



NETWORK FOR CERTIFICATION AND CONSERVATION OF FORESTS (NCCF)

Zero Draft Standard for Trees Outside Forest (TOF)

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Foreword

The Network for Certification of Conservation of Forests (NCCF) is a non-profit organisation established in January 2015, registered under the Societies Registration Act, 1860 to have a globally aligned Forest and Trees outside forests certification scheme developed within India. NCCF is to address the concerns for sustainable management of forests, biodiversity and plantations, agroforestry models, at the same time making the Indian wood and forest fibre based industry globally competitive ensuring raw material sustainability.

Trees outside forests (TOF) resource in India is playing a very important role in meeting the requirements of wood fibre of the country, especially the pulp and paper, plywood and composite products, handicrafts and furniture industry. Currently, TOF resource meets more than 85% of the industrial wood requirements.

The NCCF has developed the draft certification standard for the TOF resource through the Standard Development Group (SDG) following an open, transparent and consultative process. The SDG comprise of a wide range of stakeholders viz, tree growers, wood based and paper pulp industries, research and academic institutions, experts, forest departments, NGOs etc. Besides a series of meetings, there has been online consultations for preparing the draft.

The NCCF -TOF Certification Standard laid out in this document are broad based though globally aligned but to address Indian issues of agroforestry, urban forestry and scattered trees in farmland and homesteads which are mostly private owned even by small and marginal farmers. The standard is purely voluntary and not legal. It is only for the benefit of tree owners interested in value addition through certification.

The themes, criteria and indicators are intended to cover all the relevant aspects of the TOF resource management but are subjected to modification based on local, national and global changing conditions. NCCF takes the liberty to review and revise the standard after field level stakeholder workshops and pilot testing in the field.

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Introduction

Historically, Trees outside Forests (TOF) in India have been planted along the roads, in parks and gardens, places of worships, in farms, in tea/ coffee estates. Such trees mainly grow on private or common lands and have remained an integral part of the cultural ethos and rural land use. TOF have contributed in meeting domestic needs and providing income to local people but has remained as invisible resource to land use agencies. The importance of TOF increased manifold in the last few decades, specially, after the launch of social forestry programmes in India since late 1970s. Trees outside forests have also been planted under MNREGA and watershed programmes etc. Now TOF has become the main source of industrial wood in the country. Trees outside the forests are also being recognized by policy-makers and planners an essential component of sustainable development and critical to food security. The Union Ministry of Agriculture has pronounced a national Agroforestry Policy in 2014 for the promotion of agroforestry in the India.

Internationally, the concept of “Trees outside Forests” emerged in 1995 to designate trees growing outside the forests and not belonging to Forest or Other Wooded Land (Bellefontaine et al., 2002). Since then FAO has adopted the definition of TOF as “Trees outside Forests refer to trees on land not defined as Forest and Other Wooded Land.” According to this definition, Trees outside Forests are located on "other land", such as agricultural land, built-up areas around settlements and infrastructure, and bare land (dunes, former mining areas, etc.) (FAO 2013).

In India, “all trees growing outside the recorded forest areas” are defined as Trees outside Forests. The recorded forest area comprises of “reserve”, “protected” or unclassified forests. The trees growing in private lands in agroforestry, farm forestry, along the farm bunds and in homesteads, and in orchards and in common and government non-forest lands in parks and gardens, along roads, canals and railway line in rural or urban areas constitute TOF. For the purpose of understanding, TOF are classified in three categories, namely, block, linear and scattered form.

In India, TOF constitute the major source for production of industrial wood. Though reliable data on its annual production is not available, it has been estimated from the growing stock of TOF and also derived from estimated consumption of industrial wood in the country. Using the total growing stock of TOF in a given year, FSI (2011) has estimated the annual production from industrially important tree species as 42.8 million cubic meter whereas ICFRE (2012) has estimated as 44.3 million cubic meter using the same data of growing stock dividing growing stock by prevalent harvesting year. There is an uncertainty about the actual consumption of industrial wood also. In a review of the Indian Timber Market for ITTO, Muthoo (2004) estimated the consumption of industrial wood in India during 2005-06 as 57 million cubic meter. Based on the consumption by three categories of wood-based industries, viz. saw mills (29 million cubic meter), ply and veneer wood industries (19 million cubic meter) and paper mills (9 million cubic meter), ICFRE (2012) estimated the total consumption of industrial wood in 2010 as 57 million cubic meter. Further, FSI (2011) has quoted that the total annual timber production from the government forests as 3 million cubic meter as compiled by ICFRE. In a separate study ICFRE (2012) has found it to be about 2.4 million cubic meter (based on average of 5 years 2005 to 2010 as reported by State Forest Departments). The import of industrial wood in 2010 was 6 million cubic meter which is now estimated to be 8 million cubic meter. Thus,

the timber produced from the national forests and imported wood together make only 10 to 11 million cubic meter or about 20% of the consumption by industries and the rest 80% that is, 46-47 million cubic meter comes from TOF. The estimated figure of production of industrial wood from TOF (42.8 or 44.3 million cubic meter) thus matches well with the derived figure from consumption.

Despite such a huge production from TOF resource, there are no sustainability adherence systems as well as certification standard for this resource at present. As a result, Indian manufacturers or producers using TOF raw material are unable to tap the global market and TOF value added products are not able to fetch desired price. Farmers who hold most this resource and already on the margin of the economy get adversely affected. Most of the certified forest products available in the Indian market exclude TOF resource.

Being in informal and private sector, there is a lack of uniformity in silvicultural, management and other operational practices. Further, there is a no mechanism to access to the improved and best management practices which are essential for sustainable management of this important resource. There are also problems with the marketing of the TOF product which is often unstable and inconsistent.

