Program for Recognition and Accreditation of Sustainable Management Practices for Agroforestry and Natural Forestry Resources

Indian Forest Management Standard

IFWCS-IFMS-2023

Indian Forest and Wood Certification Scheme "PRAMAAN"
Indian Institute of Forest Management, Bhopal
(Scheme Operating Agency)

Document name	Indian Forest Management Standard
Document reference code	IFWCS-IFMS-2023
Scope	Forest Management Certification
Approval date	11 December 2023
Effective date	11 December 2023
Validity period	5 years or until revised, replaced or withdrawn
Contact	Indian Institute of Forest Management (IIFM) Post Box No. 357, Nehru Nagar, Bhopal - 462003 (M.P.) India Phone (Direct): +91-755-2774121 Phone Ext: +91-755-2775716 *329 Website: http//www.iifm.ac.in Email: pramaan@iifmbhopal.edu.in

Contents

Acronyms, Units and Symbols

ABS	Access and Benefit Sharing
BA	Basal Area
BMC	Biodiversity Management Committee
BOD	Biological Oxygen Demand
CAI	Current Annual Increment
CAMP	Conservation Assessment and Management Plan
C&I	Criteria and Indicators
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CoC	Chain of Custody
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
FCA	Forest Conservation Act
FRA	Forest Rights Act
FSI	Forest Survey of India
GCP	Green Credit Program
GPS	Global Positioning System
IAF	International Accreditation Forum
ICFRE	Indian Council of Forestry Research and Education
IFA	Indian Forest Act
IFMS	Indian Forest Management Standard
IFWCC	Indian Forest and Wood Certification Council
IFWCS	Indian Forest and Wood Certification Scheme
IIFM	Indian Institute of Forest Management
IUCN	International Union for Conservation of Nature
JFM	Joint Forest Management
MAI	Mean Annual Increment
MAPs	Medicinal and Aromatic Plants
MoEFCC	Ministry of Environment, Forest and Climate Change
NABCB	National Accreditation Board for Certification Bodies
NTFP	Non-Timber Forest Produce
NWPC	National Working Plan Code
PBR	People's Biodiversity Register
PESA	Panchayats Extension to Scheduled Areas
PF	Protected Forest
PFM	Participatory Forest Management
PRAMAAN	Program for Recognition and Accreditation of Sustainable Management Practices for Agroforestry and Natural Forestry Resources
REDD+	Reducing emissions from deforestation and forest degradation in developing countries
RF	Reserved Forest

SC	Supreme Court
SFM	Sustainable Forest Management
SFRI	State Forest Research Institute
SHG	Self Help Group
SOA	Scheme Operating Agency
TDS	Total Dissolved Solids
TKDL	Traditional Knowledge Digital Library
TOF	Trees Outside Forests
WP	Working Plan
WPO	Working Plan Officer

In order to make a clear distinction between requirements, recommendations, permissions, possibilities, capabilities, and external constraints when using the verbal forms (shall, should, may, can, and must) the Table 1 shall be used to express each type of provision. [Adapted from ISO/IEC Directives Part 2: Principles and rules for the structure and drafting of ISO and IEC documents].

Table 1: Recommendations for the use of verbal forms to express each type of provision

Provision	**Verbal form**	**Equivalent phrases or expressions for use in certain cases**
Requirement	shall	is to is required to it is required that has to only ... is permitted it is necessary needs to
	shall not	is not allowed [permitted] [acceptable] [permissible] is required to be not is required that ... be not is not to be need not do not
Recommendation	should	it is recommended that ought to
	should not	it is not recommended that ought not to
Permission	may	is permitted is allowed is permissible
	need not	it is not required that no… is required
Possibility and capability	can	be able to there is a possibility of it is possible to
	cannot	be unable to there is no possibility of it is not possible to
External constraint	must*	a legal requirement

*Do not use “must” as an alternative for “shall”. (This will avoid any confusion between the requirements of a document and external constraints)

A. Background

India has adopted the principles of sustainable forest management and developed the National Set of 8 Criteria and 37 Indicators on Sustainable Management of Forests from the Bhopal-India Process. The Bhopal-India Process is one of the 9 internationally accepted frameworks for the Criteria and Indicators (C&I) approach to sustainable forest management. The national set of C&I on sustainable management of forests was piloted by IIFM Bhopal in 26 forest divisions spread over 12 states of the country over a period of 18 years (1998-2016).

These C&I were incorporated into the NWPC 2023 in the form of the IFMS. This subsequently resulted in the formation of the IFWCS, which was launched by the MoEFCC, Government of India on 11 December 2023. Therefore, the certification of forest areas using this standard as adopted by the IFWCS is at par with the internationally recognized certification system while being relevant in the Indian context.

The Integration of Forest Certification within the National Working Plan Code (NWPC) as per Chapter 4 of the NWPC 2023 provides a framework evolved into national forest certification program (featuring a set of criteria and indicators along with verifiers), for monitoring, assessment, and reporting on the implementation of Working Plan prescriptions. Notably, i) clause 4.3 (The SFDs may…each of indicator) recommends that SFDs conduct management effectiveness evaluations based on the Indian Forest Management Standard (Annexure - II of NWPC 2023), ii) clause 4.4 (To be in…implementation of WP) emphasizes aligning with international mechanisms of SFM, the IFMS enables SFDs, WPOs, and DFOs to measure the effectiveness of forest management practices.

B. Introduction

The Indian Forest and Wood Certification Scheme (IFWCS), branded as "**PRAMAAN**" (Program for Recognition and Accreditation of Sustainable Management Practices for Agroforestry and Natural Forestry Resources), is a national initiative aimed at promoting sustainable forest management and the responsible production and harvesting of trees outside forests (TOF) through a voluntary third-party assessment process. The scheme aims to provide market incentives to various entities adhering to sustainable management of forests, TOFs, and sustainable agroforestry practices in their operations. These include state forest departments, individual farmers, or farmer producer organizations engaged in agroforestry and on-farm forestry, and wood-based industries in the forest products value chain.

The mission of the scheme is to promote the sustainable management of forests and TOF and to provide market incentives to the forest dwelling entities and wood-based industries that comply effectively with the requirements under IFWCS standards.

The scheme encompasses three different types of certifications: Forest Management (FM) certification, Tree Outside Forest (TOF) Management certification, and Chain of Custody (CoC) certification. The FM certification is applicable to the recorded forest areas and forest plantations that comply with the requirements of the IFWCS and the Indian Forest Management Standard (IFMS), that comprises of 8 criteria, 69 indicators, and 253 verifiers. The IFMS is an integral part of the National Working Plan Code 2023 (NWPC 2023).

The TOF Management certification is the certification of Trees Outside Forest areas such that they have an appropriate management plan and that their management practices comply with the requirements of the relevant standard under the IFWCS. The CoC certification is the certification of the uninterrupted or unbroken path of products (such as wood or non-wood forest products) from

the forests and/or TOF areas, to the point where the product is sold with an IFWCS claim and/or transformed into a finished product (e.g. paper, furniture, handicrafts, wooden panels, herbal products, etc.) that is PRAMAAN-labelled in accordance with the relevant standard under the IFWCS.

The IFMS has been developed to support and strengthen the regulatory framework within which the forest managers operate, with legislation being a minimum requirement. The set of these requirements facilitates the achievement of SFM, which may involve going beyond the legal minimum to meet the social, environmental and economic aspects of certification.

The broad framework of Criteria, Indicators and Verifiers contained in the IFMS is the basis for monitoring sustainable forest management in IFWCS, that recognizes the environmental, economic, and social objectives of forests. Criteria are categories of conditions or processes by which Sustainable Forest Management (SFM) can be assessed, and each criterion is characterized by a set of indicators that can be monitored to assess change over time. Each indicator is accompanied by verifiers which are the data or information for assessing its status or change over time.

Note: State Forest Department (SFD)/ Working Plan Officers can adapt these indicators and verifiers according to the specific situation and local needs of the Forest Division. The SFDs may consider engaging a specialized agency to supplement the data for assessing progress against the set indicators.

The institutional framework of the IFWCS is delineated below:

a. Indian Forest and Wood Certification Council

The Indian Forest and Wood Certification Council (IFWCC) was established by the Government of India to guide and monitor the implementation of the Indian Forest & Wood Certification Scheme (IFWCS) as notified in the Gazette of India Notification No. 3-19/2022-SU dated 12 December 2023. It acts as a multi-stakeholder advisory body with representatives from various stakeholder groups. The IFWCC acts as a multi-stakeholder consultative body to approve the standards, processes, and procedures under IFWCS.

b. Scheme Operating Agency

The Indian Institute of Forest Management (IIFM), designated as the Scheme Operating Agency (SOA), is responsible for the implementation of the IFWCS under the guidance of the IFWCC. The Centre for Sustainable Forest Management & Forest Certification at IIFM acts as the Secretariat of the IFWCS.

c. Accreditation

The National Accreditation Board for Certification Bodies (NABCB), a constituent body of the Quality Council of India (QCI), Ministry of Commerce and Industry (MoCI), and a member of the International Accreditation Forum (IAF), acts as the accreditation body for certification bodies for IFWCS certification.

The IFWCS is committed to upholding the rules of sustainable management practices and to maintaining impartiality, independence, and transparency in the development and implementation of this standard. This is achieved through the multi-stakeholder consultations and inputs from interested stakeholders throughout the standard review process.

C. Scope

The Indian Forest Management Standard (IFMS) outlines the requirements for Forest Management (FM) certification under IFWCS. The set of C&I defined herein provides a monitoring and evaluation framework to assess the progress towards achieving sustainable forest management in India. While all eight criteria are applicable at the forest division, forest circle, state, and national levels, the indicators are flexible and can be adapted to the specific context of each state and forest divisions within the state.

The IFWCS is applicable throughout the country, both in forest areas and TOF plantations on government, private, agroforestry, and other lands. The certification is applicable to both timber and NTFPs. The certification may be recognised by various regulatory authorities but is not intended to provide legal advice on compliance with any law, regulation or requirement.

