NETWORK FOR CERTIFICATION AND CONSERVATION OF FORESTS (NCCF)

Trees Outside Forest (TOF) Certification Standard

NCCF-STD-TOF-01/2019

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Network for Certification and Conservation of Forests (NCCF)

Registered Office: EPCH House, Pocket 6&7, Sector C, LSC,
Vasant Kunj, New Delhi 110070, India | Fax: +91-11-26135518 & 19
Administrative Office: 505, 5th Floor, Matrix Tower, B 4, Sector 132,
Noida 201304, India | Tel: 0120- 6758614/6758611
E-mail : info@nccf.in | Website : www.nccf.in

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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. NCCF aims to develop globally aligned certification schemes for Forest, Trees Outside Forests (TOF), Non-Wood Forest Products, Protected Areas and Wetland etc. within India. NCCF is to address the concerns for sustainable management of forests, biodiversity, plantations, agroforestry and urban trees and forests while developing standard for forests and TOF and also make the Indian wood and fibre based industry globally competitive ensuring raw material sustainability. NCCF is the national member from India, of the Geneva based global alliance of national forest certification systems called Programme for Endorsement of Forest Certification (PEFC) which endorses national forest and trees outside forests (ToF) certification systems.

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 is estimated to meet more than 85% of the industrial wood requirements.

The NCCF has developed the 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 have been online consultations, workshops, field visits, public consultations and finally pilot testing of the standard in the field.

The NCCF -TOF Certification Standard laid out in this document is broad based and globally aligned taking into account the Indian context of agroforestry, urban trees and forests (UTF) and scattered trees in farmland and homesteads, trees along roads, canals, railway lines and in orchards and gardens. These trees are mostly private owned, even by small and marginal farmers. The standard is purely voluntary and not legal. It is for the benefit of tree owners interested in value addition through certification. NCCF being the standard setting body is the owner of the TOF Certification Standard and certification system.

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 has the liberty to review and revise the standard in whole or in parts based on changing future requirements. These changes shall be undertaken as and when warranted but at least once during five years period.

Contents

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 MGNREGA 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 estimated by Forest Survey of India (FSI) based on country wide field inventory over period of 6 years 2002-08, FSI (2011) **first time estimated** the annual production of timber from industrially important tree species using broad rotation periods of species as 42.8 million cubic meter. Using the same FSI's growing stock ICFRE (2012) estimated annual production as 44.3 million cubic meter. FSI has again estimated the annual production of timber from TOF to be 74.5 million cubic meter using updated field inventory data (2010-2016) and more specific rotation periods of the tree species (FSI 2017). 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 government forests and imported wood together made 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 meters came from TOF in 2010. The recent estimate of FSI (2017) is however much higher with annual production of 74.5 million cubic meters.

Despite such a huge production from TOF resource, there is no sustainability system or 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 of this resource and are already on the margin of the economy, get adversely affected.

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.

With increasing consumer awareness, even the domestic buyers will be interested to purchase certified wood products. For example, today aware buyers give preference to buy branded stuff, FSSAI products, Hallmarked jewellery, BEE/Star rated electrical appliances, etc.

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 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 purely voluntary and not legal. It is for the benefit of tree growers interested in value addition through certification.

Based on management objectives and operations three broad situations exist in TOF namely the urban trees and forests (UTF), the agroforests in blocks, and the non-block agroforests comprising of linear plantations and/or scattered trees. Urban trees and forests (UTF) and linear plantations along highways /avenues as well as in parks and scattered trees gardens in urban areas have environmental and aesthetic purpose for abetting pollution, recreation, amenities and as green lungs and where mainly dead, dying and damaged trees are replaced. In case of block and compact agroforests, the 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 occur in homesteads 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 shade trees.

Since TOF Certification Standard will be acceptable in global markets, the essential global conditions of social, environmental and economic benchmarks have to be adhered to. Compared to existing forest standards in India, the TOF standard is made simple keeping limitations of small and marginal farmers and therefore doable.