In the certification standard and scheme developed here, efforts have been made to globally align with other certification programs and at the same time making the Indian forest fiber based industry compete globally. Since there is a high cost associated with the certification process, care has been to simplify the standard without compromising with global conditions so that it remains within the reach of small and marginal land holders. The standard is fully voluntary and not legal. It is only for the benefit of tree owners interested in value addition through certification.

Three broad situations exist in TOF where management objectives and operations differ markedly, there are, the urban forests, the agroforests with block and the agroforests with scattered trees. Urban forests and trees along highways /avenues as well as in parks and gardens in urban areas have environmental protection and aesthetic purpose for abetting pollution, recreation, amenities and as green lungs and thus mainly dead and dying trees are replaced. In case of block and compact agroforests, main goal is economic return and are thus managed on economic considerations generally on short rotations. There are, of course tree groves in rural areas which have social and cultural values. The scattered trees in rural areas which occurs in homestead and farms are also managed for economic returns with limited and no focus for environmental protection and biodiversity conservation except for the isolated trees planted in tea and coffee plantations which serve as cover crop.

While developing the certification standard and scheme, the situations of the three broad situations have been kept in view. For example, the standard for the scattered trees has further simplified compared to other two categories. Similarly, the standard of urban forests are made more rigorous compared to standard of block and compact agroforests.

Scope

This standard shall be used for the purpose for certifying Trees outside the Forests (TOF) in the country. The standard is applicable for certification of the wood coming from a responsibly managed TOF resources in the country. These TOF resources can be classified on the basis of ownership (private, community and government), formations (linear, block & scattered) and management (farmers, industries, associations, federations, cooperatives, government, etc.). Trees growing on community managed land in the North eastern states of the country and elsewhere are also classified as TOF.

For better implementation and understanding of this standard, two categories - agroforest and urban-forest, have been adopted. The standard is applicable to all the TOF categories defined under the classification of Agroforest and Urban-forest.

The agroforest category includes all kinds of tree plantations done on farm lands and rural landscapes whereas urban-forest comprehends tree plantations done in urban landscapes, along highways, avenues, railway lines , canals, cover trees, and Social forestry area (owned by government), etc.

THEME A: LEGALITY COMPLIANCE WITH LEGAL REQUIREMENTS

The theme deals with the legality aspect of the Trees outside Forests (TOF) in the Land Management Unit (LMU). There has to be compliance to national, state and local laws, regular payments of taxes, fee and other charges. The LMU takes measures to protect and prevent illegal activities and has sufficient resources to carry out these activities. The ownership of lands along with rights are clearly documented.

Note: *Under this theme all Criteria (1.1, 1.2, 1.3) are applicable to Scattered Tree Model as legality is the primary requirement of certification.*

Criterion 1.1: TOF management complies with all relevant legislations and rules applicable to forest, urban and land related laws and the payment of applicable royalties and taxes.

Indicator 1.1.1: Compliance with all applicable central, state and local laws, acts and regulations be demonstrated.

Indicator 1.1.2: In case of non-compliance necessary actions are taken to resolve and maintain relevant records.

Indicator 1.1.3: Evidence for payments of taxes, fee and other charges, if any should be demonstrated.

Criterion 1.2: TOF management demonstrates adequate provisions for protection from illegal activities such as illegal logging, illegal land use including encroachments, illegally/malicious fires, other illegal activities, etc.

Indicator 1.2.1: Sufficient resources and measures (infrastructure, financial and human) are there, to ensure illegal activities do not take place

Indicator 1.2.2: Remedial, measures as applicable are taken and illegal activity if any are recorded.

Note: The frequency and nature of regulatory violations, if indicative of widespread and systemic non-compliance, shall render the LMU certificate liable for cancellation.

Criterion 1.3: The TOF management demonstrates clear and secure ownership, tenure, land leasing and use rights of the LMU.

Indicator 1.3.1: Documents demonstrating clear and secure ownership, tenure and use rights associated with the LMU are available.

Indicator 1.3.2: Disputes over land, tenure and use rights are to be resolved legally or through participatory/ conciliatory methods.

Indicator 1.3.3: Records of disputes and their mode of resolution (along with outcomes), are maintained.

Indicator 1.3.4: Legal boundaries* should be clearly demarcated and visible on the field by the land owner /users.

Indicator 1.3.5: TOF plantations established in areas converted from natural forests shall be allowed to get certified in circumstances where sufficient evidences are provided for due clearance by the appropriate authority.

THEME B: MANAGEMENT PLAN AND PRACTICES

The theme deals with the development and management of the TOF resource in the Land Management Unit (LMU) in an organised manner through a well-prepared management plan. Management planning includes practices for the sustainable management of the trees outside forests, demarcating boundaries, defining the roles and responsibilities, periodic monitoring & evaluation, inventorisation and encompassing the social, economic and ecological dimensions.

Note: *Theme B is not applicable to Scattered Tree Model as it is not practical to prepare a management plan for small and scattered trees.*

Criterion 2.1: Management Plan, can be area specific covers ownership and species details, planting details, agriculture cropping, harvesting regime, operations aimed at environmental protection and amenities and social safeguards. It is prepared by a farmer/owner or jointly by a group of farmers, tree growers or professionals.

Similarly, Management Plans for Urban-forestry covers ownership & suitable species details, monitoring mechanism of the plant health and removal of unhealthy/dying/dangerous plants and their replacement and operations for environmental protection and recreation.