A forest division or TOF area or any other entity applying for certification under the IFWCS shall be assessed for compliance with the requirements of this scheme and its relevant standards by the independent third-party Certification Body accredited by the NABCB and approved to operate IFWCS certification.

D. Normative References

Referenced documents are critical to the application of this standard. For dated references, only the specified edition shall be used. For undated references, the latest edition of the referenced document shall be used.

- National Working Plan Code (2023)
- Indian Forest and Wood Certification Scheme Guidelines (2023)

E. Universal Requirements

1. Management Systems

To establish, implement, maintain and continually improve a management system comprising of necessary processes and their interactions, in accordance with the requirements of this standard, the client shall:

i. have a documented management plan specific to the area under the scope of certification, ownership status, description of the resources to be managed, land use and socio-economic conditions, and a profile of the adjacent area;
   NOTE: The Procedures may include information on rotation length, annual harvest rate or allowable cut, and species selection, as well as strategies for identifying and protecting rare, threatened and endangered species.
ii. nominate a management representative with sufficient expertise and qualification who is accountable, responsible for and committed to maintaining the requirements and effectiveness of this standard and for the continual improvement of the management system, which includes but is not limited to internal audits, management review, health and safety and other social and environmental issues;
   NOTE: An individual may address one or more requirements, or an individual representative may be appointed to manage specific tasks.
iii. have adequate resources needed for the establishment, implementation, maintenance of procedures and processes as per the requirements of this standard;
iv. have policies for conducting periodic management reviews to assess compliance with the requirements of this standard; and
v. implement a robust system of internal monitoring and continuous improvement including periodic internal audits (on an annual basis at a minimum) in a planned and systematic manner to ensure compliance with the requirements of this standard.
   NOTE: The internal audit is conducted based on the defined audit criteria and scope of the audit, with objectivity and impartiality. Based on the results of the internal audit and with the approval of management, appropriate corrections and corrective actions are taken; and relevant information is documented and retained.

2. Organisation Structure

In order to maintain the integrity of its management and organizational structure in compliance with the requirements of this standard, throughout its operations, the client shall:

i. be a legally defined entity authorized from the competent authority for the activities under the scope of the IFWCS FM certification;
ii. have procedures in place to maintain the applicable requirements of this standard; and
iii. have well-defined roles and responsibilities of concerned personnel handling/implementing processes and procedures as per the requirements of this standard.

3. Competence

To ensure the management of competencies of personnel in accordance with the requirements of this standard, the client shall:

i. establish, implement and maintain procedures and internal processes that ensure all of its personnel (permanent, temporary and contractual) involved in the certification process have comprehensive understanding of and are able to fulfil the requirements set out in this

standard;

ii. demonstrate the competence and qualification of personnel with respect to the duties and responsibilities they undertake, in terms of the appropriate education, training, or experience; and

iii. ensure that all its personnel (permanent, temporary and contractual workers) receive adequate training and supervision to facilitate the proper implementation of the management plan in accordance with the requirements of this standard.

4. Health and Safety

To ensure the prevention of work-related injury and ill-health to workers, and to provide safe and healthy workplaces for its employees (permanent, temporary, and contractual) in compliance with the requirements of this standard, the client:

i. must establish documented policies and procedures for accountability of the health and safety of its personnel;

ii. shall ensure all employees (permanent, temporary, and contractual) receive adequate training to meet health and safety requirements;

iii. must ensure that workers are fully informed of applicable health and safety policies and practices related to their roles;

iv. shall implement health and safety protocols to protect workers from occupational hazards, including health insurance, availability of appropriate safety equipment and first-aid kit, and maintenance of up-to-date safety records in compliance with relevant laws; and

v. must uphold workers' rights, including freedom of association and the right to collective bargaining.

NOTE: Clients who can demonstrate compliance with other standards (e.g. ISO 45001, ISO 9001 and ISO 14001) may use the same requirements to meet the health and safety requirements of this standard.

5. Subcontracting

To maintain compliance with the requirements of this standard with respect to outsourced or subcontracted activities, the client shall:

i. establish clear policies for the management of subcontracted activities including monitoring the role and functions of the subcontracted party; and

NOTE: In case of a company applying for certification on behalf of farmers or a group of farmers, there must be land ownership documents and land lease rules/legal agreements with farmers.

ii. take full responsibility for subcontracted work and ensure that the subcontractor complies with all the requirements set out in this standard.

6. Due Diligence System (information collection, risk assessment and risk mitigation)

To establish a policy for the implementation of an effective due diligence system and framework to ensure compliance with the requirements of this standard, the client shall:

i. include criteria for categorizing risks as high, medium, low, or no risk in the risk assessment;

ii. document the risk assessment and make available for review to the certification body upon request;

NOTE: The client is responsible for establishing due diligence system on behalf of its subcontractors. The risk assessment carried out for its subcontractors shall be documented

and made available for review by the certification body, upon request.

iii. implement mitigation measures for high and medium-risk areas of activity based on the risk assessment; and

iv. maintain a documented procedure for information gathering and risk assessment for all areas of activity to comply with national and international regulatory requirements.

7. Document Control and Record Keeping

The client shall establish and maintain a system of records to ensure compliance with the requirements in this standard and to facilitate transparent monitoring. In doing so, the client shall:

i. retain all the relevant documents related to this standard for a minimum period of Five (5) years;

NOTE: Indicative documents to be retained may include, but are not limited to, forest management plan, personnel competence and training records, internal audit reports, management review records, records of first party/self-declaration, corrective action plan, details of complaints, appeals and disputes, precedents, disciplinary actions, records of the due diligence system, risk assessments, wood harvesting and collection of wood and non-wood forest products, list of obsolete documents removed from use and any other information deemed relevant.

ii. maintain a record-keeping system that is transparent and allows easy retrieval of information.

F. Applicable Criteria and Indicators

Unless otherwise stated, the requirements of the standard apply to both natural forest and forest plantation conditions. These requirements shall be met throughout the process as indicated in the relevant criterion, indicator or verifier. The nature of this standard document is normative, and interpretations or guidance on specific requirements of this standard document may be issued from time to time to provide additional clarification on implementation.

NOTE 1: Forest management includes both natural and plantation forests management.

NOTE 2: Forest management plan refers to forest management plan for natural forests or a forest plantation management plan or equivalent management plans including all elements covered under the IFMS requirements.

NOTE 3: The order of presentation of the criteria does not indicate priority or relative importance.

The Standard is structured around eight Criteria as follows:

S. No.	Criteria	Indicators	Verifiers
1.	Extent and Condition of Forest and Tree Cover	10	45
2.	Maintenance, Conservation and Enhancement of Biodiversity	7	24
3.	Maintenance and Enhancement of Forest Health and Vitality	8	36
4.	Conservation and Maintenance of Soil and Water Resources	6	17
5.	Maintenance and Enhancement of Forest Resource Productivity	9	26
6.	Optimisation of Forest Resource Utilisation	9	34
7.	Benefits to Local People - Social, and Cultural Values	7	20
8.	Policy, Legal and Institutional Framework	13	51

The following set of criteria, indicators, verifiers, and data collection frequency may be used to assess the sustainable forest management practices of the client in compliance with the requirements of the IFWCS FM certification:

Criteria 1: Extent and condition of forest and tree cover

Forest boundaries in India are legally defined and activities to be done within the forests are regulated. The diversion of forests for non-forest use is governed by the Forest Conservation Act 1980.[1] The increase in forest cover in India is mainly due to trees growing outside the forests. The changes in the legal status and the extent of the forest area reflect whether the forest cover is maintained or increased or reduced.

Changes in the extent and the status of the forests are indicated by the following:

[1] THE FOREST (CONSERVATION) AMENDMENT ACT, 2023 (NO. 15 OF 2023) [4th August, 2023] An Act further to amend the Forest (Conservation) Act, 1980.

Indicator 1.1: Area of forests under different legal status (Reserved Forests/Protected Forests/Unclassed Forests /Village Forests and any other forests)
Indicator 1.2: Area of different forest types
Indicator 1.3: Change in the category of forest cover
Indicator 1.4: Area of different working circles
Indicator 1.5: Area of the Trees Outside Forests (TOF)
Indicator 1.6: Details of area of forests diverted under FCA
Indicator 1.7: Details of forest land where rights are given under the FRA
Indicator 1.8: Details of forest land under encroachments
Indicator 1.9: Demarcation of boundaries
Indicator 1.10: Details of any other factors affecting the existence of forests such as illegal mining, dumping of mining waste, etc.

Indicator 1.1: Area of forests under different legal status (Reserved Forests/Protected Forests/Un-classed Forests/Village Forests and any other forests)

Forests in India are legally classified as reserved forests, protected forests, village forests and un-classed forests under the IFA 1927 with State Specific Amendments and State Specific Forest Acts and the orders of the Hon'ble SC dated 12-12-1996 in the case titled TN Godavarman Thirumulkpad V Union of India and others. There are other categories of forests as well and a compilation of the legal categories of the forests and their change, if any, over a period of time reflects on the maintenance and extent of forests of a forest division.

Intended situation: Entire Forest area of the forest division is notified or recognized under different legal categories such as reserve forest, protected forests, un-classed forests, village forests, community forests, deemed forests etc.

Verifiers:

1.1.1 Updated registries of area statistics, and digitized maps as per legal status
1.1.2 Compilation of Gazette notification with number and date issued for different legal status of the forest and their change under IFA-1927 or state acts
1.1.3 Status of digitization of forest boundaries in Geo-Coordinates boundary
1.1.4 Recognition of area as forests under revenue records, community practices, or under the orders of the Hon'ble Supreme Court of India
1.1.5 Status of mutation of forest area in revenue records
1.1.6 Notification of diverted land under FCA
1.1.7 Extent of area awaiting forest settlement or final notification under IFA, 1927 or State Acts
1.1.8 Records of various forest settlements or leases

Periodicity: 1 year

Indicator 1.2: Area of different forest types

A forest type is a unit of vegetation that possesses characteristics in physiognomy and structure sufficiently pronounced to permit differentiation from other such units. Description of natural forests into distinct forest types and their extent provide a scientific basis for their management. The assessment of the change in the extent over time is a reflection of alteration in productivity and status of the forest crop which will assist in the choice of silvicultural principles to be followed for the suitable management practices.

