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NETWORK FOR CERTIFICATION AND CONSERVATION OF FORESTS

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The NCCF National Forest Management certification standards has been developed by the Standards Development Group (SDG) of the NCCF through a consultative process with the basic drafting undertaken by a Technical Working Group (TWG) established for the same. The document in its present form would be further refined through rounds of consultation, within and outside the SDG, as well as with all stakeholders. Post finalization of the draft, the standard would undergo an extensive round of field level verification to see the manner in which the standard can be adopted as well as its usability and adaptability to the field in the Indian context.

The NCCF draft Forest Management Certification Standards, as laid out in this document, has been developed at a very broad level, keeping in mind that it should cater to both state and non-state forests. At a later stage, the NCCF would prefer to keep the option open for this document to be further refined to act specifically for reserve forest areas, protected areas and for Trees outside Forests (ToF) with individual standard documents developed for each.

The themes and identified principles, criteria and applied indicators are only indicative in nature and are by no means exhaustive. Based on the approval of the themes and the attendant Principles, Criteria and Indicators, the Technical Working Group (TWG) of the Standard Development Group (SDG) would further initiate adoption review of the standard, post this round of stakeholder consultation, before the standard is put up for pilot testing in selected areas.



Foreword:

India's forests are a compilation of contrasts, with a breathtaking diversity in terms of species, ecological zones, forest types and sub types, as well as a diversity and range of forest goods and services. Further, the management and administration of forests in India is different from other forestry sectors (especially from those of Europe and the America) in that the majority of forest resources are, in some manner, either owned or managed by the state. In addition, India has a huge population which is dependent on forests for food, shelter and livelihood. It would be not out of place to state that the spectrum of India's forests, with its range from alpine and snow clad forests, through dry and wet deciduous forests, scrub forests, right up to evergreen forests, marshes, mangroves etc. represent a microcosm for the whole of South Asia, and represent within itself a wide spectrum of ecological conditions prevalent on our planet.

With a resource base as varied that we have, there is a need to protect and conserve this legacy that we have for future generations. This protection, however, cannot be at the cost of present needs of the population dependent on forests for their living. There is an ever present and increasing demand from industry for resources and land, in addition to the pressure on forests to be converted to other land uses for food production, infrastructure etc. A judicious use of forests and their resources would depend upon proper management of our forest areas, and the tool of forest certification can act as promoter and monitor for these management practices, leading to a sustainable and responsible management of forests.

The sustainable and responsible management of forests may be broadly defined as the use and management of forests, forest resources and associated lands in such a manner as to meet the social, economic, ecological, cultural and spiritual needs of present and future generations, while at the same time maintaining their biodiversity, productivity, regeneration capacity, vitality and potential to fulfill relevant social, economic, ecological and social functions.

Forest Certification is a market-based non-regulatory conservation tool designed to recognize and promote responsible forest management. Through certification, timber harvest planning and practices are evaluated by an independent third party, according to standards that address environmental protection as well as social and economic welfare.

Presently, there exists various forest management certification schemes globally, operating with varying degrees of success in meeting the requirements of responsible forest management. However, when different forest management certification schemes were evaluated for adoption in India, there was a realization among different stakeholders that India needs to develop an independent forest management certification system which, while meeting the rigors of certification objectives and international benchmarking, is simultaneously suitable and conversant with the peculiar conditions and dependencies that affect Indian forestry. Keeping those conditions in mind, the present document has been developed to become a tool for management, monitoring, assessment and improvement of forest

and plantation management practices, as well as forming the basis for Forest Management (FM) and Chain of Custody (CoC) certification to benefit forests and plantation owners, farmers, craftsmen, decentralized value addition/manufacturing units and trading units, by getting wood based products linked to the domestic and international markets through a credible forest management and Chain of Custody (COC) certification network.

The NCCF aims to promote the implementation of improved and sustainable forestry practices in the country which are economically viable, environmentally responsible and socially beneficial in accordance with national policies, institutional frameworks and sustainability usage norms. The standard envisages the development of principles, criteria and indicators, which, at the national level, can be a guide for national forest management policies, regulations and legislations necessary to achieve objectives on sustainable forest management, while internationally, they can hold up to the most rigorous standards for sustainable forest management presently in vogue. On a broader level, the standard will become a tool for assessment and improvement of forest and plantation management practices and in the process will have an aspirational approach so as to help in the gradual yet permanent and continuous improvement of the existing forest management systems.

It is required to clarify here that the standard is intended for voluntary application to any forest, plantation or tree covered area, regardless of size or ownership. The standard is also intended to be comparable with relevant international and national policy instruments and as such has been developed with both national and international audiences in mind, keeping in view the attempt to support and strengthen the regulatory framework within which the Indian FMEs operate.

Verbal forms for the expression of provisions

[Adapted from *ISO/IEC Directives Part 2: Rules for the structure and drafting of International Standards*]

“Shall”: indicates requirements strictly to be followed in order to conform to the standard.

“Should”: indicates that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required. A certification body can meet these requirements in an equivalent way provided this can be demonstrated and justified.

“May”: indicates a course of action permissible within the limits of the document.

“Can”: is used for statements of possibility and capability, whether material, physical or causal.

In the present document, major issues relevant to forest certification have been grouped together into similar Themes, with the Themes further designed and organized to conform to the 'triple bottom-line' approach of sustainability and responsible forest management, with the underlying ideal of 'socially beneficial, environmentally responsible and economically viable' forest management. The Themes have been developed after looking into the major issues that are addressed among different forest certification standards globally and also looking into the National Working Plan code. These Themes are further organized into Principles, which are the building blocks of the standard. The Principles are further elaborated by means of various Criteria for evaluation, with each Criterion corresponding to a particular aspect of the Principle, with the whole Principle being more than the sum of its participant criteria. As a further stage of refinement, Indicators have been developed for each criterion, to enable judging the performance in the field. The themes and its organization are as follows:

Theme A: This theme deals with the legality of the forest management enterprise and the legal status of all actions and activities attributed to it.

Theme B: This theme deals with the development and updation of a written forest management plan and its implementation and monitoring.

Theme C: This theme deals with the impact of forest management activities in the social, economic and environmental spheres.

Theme D: This theme deals with the aspect of 'economic viability of forest management operations' and is concerned with the sustainable and productive utilization of forest resources, including both forest products as well as services.

Theme E: This theme is concerned with the aspect of 'socially responsible forest management' and deals with social and community relations as well as rights of forest workers as well as tribals, forest dwellers or forest based communities.

Theme F: This theme deals with the aspect of 'environmental and ecological sustainability' of forest management and deals with matters related to identification and management of High Conservation Values, tangible and intangible forest services, biodiversity, natural resource conservation and management etc.

THEME A: LEGALITY AND LAND TENURE

This thematic section deals with the legal existence of the Forest Management Enterprise (FME) along with the participating Forest Management Units (FMUs) as well as the legality of the operations undertaken by it. Major issues dealt within this theme include compliance to national, state and local laws, regular payments of duties and levies, compliance to national and international agreements to which India is a signatory (e.g., CITES, ITTO, CBD etc.), clear and documented ownership of forest lands along with rights etc. This theme also deals with responsibilities for ensuring legal compliance as well as resolution of issues related to disputes of ownership, rights etc. This theme would also look into the nature, frequency and severity of any regulatory violations or non-compliances and the manner in which they have been addressed. Another issue addressed here would be the availability of resources – physical, financial and human, to ensure compliance to relevant laws and statutes.

THEME B: FOREST MANAGEMENT PLAN

The responsible management of forests comprises the cycle of inventory and planning, implementation, monitoring and evaluation, which shall form the basis for a cycle of continuous improvement.

The sustainability concept not only includes sustainability of productive functions but also environmental functions like soil and water conservation and carbon sequestration and the socio-economic benefits to tribals, forest dependent communities and forest dwellers living in and on the forest fringes; including meeting their livelihood and basic needs and their involvement in the protection and management of forest resources through micro plans and eco development. SFM practices have been linked with quantitative and qualitative or descriptive attributes related with above functions of the forests in the working plans. Therefore, any planning and implementation of sustainability of forest resources will have to monitor and assess all the above aspects periodically, keeping in mind the scale and intensity of forest operations, as well as the risks associated with management activities, which would not only indicate the direction of change but would also help in the assessment of forest management.

Forest management planning must provide for the sustainable management of forests and its biodiversity, encompassing the social, economic and ecological dimensions, as enshrined in the National Forest Policy. The National Working Plan Code prescribes the need for a management /working plan “to suitably manage, conserve and utilize the forest resources and to bring uniformity in forest management planning with due focus on environmental stability, biodiversity monitoring and management, restoration of ecological balance of the disturbed areas, protective functions of the forest resources and other socio-economic benefits of NTFPs.”

This theme deals with the development and management of the forest operations in a Forest Management Enterprise (FME) in a defined management plan. Other issues that are attempted to be addressed within the ambit of this theme include, but not limited to, development of objectives of the

management plan (silvicultural, socio-economic, environmental), periodic revisions of management plans, training of FMEs and workers in implementation of the management plans, establishment of monitoring and assessment protocols for plan implementation (including type and intensity of monitoring), procedures for establishing Chain of Custody of forest products, public summary of results etc. The theme would also address the resource allocation for plan development and for monitoring and evaluation as well as the extent of stakeholder input that has gone into plan development.

THEME C: IMPACTS OF MANAGEMENT ACTIVITIES

Anthropogenic involvement in forest/plantation management activities result in modification of the ecological/social conditions of the existence of these forests and also on the communities' dependent on these forests. This theme principally deals with issues related to the effects of various management activities and their impacts on forest resources and the supporting environment in which the Forest Management Enterprise (FME) is operating. This theme would include matters related to protection and conservation of soil and water resources which may be affected by management activities, assessment of forest resources to climate change vulnerability, resilience of the forests, adaptation and mitigation measures at the FME/FMU level etc. Also, matters related to the economic, environmental and social impacts of forest management operations are dealt here. This theme would also look at forests and climate change, including the impacts of climate change on forests ecosystems, as well as the potential of forest management activities to fulfill climate change adaptation and mitigation measures, which can potentially dovetail with the Nationally Appropriate Mitigation Actions (NAMAs), National Action Plan on Climate Change (NAPCC) as well as State Action Plans on Climate Change (SAPCC).

THEME D: SUSTAINABLE AND ECONOMIC UTILIZATION OF FOREST RESOURCES

This theme deals with the diverse and complete utilization of forest produce and the establishment and development of a robust local economy, with an emphasis on use of forest products and services, along with inventorisation of the benefits associated with forests. Other issues proposed to be addressed in this theme include optimal utilization of forest produce by minimizing wastage, use of local resources for value addition to benefit the local economy, establishment of written framework with guiding rules for sustainable extraction of NTFPs including guidelines related to nature and type of extraction, intensity and frequency of extraction and subsequent fallow periods etc. Also, this theme takes into consideration traditional management systems and their integration into the FME management and ensures that forest management activities are designed and implemented, spatially and temporally, with due consideration to the impacts on the forest services. This theme also covers emerging aspects of valuation and payment for ecosystem services, REDD+, carbon sequestration etc.