Indicator 2.1.1: A written management plan should be developed including management objectives, Good Agricultural practises and Standard Operating Procedures (SOPs), actions and measures

Indicator 2.1.2: The management plan addresses the following elements:

- a) objectives of the TOF management
- b) description of the TOF resources (Site and species selections and suitability)
- c) harvesting cycle and methods and silvicultural practises (clear cuts, selective cuts, thinning)
- d) plans for monitoring growth of Trees
- e) environmental and social impacts of the operational plan
- f) conservation of rare species and high conservation areas/ values
- g) maps of the operational area
- h) pest, disease and weed control plan
- i) duration of the plan
- j) Transplanting

Indicator 2.1.3: Adequate Resources are made available for implementation of the management plan.

Indicator 2.1.4: Summary of the management plan (preferably in local language) is available to all stakeholders.

Criterion 2.2: The TOF management plan aims to maintain or increase the total quantum of growing stock (spatially or temporally) without affecting food security if notified by local/state government authorities, as well as social, economic, ecological and cultural well-being of the land owner.

Indicator 2.2.1: Management Plan contains actions, strategies and measures to maintain or increase the quantum of growing stock.

Indicator 2.2.2: Food security or agricultural activities are not negatively affected by TOF management activities, as evident from any state/local government authorities.

Indicator 2.2.3: The management plan includes measures to ensure that overall economic viability, social and environmental well-being is not negatively affected.

Criterion 2.3: Management plan includes mapped TOF resources, demarcating the boundaries, nature and type of TOF, drainage and terrain conditions.

Indicator 2.3.1: Management plan to include details of operational area including type of land, ownership, use rights, etc.

Indicator 2.3.2: LMU and/or TOF management demonstrates clear TOF resource boundary, if possible with geo-coordinates, and evidence to land ownership and use rights.

Indicator 2.3.3: The LMU records all Land related disputes and their mode of resolution (along with outcomes), to avoid further litigation, as well as to set precedents for similar disputes in future.

Criterion 2.4: Management plan, will be maintained and periodically updated based on monitoring results, local conditions, legislation, and advice from professionals as required.

Indicator 2.4.1: The management plan is updated as and when changes occur due to local conditions, legislations or any other reason.

Indicator 2.4.2: The management plan is updated as per the monitoring results.

Indicator 2.4.3: The summary of management plan is made available to the stakeholders upon request.

Indicator 2.4.4: Summary of management plan to be made publicly available, if it is associated with a public grant or public land.

Criterion 2.5: Roles and responsibilities for sustainable management of TOF resources to be clearly defined in the management plan.

Indicator 2.5.1: Mechanism to communicate the management plan and its elements to the LMU owners and workers is in place.

Indicator 2.5.2: Management plan clearly defines the role and responsibilities of the resource owners, manager and workers.

Indicator 2.5.3: Workers and managers are duly trained as to their role in implementing the management plan. The records of training are maintained.

Criterion 2.6: Periodic inventory of resources, record of harvesting, monitoring & evaluation of management operations is included in the management plan. This forms a basis for sustainability of the TOF resource.

Indicator 2.6.1: The TOF resource management maintains records of planting, periodic inventory of the LMU.

Indicator 2.6.2: Written records are kept of the periodic harvest of TOF products to ensure the traceability as per chain of custody (CoC) procedures.

Indicator 2.6.3: The LMU has a quantitative estimate of the current and future carbon sequestration on the defined area.

Note: This indicator is mandatory when TOF resource is a part of Carbon project.

Indicator 2.6.4: The LMU endeavours to assess the net carbon addition to the carbon stock, in terms of:

- a) Net carbon uptake in terms of increase in the growing stock
- b) Quantification of net removal of carbon stock at LMU level

Note: This indicator is mandatory when TOF resource is a part of Carbon project

Criterion 2.7: TOF management plan contains procedures to monitor and assess the status of TOF resource and its yield, tracking and tracing of the wood from TOF certified area, management activities and their social and environmental impacts. Monitoring is conducted periodically according to the procedures defined.

Indicator 2.7.1: Monitoring covers the following parameters:

- a. Yield of all wood coming from TOF resource
- b. Growth rates, regeneration and health of the TOF resource
- c. Cost and productivity of the TOF resource management
- d. Composition changes in the flora and fauna, if any
- e. Environmental and social impacts of the management operations

Indicator 2.7.2: Written procedures for tracking and tracing of the certified wood include the following:

- a. measures to control and track data on volume of wood and its origin
- b. accounting of certified products before and after the harvesting and description on sale invoices
- c. measures to ensure segregation of certified wood from non-certified wood through marking, labelling, separate storage and documents used for sale e.g., invoice, sale-purchase documents etc.

Indicator 2.7.3: Monitoring takes place as per the periodicity defined in the management plan.

Indicator 2.7.4: Measures are taken to prevent and/or mitigate negative impacts on environment and social values based on monitoring.

Criterion 2.8: Monitoring results are analysed and incorporated into the implementation and revision of management plan.

Indicator 2.8.1: The management plan is revised and updated periodically.

Indicator 2.8.2: Monitoring results are analysed, and measures taken in *Indicator 2.7.4* are documented for future reference.

Note: *This can include revision in management plan, developing new SOPs, annex documents etc.*

Indicator 2.8.3: Results of monitoring are shared to the associated stakeholders and training is provided to farmers and workers for the implementation of the new procedures.

THEME C: HEALTH AND VITALITY OF TOF RESOURCES

The theme deals with the improvement of the health and vitality of the TOF resources. The TOF resources are continuously monitored against suitable parameters. Selection of species should be based on site specifications, economic value, aesthetic value, environmental and societal suitability, etc. Application of pesticides and fertilizers should be minimal.

Note: *Under this theme Indicators 3.1.1 and 3.1.2 under Criterion 3.1 and all indicators under Criterion 3.2, 3.4 are applicable to Scattered Tree Model.*

Criterion 3.1: Measures are taken to maintain or improve the health and vitality of the TOF resource.

