of Forest Report*. New Delhi: Ministry of Environment and Forests.

IPCC (2014) Fifth Assessment Synthesis Report Approved Summary for Policymakers, 1 November.

Jharkhand- Action Plan on Climate Change 2014. Government of Jharkhand

Ministry of Environment & Forests. (2012). *India: Second National Communication to the United Nations Framework Convention on Climate Change*. New Delhi: Government of India.

National Action Plan on Climate Change. Government of India, New Delhi