THEME E: SOCIALLY RESPONSIBLE FOREST MANAGEMENT - SOCIAL AND COMMUNITY RIGHTS AND RELATIONS

This theme deals with matters pertaining to rights, concessions and privileges, and issues related to tribals, local communities, forest dwellers and forest workers. It would also include provisioning by the FME of a safe working environment with written policies and guidelines, covering all aspects of workplace health and safety. Further, training of forest workers in health and safety and use of safety equipment would be an integral part of this theme. Other issues addressed by the theme would include rights of workers to form unions and collectively bargain, no discrimination among workers on the basis of caste, religion, sex, age, no employment of children below 14 years of age etc. Further, this theme would also address the rights of local communities on the forest resource, along with Free, Prior and Informed Consent (FPIC) for utilization of these rights and compensation for use of their traditional knowledge, and/or compensation for any inadvertent loss of or negative impacts which occur as a result of management activity, and which has not been covered sufficiently by legal mechanisms. Along with permanent, temporary and contract workers, this theme would also address the rights of self-employed as well as piece rated workers (who are most predominant in the Indian context).

THEME F: ECOLOGICAL INTEGRITY AND HEALTH OF FORESTS– CONSERVATION AND MANAGEMENT

This theme deals with issues of natural resource management as well as conservation of resources of high conservation and biodiversity values, including protected areas, wildlife corridors, REET (Rare, Threatened, Endangered and Endemic) species, threatened ecosystems etc. This theme would also look at ecosystem health and vitality, and maintenance and conservation of diversity within the FME – diversity at genetic, species, landscape and ecosystem levels. Conservation areas not only include areas with high levels of species density or biodiversity, but also areas which serve critical ecological functions as well as areas serving as a cultural heritage to the local people. Conservation attributes would also need to take into account the uniqueness of the resource and its replaceability/survival for future generations. The theme would also consider various types of ecosystem services associated with a functioning forest, including provisioning services, regulatory services, cultural services and supporting services, many of which may not be tangible, but whose loss would affect the ecological balance of the system.

THEME A: LEGALITY AND LAND TENURE

This thematic section deals with the legal existence of the Forest Management Enterprise (FME) along with the participating Forest Management Units (FMUs) as well as the legality of the operations undertaken by it. Major issues proposed to be dealt with in this theme include compliance to national, state and local laws, regular payments of duties and levies, compliance to national and international agreements to which India is a signatory (CITES, ITTO, CBD etc.), clear and documented ownership of forest lands along with rights etc. This theme also deals with responsibilities for ensuring legal compliance as well as resolution of issues related to disputes of ownership, rights etc. This theme would also look into the nature, frequency and severity of any regulatory violations or non-compliances and the manner in which they have been addressed. Another issue addressed here would be the availability of resources – physical, financial and human, to ensure compliance to relevant laws and statutes.

Suggested Principles, Criteria and Indicators:

Principle 1: Compliance to national, state and local laws and international treaties and regulations

Criterion 1.1: The Forest Management Enterprise (FME) shall identify and record all national, state and local laws and administrative/regulatory requirements applicable to it and respect and comply with the provisions therein, in letter and spirit.

Indicator 1.1.1: The FME and its managers shall have access to up-to-date copies of all applicable central, state and local laws, and regulations and policies, in particular those related to forest management. FMEs are aware and/or knowledgeable of the applicable central, state and local laws, as well as the regulatory framework for forest management.

Indicator 1.1.2: The FME shall comply with legislation applicable to forest management issues including forest management practices; nature and environmental protection; protected and endangered species; property, tenure and land and resource rights for indigenous people and forest dependent communities; health, labor and safety issues; and the payment of royalties and taxes.

Indicator 1.1.3: The FME resolves any case of non-compliance with these laws and regulations with the appropriate authorities. The FME shall maintain records of all violations of these laws and the remedial, punitive or mediatory actions undertaken to address them.

Indicator 1.1.4: When violations occur, the FME acts promptly to correct and remediate the circumstances associated with the violation. The frequency and nature of regulatory violations, if indicative of widespread and systemic non-compliance, will have a bearing on the continued validity and renewal of the FME's certificate.

Criterion 1.2: The FME shall ensure that all applicable and legally prescribed fees, royalties, taxes and other charges have been paid.

Indicator 1.2.1: The FME shall make available of current list of all legally prescribed fees, royalties, taxes, and other charges.

Indicator 1.2.2: The FME shall demonstrate evidence that payments of taxes, royalties, and other charges are made in a timely manner. There should be no evidence of chronic non-payment.

Indicator 1.2.3: The FME shall maintain up-to-date records of all payments and make these available to the assessment team.

Criterion 1.3: The FME, its managers and all participating FMUs (Forest Management Units) shall respect and implement the applicable provisions of all binding international agreements and conventions such as CITES, ILO Conventions, ITTA, Convention on Biological Diversity etc. to which India is a signatory.

Indicator 1.3.1: The FME shall comply with the intentions of the international agreements and conventions that India has ratified. Once ratified, all such agreements are enforced by means of legislation, and conformance to this indicator would be judged based on compliance to applicable laws.

Indicator 1.3.2: In case of state owned forests, the relevant government orders related to applicable provisions of binding international agreements should be accessible to the FMEs.

Criterion 1.4: The FME shall ensure that forest management areas shall be protected from illegal harvesting, hunting, settlement and other unauthorized activities and appropriate resources are provisioned for the same.

Indicator 1.4.1: The FME shall provide for adequate protection of the forest from unauthorized activities such as illegal logging, land use, hunting, fires and other unauthorized activities.

Indicator 1.4.2: The FME shall control any unauthorized encroachments, hunting, fishing (in restricted areas), and settlement, and other unauthorized activities in the FMUs.

Indicator 1.4.3: The FMUs shall have sufficient resources – infrastructure, financial and human, to ensure that illegal activities do not take place.

Indicator 1.4.4: If any illegal or unauthorized activities are detected, the FME and its officers shall take appropriate measures, in accordance with law, to address them.

Criterion 1.5: The FME shall have a written long-term commitment to adherence to the Themes, Principles and Criteria presented in this standard, and function in a manner that demonstrates compliance to the spirit of NCCF.

Indicator 1.5.1: The FME shall make available written long term commitments to forest management practices consistent with the Principles and Criteria presented in this standard.

Indicator 1.5.2: Statements of written commitment shall be endorsed by the top management of the FME, communicated throughout the organization and made publically available.

Indicator 1.5.3: The FME shall provide information on forested areas owned/managed by it, which has not been included in the scope of the present assessment.

Indicator 1.5.4: The FME shall not indulge in any activities which are against the spirit of the NCCF Principles and Criteria in areas managed by it which are outside the scope of the certificate.

Indicator 1.5.5: The FME shall have written commitments to comply with social laws, such as those covering civil rights, equal employment opportunities, anti-discrimination and anti-harassment measures, workers' compensation, forest dwellers and tribals rights and occupational health and safety.

Indicator 1.5.6: The FME managers shall have access to written or electronic copies of the NCCF Forest Management Standard and field personnel shall demonstrate a general level of awareness of the standard, consistent with their duty.

Principle 2: Land Tenure, Rights and Responsibilities

Criterion 2.1: The FME managers shall demonstrate availability of clear, legally secure demonstrable evidence of long-term rights to the forest land (e.g. land title, customary rights, or lease agreements).

Indicator 2.1.1: The FME shall demonstrate the availability of documentation for clear and legally secure land tenure and rights to the forest resource.

Indicator 2.1.2: The FMU boundaries shall be clearly demarcated in the field and distinctly marked on maps.

Indicator 2.1.3: In the case of usufruct agreements, the FME shall demonstrate documented evidence of its legal rights to the FMU and past experience for forest management and use of forest resources for the FMU under assessment. In such cases, there shall be unambiguous and distinct ownership and usufruct agreements.

Criterion 2.2: Local communities with legal or customary/traditional tenure or rights shall maintain control over forest operations and resources (to the extent necessary to protect said rights or resources), unless they delegate control with free, prior and informed consent to the state or other agencies. In case of state owned forest lands, rights of all concerned stakeholders would be identified and documented. In cases where the rights have been settled, notifications to the effect of rights settlement shall be made available and orders of the competent authorities in this regard shall be provided.

Indicator 2.2.1: The FME shall identify the tribals, local communities, forest dwellers and/or other stakeholders with legal and/or customary/traditional rights within the forest and describe the nature of these rights in the management plan.

Indicator 2.2.2: When communities have delegated control of their rights or use in whole or in part, this is to be confirmed by documented agreements and/or interviews with representatives of local communities.

Indicator 2.2.3: When the legal or customary/traditional tenure or rights over resources have been settled legally (in case of state owned forest lands), the notifications to the effect of rights settlement shall be made available and orders of the competent authorities in this regard shall be provided.

Indicator 2.2.4: Allocation of duly recognized legal or customary rights by local communities to other parties shall be documented, with evidence of free and informed consent. All existing rights within the forested tract shall be recorded in the management plan.

Criterion 2.3: Appropriate/applicable mechanisms shall be employed to resolve disputes over tenure claims and rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. For all documented disputes, the steps/mechanisms engaged in dispute resolution shall also be documented.

Indicator 2.3.1: Conflicts over land tenure and rights shall be resolved or discussed in a systematic and legal manner, with preference given to voluntary and conciliatory methods rather than through the adjudication/arbitration mechanisms.

Indicator 2.3.2: The FME shall record all such conflicts and their resolution, both to avoid further litigation, as well as to set precedents for similar conflicts in future.

Indicator 2.3.3: The magnitude and severity of unresolved tenure claims and rights disputes are minor, relative to the scale of forest management operations.

Indicator 2.3.4: For all unresolved or outstanding disputes or claims, the FME shall ensure that the circumstances and present status of the dispute and all steps/mechanisms engaged in dispute resolution are duly documented.



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THEME B: FOREST MANAGEMENT PLAN

The responsible management of forests comprises the cycle of inventory, planning, implementation, monitoring and evaluation; and includes an appropriate assessment of the social, environmental and economic impacts of forest management operations. This shall form the basis for a cycle of continuous improvement to minimize or avoid negative impacts. Forest management planning must provide for the sustainable management of forests and its biodiversity, encompassing the social, economic and ecological dimensions, as enshrined in the National Forest Policy. The National Working Plan Code prescribes the need for a management /working plan “to suitably manage, conserve and utilize the forest resources and to bring uniformity in forest management planning with due focus on environmental stability, biodiversity monitoring and management, restoration of ecological balance of the disturbed areas, protective functions of the forest resources and other socio-economic benefits of NTFPs.”