Indicator 3.1.1: Measures are taken to make use of natural mechanisms as applicable viz regeneration, biological control of weeds and diseases, etc. to maintain and enhance the health and vitality.

Indicator 3.1.2: Measures and means are adopted to avoid and minimise the risk of degradation of land.

Indicator 3.1.3: The rehabilitation of degraded lands should be encouraged through measures such as soil and water conservation, control of grazing and fire, appropriate agricultural practices, etc.

Indicator 3.1.4: To the extent possible, Biodiversity to be maintained enhance the stability and vitality.

Criterion 3.2: The health and vitality of TOF resource to be monitored against suitable parameters.

Indicator 3.2.1: The parameters to monitor the health and vitality should be identified corresponding to local conditions which may include pests, diseases, land degradation, overgrazing and overstocking, risks of fire, etc.

Indicator 3.2.2: Monitoring of such parameters should be done periodically, and documents are maintained.

Indicator 3.2.3: Based on the monitoring results, measures are taken to restore the health and vitality of TOF resources.

Criterion 3.3: In agroforestry, apart from economic consideration, tree species suited to the site conditions are planted.

In urban forestry, additional focus is on the recreational, amenity, aesthetic and pollution-control role of trees.

Indicator 3.3.1: In agroforestry tree species planted are suited to site conditions including edaphic conditions, water and the adjoining crops, as far as possible.

Indicator 3.3.2: The invasive and disease carrying/prone tree species, harmful to the agricultural crop should not be selected.

Indicator 3.3.3: In urban forestry, tree species selection is based on the recreational, amenity, aesthetic and pollution-control role and values of trees.

Criterion 3.4: The use of pesticides and herbicide is minimised, and WHO Guidelines and Stockholm Convention on Persistent Organic Pollutants are followed.

Indicator 3.4.1: Use of WHO Type 1A* and 1B* pesticides is prohibited.

Indicator 3.4.2: Use of pesticides and herbicides restricted or banned by the government at the national/state/local level is prohibited.

Indicator 3.4.3: Permissible limits are adhered while using pesticides and herbicides.

Indicator 3.4.4 While using the instructions given by the manufacturers are followed with proper equipment and training.

Indicator 3.4.5: Integrated Pest Management (IPM) practices are encouraged.

Criterion 3.5: Where fertilizers are used, TOF management ensures adoption of Standard Operating procedures (SOPs) developed at national/regional level.

Indicator 3.5.1: The use of chemical fertilizers is minimized and organic and bio-fertilisers are preferred to enhance soil fertility.

Indicator 3.5.2: Fertilizer wherever applied, should follow the SOPs as prescribed by national or regional agricultural extensions services, including Good Agricultural Practice (GAP) and national environmental protection legislation, if any.

Indicator 3.5.3: The frequency and type of fertilizer used are documented as far as possible.

Indicator 3.5.4: Soil testing and site specific nutrient management practices including rotational cropping is encouraged.

THEME D: MAINTENANCE AND ENHANCEMENT OF PRODUCTIVE FUNCTIONS

The theme deals with the diverse and complete utilization of TOF resource, the establishment and development of a robust local economy, monitoring of operations including tending, harvesting and transport and an emphasis on the use of goods and services. The theme also considers traditional management systems and their integration into the management. The theme also covers emerging aspects of market valuation and trading mechanisms like CDM, REDD+, etc.

Note: *Under this theme Indicators 4.2.2 and 4.2.3 under Criterion 4.2 and all indicators under Criterion 4.1, 4.4 are applicable to Scattered Tree Model.*

Criterion 4.1: TOF management aims to maintain the productivity of the LMU to provide a range of goods and services specified in the management objective on a sustainable basis.

Indicator 4.1.1: The focus of TOF management should be on production of agricultural, wood and non-wood products in agroforestry and on aesthetics, recreation, shade and pollution control services in urban and social forestry.

Indicator 4.1.2: The TOF management to undertake periodic review of its operations to ensure sustainability of goods and services from the LMU and relevant information to be made available.

Indicator 4.1.3: Implementation of best management practices incorporating traditional knowledge to ensure sustainability of goods and services..

Criterion 4.2: TOF management aims to achieve sound economic performance, taking into account, available market studies and possible new economic activities in connection with all relevant goods and services from the LMU.

Indicator 4.2.1: The TOF management strives to establish economic benefits from diversified activities including agriculture, wood, recreational and other goods and services.

Indicator 4.2.2: TOF management should endeavour to use market information mechanism such as e-NAM (National Agriculture Marketing) for marketing their produce at fair, reasonable and profitable price.

Indicator 4.2.3: The TOF management endeavour to explore alternative markets for its produce and new markets for underutilized goods and services.

Indicator 4.2.4: The TOF management should explore opportunities to get benefit under schemes such as CDM, REDD+ and other existing and emerging Carbon markets.

Criterion 4.3: Harvesting operations for tree resources in the LMU to be sustainable and periodically monitored.

Indicator 4.3.1: TOF management undertakes a periodic survey and inventory of available tree resources in the LMU to estimate the growing stock/standing volume.

Indicator 4.3.2: TOF management has determined the total quantum of wood that can be sustainably harvested from the LMU.

Indicator 4.3.3: TOF management demonstrates the information of periodic survey, inventory and harvest.

Criterion 4.4: Management plan ensures that the tending, harvesting and transport operations cause no or minimal adverse impact on environment and property of others.

Indicator 4.4.1: The LMU has ensured that tending and harvesting operations minimize wastage and damage to the TOF resource and property of others.

Indicator 4.4.2: Transportation and stacking of logs are designed to have minimum adverse environmental impacts.