There are 59 Criteria and 239 indicators for NCCF-PEFC Forest Management Certification Standard whereas in TOF Certification Standard only 28 Criteria and 98 indicators for block plantations and urban trees and forests (UTF) and 16 Criteria and 48 indicators for isolated/linear/scattered trees.

Scope

The standard is applicable for the certification of ToF - the trees growing in rural and urban landscapes in India. The definition and form of TOF in India is as follows:

- "All trees growing outside recorded forest areas" are defined as trees outside forests.
- Recorded forest area means "reserve", "protected' or 'unclassified forest' as per the Indian Forest Act 1927 or under State Forest Acts
- Occurrence can be in the form of block, linear and isolated/scattered trees

The ownership of TOF resources is either private or community or government or with leased land status.

The standard is also applicable to trees growing on community managed lands in the North eastern states and elsewhere of the country.

In addition, the standard is applicable to trees grown under Social Forestry, linear plantations along road, railway lines or canals irrespective of "Recorded Forest" status.

The management of the TOF may be in the hands of marginal, small, medium and large farmers, individuals, communities, industries, tree growing associations, federations or cooperatives and the Government authorities.

For the applicability, this standard has considered three broad categories of TOF formations,

a. agroforests in block
b. agroforests in non-block like linear, isolated, scattered and bund trees
c. urban trees and forests (UTF) including trees in parks, in avenues etc.

For the purpose of this standard the formation and occurrence of TOF resource is defined in the following table. The minimum area of TOF to fall in the category of block is 0.1 ha. Farmers with area smaller than 0.1 ha are exempted from many requirements including preparation of management plan. For trees and forests of urban areas no classification is done as all the requirements of TOF standard have to be met.

Length of one edge as 10 m has been kept mainly to cover roadside plantations where preparation of management plan is considered essential. Generally roadside plantations are more than 10 m wide.

TOF formations and their thresholds:

S. No.	Formation	Threshold
A. Block Agroforest		
1	Block	Area = 0.1 ha * one edge longer than 10 m * limiting factor is area
B. Non-Block Agroforest		
2	Linear	Single/Multiple row; Maximum width = 10 m * limiting factor is edge length
3	Isolated and Scattered	1 tree

4	Bund	Trees around a farm boundary, tank bund, etc.
C. Urban Trees and Forests		
5	Urban trees and forests	No threshold is required since management plan is needed for all kind of formations in urban areas.

Implementation of NCCF-TOF Certification

The TOF certification process will be carried out by an "eligible/qualified third party" which will charge a fee for the time spent on verifying the required documents and assessing the conditions in the field. To eliminate or reduce the cost of certification specially for small and marginal farmers some strategy has been suggested in the following paragraphs.

Possible strategies to implement NCCF-TOF Standard

a. Industry / Supplier Driven

Certification being a market driven process, the responsibility for its implementation will be driven by the demand from the market for sustainably sourced products, which will make manufacturing industries to ensure certification for entire value chain. Wood-based industries and big suppliers who are currently purchasing wood from farmers in bulk and supplying to industries will initiate management and certification process for a farmer group and would also bear the cost of certification.

b. Cooperative/federation/NGO Driven

In this model, a number of farmers themselves may constitute a cooperative and can undertake management and certification process of their trees. This will reduce the individual cost of certification and will ensure better negotiating power for farmers to sell their wood to industries. NGOs working for farmer welfare can take a lead in organizing and supporting TOF certification.

c. Owners managing Urban trees and forests/roadside plantations

In this case, the responsibility for management and initiation of certification process lies with the concerned organizations like city/town administration, RWAs, Municipal Corporations, Forest Departments, Private, Societies, etc. The intent is to drive the programme by creating larger public awareness under which public will value sustainable establishment and management of these trees/plantations/forests. These organisations will be responsible for preparing management plan for managing urban forests/trees sustainably and also meet cost of certification. Urban trees and forests focus on recreation, aesthetic and amenity and pollution control roles and not meant for timber production.