The sustainability concept not only includes sustainability of productive functions but also environmental functions like soil and water conservation and carbon sequestration and the socio-economic benefits to forest dependent communities, tribals and forest dwellers living in and on the forest fringes including meeting their livelihood and basic needs and their involvement in the protection and management of forest resources through micro plans and eco development. Sustainable Forest Management (SFM) practices have been linked with quantitative and qualitative or descriptive attributes related with above functions of the forests in the working plans. Therefore, any planning and implementation of sustainability of forest resources will have to monitor and assess all the above aspects periodically, keeping in mind the scale and intensity of forest operations, as well as the risks associated with management activities, which would not only indicate the direction of change but would also help in the assessment of forest management.

This theme deals with the development and management of the forest operations in a Forest Management Enterprise (FME) in a defined management plan. Other issues that are attempted to be addressed within the ambit of this theme include, but not limited to, development of objectives of the management plan (silvicultural, socio-economic, environmental objectives), periodic revisions of management plans, training of FMEs and workers in implementation of the management plans, establishment of monitoring and assessment protocols for plan implementation (including severity and frequency of monitoring), procedures for establishing Chain of Custody of forest products, public summary of results etc. The theme would also address the resources that have been allocated for plan development as well as for monitoring and evaluation as well as the extent of stakeholder input that has gone into plan development.

Suggested Principles, Criteria, and Indicators:

Principle 3: Development and implementation of a Management Plan/Working Plan

Criterion 3.1: Appropriate to the scale, intensity and complexity of operations, there shall be a written management plan for the defined forest area that addresses the subjects and plan components enumerated in this criterion, as well as provisions for protection against forest

fires, forest pests and diseases, illegal settlement and harvesting, safeguarding archaeological sites and others. The FME shall develop and maintain a management plan and supporting documents which shall provide:

- a. The objectives of management, which are 'socially beneficial, environmentally responsible and economically viable'.
- b. Qualitative and quantitative description of the forest resources to be managed, biodiversity attributes, environmental limitations, land use and ownership status, socio-economic conditions and a profile of adjacent lands.
- c. Maps describing the forest resource base including protected areas, planned management activities and land ownership.
- d. Human and capital resource allocation for plan development so as to develop a functional and effective management plan.
- e. Description of silvicultural and/or other management systems, based on the ecology of the forest in question and information gathered through resource inventories.
- f. Rationale for rates of annual harvest and species selection.
- g. Description and justification of harvesting techniques and equipment to be used.
- h. Provisions for monitoring of forest growth and dynamics.
- i. Environmental and social safeguards based on environmental and social assessments and management impact identification.
- j. Mitigation strategy/plan for identified social and environmental impacts.
- k. Plans for the identification, protection and regeneration of rare, threatened and endangered species, habitats and ecosystems.
- l. Approved site specific plans for nurseries and plantations(ANR/NR/AR) -including, but not limited to site selection, species selection, soil and nutrient analysis, appropriate silvicultural interventions, appropriate pest and nutrient management regimes and post planting care.
- m. Process of monitoring of management review

Indicator 3.1.1: The FME shall develop a written management plan having the components a) – m) of the Criterion 3.1 as defined above.

Indicator 3.1.2: The management plan shall contain long term strategic goals, medium term objectives as well as short and near term tactical direction.

Indicator 3.1.3: The management plan should reference previous management plans w.r.t. direction of management planning, major deviations and results of successive management plans across different management cycles.

Indicator 3.1.4: The FME shall ensure that sufficient resources are invested in plan development so as to produce a functional and effective management plan.

Criterion 3.2: The FME shall undertake capacity building of its management and workers for proper implementation of the management plan as well as undertake research to augment

the social, economic and environmental/ecological aspects of the forest area.

Indicator 3.2.1: The FME shall put in place mechanisms to communicate the management plan and its elements to the FMEs and workers.

Indicator 3.2.2: The FME shall ensure implementation of documented mechanisms by which forest workers and managers are duly trained as to their role in implementing the management plan.

Indicator 3.2.3: Records are maintained as to when each forest worker received management plan training commensurate with their roles and responsibilities.

Indicator 3.2.4: When the work needs to be contracted out, the FME shall ensure that the contractors are also aware of the requirements of the management plan specific to their area of operations. Wherever necessary, the FME shall use professional technicians to provide forest workers with necessary technical guidance for their field operations.

Criterion 3.3: There shall be a process of stakeholder identification, consultation and engagement during the process of plan development and implementation.

Indicator 3.3.1: The FME shall undertake a stakeholder mapping process to engage all the stakeholders that would be affected by forest management activities in the FMU.

Indicator 3.3.2: Opinions of administrators, management units, local communities, forest dependent communities, tribals and other stakeholders are extensively solicited in the process of developing the forest management plan.

Indicator 3.3.3: The process of consultation with stakeholders is through free, prior and informed consent (FPIC) and is documented, both at plan preparation stage as well as during implementation and monitoring stages.

Criterion 3.4: While respecting the confidentiality of information, FMEs shall make publicly available a summary of the primary elements of the management plan. The public summary needs to be updated at least once during the period of validity of the management plan or as and when major changes occur in the management or resource base.

Indicator 3.4.1: While respecting the confidentiality of information, the FME shall make publicly available the main contents of the forest management plan (where possible in the locally prevalent language), including the information of the scope and scale of forest management to all stakeholders of the local community and the FMU.

Indicator 3.4.2: The FME shall update the summary of the management plan at least once during the period of validity of the management plan, or as and when major changes occur in the management or in the resource base.

Principle 4: Monitoring, Assessment and Review of management plan and its implementation

Criterion 4.1: Appropriate to the scale and intensity of operations, forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:

- a. Yield of all forest products harvested.
- b. Growth rates and condition of the forest, including degradation, regeneration and restoration/rehabilitation.
- c. Composition and observed changes in the flora and fauna.
- d. Economic, environmental and social impacts of harvesting and other operations.
- e. Costs, productivity, and efficiency of forest management.
- f. Changes in carbon stock through emission sequestration
- g. Change matrix of forest resources w.r.t. previous plans and management systems

Indicator 4.1.1; Appropriate to the scale and intensity of operations, the FME's monitoring plan shall include protocols to periodically gather information on components a) – g) enumerated in criterion 4.1 above.

Indicator 4.1.2: Written records shall be kept of the periodic harvest levels of each commercial forest product, at levels of specificity appropriate to the scale and intensity of operations

Indicator 4.1.3: The FME shall demonstrate a commitment to acquiring information on key indicators pertaining to the environmental and socio-economic profiles of its operation.

Criterion 4.2: The health and vitality of forests shall be periodically monitored, especially key biotic and abiotic factors that potentially affect health and vitality of forest ecosystems, such as pests, diseases, overgrazing and overstocking, fire, and damage caused by climatic factors, air pollutants or by forest management operations.

Indicator 4.2.1: The FME shall enlist the key biotic and abiotic factors that can potentially affect the health and vitality of forest ecosystems within the FME.

Indicator 4.2.2: The FME monitoring protocols shall include a periodic monitoring of these indicators, based on the scale, intensity and risk of operations, and development of a change matrix w.r.t. these indicators, so that appropriate remedial action may be undertaken whenever there is a threat to forest ecosystem health and stability.

Criterion 4.3: The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations, as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

Indicator 4.3.1: Based on the scale and intensity of forest management activities and the local conditions, contents and indicators of forest monitoring shall be defined, proper monitoring systems

and procedures established, and the approaches, frequency and intensity of forest monitoring clearly defined.

Indicator 4.3.2: The FME shall have a demonstrated track record of implementing monitoring protocols which are consistent and replicable over time.

Indicator 4.3.3: Forest monitoring results shall be reflected in the adaptive development/revision of the forest management plans and operation plans.

Criterion 4.4: The FME shall document and put in place a system of management review and internal assessment of the monitoring indicators as well as the overall implementation of the management plan.

Indicator 4.4.1: The FME shall develop a system of documentation of all forest management activities for future review and analysis.

Indicator 4.4.2: The FME shall institute a system of management review of monitoring indicators in achieving objectives of forest management. The review shall be undertaken at the least on an annual basis; and the results of the same shall be made available to the certification assessment team on request.

Criterion 4.5: The FME shall provide documentation to enable independent certification bodies/organizations to monitor and trace each forest product from its origin to sale, a process known as the "chain of custody."

Indicator 4.5.1: The FME shall have documented procedures for the tracking of certified products from harvesting, transportation, processing and marketing to ensure that the origin of forest products can be traced as per COC indicators for FMEs.

Indicator 4.5.2: The FME shall implement consistently the COC procedures defined in indicator 4.5.1.

Criterion 4.6: The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic conditions prevalent in the area. Any change in legal status of the land or change in rights should be documented in the management plan.

Indicator 4.6.1: The FME shall demonstrate a commitment to adaptive management where information gathered during systematic monitoring is incorporated into revisions to the management plan, as well as revisions to its annexes, standard operating procedures or other planning documents.

Indicator 4.6.2: Any change in legal status of the land or change in rights shall be documented and updated in the management plan at the time of revision, or as and when major changes occur in the management or in the resource base.

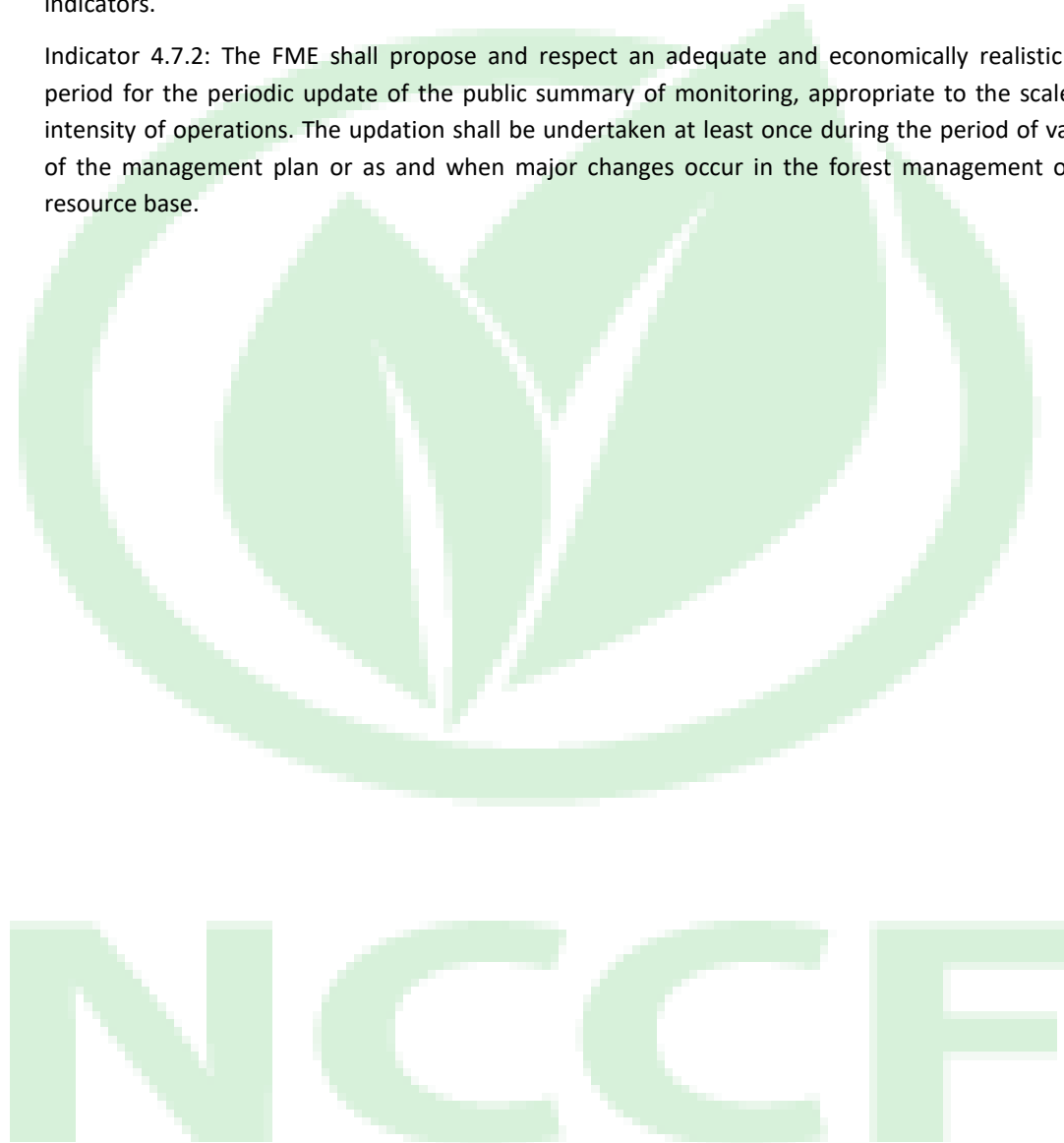
Indicator 4.6.3: The Forest management operations shall contribute to or support research activities