Indicator 4.4.3: The TOF management demonstrates usage of the harvest residue in manner that it has no negative environmental impact.

Note: *Burning of residues on the LMU is discouraged.*

THEME E: SOCIO-ECONOMIC RESPONSIBILITY

The theme deals with matters pertaining to welfare of workers, staff, local people etc. It includes provisions for a safe working environment, policies and guidelines in context to the national, state and local laws and regulations; health and safety of workplace, workshops, trainings, accessibility to good management practices and knowledge sharing activities. Other issues addressed by the theme includes no discrimination among workers based on caste, religion, sex, age, bar on employment of children below 14 years of age etc. whether permanent, temporary or contract workers.

Note: *Under this theme Criteria 5.2, 5.3, 5.4 are applicable to Scattered Tree Model.*

Criterion 5.1: Agroforestry management focuses on multiple functions of tree, crop and animal mixtures useful to society, whereas Urban forestry shall focus on recreation and amenity role. Both should consider opportunities for employment, wherever possible.

Indicator 5.1.1: Establishment of mixture of tree species, crops and animals that are beneficial to local people is encouraged.

Indicator 5.1.2: In Urban Forestry mixture of tree species providing multiple environmental and social benefits is encouraged.

Note: Benefits like carbon sequestration, air quality improvement, noise reduction, aesthetic value, climate regulation, fruits and shade, collection of twigs, branches, leaves, cultural beliefs, shelter to poor, habitat for biodiversity etc.

Indicator 5.1.3: Public access to urban forests is provided, subject to ownership and use rights and sensitivity to ecology of the LMU.

Indicator 5.1.4: Preference should be given to local people in employment in operations such as management, planting, harvesting, processing, value addition, protection, etc.

Criterion 5.2: TOF management to ensure payment of wages to workers* in accordance with all relevant labour legislations and rules. There is no discrimination among workers based on caste, religion, race, gender, region, etc.

Indicator 5.2.1: All workers shall be paid the legal minimum wage, whichever is higher, from one of the following wage schedules

- a) Minimum wages as designated by the Minimum Wages Act, 1948
- b) State Specific Wage Rates
- c) MGNREGA Wage Rates
- d) Any other 'legal' wage agreements with workers

Indicator 5.2.2: There shall be no discrimination among workers based on caste, religion, gender, region, race etc.

Indicator 5.2.3: Equal wage for equal work.

Indicator 5.2.4: Hiring or contracting children below 14 years of age shall not be permitted.

Indicator 5.2.5: Forced labour is prohibited in TOF management operations.

Indicator 5.2.6: The workers shall be communicated working hours, wage rates, salaries and other benefits.

Criterion 5.3: TOF management ensures safe working environment operations having no adverse effects on the health and well-being of workers.

Indicator 5.3.1: A safe working environment shall be fostered by:

- a) Complying with all relevant workplace health and safety laws
- b) Adopting working conditions that do not endanger health or safety
- c) Workers are made aware of health and safety aspects

Indicator 5.3.2: Records for accident, workplace injury, etc. along with remedial measures are maintained.

Indicator 5.3.3: Workers are made aware about the risks involved and the possible preventive measures.

Criterion 5.4: Access to information on good management practices through knowledge sharing activities.

Indicator 5.4.1: Farmers are encouraged to attend trainings, workshops and capacity building programs organized by various organisations.

Indicator 5.4.2: Appropriate mechanism for effective communication and consultation with stakeholders for knowledge sharing is encouraged.

THEME F: CONSERVATION AND ENVIRONMENTAL SAFEGUARDS

The theme deals on protection and conservation of sites having historical, cultural, spiritual and ecological values. The theme also looks at maintenance and conservation of soil and water resources within the LMU, discourages use of invasive species and prohibits use of Genetically Modified Plant species.

Note: *Under this theme all Criteria (6.1, 6.2, 6.3, 6.4) are applicable to Scattered Tree Model.*

Criterion 6.1: Sites with recognised historical, cultural, spiritual and ecological significance are protected and conserved.

Indicator 6.1.1: Following areas/sites are identified:

- a) historical, cultural and spiritual sites like monuments, sacred groves, places of worship, etc.
- b) ecologically important areas like protected, rare or sensitive ecosystems including riparian habitats and wetlands.

Indicator 6.1.2: Measures are taken to protect the sites identified in 6.1.1 and species found therein. Sites are conserved and not negatively affected by the operations.

Indicator 6.1.3: Rare, threatened and endangered plant species existing on such sites should be conserved.

Indicator 6.1.4: Management systems, including traditional systems, that support conservation of the above identified, are followed.

Indicator 6.1.5: Development and management operations should be such, that it complements and not competes with the surrounding or existing ecosystems

Criterion 6.2: Operations and practices in the LMU are to avoid soil degradation and maintenance of water quality.

Indicator 6.2.1: Techniques such as deep soil tillage and use of unsuitable machinery which may lead to soil erosion and run-off into water courses should be avoided.

Indicator 6.2.2: Use of chemicals and other substances should be of permissible nature and as per SOP or Indicator 3.4.4.

Indicator 6.2.3: Construction of roads, bridges, drainage facilities and other infrastructure is carried out in a manner that minimizes soil exposure, avoids the run-off into water courses.

Criterion 6.3: Plantation and use of invasive species is discouraged in the LMU.

Indicator 6.3.1: Invasive species harmful to the crops are not planted.

Indicator 6.3.2: Plantation of species including exotic species having history of being invasive in an area/region should be avoided.

Criterion 6.4: Use of Genetically Modified Plant species is prohibited in the LMU.

Note: This restriction has been adopted based on the Precautionary Principle since there is insufficient scientific data on genetically modified trees /plants and their impacts on human, animal health and environment are equivalent to, or more positive than, those presented by trees genetically improved by traditional methods, no genetically-modified trees will be used.