List of Abbreviations

CDM	Clean Development Mechanism
GAP	Good Agriculture Practices
GHG	Greenhouse Gases
LMU	Land Management Unit
MP	Management Plan
NCCF	Network for Certification of Conservation of Forests
REDD+	Reducing Emissions from Deforestation and Forest Degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
SDG	Standard Development Group
SOP	Standard Operating Procedures
STD	Standard
TOF	Trees outside Forests
TWG	Technical Working Group
TOFM	Trees outside Forests Management
UTF	Urban Trees and Forests

Normative References

- NCCF Requirements for Standard Setting Process (NCCF-STD-SSP-01/2015)
- PEFC Sustainable Forest Management – Requirements PEFC – ST 1003:2018 (Appendix 2)
- PEFC ST 2002, Chain of Custody of Forest Based Products – Requirements
- NCCF Group Management Certification Requirements (NCCF – STD- GM- 01/2017)

Other documents referred:

- List of applicable national and state laws
- List of ILO conventions
- National Agroforestry Policy 2014
- National Agricultural Policy 2000
- Guidelines in State-wise Minimum Wages for agricultural activities (skilled and unskilled)
- National Policy on Safety, Health and Environment at Workplace 2009
- Guidelines issued by Ministry of Labour and Employment on work health and safety
- Guidelines issued by Ministry of Agriculture and Farmer Welfare on using chemical and pesticides
- Operational Guidelines: National Mission for Sustainable Agriculture 2014 (NMSA)
- Operational Guidelines: Sub-Mission on Agroforestry (SMAF) under National Mission for Sustainable Agriculture 2016 (NMSA)
- Good Agricultural Practices

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 Trees Outside Forests Management (TOFM) 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: *Theme A* is applicable to all the *TOF Formations.*

Criterion 1.1: Trees outside Forests Management (TOFM) complies with all applicable legislations and rules pertaining to forest and revenue lands; and the payment of applicable royalties and taxes.

Indicator 1.1.1: Compliance with all applicable central, state and local laws, rules 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 shall be made available.

Criterion 1.2: TOFM shall have adequate provisions for protection from illegal activities such as illegal logging, illegal land use including encroachments, illegal/malicious fires, other illegal activities.

Indicator 1.2.1: Sufficient resources and measures (infrastructure, financial and human) are available and in place, 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 TOFM demonstrates clear and secure ownership, tenure, land leasing or use rights of the LMU.

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

Indicator 1.3.2: Disputes over land, tenure and use rights are 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: LMU boundaries are clearly demarcated and visible on the field.

Indicator 1.3.5: TOFM has sufficient evidence(s) for required clearance from the appropriate authority in respect of plantations established in areas converted from natural forests, if any, prior to 1994.

Note: Without stipulated clearance from the appropriate authority such areas cannot be certified.

THEME B: MANAGEMENT PLAN AND PRACTICES

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

Management plan can be prepared by the TOF management which could be: an individual in case of big farmers, by industry if industry is owning the responsibility or by taking help from cooperatives/NGOs/ government authority. In case UTF /social forests/ roadside/canal side plantations LMU may take help from professionals. The management plan is not required for non-block formations covering isolated & scattered and bund formations. The template of the management plan is available in the guidance document.

Note: *Theme B* is not applicable to *Non-block TOF Formations.*

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

Similarly, Management Plans for UTF should cover ownership & tree species details, monitoring mechanism of the tree health and removal of unhealthy/dying/dangerous plants and their replacement and operations for environmental protection and recreation.

Indicator 2.1.1: There is a written management plan for the LMU, with management objectives, Good Agricultural Practises (GAP) and Standard Operating Procedures (SOPs), actions and measures.