relevant for the sustainable and equitable management of forest resources.

Criterion 4.7: While respecting the confidentiality of information, FMEs shall make publicly available a summary of the results of monitoring indicators.

Indicator 4.7.1: The FME shall make available a public summary of the results of periodic monitoring indicators.

Indicator 4.7.2: The FME shall propose and respect an adequate and economically realistic time period for the periodic update of the public summary of monitoring, appropriate to the scale and intensity of operations. The updation shall be undertaken at least once during the period of validity of the management plan or as and when major changes occur in the forest management or the resource base.



THEME C: IMPACTS OF FOREST MANAGEMENT ACTIVITIES

Anthropogenic involvement in forest/plantation management activities results in modification of the ecological/social conditions of the existence of these forests and also on the communities' managing and dependent on these forests. This theme principally deals with issues related to the effects of various management activities and their impacts on forest resources and the surrounding environment in which the Forest Management Enterprise (FME) is operating. This theme would include matters related to protection and conservation of soil and water resources which may be affected by management activities, assessment of forest resources to climate change vulnerability, resilience of the forests, adaptation and mitigation measures at the FME/FMU level etc. Also, matters related to the social impact of forest management operations are dealt here. This theme would also look at forests and climate change, including the impacts of climate change on forests ecosystems, as well as the potential of forest management activities to fulfill climate change adaptation and mitigation measures, which can dovetail with the State Action Plans on Climate Change (NAPCC).

Some of the suggested Principles, Criteria and Indicators include:

Principle 5: Impacts OF Forest Management – Social, Economic and Environmental

Criterion 5.1: The FME shall undertake social and environmental impact assessments to understand the impact of its management activities on the forest ecological environment, soil and water resources as well as on the local population in and around the forest management unit (FMU) or those dependent on the forest or forest resources for food, shelter or livelihood. This includes all direct or indirect management activities within the FMU undertaken by the FME or related to the present existence or functioning of the forest in its natural state.

Indicator 5.1.1: The FME shall conduct an independent social and environmental impact assessment of its management activities on the local population in and around the forest management unit (FMU) or those dependent on the forest or forest resources for food, shelter or livelihood. This assessment shall be based on the scale, intensity and risk from forest management activities.

Indicator 5.1.2: The management unit shall analyze the present and potential impact of forest management activities on the environment based on the scale and intensity of its forest management and forest resource features.

Indicator 5.1.3: The evaluations (social and environmental) shall be at both the site and landscape level, and shall account for both singular impacts as well as cumulative impacts of management activities.

Indicator 5.1.4: The FME shall make publically available the summaries of the social and environmental impact assessments of forest management activities.

Criterion 5.2: Management planning and operations shall incorporate the results of evaluations of social and environmental impacts. The planning of management operations shall involve

detailed consultations with all stakeholders who are affected or could be potentially affected by management operations. Appropriate, mutually agreed upon mechanisms for grievance redressal / compensation shall be ensured for those stakeholders affected by management operations. Process of grievance redressal needs to be documented and publicly available.

Indicator 5.2.1: The FME shall document the stakeholder consultation through FPIC undertaken for the social and environmental impacts evaluation and analysis.

Indicator 5.2.2: According to the results of impact assessment, the planned forest management operations shall be appropriately modified, adjusted or improved, so as to minimize the impact of these activities on the environment and society, and to avoid degradation of and damage to forest ecosystems and the local communities that depend on and manage them.

Indicator 5.2.3: The FME shall use the results of the social and environmental impact evaluation in the design and implementation of forestry operations.

Indicator 5.2.4: The FME shall document any issues raised by stakeholders regarding issues related to access and rights, effect of forest operations on communities living upstream or downstream etc.

Indicator 5.2.5: The FME shall document any changes made in management practices and shall implement steps to monitor the same to ensure the effectiveness of such improvement.

Criterion 5.3: Various protective measures shall be undertaken in forest management operations so as to maintain the natural features of forest lands, protect water resources, and prevent land degradation due to forest management activities.

Indicator 5.3.1: Effective measures shall be taken to minimize the damage to forest areas caused by such human activities as land preparation, afforestation, tending, forest harvesting, regeneration, road construction etc. so as to maintain the natural features of the soil and its long-time productivity in the forest.

Indicator 5.3.2: Standard Operating Procedures (SoPs) shall be defined and documented for all forest management activities undertaken within the FMU and shall be designed in a manner to reduce potential damage to forest lands or ecosystems.

Indicator 5.3.3: Negative impacts on the quality and quantity of water resources shall be reduced, soil and water erosion shall be controlled, and damage to catchments within the forest shall be avoided.

Indicator 5.3.4: The FME shall define the width of buffer zones to conserve water and soil at the banks of rivers and streams or around water bodies. These zones would be as per existing local guidelines, or, in their absence, based on available scientific data, with a precautionary principle. The buffer zones shall be established and marked in the forest map or the forest operational design.

Indicator 5.3.5: The use of chemical fertilizers shall be minimized and organic and biofertilisers shall be preferred to enhance soil fertility.

Criterion 5.4: Ecological functions and values shall be maintained intact, enhanced, or restored, including:

- a) Forest regeneration and succession
- b) Genetic, species, and ecosystem diversity
- c) Natural cycles that affect the productivity of the forest ecosystem

Indicator 5.4.1: For natural forests the FME describes the known ecological functions and values in the management plan and updates them periodically as additional information is acquired about ecological functions within the management unit.

Indicator 5.4.2: The management plan incorporates principles of landscape and ecosystem-based planning. The management operations endeavor to maintain all naturally occurring species in their natural habitat and contains goals pertaining to maintenance of genetic, species and landscape level diversity, subject to intensity, nature and scale of forest operations.

Indicator 5.4.3: The FME undertakes forest management operations in a manner to maintain, enhance or restore natural forest composition and maintain a full range of successional stages at distributions within the range of natural variability.

Indicator 5.4.4: Harvesting is designed and laid out, over time and space, with consideration of the types, sizes and frequency of natural disturbances as well as connectivity of wildlife habitats

Indicator 5.4.5: The FME shall take appropriate steps to ensure that regeneration is successful and that young stands, in both harvested areas and restoration areas, either planted or naturally established, are well-stocked with desired species, vigorous and on the trajectory to healthy stands.

Principle 6: Forests and Climate Change – contribution of forest management activities to climate change mitigation and adaptation, change in forest carbon inventories etc.

Criterion 6.1: FME shall undertake forest management operations in a manner so as to maintain and enhance the carbon stock in the long run.

6.1.1: The FME shall manage the forest within the defined forest area to maintain or enhance its contribution to carbon cycles.

6.1.2: The FME shall have a quantitative estimate of the current and future carbon sequestration on the defined forest area.

6.1.3; The FME shall endeavor to assess the net carbon addition to the carbon stock, in terms of

- a. Additions and deletions to forest area
- b. Net carbon uptake in terms of increase in number of stems as well as growing stock
- c. Quantification of net removal of carbon from the forest, both at an FMU level, as well as at the FME level
- d. Success of reforestation/rehabilitation activities

Criterion 6.2: The FME shall demonstrate a commitment to adapt and integrate climate positive activities in the conduct of the enterprise viz., minimizing fossil fuels usage by forest operations, utilization of renewable energy, resource optimization etc.

Indicator 6.2.1: The FME shall endeavor to assess the carbon footprint of its management operations, both direct and indirect and evaluate and implement measures to reduce the footprint.

Indicator 6.2.2: The FME should demonstrate a commitment to minimizing fossil fuels usage by forest operations and in the conduct of the enterprise.

Indicator 6.2.3: The FME should establish a hierarchy of Green House Gas (GHG) footprint reduction mechanisms based on the nature and scope of operations and implement the same over a period of time; subject to operational considerations.

Criterion 6.3: The FME shall endeavor to align the forestry operations to the State Action Plans on Climate Change (SAPCC), subject to meeting the objectives of forest management. This would include, but not limited to, climate change mitigation actions and promoting climate change adaptation potential of dependent communities.

Indicator 6.3.1: The FME managers shall have access to copies of the State Action Plans on Climate Change (SAPCC).

Indicator 6.3.2: The FME shall identify actions within its operational scope which would lead to climate change mitigation and/or promoting climate change adaptation potential of the forest dependent communities.

Indicator 6.3.3; Keeping in mind the size, scale and intensity of the forest management operations, the FME should endeavor to implement the aforementioned actions suitable and congruent with the SAPCC, in the participating FMUs.

Indicator 6.3.4: In case it is not possible to undertake any actions suitable to the SAPCC within the FMUs, the FME should endeavor to undertake actions, within or outside the FMUs, consistent with the provisions of the SAPCC by dovetailing its actions with the recommendations of the SAPCC or existing programs like Green India Mission (GIM) etc.

Criterion 6.4: The FME shall endeavor, over the long term, to undertake validation and verification of carbon mitigation actions against defined baselines as per internationally agreed mechanisms, and register the same in available national or international carbon registries.