Intended situation: Maintenance of different forest types and species composition

Verifiers:

1.2.1 The base year status of forest types along with the *Digital/*GIS map and subsequent mapping is available in the division for any change or shift analysis

1.2.2 Inventory of change in major species composition and attribution studies (anthropogenic, natural or climatic) for the changes

1.2.3 Action plan, if any, for mitigating the change

Periodicity: 5 years

Indicator 1.3: Change in the category of forest cover

The FSI categorises the forest cover based on canopy density into very dense, moderately dense, open and scrub. Changes in forest cover over a period of time reflect the actual changes of forest on ground. The positive changes could be, among other things, attributed to better forest protection and related conservation measures, including compensatory afforestation, whereas negative changes could be attributed to change in land use on account of developmental projects, excessive degradation due to anthropogenic pressures, harvesting of short rotation crops etc.

Intended situation: Improvement in forest cover as per the objective of management

Verifiers:

1.3.1. Base year data on forest cover and map is available in the division

1.3.2. Multi-dated satellite images from FSI or state agencies are used for change analysis and preparing change matrix

1.3.3. Assessment of change in upward movement and downward movement of forest canopy classes. Assessment of change in open forests to moderately dense; and moderately dense forests to very dense forests, scrubs to open forests show upward movement

1.3.4. Assessment of forest degradation in each forest type (soil erosion, species regeneration, fire affected area, area affected by grazing)

1.3.5. Actions for reducing forest degradation and enhancement of forest cover

Periodicity: 2 years

Indicator 1.4: Area of different working circles

The forest is divided into different management zones as working circles based on the object of management. The working circles indicate the application of different sets of silvicultural prescriptions and management practices in that area. A change in the area of working circle is often a reflection of change in the object of management and/or change in the status of vegetation.

Intended situation: Range, beat, compartments/village wise, entire forest area shall be covered in different working circles with clearly defined objectives of and prescriptions for management.

Verifiers:

1.4.1. Details of area under different working circles available in the working plan with clearly defined objectives and prescriptions along with digitized maps

1.4.2. Documentation of the change in the extent of areas prescribed in different working circles as compared to previous working plan along with critical analysis and justifications

1.4.3. Records of annual deviation from the prescriptions in the current plan

Periodicity: 5 years

Indicator 1.5: Area of the Trees Outside Forests (TOF)

Trees Outside Forests (TOF) contribute significantly to the increase in the forest and tree cover of a forest division. Periodic monitoring of the change in an area of TOF reflects the overall change in the forest and tree cover of the forest division.

Intended situation: Trees outside the forest should be encouraged as alternate tree source. Periodic assessment of the growing stock may be undertaken and the potential area for extension of forestry outside forests explored for sustainable land use management and sustainable supply of raw material to the industries.

Verifiers:

1.5.1. Identification of target tree species & documentation of associated agro-forestry models/ practices for TOF in the division
1.5.2. Estimation of growing stock of TOFs
1.5.3. Strategies to enhance the TOFs
1.5.4. Increase in the extent of TOFs and agriculture areas brought under agroforestry
1.5.5. Assessment of demand on agroforestry for different industries

Periodicity: 5 years

Indicator 1.6: Details of area of forests diverted under FCA

Approvals of diversion of forest lands allowed under the Forest (Conservation) Act envisage certain mandatory conditions for mitigating the impacts of such diversions. An analysis of the compliance of these conditions and progress in the notification of the Compensatory Afforestation areas as RF/PF is, therefore, important.

Intended situation: Conditions envisaged in the diversion orders are complied with and CA areas are notified as RF/PF.

Verifiers:

1.6.1. Year-wise cumulative area diverted for different non-forestry purposes
1.6.2. Progress in creating CA and success rate of CA is assessed
1.6.3. Compliance with Environmental management plan; Catchment area treatment plan for hydroelectric projects; reclamation plan for mining projects etc.
1.6.4. Analysis of any other impacts related to diversions
1.6.5. Progress in notification of all CA lands as RF/PF under IFA-1927 and all state acts

Periodicity: 1 year

Indicator 1.7: Details of forest land where rights are given under the FRA

The FRA recognises specified forest rights in favour of forest-dwelling scheduled tribes and other traditional forest dwellers and their communities. The nature and extent of individual forest rights recognised under FRA, the nature and extent/quantum of forest resources on which the community forest rights, and community forest resource rights have been recognised and the management practices prevalent to be indicated.

Intended situation: Updated knowledge on the status of registration of all the claims and settlement of the genuine claims along with a list of individuals and communities to whom forest area is allotted,

geo-referencing of rights on the forest map, the status of forest management of areas given to right-holders and its impact on the sustainability of ecosystem services.

Verifiers:

1.7.1. Maintaining updated records of all FRA cases (individual forest rights, community forest rights, community forest resource rights) in the division
1.7.2. Digitised maps of all rights recognised in the entire forest division
1.7.3. Area given under FRA is clearly demarcated on ground
1.7.4. Best practices on Sustainable Forest Management under FRA

Periodicity: 1 year

Indicator 1.8: Details of forest land under encroachments

Forest encroachment often leads to change in land use and has an impact on the integrity and quality of the forest. Encroachments could also lead to honeycombing of the forest leading to intense habitat fragmentation adversely affecting wildlife.

Intended situation: The forest to be free from encroachments to maintain ecosystem integrity. If encroachment is detected, appropriate measures to be taken as per existing law.

Verifiers:

1.8.1. Survey, identification & mapping of extent of encroachments in forest areas in the division
1.8.2. Efforts made for eviction of encroachment
1.8.3. Area freed from encroachment
1.8.4. Effectiveness of JFM/PFM and participation of local public representatives in the prevention of encroachments or eviction operations

Periodicity: 1 year

Indicator 1.9: Demarcation of boundaries

Area of forests with clear demarcation of boundary with boundary pillars, trenches and other measures enables protection of forest areas and analysis of all the measures taken up for protection of forest areas.

Intended situation: Demarcation of forest area shall be well defined and secured. The forest boundaries to be clearly marked in the field and geo-referenced.

Verifiers:

1.9.1. Locations of the boundary pillars are shown on the map with latitude/longitude on village map or such other map of convenient scale
1.9.2. Extent of digitisation of forest boundaries and pillars
1.9.3. Extent of perimeter is duly noted and updated during Working Plan (WP) revisions
1.9.4. Percentage of forest area with secured boundaries including the number of boundary pillars constructed/maintained and recorded with unique registration/identification numbers, forward and reverse bearings, GPS readings
1.9.5. Allocation of budget for construction/maintenance of boundaries pillars
1.9.6. Capacity building on survey and demarcation to the staff to independently demarcate boundary as per gazette record to avoid dependence on revenue surveyors for primary

survey. Creating survey cell in each division

Periodicity: 1 year

Indicator 1.10: Details of any other factors affecting the existence of forests such as illegal mining, dumping of mining waste etc.

Illegal mining, dumping of mining waste and other such factors have adverse impact on the existence of the forest. All measures must be taken up to stop illegal mining and appropriate mitigation efforts to rehabilitate the area.

Intended situation: Illegal mining and dumping of mining waste is stopped and mitigation measures are in place.

Verifiers:

1.10.1. Area affected by illegal mining, dumping of mining waste and such other practices
1.10.2. Identification of past mined out abandoned areas and reclamation measures

Periodicity: 1 year

Criteria 2: Maintenance, Conservation and Enhancement of Biodiversity

The forests offer diverse habitats for plants, animals and microorganisms. Forest biodiversity encompasses not only the trees but also the multitude of plants, animals and microorganisms that inhabit the forest ecosystem and their genetic diversity. Higher the diversity, higher is the climate resilience and it offers better livelihood opportunities to the local communities and tribals who are dependent on the forests. At the same time, loss of biodiversity makes it difficult for the ecosystem to recover from disturbances and adversely affects the forest dependent communities. Analysis of the impact of climate change and other factors including existing forest management may provide insight to take suitable adaptive and corrective measures for conservation of biodiversity. Different approaches are adopted in India for biodiversity conservation such as area-based conservation measures by establishing protected areas, species recovery programmes of threatened species and in-situ and ex-situ conservation programmes etc. These are indicated by the following:

Indicator 2.1: Adjoining Protected Areas
Indicator 2.2: Species diversity
Indicator 2.3: Details of any species-specific conservation programmes
Indicator 2.4: Details of species prone to over-exploitation
Indicator 2.5: Details of unique/special habitats and high conservation value areas
Indicator 2.6: Details of diverse ecosystems such as grasslands, meadows, wetlands, mangroves, marine, deserts, etc.
Indicator 2.7: Details of threats and challenges to vulnerable flora and fauna

Indicator 2.1: Adjoining Protected Areas

Details of adjoining Protected Areas under Wildlife Protection Act, 1972 (National Parks/Wildlife Sanctuaries/Conservation Reserves and Community Reserves/Tiger Reserves), Biosphere Reserves, Environment Protection Act, 1986 (Eco-sensitive zones/areas, Coastal Zone Regulation, Wetlands (notified under Wetland Rules) Biological Diversity Act 2002. The management of these areas which adjoins the forests has an impact on the management of the forests and the role of the forest as corridors for wildlife.

Intended situation: Prescriptions of working plans shall be harmonized with the management plans of adjoining protected areas.