Indicator 6.4.1: The use (defined as commercial use as well as for research purposes) of genetically modified organisms/plants within the LMU shall not be permitted under any circumstances.

Indicator 6.4.2: The use of biological control agents shall be always use of biological control agents complies with recognized standards and protocols along with precautionary approach.

Annex: Terms and Definitions

The Annex was adopted by the Governing Body of the NCCF on2018. It defines the basic and fundamental terms relating to trees outside forest (TOF) certification and in particular to NCCF TOF certification standard.

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Glossary

Adaptive Management

A systematic process for continually improving management plan and practices by learning from the outcomes of previously implemented plans and practices. (Source: *Millennium Ecosystem Assessment*)

Biological Diversity (Biodiversity)

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems. There are three interrelated hierarchical levels of biodiversity: (a) Genetic diversity (b) Species diversity and (c) Ecosystem or Community diversity (Source: *Convention on Biological Diversity*)

Biological Control Agents

Living organisms used to eliminate or regulate the population of pests such as insects, mites, weeds and plant diseases using other living organisms. (Source: *IUCN*)

Biodiversity Conservation

The act of protection, preservation, maintenance, sustainable use (conservation), recovery and enhancement of the components of biological diversity, where:

- a) *Conservation* is the sustainable use of resources and encompasses protection as well as exploitation and;
- b) *Preservation* is an aspect of conservation meaning to keep something without altering or changing it.

Biofertiliser

Fertilisers containing living cells or latent cells of efficient strains of microorganisms that help crop plants' uptake of nutrients by their interactions in the rhizosphere when applied through seed or soil. They accelerate certain microbial processes in the soil which augment the extent of availability of nutrients in a form easily assimilated by plants.

(Source: *Tamil Nadu Agricultural University Agritech Portal, Organic Farming: Organic Inputs and Techniques: http://agritech.tnau.ac.in/org_farm/orgfarm_biofertilizertechnology.html*)

Capacity Building

A process of developing and strengthening, human resource, scientific & technological capabilities, organizational & institutional capabilities.

(Source: http://www.who.int/tobacco/control/capacity_building/background/en/)

Carbon Sequestration

The uptake and storage of carbon in plants, terrestrial or marine reservoirs as well as geological formations.
(Source: IPCC, 2014: Annex II: Glossary)

Carbon Sinks

It is a natural or artificial physical unit or reservoir that stores carbon for an indefinite period.

Carbon Stock

The quantity of carbon contained in a pool of any ecosystem at a given time.

Certificate

A document issued under the rules of a certification system, providing confidence that a duly identified product, process, or service, is in conformity with a specified standard or other normative document.
(Source: ISO Guide 2, PEFC terms and definitions)

Chain of Custody

All the changes of custodianship of forest based products, and products thereof, during the harvesting, transportation, processing and distribution chain from the forest to the end- use.

(Source: Annex 1, Normative Document PEFC Terms and Definitions; 27 October 2006)

Climate Change

A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (Source: Article 1, Framework Convention on Climate Change (UNFCCC))

Continual Improvement

A process of enhancing the management system and performance to achieve improvements in economic, environmental and social aspects of forest management. (Source: Annex 1, Normative Document PEFC Terms and Definitions; 27 October 2006)

Conservation

The protection, preservation, management, or restoration of natural environments and ecological communities that inhabit them. Conservation is generally held to include the management of human use of natural resources for current public benefit and sustainable social and economic utilization.

Controlled Burning

A fire set intentionally for meeting management objectives and requires limited or no suppression action.
(Source: FAO Global Forest Resources Assessment 2010, Terms and Definitions)

Criteria

A category of conditions or process through which sustainable forest management can be assessed. A criterion is characterized by a set of related indicators, which are monitored periodically to assess change (Source: *Montreal Process, 1995; Bhopal India Process glossary of technical terms*)

Culturally Important Site

Locations where pieces of political, military, cultural, or social history have been preserved due to their cultural heritage value. Historic sites are usually protected by law, and many have been recognized with the official national historic site status. A historic site may be any building, landscape, site or structure that is of local, regional, or national significance.

Degradation

A reduction in the capacity of a forest to produce ecosystem services such as carbon storage and wood products as a result of anthropogenic and environmental changes. Though there is no reduction in forest area but it impacts the quality of forest, there is decrease in number of species, reduction in tree cover, or the alteration of the forest structure. (Source: *Thompson, I. D., M. R. et al, 2013. An operational framework for defining and monitoring forest degradation. Ecology and Society 18(2): 20.*)

Exotic Species

Species occurring in an area outside of its historically known natural range as a result of intentional or accidental dispersal by human activities.

Also known as alien or introduced species, exotic species (Source: *Convention on Biological Diversity glossary*)

Farm Forestry

The practice of cultivating and managing trees in compact block or agricultural lands (Source: *ISFR 2015*)

Forest

a) Ecological definition

Complex ecological system in which trees are the dominant life form.

b) Supreme Court of India

“The word, forest” must be understood according to its dictionary meaning. This description covers all statutorily recognised forests, whether designated as reserved, protected or otherwise for the purpose of Section 2(i) of the Forest Conservation Act, 1980. The term "forest land", occurring in Section 2, will not only include "forest" as understood in the dictionary sense, but also any area recorded as forest in the Government record irrespective of the ownership.”

c) Deemed Forest

- area notified under Indian Forest Act 1927
- plantation
- area contained in a working plan
- area entered as van/vani/ jungle in revenue records,
- area mentioned in government records as forest other than the above mentioned categories

d) Forest Area

Forest area means, the area recorded as “Forest” in government records and includes reserved, protected and unclassed forests.