Indicator 6.4.1: The FME shall endeavor to develop the forest management operations in a manner that they may be registered as a project in available national or international carbon registries under appropriate mechanisms. To undertake the same, the FME should:

- a. Define the project boundaries of the FME which shall be considered and developed as a carbon project
- b. Undertake a baseline study to evaluate and quantify present carbon stock (above ground, below ground and detritus) as well as growing stock, in terms of carbon sequestration
- c. Assess and document the additionality, permanence and leakage factors of the project
- d. Develop PDD (Project Detail Document)

Indicator 6.4.2: The FME should identify the national or international carbon registry in which they propose to register the project along with the methodology for assessment and validation that shall be undertaken.

Indicator 6.4.3: The FME should select the DOE (Designated Operational Entity) for undertaking the verification and validation assessments, and take the requisite steps to get the project registered in an appropriate national or international carbon registry.



NCCF

THEME D: SUSTAINABLE AND ECONOMIC UTILIZATION OF FOREST RESOURCES

This theme deals with the diverse and complete utilization of forest produce and the establishment and development of a robust local economy, with an emphasis on use of forest products and services, along with inventorisation of the benefits associated with forests. Other issues proposed to be addressed in this theme include optimal utilization of forest produce by minimizing wastage, use of local resources for value addition to benefit the local economy, establishment of written framework with guiding rules for sustainable extraction of NTFPs - including guidelines related to nature and type of extraction, intensity and frequency of extraction and subsequent fallow periods etc. Also, this theme takes into consideration traditional management systems and their integration into the FME management and ensures that forest management activities are designed and implemented, spatially and temporally, with due consideration to the impacts on the forest services. This theme also covers emerging aspects of payment for ecosystem services, REDD+, carbon sequestration etc.

Suggested Principles, Criteria and Indicators include:

Principle 7: Inventory of forest resources and sustainable harvest regimes for all timber, bamboo, NTFP etc.

Criterion 7.1: The FME shall undertake the inventory, survey and mapping of all forest resources (including timber as well as non-timber forest products), including standing stock, growing stock as well as forest resource regeneration in a periodic manner within the defined forest area.

Indicator 7.1.1: The FME shall undertake a periodic survey and inventory of all forest resources under its jurisdiction (both timber and non-timber resources).

Indicator 7.1.2: The inventorisation shall include both standing stock as well as growing stock as well as an economic valuation of the merchantable stock.

Indicator 7.1.3: The FME shall also undertake an assessment of the forest resource regeneration (both wood and non-wood resources) in the defined forest area in a periodic manner and compare the same with the replenishment/restocking rates for a healthy forest (that shall be established through empirical data or scientific evidence).

Criterion 7.2: The FME shall establish the total quantum of removable material that can be harvested for all extractable forest produce, which shall be defined as per standard independent assessment methodologies and/or established conventional practices.

Indicator 7.2.1: The FME shall determine the total quantum of forest produce that can be sustainably harvested from the defined forest area. The sustainable limits shall be determined as for each forest produce as per the provisions of the management plan

Indicator 7.2.2: The FME shall define and document the independent assessment methodologies and/or conventional practices that it has used to determine the harvestable limits for the forest

produce, based on a combination of empirical data and published literature, as well as conservative growth and yield estimates.

Criterion 7.3: The FME shall ensure that the rate and extent of forest produce extraction is maintained at levels that are sustainable, and that annual removal of forest produce is well within the limits set for each individual forest resource (i.e., either timber or non-timber).

Indicator 7.3.1: For natural forest management operations, the average annual harvests, either by volume or mass, shall not exceed the annual removable harvest limits established through Criterion 7.2 and also the limits prescribed under the applicable Working Plans (for state forests).

Indicator 7.3.2: For plantation forest management, the growth and harvest rates (for thinning and final cuts), shall be based on well-documented information and/or field trials, and be consistent with the observed behavior of the species at the national or regional level. In all cases, the upper limits specified under Criterion 7.2 shall be sacrosanct.

Indicator 7.3.3: The FME shall define the harvest rates for all forest produce in the management plan for the particular management cycle. The FME shall ensure that the harvest levels so determined are at a sustainable level and that the resource inventory is at an upward trajectory, or, at the least, is maintained at present levels in future as well.

Criterion 7.4: The FME shall have written guidelines regarding extraction of NTFPs including those related to the nature and type of extraction, intensity/frequency of extraction and subsequent fallow periods. Records for the same shall be maintained and monitored by the FME.

Indicator 7.4.1: The FME shall have documented guidelines for the extraction and removal of NTFPs in the management plan. The guidelines shall include those related to the nature of harvest/collection, fallow periods, safe levels of sustainable harvest and the intensity and frequency of harvest.

Indicator 7.4.2: The FME shall maintain the records of the harvest/collection of NTFPs, including intensity and frequency of harvests, nature and type of extraction, harvested quantities and area of harvest. These records shall be utilized for deciding subsequent harvests levels in those areas by incorporating the monitoring and inventory data to calculate a conservative growth and optimum harvest rate.

Principle 8: Benefits from Forests

Criterion 8.1: The FME shall strive towards sound and long term economic viability of forest management operations, along with ensuring that the investments and practices necessary to maintain and improve the forest productivity are in place, while also accounting for the environmental, social and operational costs of production.

Indicator 8.1.1: The FME shall undertake a short, medium and long term budgeting of its activities to include all income as well as costs associated with the forest management operations. The financial viability of the enterprise should be clearly brought out in the economic model, at least in the long run, taking into account all social, environmental and operational costs.

Indicator 8.1.2: The FME shall ensure the availability of sufficient financial resources to entail adequate investments in capital, machinery and human resources to implement the provisions of the management plan as per the budget decided in Indicator 8.1.1.

Indicator 8.1.3: The FME shall undertake a periodic review of its management activities, including income generating activities as well as present and proposed investments, so that the economic sustainability of the FME is maintained in the long term.

Criterion 8.2: The FME shall ensure that management practices and decisions encourage the optimal utilization of forest resources, with emphasis on local value addition and processing, and strengthening of the local economy.

Indicator 8.2.1: The FME shall strive to establish a diversified economy based on sustainable use of various timber and non-timber forest products.

Indicator 8.2.2.: The FME shall promote the implementation of traditional management systems on appropriate sites when economically feasible with implementation of management practices that encourage the optimal use of forest resources.

Indicator 8.2.3: The FME shall encourage local and/or downstream processing of timber and non-wood forest products to increase their value and diversify the mix of commercial products derived from the forest.

Criterion 8.3: The FME shall ensure that there is minimal damage to forest growing stock and other forest resources (including water and soil resources and regeneration) during forest management operations and shall minimize wastage during harvesting, extraction and processing of forest resources. This would include post-harvest waste, harvest residue and culling/removal of non-commercial material from the forest.

Indicator 8.3.1: The FME shall ensure that harvesting operations minimize wastage and damage to standing stock.

Indicator 8.3.2: Yarding, log landing/log staging and log sorting operations are designed to be of minimum number and size, so as to avoid or restrict the environmental impacts and reduce product wastage.

Indicator 8.3.3: The FME shall establish written field guidelines for retention of harvest residue (lops and tops, limbs, slash etc.) as well as other biomass on site while keeping in mind economic, social and environmental factors (e.g., organic and nutrient value to future forests and the potential of increased combustible fuel build-up in forests).

Indicator 8.3.4: The FME shall endeavor to explore alternative markets for its produce and explore new markets for underutilized species as well as wood of a lower and/or non-commercial grades.

Indicator 8.3.5: The FME shall ensure that regeneration after harvests are timely and successful, and in a manner which restores the vitality of the forest resource prior to harvests.

Criterion 8.4: The FME operations shall recognize, maintain, and where appropriate, enhance the value of forest ecosystem functions, services and resources. Such activities shall be regulated, monitored and controlled by the FME, as per the prevailing legislative/regulatory requirements and with regard to the ecological carrying capacity of the defined forest area.

Indicator 8.4.1: The FME shall identify and document the full spectrum of ecosystem services associated with the forest area and demonstrates an awareness of and sensitivity to non-timber forest services, many of which may not generate income.

Indicators 8.4.2: The forest management activities are designed and implemented, spatially and temporarily, with due consideration to their impacts on these forest services. The FME engages in regular dialogue with stakeholders that are subject to impact from forest operations.

Indicator 8.4.3: The FME shall, wherever possible, endeavor to undertake valuation of forest ecosystem services and resources, for attaining greater resource use efficiency of the forests, subject to considerations of sustainability of forest resources and the prevailing regulatory framework. Such approaches would include but not be limited to REDD+, Payments for Ecosystem Services etc.



NCCF

THEME E: SOCIALLY RESPONSIBLE FOREST MANAGEMENT - SOCIAL AND COMMUNITY RIGHTS AND RELATIONS

This theme deals with matters pertaining to rights, concessions and privileges, and issues related to local communities, forest dwellers, tribals and forest workers. It would also include provisioning by the FME of a safe working environment with written policies and guidelines, covering all aspects of workplace health and safety. Further, training of forest workers in health and safety and use of safety equipment would be an integral part of this theme. Other issues addressed by the theme would include matter of workers' rights to form unions and collectively bargain, no discrimination among workers on the basis of caste, religion, sex, age, no employment of children below 14 years of age etc. Further, this theme would also address the rights of local communities on the forest resource and compensation for use of their traditional knowledge after obtaining Free Prior and Informed Consent (FPIC), and redressal for any inadvertent negative impacts on the rights, property, resources, or livelihood of local residents after consultation and consent with the stakeholders. Along with permanent, temporary and contract workers, this theme would also address the rights of self-employed as well as piece rated workers (who are most predominant in the Indian context).

Principles, Criteria and Indicators under the theme would be--

Principle 9: Community rights and relations – Forest management operations shall recognize the rights of local communities, forest dwellers and indigenous people/tribals and shall as well as maintain and enhance their long term social and economic well-being.

Criterion 9.1: The FME shall recognize and respect the rights of forest dwellers, tribals and other forest dependent communities.

Indicator 9.1.1: The FME shall identify and record the various forest dweller groups, tribals and local communities associated with the forest area in the scope of the certificate.

Indicator 9.1.2: The FME shall assess, document, respect and recognize the rights of forest dwellers, tribals and local communities in the forest area or dependent on the forest area.

Indicator 9.1.3: The FME shall have a written commitment, signed by the top management of the FME, that it shall recognize and respect the rights of forest dwellers, tribals and local communities.

Indicator 9.1.4: Any complaints or grievances related to infringement of rights of forest dwellers, tribals and local communities shall be recorded and addressed by the FME on a priority basis.

Criterion 9.2: The FME shall identify and provide the forest dwellers, tribals and local communities with opportunities for employment, training and other social services.

Indicator 9.2.1: The FME provides opportunities of employment, training and other social services to the forest dwellers, tribals and local communities.

Indicator 9.2.2: The FME contributes to developing training programs to enhance the capabilities and qualifications of the local communities and tribals and undertakes discussions with representatives

of local communities about the identification of opportunities in employment, contracting, and training.

Criterion 9.3: Traditional knowledge of forest dwellers*(to be read in conjunction with local communities and tribals) regarding the use of forest species or management systems shall be acknowledged and documented and any use of such knowledge in forest operations shall be fairly compensated. The compensation for the same shall be formally agreed upon with their free, prior and informed consent before the commencement of these forest operations.