Verifier:

2.1.1 List of adjoining Protected Areas (National Parks/Wildlife Sanctuaries/Conservation Reserves and Community Reserves/Tiger Reserves), Biosphere Reserves, Environment Protection Act, 1986 (Eco-sensitive zones/areas, Coastal Zone Regulation, Wetlands notified under Wetland Rules), Biological Diversity Act 2002, wildlife corridors along with digitised maps

2.1.2 Distribution of flora & fauna and abundance in the area of the forest division adjoining the PAs

2.1.3 Prescriptions of working plan to be in consonance to the objective of management plans of the adjoining protected areas

Periodicity: 5 years

Indicator 2.2: Species diversity

Diversity indices indicate the abundance and richness of species in a locality. Evaluation of these indices considering the management prescriptions provides insight into management options. Biodiversity richness is a proxy for the health of forest ecosystem.

Intended situation: Base year documented species diversity is maintained or enhanced under sustainable management of forests. Effectiveness of actions implemented to conserve and/or restore the species diversity of the forest area as per natural undisturbed forests of the same type, to ensure sustained livelihood of communities as an incentive to communities to participate.

Verifiers:

2.2.1. Biodiversity assessment in terms of density, frequency, total basal cover, dominance, Importance Value Index, Shannon Weiner Diversity Index and Simpsons' Similarity index etc. is done at the level of compartments/villages, beats, ranges & division level. Efforts should be made to make a base year documentation of species, habitat and genetic diversity (Taking the help of experts – SFRI/ICFRE/Local university colleges or knowledgeable individuals/ forest officers) status for future reference using GIS tools for change detections

2.2.2. Document on vegetation structure and species heterogeneity, unique species identified in accordance with different forest types

2.2.3. Action plan or management prescriptions for maintaining and enhancing species, habitat and genetic diversity

Periodicity: 5 years

Indicator 2.3: Details of any species-specific conservation programmes

The presence of endemic, endangered species and actions taken up for their conservation, the progress and their impact.

Intended situation: Suitable action plan for conservation of endemic, endangered species is drawn and implemented.

Verifiers:

2.3.1. Approved policy and biodiversity plan and its sustainable use

2.3.2. List of species categorised as per IUCN Red List/ CAMP workshop results with IUCN

participation, if available on red listing, CITES, etc.

2.3.3. *In-situ* and *ex-situ* conservation strategies in place including performance review of on-going species recovery programs

2.3.4. Budget allocated and utilised for biodiversity conservation

2.3.5. Regular capacity building of BMCs for conservation, sustainable management of endemic, endangered species and use of bio-resources

2.3.6. People's biodiversity register is prepared and updated

Periodicity: 5 years

Indicator 2.4: Details of species prone for over exploitation

Some species are more vulnerable to over exploitation than others especially those who have a narrow ecological niche, and those which produce a smaller number of progenies. Identification of such species and their distribution and extent provide insight into need for management interventions.

Intended situation: Sustainable harvest protocols for overexploited species to be developed, standardized and implemented across the working plan area.

Verifiers:

2.4.1. List of species prone to over exploitation in the area

2.4.2. Development of sustainable harvesting protocols for important NTFP/ Medicinal plant species and awareness creation thereof

2.4.3. Special focus on endangered species

Periodicity: 5 years

Indicator 2.5: Details of unique/special habitats and high conservation value areas

Identification and mapping of the unique/special habitat and high conservation value ecosystem forms the basis for special management interventions, if any, which may include inviolate areas.

Intended situation: All unique habitats and high conservation value areas identified along with their conservation plans approved and implemented.

Verifiers:

2.5.1. Documentation of high conservation values associated with unique/special habitats including inviolate areas and their mapping

2.5.2. Management strategies specifically in place for unique habitat

Periodicity: 5 years

Indicator 2.6: Details of diverse ecosystems such as grasslands, meadows, wetlands, mangroves, marine, deserts etc.

Identification and mapping of the ecosystems such as grasslands, meadows, wetlands, mangroves, marine, deserts etc. and their change over time form the basis for sustainable management interventions.

Intended situation: Appropriate strategies for management of diverse ecosystems such as grasslands, meadows, wetlands, mangroves, marine, deserts etc. are in place.

Verifiers:

2.6.1. Identification & mapping of diverse ecosystems such as grasslands, meadows, wetlands, mangroves, marine, deserts etc. with base year for detecting change therein over time

2.6.2. Assessment of ecological conditions of these diverse ecosystems
2.6.3. Formulation of strategies for the maintenance and improvement of their ecosystem functions

Periodicity: 5 years

Indicator 2.7: Details of threats and challenges to vulnerable flora and fauna

Habitat fragmentation and unsustainable extraction and trade are serious threats that affect the population of flora and fauna. An analysis of various threats will help in formulating mitigation strategies.

Intended situation: Threat and challenges to vulnerable flora and fauna on account of anthropogenic disturbances such as habitat fragmentation, unsustainable extraction and trade together with impact of climate change if any, are assessed and mitigation strategies are in place.

Verifiers:

2.7.1. Listing of changes in direct and indirect drivers of disturbances
2.7.2. Analysis of any fresh threats to vulnerable flora & fauna
2.7.3. Formulation of adaptive mitigation strategies for the changes
2.7.4. Implementation of mitigation strategies

Periodicity: 5 years

Criteria 3: Maintenance and Enhancement of Forest Health and Vitality

Natural forests are affected by various anthropogenic factors such as grazing, encroachment, forest fire, invasive alien species etc. Forest areas are also affected by natural phenomena like flood, landslides, windstorms, pests and diseases etc. The presence or absence of regeneration is a better indicator on the health of a forest ecosystem. If the forest is poor or inadequate in regeneration, then it indicates that the health of the forest is poor and compels the manager to take immediate action to obtain the regeneration by appropriate silvicultural interventions and by removing the factors that inhibit the regeneration and their establishment. Forest vitality is the ability of the forest ecosystem to survive external disturbances and unfavourable conditions. A forest ecosystem that has low vitality has a limited capability to recover from any unfavourable condition or natural disturbance. Low vitality is normally caused due to repeated disturbances with little time to recuperate and it must draw the attention of the manager to take immediate steps to remove or mitigate the impacts of those disturbances.

There are various factors that influence the forest health, and its vitality as indicated below:

Indicator 3.1: Status of regeneration of the principal species and its associates
Indicator 3.2: Details of areas affected by forest fire
Indicator 3.3: Area affected by natural factors such as floods, landslides and windstorms etc.
Indicator 3.4: Area affected by and protected from grazing
Indicator 3.5: Area infested with invasive alien species
Indicator 3.6: Details of incidence of pest and diseases
Indicator 3.7: Forest degradation due to pollution
Indicator 3.8: Other drivers of forest degradation

Indicator 3.1: Status of regeneration of the principal species and its associates

The status of forest regeneration is estimated during the field survey. The regeneration status could be adequate, moderate, or poor. In case the regeneration is inadequate or poor, then the factors that inhibit regeneration must be analysed and brought out clearly to enable suitable silvicultural/ management interventions.

Intended situation: Adequate measures are taken to assess and ensure the regeneration of principal species and associates.

Verifiers:

3.1.1. Assessment and categorisation of regeneration status into adequate, moderate, and poor of principal species and associates
3.1.2. Factors that inhibit regeneration are documented and analysed
3.1.3. Suitable silvicultural/management interventions are prescribed and implemented
3.1.4. Assessment of the efforts made for successful assisted natural regeneration or artificial regeneration

Periodicity: 5 years

Indicator 3.2: Details of areas affected by forest fire

Forest fire is one of the agents that has a direct impact on the regeneration and vitality of the forest ecosystem. Uncontrolled fire has a deleterious effect on the regeneration. Repeated fire impacts the capacity of the forest to recover from its impact on the ecosystem and thus reduces the vitality of the ecosystem. Fire frequency mapping and preparation of fire vulnerability maps help ineffective forest fire management. The use of real time monitoring tools is potential mechanism for effective fire management

Intended situation: Adequate measures are in place to prevent forest fire**.** In case of occurrence of Forest fire incidences, they are timely detected and controlled while adequately reported along with their identified causes and impacts.

Verifiers:

3.2.1. Field staff enabled for utilisation of real time fire alert system of FSI or any other information system for timely reporting of forest fires
3.2.2. Forest fire prevention plan is prepared and implemented
3.2.3. Forest fire management plan is prepared and implemented
3.2.4. Impact of forest fires on the ecosystem functionality needs to be monitored on regular basis
3.2.5. Description of forest fire response teams and their achievements
3.2.6. Budget allocations and their expenditure

Periodicity: 1 year.

Indicator 3.3: Area affected by natural factors such as flood, landslides and windstorms etc.

Documentation and assessment of all incidences of natural calamities and their impact on biodiversity and ecosystems will lead to the planning for disaster management. Potential negative impacts of natural hazards proportionate to scale, intensity and risk on infrastructure, forest resources and communities will lead to identification of proactive management activities to mitigate these impacts.

Intended situation: Role of forest division in case of natural calamities such as flood, landslides, and windstorms etc. are included in the Disaster Management Plan.

Verifiers:

3.3.1. Areas prone to natural hazards are mapped

3.3.2. Documentation of disaster occurrences and their damage caused to ecosystems and biodiversity and planning of proactive management measures into a contingency plan including constitution of disaster response teams

3.3.3. Budget allocations and their expenditure

Periodicity: 1 year.

Indicator 3.4: Area affected by and protected from grazing

Uncontrolled livestock grazing in forest areas is detrimental to forest health and ecosystem vitality. It is known to be one of the most important factors degrading the forest ecosystem. The National Forest Policy (1988) and other documents recognise that uncontrolled grazing in the forest is incompatible with sustainable forest management. Unregulated grazing affects crop (vegetation) composition and adversely impacts natural regeneration, causes soil compaction and consequently diminishes the infiltration capacity of the soil. Working Plan Officers (WPOs) may ascertain livestock numbers from Animal Husbandry departments and take the assistance of Grazing Settlement Officers to determine carrying capacity for grazing in forest areas.

Intended situation: Grazing is within the limits set by the carrying capacity of forest areas.