e) Forest Cover

The term “Forest Cover” includes “all lands with more than 1 ha area with tree canopy density of more than 10 % irrespective of ownership and legal status”. (Source: ISFR, 2013)

f) Reserved Forests

An area notified under the provisions of Indian Forest Act, 1927 or other State Forest Acts, having full degree of protection. In reserved forests all activities are prohibited unless permitted.

g) Protected Forests

An area notified under the provisions of the Indian Forest Act, 1927 or other State Forest Acts, having limited degree of protection. In Protected Forests all activities are permitted unless prohibited.

h) Social Forestry

Management and protection of forests outside the conventional forest areas primarily aiming at providing continuous flow of goods and services for meeting the needs of the local population, contributing in environmental social, and rural development. The goods produced from such forests include wood, fuel, fodder etc. (Source: http://agritech.tnau.ac.in/forestry/agroforestry_index.html)

i) Unclassed Forests

An area recorded as forest but not included in reserved or protected forest category. Ownership status of such forests varies from state to state. (Source: ISFR 2009)

Genetically Modified Organisms

An organism in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination. (Source: Based on FSC-POL-30-602 FSC Interpretation on GMO (Genetically Modified Organisms)).

Growing Stock

Volume of wood of a forest stand in a given area of forest or wooded land that have more than a certain diameter at breast height (dbh). It includes the stem from ground level or stump height up to a given top diameter, and may also include bark as well as branches above a certain diameter.

Habitat

A place where an organism lives and/or the conditions of that environment including the soil, vegetation, water, and food.

Illegal Land Use

When a piece of land is used by an owner/lessee for a different purpose than specified or mentioned in the land use scheme, registration document/ agreement, etc. it is called illegal land use.

Indicator

A quantitative or qualitative parameter which can be assessed in relation to a criterion. It describes objectively and unambiguously a relevant element of a criterion. (Source: *PEFC terms and definitions*)

Indigenous Species (also called native species, or autochthonous species)

A species that has been observed in the form of a naturally occurring and self-sustaining population in historical times. (Source: *Bern Convention 1979*)

Species or genotypes which have evolved in the same area, region or biotope and are adapted to the specific predominant ecological conditions at the time of establishment. (Source: *Compilation of Forestry Terms and Definitions, Internal Report no. 6, 2002, European Forestry Institute*)

Integrated Pest Management

Integrated Pest Management (IPM) is an eco-friendly approach which aims at keeping pest population at below economic threshold levels by employing all available alternate pest control methods and techniques such as cultural, mechanical and biological with emphasis on use of bio-pesticides and pesticides of plant-origin like Neem formulations. The use of chemical pesticides is advised as a measure of last resort when pest population in the crop crosses economic threshold levels (ETL). Suppression of pest population below economic threshold level through the adoption of feasible and affordable Good Agricultural Practices aiming least disturbance to the eco system and environment. (Source: *Press Information Bureau, Government of India, Ministry of Agriculture, Department of Agriculture and Cooperation, Integrated Pest Management, 08-October-2014*)

An ecosystem approach to crop production and protection that combines different management strategies and practices to grow healthy crops and minimize the use of pesticides. IPM is an approach-based method for analysis of the agro-ecosystem and the management of its different elements to control pest and keep

them at an acceptable level (action threshold) with respect to the economic, health and environmental requirements.

(Source: Food and Agricultural Organisation: <http://www.fao.org/agriculture/crops/thematic-sitemap/theme/spi/scpi-home/managing-ecosystems/integrated-pest-management/en/>)

Invasive Species

Species that are non-native to a particular ecosystem and whose introduction and spread cause, or are likely to cause, socio-cultural, economic or environmental harm or harm to human health. (Source: *FAO Global Forest Resources Assessment 2010, Terms and Definitions*)

Land Management Unit (LMU)

A clearly demarcated area of land where trees, agriculture, animals, pastures, etc. are practiced and managed according to a set objectives and land use. The entire area of the land management unit should be clearly demarcated on the ground and also on a map as far as possible.

Land Parcel

Land owned or meant to be owned by some owner(s); or an immovable property. Owner(s) of a lot can be one or more person(s) or another legal entity, such as a company/corporation, organization, government, or trust.

Landscape

A geographical mosaic composed of interacting ecosystems resulting from the influence of geological, topographical, soil, climatic, biotic and human interactions in a given area (Source: *International Union for Conservation of Nature Glossary of Definitions*)

“Landscape approaches” seek to provide tools and concepts for allocating and managing land to achieve social, economic, and environmental objectives in areas where agriculture, mining, and other productive land uses compete with environmental and biodiversity goals

Management Plan

A written document based on the data, reports, surveys, records and maps that describe, justify and regulate the activities to be carried out by any manager, staff or organization within or in relation to the LMU/FMU, including statements of objectives and policies. (Source: *FSC-STD-01-001 V5-2*, Source: *FSC glossary of terms*)

Monitoring and Evaluation

Monitoring can be defined as a continuing function that aims primarily to provide the management and main stakeholders of an ongoing intervention with early indications of progress, or lack thereof, in the achievement of results. An ongoing intervention might be a project, programme or other kind of support to

an outcome. (Source: *Handbook on Monitoring and Evaluating for Results, United Nations Development Program*)

Evaluation is a selective exercise that attempts to systematically and objectively assess progress towards and the achievement of an outcome. Evaluation is not a one-time event, but an exercise involving assessments of differing scope and depth carried out at several points in time in response to evolving needs for evaluative knowledge and learning during the effort to achieve an outcome. All evaluations—even project evaluations that assess relevance, performance and other criteria—need to be linked to outcomes as opposed to only implementation or immediate outputs. (Source: *Handbook on Monitoring and Evaluating for Results, United Nations Development Program*)

Net Carbon Uptake

The quantity of carbon absorbed or sequestered by the trees over a period of time.