Indicator 9.3.1: The FME shall document the use of traditional knowledge of forest dwellers in forest operations w.r.t use of forest species, management systems or forest products and services.

Indicator 9.3.2: The FME shall pursue appropriate mechanisms for providing a fair compensation for the commercial utilization of traditional forest-related knowledge and practices of forest dwellers in accordance with existing legislation or by mutual agreement. The compensation for the same shall be formally agreed upon with their free, prior and informed consent before commencement of operations.

Criterion 9.4: The FME shall undertake a social impact assessment of all of its management activities and shall use the results of the impact assessment to guide future planning of activities, including either expansion of activities or intensification/consolidation. As part of the process of the impact assessment, the FME shall undertake a stakeholder consultation based on FPIC, record the inputs received during the stakeholder consultation and shall also actively endeavor to mitigate any concerns raised by the relevant stakeholders at the planning stage of such activities, i.e. before implementation.

Indicator 9.4.1: The FME shall undertake an independent social impact assessment (based on the scale and intensity of forest management operations as well as the risks associated with the same) related to its forest management activities.

Indicator 9.4.2: The social impact assessment shall be undertaken at least once during the lifespan of the certificate, or more frequently as appropriate, based on the exigencies of the situation, scale of forest management operations and major changes in the forest resource or management activities.

Indicator 9.4.3: The FME shall undertake a stakeholder consultation process, based on Free, Prior Informed Consent.

Indicator 9.4.4: The FME shall document the stakeholder engagement process that it had adopted during the social impact assessment, the updated list of stakeholders in the forest area, including the details of those stakeholders who would be directly affected by forest management activities and the comments and concerns of the stakeholders.

Indicator 9.4.5: The FME shall endeavor to actively mitigate the concerns of stakeholders and demonstrate the use of the results of the impact assessment in planning activities, including the

present scope of operations as well as in cases of expansion of intensification/consolidation of operational scope.

Criterion 9.5: The FME shall ensure that forest management operations do not threaten or diminish, either directly or indirectly, the resources and rights of the local dependent population and shall put in place mechanisms to address and resolve any grievances raised by local communities or other stakeholders with regard to these operations. In cases where forest management operations lead to an inadvertent loss or damage to property, resources, livelihood or rights of local communities, especially tribals, these shall be addressed through the provisions of legal recourse, as applicable. In addition to the compensation provided as per legal frameworks, and in cases where compensation for such loss is not covered by legal frameworks, the FME shall undertake appropriate and documented procedures, mutually agreed upon through FPIC with the affected parties, for resolving these grievances and providing a fair, equitable outcome to these affected parties.

Indicator 9.5.1: The FME shall ensure that forest management operations do not threaten or diminish, either directly or indirectly, the resources and rights of the local communities, forest dwellers and tribals. Appropriate measures shall be taken to avoid the loss of or damage to the legal right, property, resources, or livelihood of local communities (including tribals and forest dwellers).

Indicator 9.5.2: Where evidence exists that the resources and rights of local communities, forest dwellers and tribals has been violated by forest management operations, the FME shall undertake and document steps to redress the issue.

Indicator 9.5.3: The FME shall ensure that all such instances of damage to resources and rights are recorded, including any grievances, complaints in this regard and the list of affected parties.

Indicator 9.5.4: All cases of loss or damage to property, resources, livelihood or rights of local communities, tribals and forest dwellers, shall be addressed through the provisions of legal recourse, as applicable.

Indicator 9.5.5: In cases where compensation for such loss is not covered by legal frameworks, the FME shall undertake appropriate and documented procedures, mutually agreed upon through FPIC with the affected parties, for resolving these grievances and providing a fair, equitable outcome to these affected parties.

Indicator 9.5.6: The FME shall have written procedures for calculating and providing a fair, equitable compensation for such damages, based on an assessment into the type, severity, scale and intensity of loss or negative impact as well as consultation with local communities.

Indicator 9.5.7: The compensation mechanism shall be through an FPIC process, and processes and outcomes of the mechanism shall be publically available.

Criterion 9.6: Sites of special cultural, ecological, economic, heritage or religious significance to forest dependent communities, including tribals, shall be clearly identified in cooperation

with such people, and recognized and protected by the FME. The rights of indigenous/local communities to protect such sites shall be recognized and respected by the FME.

Indicator 9.6.1: The FME, with the participation of forest communities and other stakeholders, shall identify the sites of special cultural, ecological, economic or religious significance to forest dependent communities. The identified sites should be demarcated on maps of forest operations and, where appropriate, in the field.

Indicator 9.6.2: The management plan shall contain written policies for the identification and protection of such sites of special significance and FME staff shall be appropriately trained in the procedures employed for protecting such sites.

Indicator 9.6.3: Findings of special sites of archaeological interest are communicated to the appropriate authorities and the FME abides by the restrictions on use imposed by said authorities for these areas.

Indicator 9.6.4: The rights of indigenous/local communities to protect such sites shall be recognized and respected by the FME.

Principle 10: Workers rights – including permanent, temporary and contract workers at all levels

Criterion 10.1: FME shall meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.

Indicator 10.1.1: The FME shall foster a safe working environment by:

- a. Complying with all relevant workplace health and safety legislation and regulations;
- b. Facilitating improvements in workplace health and safety;
- c. Adopting working conditions that do not endanger health or safety
- d. Consulting with forest workers and their representatives on workplace health and safety.

Indicator 10.1.2: The FME shall have written guidelines and policies, appropriate to the scale of operations for workplace health and safety and the same shall be publically available.

Indicator 10.1.3: The FME shall maintain up-to-date information on pertinent health and safety laws and regulations disseminate the same to forest workers.

Indicator 10.1.4: The FME shall maintain up-to-date accident/workplace injury/safety records; These records shall be updated to reflect type and nature of accident, cause and palliative action undertaken.

Indicator 10.1.5: The FME shall ensure that appropriate safety equipment is made available to all forest workers; forest workers use safety equipment appropriately and demonstrate proper management and harvest techniques.

Indicator 10.1.6: The FME shall put in place a grievance redressal mechanism for complaints related to poor or inadequate working conditions.

Indicator 10.1.7: The FME shall implement the relevant provisions of the Workman's Compensation Act, 1923, as the minimum requirement for compensation for any occupational injuries or workspace related injuries.

Criterion 10.2: The FME shall respect and implement all applicable International Labor Organization (ILO) Conventions covered in the ILO's Declaration of Fundamental Principles and Rights at Work (1998), and as ratified/implemented by the Union of India.

Indicator 10.2.1: The FME shall respect and implement all applicable ILO Conventions that India has ratified, specifically,

- a) Provisions for workers to freely organize into trade unions of their own choice in accordance with ILO Convention No. 87.
- b) Provisions for workers the right to organize and undertake collective bargaining leading to agreements in accordance with ILO Convention No. 98 – The Right to Organize and Collective Bargaining Convention, 1949 - Articles 1 and 2,
- c) ILO Convention No. 111 – Discrimination (Employment and Occupation), 1958 – The Right to Equal Treatment,
- d) ILO Convention No. 100 – Equal Remuneration, 1951 - The Right to Equal Pay.

Indicator 10.2.2: The FME shall assure the right of workers to benefits and protection as guaranteed under applicable laws and/or regulations.

Indicator 10.2.3: The FME shall ensure the availability of procedures to address grievances/disputes raised by workers and/or their organizations and for conflict resolution.

Indicator 10.2.4: The dispute resolution process shall recognize, at a minimum, the following types of conflict/dispute, and develop appropriate procedures (based on the scale, spread and complexity of the organization, nature of worker roles, and intensity of conflict) to address the same.

- a. Between workers and management
- b. Between workers or groups of workers and/or unions
- c. Between workers/management and external agencies

Criterion 10.3: Written guidelines shall be prepared, in accordance with relevant Indian labor laws, rules and regulations, for recruitment, promotion, dismissal, remuneration and benefits for permanent, temporary and contract workers, and the FME shall not discriminate among employees on the basis on caste, religion, gender, age etc.

Indicator 10.3.1: The FME shall put in place written guidelines, in accordance with relevant Indian labor laws, rules and regulations regarding recruitment, promotion, dismissal, remuneration and benefits for permanent, temporary and contract workers employed by the FME, either full time or part time.

Indicator 10.3.2: The working hours, wage rates, salaries and benefits to be provided to the workers shall be clearly communicated to them and the FME shall have written documentation regarding their acquiescence to the same before the engagement of workers in field duties. In cases where

such rights are not legally covered, the FME shall identify and put in place provisions as per prevailing industry best practices.

Indicator 10.3.3: The FME shall not discriminate among employees/workers on the basis of caste, religion, gender, age, region etc.

Indicator 10.3.4: The FME shall not allow the hiring or contracting of workers less than 14 years of age.

Indicator 10.3.5: The FME shall ensure that all workers are paid the legal minimum wage rates; which shall be derived as applicable from one of the following wage schedules, at rates applicable at the time of assessment:

- a. Minimum wages as designated by the Minimum Wages Act, 1948
- b. State specific Daily Minimum Wage Rates
- c. MGNREGA state specific daily wage rates
- d. Industry recognized wage agreements in consultation with workers' representatives

Indicator 10.3.6: The FME shall specify an officer of sufficient rank within its management, to independently investigate any complaints raised by workers related to violations of the provisions of this criterion.

Criterion 10.4: Appropriate to the scale and intensity of forest management operations, the FME shall ensure and document the training of forest workers for proper implementation of the management plan, as well as training in the use of appropriate equipment and chemicals. This training shall include safety training along with usage training.

Indicator 10.4.1: The FME shall ensure that all its employees are sufficiently trained in the implementation of the management plan.

Indicator 10.4.2: The FME shall ensure that all its employees have access to adequate safety equipment and are sufficiently trained in the appropriate usage of such equipment and chemicals. This training shall include safety training along with usage training.

Indicator 10.4.3: The FME shall provide opportunities for employment and training to forest dependent communities, including tribals in the proper implementation of the management plan. The FME contributes to or directly develops training programs designed to enhance the capabilities and qualifications of local workers.

Indicator 10.4.4: The FME shall endeavor to identify, in consultation with workers' representatives and local communities, opportunities for training and upskilling of workers so as to provide them opportunities for improving their economic well-being.

THEME F: ECOLOGICAL INTEGRITY AND HEALTH OF FORESTS– CONSERVATION AND MANAGEMENT

This theme deals with issues of natural resource management as well as conservation of resources of high conservation and biodiversity values. This theme would also look at ecosystem health and vitality, and maintenance and conservation of diversity within the FME – diversity at genetic, species, landscape and ecosystem levels. Conservation areas not only include areas with high levels of species density or biodiversity, but also areas which serve critical ecological functions as well as areas serving as a cultural heritage to the local people. Conservation attributes would also need to take into account the uniqueness of the resource and its replaceability/survival for future generations. The theme would also consider various types of forest services associated with a functioning forest, including provisioning services, regulatory services, cultural services and supporting services, many of which may not be tangible, but whose loss would affect the ecological balance of the system.