Verifiers:

3.4.1. Assessment of carrying capacity &impacts of grazing

3.4.2. Implementation of measures to discourage uncontrolled grazing in the forests

3.4.3. Reduction in the number of livestock unit dependent on forest areas for grazing

3.4.4. Awareness creation among communities about carrying capacity and sustainable grazing

3.4.5. Regular patrolling for preventing overgrazing

Periodicity: 5 years

Indicator 3.5: Area infested with invasive alien species

Invasive alien species is a major threat to the forest ecosystem vitality and its health in terms of biodiversity. They affect the regeneration and also impact the growth of the native species. Effective steps taken for the control of invasive species positively impacts the natural regeneration of native species in forest areas.

Intended situation: Extent of the area under invasive species should be less than the baseline year. Native species are preferred over alien or exotics in aided natural regeneration (ANR), eco-restoration, re-habitation, and reforestation activities.

Verifiers:

3.5.1. Extent of area infested with invasive alien species and mapping
3.5.2. Action plan & strategy to control invasive weeds (e.g. Lantana, Eupatorium, Parthenium etc.)
3.5.3. Implementation of appropriate techniques/protocols for weed control including plantation/ regeneration activities and/or their replacement with native species (eg: Lantana replaced by bamboo) and/or bio-natural measures against invasive species
3.5.4. Allocated budget and their utilisation for weed control
3.5.5. List of species used in aided natural regeneration (ANR), eco-restoration, re-habitation, and reforestation activities

Periodicity: 2 years

Indicator 3.6: Details of incidence of pest and diseases

Pest and diseases affect the health and vitality of a forest ecosystem. Mapping of the extent of area affected and the frequency of such events will be useful for effective management. Adaptations of suitable silvicultural practices, use of healthy planting material, reducing the injury to the forest crop are some means to prevent incidence of disease in a forest crop. An analysis of the incidences of pest and diseases and the adaptation of different preventive measures will lead to better understanding of drivers of degradation leading to effective management prescriptions.

Intended situation: Timely reporting of disease and pest outbreaks and impact assessment of treatment measures implemented.

Verifiers:

3.6.1. Documentation of disease and pest outbreaks, their physiological and morphological impacts on native species
3.6.2. Mapping of the extent of area affected and the frequency of such events
3.6.3. Enumeration of infected/affected species and reporting of severity of affected health
3.6.4. An analysis of the incidences of pest and diseases and the adaptation of different preventive measures
3.6.5. Treatment measures undertaken directly, or in consultations with research institutions

Periodicity: 5 years

Indicator 3.7: Forest degradation due to pollution

Incidence and extent of forest degradation due to pollution (soil, water, and in some cases air), and the mitigation measures taken and the impacts thereof**.**

Intended situation: Forest degradation due to pollution are prevented in the first place and sufficient mitigation measures are undertaken in case of degradation due to pollution.

Verifier:

3.7.1. Identification of probable points of pollution for taking preventive measures
3.7.2. Incidence and extent of forest degradation due to pollution
3.7.3. Seasonal records of Air/Water Quality Index
3.7.4. Research-based conclusions
3.7.5. Appropriate treatment measures

Periodicity: 1 year

Indicator 3.8: Other drivers of forest degradation (REDD+ initiatives)

There are other drivers of forest degradation and deforestation and barriers to reforestation. Identification of these with inputs from stakeholders shall provide further insights for better management prescriptions.

Intended situation: Specific action plan on REDD+ shall be helpful in identification as well as addressing the drivers of degradation and barriers for enhancement of forest carbon stock specific to the forest division.

Verifiers:

3.8.1. Identification & mapping of direct drivers or barriers and underlying causes or indirect drivers through stakeholder consultation exercises

3.8.2. Selection of priority drivers and enhancement activities through stake holders and expert's consultation

3.8.3. Action plan for addressing the impact of drivers

Periodicity: 5 years

Criteria 4: Conservation and Maintenance of Soil and Water Resource

Comprises indicators of water and soil quality under influence of forests. Criterion addresses an area treated under soil and water conservation measures; duration of water flow in seasonal streams; status of wetlands in forest areas and groundwater levels from nearby wells (up to 5 km of forest area).

Indicator 4.1: Inventory of water bodies and sources

Indicator 4.2: Area treated under soil and water conservation measures

Indicator 4.3: Monitoring of groundwater

Indicator 4.4: Identification of areas vulnerable for erosion and prescription for suitable treatment

Indicator 4.5: Mapping of riparian zones for special management prescriptions

Indicator 4.6: Monitoring of streams, lakes, wetlands, ponds and other water bodies in forested catchments

Indicator 4.1: Inventory of water bodies and sources

The water bodies inside the forests improve the water regime of a forested watershed. Over exploitation of the groundwater resources results in declining groundwater levels; there is an urgent need to augment the groundwater resources through suitable management interventions. Mapping of all water resources in the forests including aquifers shall form the basis for conservation and management of soil and water resources.

Intended situation: Identification and digital mapping of all water bodies and sources in the division are done as baseline for future monitoring. Suitable management interventions are taken to augment the water bodies and resources.

Verifiers:

4.1.1. List of all water bodies and sources in the division

4.1.2. Extent and categorisation of water bodies are documented and digitally mapped as baseline and future monitoring

4.1.3. Efforts or management interventions to augment water bodies and resources

Periodicity: 2 years

Indicator 4.2: Area treated under soil and water conservation measures

The soil and water conservation measures reduce the surface flow and aid in infiltration and reduce the soil erosion. However, soil and water conservation structures need to consider total rainfall in the catchment. The Soil and Water conservation structures are highly recommended in high rainfall areas, however the same must be very carefully and judiciously incorporated in low rainfall zones as it may adversely affect the water availability in downstream areas. Water conservation in dry areas is of paramount importance considering that the country has 76% dry forests.

Intended situation: Documentation & mapping of all areas treated under soil and water conservation measures are done. Biological and bioengineering methods included in WP on watershed management principles.

Verifiers:

4.2.1. Year wise area treated under minor soil and water conservation measures (Contour trenches, gully plugging, biological & bioengineering methods etc.)

4.2.2. List & mapping of major soil and water conservation structures created (Check dams, percolation tanks etc.)

4.2.3. Present status & maintenance of structures created

Periodicity: 5 years

Indicator 4.3: Monitoring of groundwater

Periodical recording of water level in open wells during dry and wet seasons to determine the groundwater level. It will help in the assessment of the impact of interventions taken in the catchment on the groundwater.

Intended situation: Monitoring protocol for groundwater level assessment is in place in the vicinity of forest area.

Verifiers:

4.3.1. Periodic (pre-& post monsoon) monitoring mechanism of water level of open wells in the 5 km vicinity of forest area with respect to annual rainfall is in place

4.3.2. Monitoring the status of select aquifers present in the forest landscape

4.3.3. Annual quality check of water samples

Periodicity: 1 year

Indicator 4.4: Identification of areas vulnerable for erosion and prescription for treatment

Identifying areas vulnerable for erosion and planting of local grasses in such areas are very effective for immediate control of soil erosion. It may be followed by tree plantation which takes time to establish. Forest soils must be kept as healthy and fertile as possible while maintaining the hydrological services.

Intended situation: Soil erosion vulnerability assessment, mapping and interventions are done. Highly vulnerable areas should be prioritised for treatment. Ideally no erosion prone areas remain untreated.

Verifiers:

4.4.1. Soil erosion baseline data and improvements in tons/Ha to be recorded

4.4.2. Soil erosion vulnerability assessment and mapping using any of the standard methods

(e.g.: Revised universal soil loss equation (RUSLE) using the parameters of Rainfall, soil, topography, crop cover, conservation practices factor) along with map for the division is done

4.4.3. Based on assessment suitable soil and water conservation measures are planned and implemented

4.4.4. Budgetary support

Periodicity: 5 years

Indicator 4.5: Mapping of riparian zones for special management prescriptions

Riparian zones act as discharge zones and with appropriate vegetation helps in lowering of water temperature, better dissolved oxygen, less turbidity and maintenance of channel shape. In areas with low rainfall, riverine plantations are likely to have a negative impact on the stream flow. Therefore, riverine plantation should be rainfall specific.

Intended situation: Riparian zones and their status must be maintained and improved w.r.t base year. Negative impacts of silvicultural interventions on the quality and quantity of water resources shall be reduced, soil and water erosion shall be controlled and severe damage to catchment within the forest shall be avoided.

Verifiers:

4.5.1. Identification, documentation and mapping of riparian zones within the buffer area of 5 kms on both sides of major rivers, 2 kms for tributaries and up to 500 mts for streams and around other water bodies

4.5.2. Conservation plan for such buffer areas is prepared and implemented by using silvicultural or other means

4.5.3. Riparian zones result in clean and continuous E-flow (Environmental flow) in rivers and streams

Periodicity: 5 years

Indicator 4.6: Monitoring of streams, lakes, wetlands, ponds, and other water bodies in forested catchments

Eco-restoration, natural regeneration, tree/shrub/grass planting, soil, and water conservation structures as per locally suitable designs protect streams, lakes, wetlands, ponds and other water bodies and seashores. The important forested catchments need to be equipped with the monitoring stations over selected streams to assess the discharge and silt load. The data shall help in developing a long-term understanding on the impact of various vegetative parameters and the management practices on the stream discharge and silt load.

Intended situation: Monitoring protocol in place for surface water bodies such as streams, lakes, wetlands, ponds and other water bodies in forested catchments.

Verifier:

4.6.1. Periodic monitoring of waterbodies with parameters like water temperature, colour, odour, pH, Turbidity, TDS (Total Dissolved Solids), DO (Dissolved Oxygen), BOD (Biological Oxygen Demand), COD (Chemical Oxygen Demand), bank erosion etc.

Periodicity: 1 year

Criteria 5: Maintenance and Enhancement of Forest Resource Productivity

Criterion deals with economic evaluation of forest functions in terms of wood and non-wood forest products. It aims to maintain/increase the productivity of forest resources.