Non-Conformity

Situation in which the audit evidences indicate that operations are not carried out in compliance with a certification criterion. (Source: *Annex 1, Normative Document PEFC Terms and Definitions; 27 October 2006*)

Plantation/Planted Forests

Forest stands established by planting or/and seeding in the process of afforestation or reforestation which are either of introduced species (all planted stands) or intensively managed stands of indigenous species, which meet all the following criteria: one or two species, even aged, regular spacing. (Source: *Bhopal India Process Glossary of Technical Terms*)

also

Forest or other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non-wood goods.

Note 1: Includes all stands of introduced species established for production of wood or non-wood goods.

Note 2: May include areas of native species characterised by few species, intensive land preparation (e.g. cultivation), straight tree lines and/or even-aged stands.

Note 3: Application of the definition requires consideration of national forestry terminology and legal requirements (Source: *Sustainable Forest Management – Requirements, PEFC ST 1003:2010*)

also

A forest area established by planting or sowing with using either alien or native species, often with one or few species, regular spacing and even ages, and which lacks most of the principal characteristics and key elements of natural forests. (Source: *FSC-STD-01-001 V5-2, FSC glossary of technical terms*)

Plantation Crops

Plantation crops defined under Plantation Labour Act (1956) – it applies to following plantations that is to say, any land used or intended to use for growing tea, coffee, rubber, cinchona or cardamom, minimum area 45 acre and 15 persons employed over 12 months period.

Precautionary Approach

A principle which states that lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental damage to habitats or species when there is a threat of serious or irreversible environmental degradation. (*Source: IUCN Glossary*)

Public Grant

Grant or fund provided by the central, state or local government, or international agency to implement trees and trees outside forests (TOF) related activities.

Public Land

The land held by central, state or local governments.

Rare Species

Species that are uncommon or scarce, but not classified as threatened. These species are located in geographically restricted areas or specific habitats, or are scantily scattered on a large scale. They are approximately equivalent to the International Union for Conservation of Nature (2001) category of Near Threatened (NT), including species that are close to qualifying for, or are likely to qualify for, a threatened category in the near future. They are also approximately equivalent to imperilled species (*Source: IUCN, (2001). IUCN Red List Categories and Criteria: Version 3.1.; FSC-STD-01-001 V5-2; FSC glossary of technical terms*)

Stakeholder

An individual, group of individuals or an organisation with a common interest, concerned with or affected by the operation of an organisation. (*Source: ISO 14004, PEFC terms and definitions*)

a) Affected stakeholder

An individual, group or an organization that has interest or concern or likely to be affected, directly or indirectly by the activities of a management unit. There are various examples of affected stakeholders, which include, but are not restricted to local neighbourhood, workers, group or persons associated with the management unit.

The following are examples of affected stakeholders may include -

Local communities, Forest dwellers and tribals, Workers, Forest dwellers, Neighbours, Downstream landowners, Local processors, Local businesses, Tenure and use rights holders, including landowners, Organizations authorized or known to act on behalf of affected stakeholders, for example social and environmental NGOs, labour unions. (Source: FSC-STD-01-001 V5-0).

b) Interested stakeholder

An individual, group of individuals or an organisation; that has shown an interest, or is known to have an interest, in the activities of the organisation. (Source: FSC-STD-01-001 V5-2, FSC glossary of technical terms)

Sustainable Use

Use of components of biological diversity in such manner and at rates that does not lead to the long term decline of the biological diversity thereby maintaining its potential to meet the needs and aspiration of present and future generations (Source: Biological Diversity Act 2002)

Threatened Species

An umbrella term for any species categorised as Critically Endangered, Endangered or Vulnerable by the IUCN Red List of Threatened Species. (Source: IUCN, 2012)

Any species that is likely to become extinct within the foreseeable future throughout all or part of its range and whose survival is unlikely if the factors causing numerical decline or habitat degradation continue to operate. (Source: Specially Protected Areas Protocol, 1997)

Tree

A large woody perennial plant having a single well defined stem (bole or trunk) and a more or less definite crown. (Source: ISFR 2009)

Tree Cover

Tree patches outside the recorded forest areas exclusive of forest cover and less than the minimum mappable area (1 ha.). Such small patches comprising of block, linear and scattered trees are not delineated as forest cover during interpretation of satellite data. The areas of scattered trees are computed by notional numbers. (Source: ISFR 2009)

Trees Outside Forests (TOF)

“All trees growing outside recorded forest areas” are defined as trees outside forests. The recorded forest area means “reserve”, “protected’ or ‘unclassified forest’. However trees grown under Social Forestry irrespective of “Recorded Forest” status will fall under TOF for implementation of NCCF Certification Scheme in the country. The trees growing in private lands in agroforestry, farm forestry, along the farm bunds and

homesteads, and in orchards and in common and government non-forest lands in parks and gardens, along roads, canals and railway line in rural or urban areas constitute TOF. Trees Outside Forests can have their occurrence in the form of block, linear and scattered stratum.

TOF Inventory

Systematic collection of data on different parameters of TOF resource for its assessment and analysis, including maps and boundaries which describes the location and nature of TOF (including tree size, age, volume and species) as well as a description of other values such as soils, vegetation, etc.

TOF Management

An individual or a group /organization responsible for the management, planning and supervision of operations including administrative and technical aspects of the TOF resource.

TOF Resource

The tree resource supported by a land management unit outside the recorded forest area.

Water Courses

The natural or artificial channels through which water flows is called water courses. These may include estuaries, rivers, streams, canals, waterway, etc.