Principles, Criteria and Indicators under the theme would be-

Principle 11: Ecology, biodiversity and Natural Resource Management – Conservation, Enhancement and Rehabilitation

Criterion 11.1: The FME shall undertake forest management operations in such a manner so as to maintain the natural features of forest ecosystems, conserve biodiversity, protect water resources, and prevent land degradation and restore degraded areas. Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

Indicator 11.1.1: The FME shall identify, record and protect representative samples of existing ecosystems within the regional landscape, both within and outside of the FMU.

Indicator 11.1.2: The FME shall collect and review information regarding the nature, extent and composition of these representative landscapes and include them in the management plan.

Indicator 11.1.3: Representative samples of existing ecosystems within the FMU are delineated on maps and protection policies are included in the management plan. Where existing legal measures to protect such representative landscapes are insufficient, the FME shall take actions to assist in the protection of such areas.

Indicator 11.1.4: The FME shall ensure that rare, threatened and endangered species and their habitats or distribution areas within the FMU are identified, demarcated as protection zones and marked on maps.

Indicator 11.1.5: If it is not practically possible or feasible to clearly map the protected zones and biological corridors in an FMU, or in the surrounding landscape, then the FME shall ensure that an adequate area shall be kept for each forest type, keeping in mind general areas of occurrence and wildlife migration patterns in the forest.

Indicator 11.1.6: Specific protective measures shall be made and implemented when carrying out forest management activities in order to maintain protected areas, protected species and their habitats.

Indicator 11.1.7: The FME shall periodically (based on the scale and intensity of forest management operations and extent of forest resource) monitor the key biotic and abiotic factors that potentially affect health and vitality of forest ecosystems, such as pests, diseases, overgrazing and overstocking, fire, and damage caused by climatic factors, air pollutants or by forest management operations.

Indicator 11.1.8: The FME shall promote and undertake afforestation and reforestation activities that contribute to the improvement and restoration of ecological connectivity, with a preference for natural regeneration of native species as opposed to artificial regeneration. Stem density of adjoining well stocked forests needs to be the target of any NR or ANR activities.

Criterion 11.2: The FME shall consider the impacts of its forest management activities on the forest biodiversity and ecological functions and undertake rehabilitation/restoration of ecological functions/values that may have been damaged/degraded due to past management activities.

Indicator 11.2.1: The FME shall undertake independent environmental impact assessments in the FMUs, suitable to the scale, size and complexity of forest management operations, prior to planned operations and any major management interventions.

Indicator 11.2.2: The environmental impact assessments shall be undertaken at an FMU level as well as at a landscape level, to understand the cumulative effects of forest operations.

Indicator 11.2.3: Management activities are designed and, where needed, modified, based upon the results of the environmental impact assessments. Forest operations shall be adopted to minimize the impact of forest management performance on the environment and to avoid the degradation of and damage to forest ecosystems.

Indicator 11.2.4: The FME shall ensure that measures are taken so that no/minimal damage to forests as a result of site disturbing activities like land preparation, tending, harvesting, road construction etc. so as to maintain the natural features of the soil and its long-time productivity in the forest.

Indicator 11.2.5: Where damage/degradation of the forest has occurred due to past management activities, the FME shall initiate steps to regenerate the forest and restore the ecological functions and values to a natural state which is typical to the locality.

Indicator 11.2.6: The FME shall ensure that the quality and quantity of water resources are protected and soil and water erosion minimized by

- a. Establishing buffer zones to conserve water and soil at the banks of rivers and streams or around water bodies; these buffer zones are marked on the FMU maps.
- b. Avoiding severe damage to catchments within the forests
- c. Control of any soil disturbing activities in areas with slope greater than 30%
- d. Ensuring adequate vegetation cover using native vegetation or cover crops on clear felled or recently cleared areas etc.

Criterion 11.3: The FME shall ensure that all use of chemical pesticides and fertilizers shall be strictly controlled under management supervision and within the pre-defined parameters of an approved Integrated Pest Management (IPM) and Integrated Nutrient Management (INM), with a view to progressively reduce their use over time.

Indicator 11.3.1: The FME shall ensure that all chemical pesticide use in nurseries, FMUs or processing facilities occurs within the context of an integrated pest management program and pesticides are only used when non-chemical management has been proven ineffective.

Indicator 11.3.2: If the use of chemical pesticides is unavoidable, due to a lack of an alternative pest management mechanism, the FME shall

- a. maintain have a complete list of chemical pesticides used;
- b. maintain records of all pesticides used, including the name of the product, active ingredient(s), location and method of application, total quantity applied, and the dates of application;
- c. comply with all safety regulations during the transport, manipulation, application, and storage of chemical pesticides;
- d. ensure that all personnel are using appropriate equipment and safety gear to assure safe application;

Indicator 11.3.3: The FME shall also ensure that

- a. Pesticides listed in the World Health Organization (WHO) type 1A and 1B shall not be used in field or nursery operations,
- b. Pesticides banned under the Stockholm Convention on Persistent Organic Pollutants (2001) shall not be used in operations
- c. Chlorinated hydrocarbons and other pesticides that remain biologically active and accumulate in the food chain shall be prohibited

Indicator 11.3.4: The FME shall develop written procedures regarding

- a. safe use of chemicals,
- b. use of safety equipment and Personal Protective Equipment (PPE).
- c. emergency procedures for transportation, storage, use and accidental leaking of chemicals.
- d. Disposal of the inorganic rubbish, non-recyclable waste and empty containers in a way that will not endanger the environment.
- e. Prevention and control of any chemical spillage that occurs during forest operations in an environmentally benign manner.

Criterion 11.4: The use of biological control agents shall be within India's regulatory framework and documented, minimized, monitored and strictly controlled in accordance with internationally accepted scientific protocols. The FME shall maintain a precautionary approach towards the introduction and use of biological control agents. Use of genetically modified organisms shall be prohibited.

Indicator 11.4.1: The FME shall avoid use of any biological control agents within forest management operations.

Indicator 11.4.2: Any use of biological control agents shall take place only when unavoidably necessary and after exhaustion of all other possible avenues, and only under strict internationally accepted protocols for documentation, monitoring and control and in compliance with applicable laws and regulations. The use of biological control agents shall be always with a precautionary approach.

Indicator 11.4.3: There shall be no use (defined as commercial use as well as for research purposes) of genetically modified organisms within the FMU.

Criterion 11.5: Introduction of exotics in natural forest areas as well as plantations within natural forest areas within the FME shall be strictly prohibited. In the case of farm forestry/ plantations outside natural forest areas/TOFs, the FME shall assess the ecological impacts of the introduction of exotic species, and their introduction and propagation shall be strictly controlled, subject to protocols under applicable laws.

Indicator 11.5.1: In all cases, the introduction of exotics in natural forest areas or plantations within natural forest areas (other than areas previously designated as being set aside for commercial plantations) within the FME shall be strictly prohibited.

Indicator 11.5.2: The FME shall avoid the introduction of exotic species in forest management operations unless it is proved that indigenous species are not suitable to meet the forest management objectives.

Indicator 11.5.3: Any introduction of any exotic species by the FME would be undertaken only after a review of the ecological impacts of introduction and/or empirical or research data support the introduction of the species.

Indicator 11.5.4: The FME shall verify, through scientifically researched data, that the proposed species do not adversely affect the environment and biodiversity of the region and are not invasive in the long run. The FME shall also study the results from similar eco-regions where the proposed exotic species has been previously introduced.

Indicator 11.5.5: In areas where previously introduced exotics have been found to be problematic and/or invasive in nature, the FME shall develop and implement measures for controlling the harmful invasive species. This includes, but is not limited to, phasing out of exotics from the region and promotion of indigenous species to recapture the space from exotics.

Criterion 11.6: The FME shall not convert natural forests to plantations, nor natural forests or plantations to any other land use except when the conversion:

- a) occurs as per the specific provisions of the Forest (Conservation) Act, 1980, and
- b) affects a very limited portion of the area of the FMU, and
- c) Conversion shall not occur within high conservation value forest

areas, threatened ecosystems, culturally and socially significant areas, or important habitats of threatened species.

It must be understood that these criteria are to be read together, and any diversion of natural forests or plantations by the FME for any purpose under the Forest (Conservation) Act, 1980 shall not contravene Criteria 11.6 (b) and (c) above. However, notwithstanding sub-sections 11.6 a), b) and c) above, no conversion post December, 1994 shall be considered for certification.

Indicator 11.6.1: Forest areas that have been converted (either from plantation to non-forest use or from natural forest to plantation or to non-forest use) since December 1994 and/or are scheduled for conversion are identified.

Indicator 11.6.2: No conversion to plantations or non-forest lands occurs, except in circumstances where the conversion:

- a. occurs as per the specific provisions of the Forest (Conservation) Act, 1980.
- b. affects no more than 0.5% of the total area of the FMU in the current or any future year and does not result in a cumulative total area converted in excess of 5% of the FMU since December 1994; and
- c. does not occur within or damage or threaten high conservation value forest areas, threatened ecosystems, culturally and socially significant areas, or important habitats of threatened species.

Criterion 11.7: FMUs containing plantations that were established on areas converted from natural forest after December 1994 shall not qualify for certification, except where:

- a. clear and sufficient evidence is provided that the FME was not directly or indirectly responsible for the conversion, and
- b. the conversion affected a very limited portion of the area of the FMU, and
- c. clear, substantial, additional, secure long-term conservation benefits in the FMU are produced.

Indicator 11.7.1: Areas of plantations, their original establishment dates, and the prior status of the areas are identified.

Indicator 11.7.2: No areas have been converted from natural forest to plantation since December 1994 except where:

- a. The FME provides clear and sufficient evidence that it was not directly or indirectly responsible for the conversion; and
 - b. The total area of plantation on sites converted from natural forest since December 1994 is less than 5% of the total area of the FMU, and
 - c. The conversion will produce clear, substantial, additional, secure, long-term conservation benefits in the FMU.
- a.

Principle 12: Identification, Protection and Management of High Conservation Value Forests (HCVFs)/Special Sites for conservation

Criterion 12.1: The FME shall identify and classify the High Conservation Values (HCV) attributes/special sites for conservation in the Forest Management Unit, appropriate to the scale and intensity of forest management, and manage them in a manner appropriate for their unique features.

Indicator 12.1.1: The FME shall conduct a periodic evaluation to identify High Conservation Values (HCV) attributes present in the FMUs, depending on the scale of the forest resource as well as the intensity and severity of forest management operations, which includes:

- i) Known sites of flora and fauna associated with viable occurrences of critically endangered and endangered species and communities
- ii) Typical, rare, sensitive and protected forest ecosystems
- iii) Globally, regionally and nationally significant landscape areas with natural distribution area and landscape area of species.
- iv) Sacred and culturally important sites
- v) Sites of critical ecological importance

Indicator 12.1.2: This evaluation, at a minimum, shall include:

- a. Consultation of regional or national conservation databases and maps;
- b. Consultation of the national HCVF toolkit, if it exists, or the first and third parts of the international toolkit for HCV presence (see HCVF Toolkit by WWF);
- c. Consideration of forest inventory data and observations from field workers, contractors or consultants of the FME;
- d. Interviews with biologist and scientific experts, local communities, and other stakeholders;
- e. Identification and documentation of possible threats to HCVs.