Indicator 5.1: Estimation of growing stock of wood
Indicator 5.2: Estimation of current annual increment and mean annual increment of the forest crop
Indicator 5.3: Assessment of forest structure
Indicator 5.4: Estimation of Basal Area (BA) and the number of stems per unit area
Indicator 5.5: Estimation of carbon stock of the forests
Indicator 5.6: Area taken up for eco-restoration, rehabilitation and reclamation
Indicator 5.7: Area taken up for improved productivity through forest plantation
Indicator 5.8: Area taken up for tending operation and other operations
Indicator 5.9: Analysis of species composition

Indicator 5.1: Estimation of growing stock

Growing stock is the standing volume of a forest crop. Higher the growing stock more the standing volume i.e., usable timber and thus higher carbon stock as well. Estimation of growing stock thus forms the basis for forest management.

Intended situation: Maintenance and enhancement of growing stock w.r.t to base year. Forest crops must be maintained as vigorous as possible to produce as rapidly as they can till the biomass production attains its most desirable level including contributing to intangible benefits.

Verifiers:

5.1.1. Regular monitoring of growing stocks in sample plots
5.1.2. Strategies to improve and enhance growing stock included in WP
5.1.3. Assessment of extraction of timber (recorded and unrecorded extraction)

Periodicity: 5 years

Indicator 5.2: Estimation of current annual increment and mean annual increment of the forest crop

Increment is the increase in volume of growing stock over a period. Higher increment of Growing Stock also means higher carbon sequestration. The rate of increment depends on many locality factors including the growth of the forest crop, which will form the basis for decision making in forest management.

Intended situation: MAI/CAI is either maintained or improved w.r.t base year.

Verifiers:

5.2.1. Sample plots that analyse MAI/CAI for important species
5.2.2. Implementation of strategies to improve and enhance MAI as per the WP
5.2.3. Trend analysis in production of timber and fuel wood in successive working plans in past 20 years

Periodicity: 5 Years

Indicator 5.3: Assessment of forest structure

The assessment of forest structure is generally done using age-class/diameter distribution. Maintenance of forest structure is essential for sustainable production of goods and services. The diameter is a proxy for age and the diameter distribution of the principal species, and their associates

indicate the presence or absence of different age class in a forest crop. Presence of all age-classes in an even-aged forest and presence of all diameter classes in selection forest indicate the sustainability of a population and the benefits drawn from it.

Intended situation: Generally silvicultural and management practices in natural forests should support right distribution of age classes/diameter classes.

Verifiers:

5.3.1. Assessment of age classes / diameter distribution of identified species

Periodicity: 5 years

Indicator 5.4: Estimation of Basal Area (BA) and the number of stems per unit area

Basal area is a function of crop diameter and number of trees per unit area. Basal area along with the number of stems per unit area is a better indicator of a forest crop to sustainably provide the goods and services it renders.

Intended situation: Maintenance of optimal basal area and number of stems per unit area as per the management objective.

Verifiers:

5.4.1. Assessment of basal area of identified species

Periodicity: 5 years

Indicator 5.5: Estimation of carbon stock of the forests

An estimate of the carbon stock of the forests over a period of time indicates the carbon sequestration potential of the forests thereby the mitigation potential of the forests against climate change.

Intended situation: Maintenance and enhancement of Carbon stock.

Verifiers:

5.5.1. Periodic estimation of total carbon sequestered against base year

Indicator 5.6: Area taken up for eco-restoration, rehabilitation, and reclamation

The degradation of the forest leads to lower productivity. Analysis of measures taken up for mitigating the effects of the degradation, mining and shifting cultivation etc., especially through eco-restoration, rehabilitation and reclamation will be useful for effective management of forests.

Intended situation: Based on the identification and mapping of degraded forest areas, eco-restoration, rehabilitation and reclamation efforts are undertaken using native species of herbs, shrubs, and trees.

Verifiers:

5.6.1. Total area treated under different schemes for Eco-restoration of degraded forest area

5.6.2. Total area treated under different schemes for rehabilitation for areas affected with shifting cultivation or forest area freed from encroachment

5.6.3. Total area treated under different schemes for reclamation of mined out areas

5.6.4. Budgetary allocation for the Eco-restoration, rehabilitation, and reclamation

Periodicity: 1 year

Indicator 5.7: Area taken up for improved productivity through forest plantation

The productivity of a forest depends upon the genetic material of the trees also. It is difficult to manipulate the genetic makeup of a natural forests but can be done while raising plantation. The superior quality planting material is essential for increasing the productivity.

Intended situation: Production from forests is augmented through forest plantations of timber species having maximum demand in the market. Productivity of forest plantations is improved with high quality planting materials and suitable management practices.

Verifiers:

5.7.1. Percentage of area of the forest division under forest plantations and areas under different timber species
5.7.2. Sources of quality seeds and clonal planting material for improved productivity of targeted species
5.7.3. Production of high-quality planting materials in forest nurseries
5.7.4. Details of plantations carried out year-wise
5.7.5. Percentage of area under plantation with improved planting materials/clonal plantation and/or intensive management practices
5.7.6. Details of production from the plantations
5.7.7. Improvement in productivity from improved plantations

Periodicity: 1 year

Indicator 5.8: Area taken up for tending and other operations

The timber, bamboo and NTFP productivity can be enhanced with suitable silvicultural treatments like thinning, cleaning, and pruning. Assessment of other silviculture practices undertaken to protect water resources and soils, reduce disturbance and damage to habitats, ecosystems, landscape, and environmental values. Areas taken up for these operations indicate the efforts taken up for enhancing the productivity of the forests.

Intended situation: Productivity of forest area is enhanced through tending and other operations.

Verifiers:

5.8.1. Plan of operation for enhancement of productivity of timber, bamboo and NTFP
5.8.2. Area under different silvicultural treatments such as thinning, cleaning and pruning
5.8.3. Area under other silviculture practices undertaken to protect water resources and soils
5.8.4. Area under specific habitat management and enhancement of ecosystems, landscape and environmental values

Periodicity: 1 year

Indicator 5.9: Analysis of species composition

A forest with mixed species composition provides multiple goods. The object of management determines the species composition and an analysis of the tree diversity of a forest crop indicates the multiple goods a forest could provide.

Intended situation: Forest composition should include an optimum number of associates apart from main species. The species composition should include fruit bearing and other NTFP species to provide

various ecosystem services including wildlife habitat. Species composition is assessed and mixed species composition is enhanced in the forest area of the division.

Verifiers:

5.9.1. Percentage of species composition in forest area with regard to main species, associates, fruit-bearing and other NTFP species is calculated
5.9.2. Improvement in the species composition

Periodicity: 1 year

Criteria 6: Optimisation of Forest Resource Utilisation

Forests provide multiple goods for the use of society in the form of timber, fodder, grass, fruits, nuts, gums, resin, tendu leaves, medicinal plants etc. The knowledge of the communities on the conservation, harvesting/collection practices, grading and storage helps in sustainable management of forest resources. Identification of the important forest produce, their demand and sustainable supply and the harvesting pattern will form basis for making sound management prescriptions as indicated below:

Indicator 6.1: Agriculture customs and requirement of the local people
Indicator 6.2: Listing of important Non-Timber Forest Produce (NTFPs)
Indicator 6.3: Details of non-destructive/sustainable harvesting of resources
Indicator 6.4: Demand and supply of timber and NTFPs
Indicator 6.5: Low impact harvesting
Indicator 6.6: Recorded removal of timber, firewood, grasses, fodder, bamboos, NTFPs etc.
Indicator 6.7: Valuation of the forest resources
Indicator 6.8: Forest enterprises
Indicator 6.9: Access and benefit sharing

Indicator 6.1: Agriculture customs and requirement of the local people

An estimation of the requirement of the local people for small timber for agricultural and other local community uses on the basis of the socio-economic survey will indicate the dependence of the population on forests.

Intended situation: Understanding of the gap between demand and supply of the small timber to meet the requirement of local people and artisans.

Verifiers:

6.1.1. Assessment of the estimation of the requirement of small timber for agriculture, handicraft and other local community uses on the basis of socio-economic survey
6.1.2. Estimation of the supply of small timber to local people
6.1.3. Demand and supply gap if any and strategy to meet the gap

Periodicity: 5 years

Indicator 6.2: Listing of important NTFPs

It is expedient to identify, produce, or enable the productions of diversified products such as NTFPs, their use, parts used, based on the range of resources without jeopardising the flow of ecosystem services in order to strengthen and diversify the local economy proportionate to the scale and intensity of management activities.

Intended situation: All the species of important NTFPs must be recorded along with their marketability.

Verifiers:

6.2.1. Documenting all NTFPs including herbs and shrubs which diversify the local economy
6.2.2. Assessment of demand & supply of NTFPs
6.2.3. Market value of NTFPs/Medicinal and Aromatic Plants (MAPs) (value should increase in consonance with market forces, transportation and value addition)

Periodicity: 5 years

Indicator 6.3: Extent of non-destructive/sustainable harvesting of resources

Bioresources are harvested and whole plants or different parts are used. If whole plants, underground plant parts or bark are used, this often leads to the death of the plant and is likely to have an adverse effect on its population than a plant whose leaf or seed or flower is used. An analysis of the parts used, collection and harvesting practices shall indicate the sustainability of NTFPs.

Intended situation: Evolution and implementation of a mechanism to ensure the harvest is within sustainable limits for the species of important NTFPs including herbs and shrubs.

Verifiers:

6.3.1. Protocols for non-destructive/sustainable harvesting and collection of important NTFPs including herbs and shrubs
6.3.2. Fixing annual extraction limits for major NTFPs/MAPs
6.3.3. Creating awareness and promoting good collection practices
6.3.4. Capacity building of local community on sustainable harvesting practices
6.3.5. Assessment of adoptability of sustainable harvesting techniques

Periodicity: 5 years

Indicator 6.4: Demand and supply of timber

The socio-economic study and the local market survey will provide an assessment of the dependence of the local people on the forests for timber. This will also include the estimation of import and export of timber/ from other States and Country. This will enable the assessment of per capita consumption of timber and by the people living near the forests.