Indicator 12.1.3: The stakeholder consultation shall be through a documented FPIC process and the FME shall maintain a list of all concerned stakeholders.

Indicator 12.1.4: The consultation process shall include identification of the conservation attributes of the area, along with proposed strategies for their maintenance, enhancement and/or reduction of threats.

Indicator 12.1.5: The FME shall provide a written evaluation for HCVs and proposals to protect these HCVs in the FME's management strategies. This may include development of plans for protection, independently or collaboratively, with cooperation with other stakeholders.

Criterion 12.2: The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.

Indicator 12.2.1: The FME, in the management plan and its public summary, shall describe the conservation values of each area of HCV identified in the FMU, as well as the actions taken to maintain and/or enhance these values.

Indicator 12.2.2: The FME shall propose and respect an adequate and economically realistic time period for the periodic update of the public summary of areas of HCV, appropriate to the scale and intensity of operations.

Indicator 12.2.3: The FME shall provide evidence in the field that it implements measures to maintain and/or enhance HCVs, consistent with a precautionary approach.

Criterion 12.3: Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes. Based on the results of the monitoring indicators, the FME shall adapt its management practices as necessary for improvement.

Indicator 12.3.1: Appropriate to the scale of and intensity of operations, annual monitoring is conducted that focuses on the effectiveness by which HCVF management and protection measures are maintaining and/or enhancing the pertinent conservation attributes.

Indicator 12.3.2: The FME shall develop measureable monitoring indicators to track the progress of the HCVF management and protection measures that have been developed by the FME and implemented in the field.

Indicator 12.3.3: The results of HCVF monitoring are used adaptively in modifying HCVF management and protection policies, as well in revising the management plan.

Principle 13: Forest ecosystem services – identifying, quantifying and valuation of both tangible and non-tangible ecosystem services

Criterion 13.1: The FME shall identify all ecosystem services and functions associated with the forest area, including, among others, forest regeneration and succession, genetic, species and ecosystem diversity, ecosystem processes, conditions and productivity, protection from soil erosion, protection of water resources and protection from adverse water impacts like floods, drought etc.

Indicator 13.1.1: The FME shall identify and document the full range of ecosystem services and functions associated with the forest area, including, forest regeneration and succession, genetic, species and ecosystem diversity, ecosystem processes, conditions and productivity, protection from soil erosion, recreation and tourism, protection of water resources and protection from adverse water impacts like floods, drought, etc.

Indicator 13.1.2: Forest management activities are designed and implemented, spatially and temporally, with due consideration to the impacts on the ecosystem services.

Indicator 13.1.3: The FME shall demonstrate an awareness and sensitivity to non-income generating ecosystem services, and engages in regular dialogue with stakeholders who are dependent on these services and may be potentially affected by forestry operations.

Criterion 13.2: The FME shall categorize the forest ecosystem services based on their nature as provisioning services, regulatory services, cultural services or supporting services, and identify threats to the functioning of these services along with measures required to neutralize such threats prior to their occurrence.

Indicator 13.2.1: The FME shall identify and classify the ecosystem services as per the following criteria (defined by the Millennium Ecosystem Assessment, 2006):

- a. Provisioning services: includes products obtained from ecosystems viz., food, raw materials, genetic resources, water, minerals, medicinal plants etc.
- b. Regulating services: includes benefits obtained from ecosystem services viz., carbon sequestration, climate regulation, waste decomposition and detoxification, air and water purification, pest and disease control etc.
- c. Cultural services: includes nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences
- d. Supporting services: includes services "that are necessary for the production of all other ecosystem services". These include services such as nutrient recycling, primary production and [soil formation](#). These services make it possible for the ecosystems to provide services such as food supply, flood regulation and water purification.

Indicator 13.2.2: The FME shall identify any threats to the continued existence of these services and put in place suitable measures, wherever possible, to mitigate such threats.

Indicator 13.2.3: Known ecological functions and values are described in the management plan and updated periodically as additional information/knowledge is acquired; the FME takes affirmative steps to eliminate gaps in information and knowledge about ecological functions within the management unit.

Criterion 13.3: The FME shall have in place written guidelines for protection of soil and water resources, and put in place appropriate soil and moisture conservation measures to maintain and enhance the soil characteristics and quality of water (ground water and surface water). Further, measures to control soil erosion, run off etc. shall also be established, including, but not restricted to, stream buffer zones, road and drainage construction guidelines, slope harvest guidelines etc.

Indicator 13.3.1: The FME shall put in place written guidelines for the protection of water resources and water quality protection and minimization of soil erosion as a result of site disturbing activities.

Indicator 13.3.2: The FME shall manage forest operations to minimize adverse changes to water quality (physical, chemical or biological) with the objectives of:

- a. minimizing transport of soil into waterways;
- b. maintaining streamside management zones; and

c. specifying the buffer zone from water bodies.

Indicator 13.3.3: The FME shall identify and map all stream courses passing through the FMUs

Indicator 13.3.4: The FME maps the soil types found within the forest area and takes them into consideration while undertaking forest operations, all forest operations shall be managed in a manner to protect and maintain the physical, chemical and biological properties of soil and improve those properties where appropriate and reasonably practicable.

Indicator 13.3.5: The FME shall specify the maximum extent of slope beyond which no felling or harvest is permitted. Under no circumstances should the permissible slope extend beyond 35 degrees

Indicator 13.3.6: The FME shall have written guidelines for the construction, maintenance and closure of roads and drains within the FMUs.

Principle 14: Biodiversity conservation -- including measures for conservation and maintenance and rehabilitation of losses to biodiversity values arising out of management activities or occurring within the FME

Criterion 14.1: The FME shall have written guidelines for the maintenance, conservation and enhancement of biological diversity (ecosystem/landscape/species/genetic diversity) within the forest areas and strengthen the ecological integrity of the FMU.

Indicator 14.1.1: The FME shall put in place written guidelines for the maintenance, conservation and enhancement of biological diversity (ecosystem/landscape/species/genetic diversity)

Indicator 14.1.2: The FME shall endeavor to incorporate the conservation of native biological diversity, including species, wildlife habitats and ecological community types at stand and landscape levels.

Indicator 14.1.3: Subject to the scale of operations, the FME shall undertake forest management operations in such a manner so as to maintain a full range of successional stages at distributions within the range of natural variability and restore the natural forest composition over time.

Indicator 14.1.4 Forest management practices shall, where appropriate, promote a diversity of both horizontal and vertical structures such as uneven-aged stands and the diversity of species such as mixed stands. Where appropriate, the practices shall also aim to maintain and restore landscape diversity.

Indicator 14.1.5: The FME, in its practices, shall be guided by regionally based best scientific information, to retain stand-level wildlife habitat elements such as snags, stumps, downed woody debris and nest trees.

Indicator 14.1.6: The FME should identify and protect any non-forested wetlands/grasslands and its constituent elements, which are found, associated with the forest area (both within and in the periphery).

Indicator 14.1.7: The FME shall participate in or incorporate the results of state, central, or regional conservation planning and priority-setting efforts to conserve biological diversity and consider these efforts in forest management planning. Examples of credible priority-setting efforts include state wildlife action plans, state forest action plans, relevant habitat conservation plans or wildlife recovery plans (e.g. Project Tiger, Project Elephant etc.).

Criterion 14.2: The FME shall undertake an assessment of the rare, threatened, endemic and endangered species and their habitats occurring within the defined forest area along with a listing of species prone to overexploitation in the forest area. Safeguards shall exist which protect rare, threatened and endangered species and their habitats. The FME shall establish conservation zones and protection areas, appropriate to the uniqueness of the affected resources and the scale and intensity of forest management.

Indicator 14.2.1: The FME should undertake an assessment of the rare, threatened, endemic and endangered species and their habitats within the FMU along with a listing of species prone to overexploitation in the forest area.

Indicator 14.2.2: The FME shall put in place management guidelines to identify and protect endangered, endemic, rare and threatened species of forest flora and fauna, including features of special biological interest and representative conservation and protection areas, in accordance with existing forest ecosystems, appropriate to the scale and intensity of forest management.

Indicator 14.2.3: The FME shall ensure that forest workers are aware of endangered, endemic, rare and threatened species of forest flora and fauna found in the FMU and are trained in the conservation of the same.

Criterion 14.3: The FME shall measure the biodiversity values of the forest area using scientifically based monitoring methodology developed in consultation with stakeholders and relevant experts, to determine if values are being maintained or enhanced within the defined forest area. Further, the FME shall assess the possible impact of forest management operations on biodiversity and adopt an appropriate management strategy to ensure that biodiversity losses do not occur (only relevant in the case of forest areas where no High Conservation Values / REET biodiversity values are identified), through utilization of the following hierarchy viz.,

- a) Avoidance of impact
- b) Minimization of impact
- c) Restoration/Rehabilitation of biodiversity attributes
- d) Offsetting of biodiversity impacts by *ex situ* conservation, forest enrichment etc.
- e) Additional Conservation Actions

Indicator 14.3.1: The FME should undertake a biodiversity assessment of the forest area, with the involvement of all relevant stakeholders, and using the scientifically accepted assessment methodology suitable for the forest area.

Indicator 14.3.2: The FME shall document the diversity of forest cover types and age or size classes at the FMU, and where credible data are available, at the landscape scale.

Indicator 14.3.3.: The FME shall ensure retention of standing and fallen dead wood, hollow trees, old groves and special rare tree species as much as possible in quantities and distribution necessary to safeguard biodiversity, taking into account the potential effect on the health and stability of the forest and on surrounding ecosystems.

Indicator 14.3.4: The FME shall ensure that management practices make best use of natural structures and processes to maintain and enhance the health and vitality of forests. Adequate genetic, species and structural diversity shall be encouraged and/or maintained to enhance the stability, vitality and resistance capacity of the forests to adverse environmental factors and strengthen natural regulation mechanisms.

Indicator 14.3.5: The FME shall evaluate the impact of forest management operations on biodiversity levels in the FMU and determine whether the operations maintain, diminish or enhance the biodiversity attributes of the forest area.

Indicator 14.3.6: If there is a net negative impact of forest operations on the biodiversity attributes, either inadvertently, or due to unavoidable reasons (to be determined by the certification body) the FME shall minimise the biodiversity losses, on the basis of severity of impact, by utilization of the following offset hierarchy viz.,

- a) Avoidance of impact
- b) Minimization of impact
- c) Restoration/Rehabilitation of biodiversity attributes
- f) Additional Conservation Actions
- g) Offsetting of biodiversity impacts by *ex situ* conservation, forest enrichment etc. (last option; provided measures a)-d) are not possible or effective

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