Intended situation: Assessment of the dependence of the local people on the forests for timber.

Verifiers:

6.4.1. Estimation of local consumption, production, import and export of timbers
6.4.2. Timber requirement of industries and other stakeholders
6.4.3. Regular documentation of timber production and harvest
6.4.4. Supply and demand gap and strategy to meet the gap

Periodicity: 5 years

Indicator 6.5: Low impact harvesting of timber.

Assessment of any low impact harvesting technique being followed in the forest division. Harvesting and extraction of forest resources are undertaken in the manner so that merchantable waste is reduced, and damage to other products and services is avoided.

Intended situation: Progressive implementation of low impact harvesting techniques in forestry operations.

Verifiers:

6.5.1. Document of low impact harvesting techniques for forestry operations
6.5.2. Assessment of damage in various forestry operations
6.5.3. Creating awareness and promoting low impact harvesting techniques
6.5.4. Use of modern machinery, tools and technology for low impact harvesting

Periodicity: 5 years

Indicator 6.6: Recorded removal of timber, firewood, grasses, fodder, bamboos, NTFPs etc.

Analysis of annual removal over a period of time indicates the sustainability of a species. Any reduction or excess extraction over the average extraction during a period of time warrants immediate action for its rehabilitation or augmentation of natural population.

Intended situation: All timber, firewood, grasses, fodder, bamboos, NTFPs etc. removals should be recorded, and extraction should be within permissible limits.

Verifiers:

6.6.1. Details of all removals of timber except for petty felling as per the control forms. Harvest should not exceed the accretion (Growing Stock/ MAI)
6.6.2. Information on all removals of fuel wood based on socio-economic survey and assessment is provided. Evolving mechanism for quantified data on recorded removals and sharing with the community is explored and highlighted
6.6.3. Assessment of bamboo/rattans and mechanism for generating quantified data on their removal and sharing with the community is provided
6.6.4. Description of cattle rearing community of forest dwellers with regard to removal of fodder and availability of palatable species and pastureland etc.
6.6.5. Record of forest produce removal by the community
6.6.6. Analysis of annual removal of timber, firewood, grasses, fodder, bamboos, NTFPs, etc. over a period of time
6.6.7. Measures taken to meet the energy demands of local communities using alternatives such as biogas stoves, solar powered stoves, etc. and improve fuel wood quality (wood gasifier)

Periodicity: 5 years

Indicator 6.7: Valuation of the forest resources

An estimation of the value of all the goods that are extracted from the forests based on the market value gives insight for making decisions for the optimisation of the use of the goods from the forests.

Intended situation: Valuation of tangible benefits derived from the forest

Verifiers:

6.7.1. Recorded forest produce removal by forest department, community, others and their valuation on market price

6.7.2. Change in valuation of forest resources, if any

Periodicity: 5 years

Indicator 6.8: Forest enterprises

Wood based industries and other industries that use raw materials sourced from the forests are important stakeholders. Listing of forest-based industries and enterprises in the forest division and outside forest division but sourcing raw material especially NTFPs from the division, not only indicate the forest-based employment generation but also the contribution of the forests towards the local economy and indicates scope for new forest-based enterprises.

Intended situation: All wood-based and forest produce-based industries operating in the forest division are listed and their raw material demand and consumption is assessed.

Verifiers:

6.8.1. Listing of all wood-based and forest produce-based industries operating in the forest division and their annual requirement

6.8.2. Listing of all wood-based and forest produce-based industries operating outside forest division but sourcing raw material especially NTFPs from the division and their annual requirement

6.8.3. Recorded forest produce removed and used within the division

6.8.4. Recorded forest produce removed and supplied outside division

Periodicity: 5 years

Indicator 6.9: Access and benefit sharing

NTFPs are sourced from the forest areas for commercial use by the industry. Proper documentation of traded quantity and sharing of the benefits with the BMCs as per the provisions of Biological Diversity Act and Access to Biological resources and associated knowledge and benefit sharing regulations (ABS guidelines) 2014 notified there-under can help in the conservation and sustainable use of NTFPs.

Intended situation: The forest bio-resources are accessed for commercial use as per the ABS guidelines.

Verifiers:

6.9.1. List of registered traders/manufacturers and their annual requirement

6.9.2. Sharing of levy/fee with the BMC for the conservation, management and benefit sharing as per ABS regulations

Periodicity: 2 years

Criteria 7: Benefits to Local People - Social, and Cultural Values

The social and cultural values of forests aside from their ecological and economic benefits and optimisation of forests and their products are intrinsically connected with local stakeholders. Traditionally, they form a significant part of the life of the local people with many patches of forests across the country protected as sacred groves. Several floral and faunal species of religious and cultural significance also exist. Hence, such cultural and social sentiments are of great importance as motivational drivers behind their conservation ethos. The assessment of the role of forests on the social, cultural, economic and ecological aspects of the local people will provide inputs for making management decisions as indicated below:

Indicator 7.1: Details of employment generated

Indicator 7.2: Use of traditional Knowledge and listing of knowledge holders

Indicator 7.3: Sacred groves and other cultural values

Indicator 7.4: Details of social customs on forests and forestry practices

Indicator 7.5: Ecotourism sites and activities

Indicator 7.6: Identification of rights and concessions of the local communities (other than FRA)

Indicator 7.7: Ecosystem services and benefits

Indicator 7.1: Details of employment generated

The activities of the forest department generate livelihood and an analysis of the same provides insight into the employment generation potential of the forest sector and the dependence of the local community on forests for employment. The details of trainings and capacity building programmes organised towards employment generation helps in identifying the potential human resource available for different activities including guides for ecotourism related activities.

Intended situation: The human resource undertaking forest-based activities is sufficiently trained.

Verifiers:

7.1.1. Details of the capacity building for the local community

7.1.2. Status-Job card and employment generation activities

7.1.3. Analysis of employment generation in terms of man-days

Periodicity: 1 year

Indicator 7.2: Use of traditional knowledge and listing of knowledge holders

The local traditional health practitioners and indigenous medicinal systems are repositories of traditional knowledge which have a close linkage with the forests. This information may also be available in the Peoples' Biodiversity Register (PBR) prepared by the Biodiversity Management Committees (BMCs). Their knowledge on the distribution of the species, their extent, its diverse use and availability etc shall form the basis for making sound management prescriptions.

Intended situation: Utilisation of information from PBR and TKDL (Traditional Knowledge Digital Library) for conservation, management and utilisation of forest resources and incorporation of the same in the micro-plans and WP.

Verifiers:

7.2.1. Availability of Peoples' Biodiversity Register prepared by the Biodiversity Management Committees

7.2.2. Identification of different communities living in and around forest having different types of indigenous knowledge
7.2.3. Indigenous knowledge on forest management is incorporated in micro-plans and WP

Periodicity: 2 years

Indicator 7.3: Sacred groves and other cultural values

Sacred groves are great repositories of biodiversity with religious, cultural and conservation significance. Listing of these groves such as trees, forest patch, ponds/lakes etc. shall provide insight into necessary special management interventions required.

Intended situation: Details of sacred groves, their significance and management interventions.

Verifiers:

7.3.1. Sacred groves are identified, mapped and protected in consultation with local stakeholders
7.3.2. Assessment of ecological services from sacred groves
7.3.3. Conservation plan for sacred groves
7.3.4. Good management practices borrowed from sacred groves are incorporated in micro plans and WP

Periodicity: 5 years

Indicator 7.4: Details of social customs on forests and forestry practices

There are community specific social customs, customary laws on various forestry related activities like collection of NTFPs, their use etc. Identification of the same indicates the close cultural linkage of the communities with the forests which could contribute to making culturally conscious management prescriptions with the active participation of the local communities.

Intended situation: Social customs relevant to the forests and forestry practices are respected while making management prescriptions in the WP.

Verifiers:

7.4.1. Documentation and incorporation into micro plans and WP of the social customs on various forestry related activities for conservation, management of bio-resources and benefit-sharing

Periodicity: 5 years

Indicator 7.5: Ecotourism sites and activities

Ecotourism is responsible travel that involves interpretation and education about natural areas. Areas inside and adjoining designated forests, which have ecotourism potential shall be identified and documented for effective implementation of ecotourism principles.

Intended situation: Potential sites in the forest division identified and encouraged for eco-tourism activities.

Verifiers:

7.5.1. Areas inside and adjoining designated forests, which have ecotourism potential, are identified and listed (Such as landscape, waterscape, wildlife and also the human-scape)
7.5.2. Ecotourism development plan is prepared and implemented in the division within the carrying capacity
7.5.3. Capacity building of eco-guides

7.5.4. Records of tourist inflow to eco-tourism sites and commensurate benefits to the local community

Periodicity: 1 year

Indicator 7.6: Identification of rights and concessions to the local communities (other than FRA)

The communities living near the forest enjoy certain rights and concessions from the forests. Documentation of these rights and concessions, other than the rights recognised under FRA as considered in indicator 2.1.7, as they have bearing on the management of forests.

Intended situation: Documentation of Rights and concessions to the communities and their exercise within the management prescriptions.

Verifiers:

7.6.1. Document on rights and concessions of the local communities on forests

7.6.2. Extent of exercise of rights and concessions and their bearing on the sustainable management of forests

Periodicity: 1 year

Indicator 7.7: Ecosystem services and benefits

The local community derives benefits from the forest ecosystem services which have a bearing on the quality of life of the community and the forest. Wherever possible a framework for quantification and valuation of ecosystem services may be explored and documented.

Intended situation: Quantification and valuation of ecosystem services and documenting the benefits to the community.

Verifiers:

7.7.1. Identification of the ecosystem services and benefits to the community in the division

7.7.2. Preparation of a plan to build capacities and infrastructure for quantification of ecosystem services through existing technical expertise from Government institutions

7.7.3. Budgetary provisions for quantification and valuation of ecosystems and capacity building

Periodicity: 5 years

Criteria 8: Policy, Legal and Institutional Framework

National and State policies on forests, wildlife, water and environment govern the way forests are managed. The Indian Forest Act, 1927, the Forest Conservation Act, 1980, Wildlife (Protection) Act 1972, Environment (Protection) Act, 1986, Biological Diversity Act, 2002, Compensatory Afforestation Fund Act, 2016 and any other state specific law and rules made there under provide legal framework for the conservation and sustainable management of forests, wildlife and the biodiversity that the forests harbours. The Forest Rights Act 2006 and PESA Act also impact the management of the forests in India. An analysis of these legal instruments and their implementation, various institutions involved with the forest management and research will indicate the impact of these instruments on forest management as indicated below:

Indicator 8.1: Existing policy and legal instruments governing the forest management

Indicator 8.2: Role of panchayats or any locally elected bodies in the district/council areas in forest management

Indicator 8.3: Participatory forest management

Indicator 8.4: Details of Biodiversity Management Committees (BMCs)

Indicator 8.5: Forest, biodiversity and wildlife related offences

Indicator 8.6: Financial outlay

Indicator 8.7: Human resource

Indicator 8.8: Gender aspects

Indicator 8.9: Labour welfare

Indicator 8.10: Environmental awareness and education

Indicator 8.11: Infrastructural support

Indicator 8.12: Research and development

Indicator 8.13: Existence of monitoring mechanism

Indicator 8.1: Existing policy and legal instruments governing the forest management

This includes all national /state/ locality specific rules, regulations existing that govern forest management.

Intended situation: Existence of legal framework at national, state and local level on environment, forest, tree preservation, wildlife, biodiversity, forest-dwellers and others related to forest management.

Verifiers:

8.1.1. Awareness amongst the forest personnel and local communities about the existing legal provisions for safeguarding environment, forests, wildlife, biodiversity and rights of the forest dwellers

8.1.2. Availability of important legal provisions in local languages with field staff and local organisations (JFMCs/EDCs/BMCs and SHGs)

8.1.3. Awareness programmes conducted on legal issues

Periodicity: 5 years

Indicator 8.2: Role of panchayats or any locally elected bodies in the district/council areas in forest management

Analysis of the village / local body development plan and its focus on forests, wildlife and environment.

Intended situation: Development plan with focus on forests, wildlife and environment by involvement of division staff with panchayats or any locally elected bodies in the district/council areas for preparation of village development plans.

Verifiers:

8.2.1. Status of inclusion of management aspects of forest, wildlife and environment conservation in village / local body development plan

Periodicity: 5 years

Indicator 8.3: Participatory forest management

The listing of the committees constituted for the participatory forest management which are mandated to protect and conserve the forests and the biodiversity thereof. Micro-plans are prepared in congruence with working plan prescriptions. Analysis of the functioning of these committees and implementation of the micro-plans prepared through Participatory Rural Appraisal is an indication of the participation of the stakeholders in forest management for sustainable management of forests.

Intended situation: Participation of stakeholders in sustainable management of forest

Verifiers:

8.3.1. Listing of the committees constituted for the participatory forest management
8.3.2. Mapping of forest areas covered under participatory forest management
8.3.3. Participatory Rural Appraisals and involvement of local community in preparation of micro-plan
8.3.4. Number of micro-plans prepared
8.3.5. Mapping of the areas covered under Micro-plans
8.3.6. Analysis of the functioning of these committees and implementation of the micro-plans

Periodicity: 5 Years

Indicator 8.4: Details of Biodiversity Management Committees (BMCs)

BMCs are constituted under the Biological Diversity Act for the purpose of promoting conservation, sustainable use, and documentation of biological diversity, including preservation of habitats and chronicling of knowledge relating to biological diversity. The Access and Benefit Sharing (ABS) Guidelines specify the process for Access and Benefit sharing of bio-resources. Listing of BMCs, benefit sharing agreements, if any, data on the quantity and valuation of traded bio-resources including NTFPs indicate the benefits derived by the communities.

Intended situation: Duly constituted and functional BMCs

Verifiers:

8.4.1. Constitution of BMCs
8.4.2. Details of periodical meetings of BMCs
8.4.3. PBR (People's Biodiversity Register) available with the BMC
8.4.4. BMCs have management plans for sustainable use of their biological resources
8.4.5. Records of NTFP harvesting/extraction and traded quantity and prices by the BMCs
8.4.6. Records of Levy charges received by BMCs
8.4.7. Records of ABS implemented

Periodicity: 5 years

Indicator 8.5: Forest, biodiversity and wildlife related offences

Listing of year wise forest, wildlife and biodiversity related offences; details of conviction and compounding under various legal instruments governing the same indicate the effectiveness of enforcement of law.

Intended situation: All offence cases are registered, investigated and concluded as per law.

Verifiers:

8.5.1. Maintenance of offences registers
8.5.2. Use of IT in offence monitoring
8.5.3. Higher rate of convictions of cases
8.5.4. Capacity building of frontline forest staff to handle offence cases

Periodicity: 1 year

Indicator 8.6: Financial outlay

Requirement of funds as per the working plan vis-à-vis allocation of funds in the previous plan period and expenditure.

Intended situation: Finances available match the annual plan of operations drawn from the working plan.

8.6.1. Trend analysis of allocation vis-à-vis plan prescriptions and expenditure and inflow of finances from other sources
8.6.2. Outcome-based budget analysis

Periodicity: 1 year

Indicator 8.7: Human resource

Adequate and trained manpower is essential for effective management of forests. Regular recruitment, promotions, induction and refresher trainings, skill up-gradation trainings are necessary or bringing efficiency in forest management.

Intended situation: Adequate and trained manpower available at all levels in the division. In-service training done periodically.

Verifiers:

8.7.1. Number of posts sanctioned and positioned to assess the adequacy of the manpower
8.7.2. Assessment of the requirement of daily wage/contractual manpower
8.7.3. HRD plan in place with regular Training Need Assessment (TNA)for meeting the emerging challenges
8.7.4. Trainings imparted at all levels
8.7.5. Enforcement of Environment, Health and Safety (EHS) measures

Periodicity: 2 years

Indicator 8.8: Gender aspects

Women are involved in forest-based income generation activities as they are the primary collectors of NTFPs and their primary processing. The women are likely to have knowledge on forestry resources linked with food, health, fodder and firewood. However, their commensurate roles do not reflect in the forest management. Mapping of gender-based roles and activities in forestry, assessing the contribution of women in forestry activities, their role in forest management planning, training and capacity building for women organised by the forest department etc. are essential to understand gender mainstreaming in forest management.

Intended situation: Forest management with adequate gender participation and enabling working conditions.

Verifier:

8.8.1. Mapping of gender-based roles and activities in forestry operations
8.8.2. Records of gender participation
8.8.3. Capacity building for women community and frontline staff
8.8.4. Adequate working conditions for all genders
8.8.5. Enabling access to government schemes for child and women development

Periodicity: 5 years

Indicator 8.9: Labour welfare

The welfare of the labour involved in forestry operations is of utmost importance. Listing of the applicable laws governing the labour welfare and analysis of adherence to the same indicate efforts taken for labour welfare.

Intended situation: Compliance to all applicable laws, rules and schemes governing the labour welfare.

Verifiers:

8.9.1. Listing of the applicable laws, rules and schemes governing the labour welfare
8.9.2. Adherence to the wages rates as applicable
8.9.3. No engagement of child labour
8.9.4. Direct payments to the beneficiary account
8.9.5. Implementation of applicable government welfare schemes (life insurance, health insurance etc.)

Periodicity: 5 years

Indicator 8.10: Environmental awareness and education

Assessment of all efforts made to increase public awareness and education on the environment, forests, and the benefits provided by the forests, along with a list of the published material.

Intended situation: People are well aware of the tangible and intangible benefits of the forests and importance of sustainable forest management.

Verifiers:

8.10.1. Communication strategy for public awareness on the importance of and the benefits provided by forests and sustainable management of forests
8.10.2. List of published material such as brochures, pamphlets, leaflets, posters, etc for public awareness
8.10.3. Extent of use of social media handles
8.10.4. Public participation & celebration of important events like Van Mahotsav, Wildlife Week, Earth Day, World Environment Day, International Day of Forests etc.
8.10.5. Number of meetings with the general public to inform them of the benefits provided by forests to society
8.10.6. Details of forestry/environmental awareness and education programmes conducted for students such as Prakriti etc.

Periodicity: 2 years

Indicator 8.11: Infrastructure support

Adequate infrastructure in terms of office, residential accommodation of the staff, transportation facilities and communication facilities are necessary for effective forest management. Listing of the entire infrastructure available enables identification of gap, if any, and planning for reducing the gap.

Intended situation: Adequate infrastructure for effective forest management.

Verifiers:

8.11.1. Listing of office, residential accommodation of the staff, transportation facilities and communication facilities

8.11.2. Assessment of requirement of infrastructure

8.11.3. Infrastructure planning for reducing the gap

Periodicity: 2 years

Indicator 8.12: Research and development

Research and academic institutes are important stakeholders. Research plots, preservation plots, seed orchards, seed stands/seed production areas etc. established by forest department and research institutes, are important for research and development in the forestry sector. Documentation of the efforts of the forest department, the details of research undertaken, application of results in the field and further identification of problems for research are essential for effective science-based forest management.

Intended situation: Long-term research and development plan in place.

Verifiers:

8.12.1. Listing of research plots, preservation plots, seed orchards, seed stands/seed production areas etc. established by forest department and research institutes and their status

8.12.2. Number of research problems identified and referred to the research wing/research institution

8.12.3. Utilisation/Implementation of research findings and transfer of knowledge and technology

Periodicity: 5 years

Indicator 8.13: Existence of monitoring mechanism

Periodic monitoring and evaluation are essential tools for effective and adaptive forest management. Analysis of adherence to monitoring protocols like control forms, compartment history etc. gives insight into the management of forests.

Intended situation: Regular monitoring of management effectiveness.

Verifiers:

8.13.1. Regular monitoring and evaluation mechanism is in place

Periodicity: 1 year