Indicator 2.1.2: The management plan addresses the following elements:

a) objectives of the TOFM
b) description of the TOF resources (site and species)
c) maps of the operational area
d) silvicultural practises (clear cuts, selective cuts, thinning, replanting), harvesting cycle and methods.
e) plans for monitoring growth of trees
f) environmental and social impacts of the TOFM operations.
g) conservation of rare species and high conservation areas/ values
h) pest, disease and weed control plan
i) duration of the plan

Indicator 2.1.3: Adequate infrastructure, finances, human and other resources are available for proper implementation of the management plan.

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

Criterion 2.2: 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 owners.

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- production or agricultural activities are not negatively affected by TOFM activities.

Note: For verification National/State/local food-grain policies or orders to be referred.

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 map of TOF resources, boundary demarcation, nature and type of TOF, drainage and terrain conditions.

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

Indicator 2.3.2. TOFM maintains evidence of land ownership use rights and clear resource boundary,.

Indicator 2.3.3: The TOFM records all land related disputes and their mode of resolution and outcomes.

Criterion 2.4: Management plan, will be maintained and periodically updated based on monitoring results, local conditions, legislations, and professional advice(s), as and when required.

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

Indicator 2.4.2: Management plan is updated taking into consideration monitoring results, and professional advice(s) as and when required.

Indicator 2.4.3: Summary of management plan is publicly available, if it involves public grant/fund 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: Management plan clearly defines the role and responsibilities of the resource owners, manager, and workers.

Indicator 2.5.2: Mechanism to communicate the management plan and its elements to the LMU owners and workers is in place.

Indicator 2.5.3: Managers and workers are duly trained for their role in implementing the management plan. The records of trainings 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 TOFM maintains records of planting, periodic inventory of the LMU.

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

Indicator 2.6.3: The TOFM should have a quantitative estimate of the current and future carbon sequestration on the LMU.

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

a) Carbon sequestered in terms of increase in the growing stock
b) Quantification of net emission reductions at LMU level

Note: Indicators 2.6.3 & 2.6.4 are mandatory when TOF resource is a part of GHG project. In all other cases it is not applicable.

Criterion 2.7: Management plan contains procedures to monitor and assess the status of TOF resource and its periodicity, yield prediction, tracking and tracing system of the wood from LMU and management activities and their social and environmental impacts. Monitoring is conducted according to the provisions in the management plan.

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. Environmental and social impacts of the management operations
e. Structural/Composition changes in the flora and fauna, if any

Note: Indicator 2.7.1 (e) is applicable only on UTF

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, including invoice, sale-purchase documents.

Indicator 2.7.3: Monitoring takes place as per the provisions 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 the findings are 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: Monitoring results are shared with staff, farmers and stakeholders.

Indicator 2.8.4: TOFM provides training to farmers and workers for the implementation of the new procedures developed based on the monitoring results. The trainings are in consonance with the requirements in Indicator 2.5.3.

Note: Training will be demonstrative in nature, in local language.

THEME C: MAINTENANCE OF HEALTH OF TOF RESOURCES

The theme deals with the maintenance of health of 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 Theme C Indicators 3.1.3 and 3.1.4* under *Criterion 3.1;* and *all indicators of Criterion 3.2, 3.4* are not applicable to *Non-block Formations.*

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

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

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

Indicator 3.1.3: The rehabilitation of degraded lands is encouraged through measures such as soil and water conservation, control of grazing and fire, appropriate agri-silvicultural practices.

Indicator 3.1.4: To the extent possible, biodiversity is maintained.

Criterion 3.2: In agroforests, apart from economic and environmental consideration, tree species suitable to the site are planted.

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

Indicator 3.2.1: In agroforests tree species planted are suitable to site conditions including edaphic conditions, water conservation, and the adjoining crops, as far as possible.

Indicator 3.2.2: The invasive and disease carrying/prone tree species, harmful to the agricultural crop shall not be selected.

Indicator 3.2.3: In UTF, tree species selection is based on the recreational, amenity, aesthetic and pollution control role and values of trees.

Criterion 3.3: The use of pesticides and herbicide is minimised, and WHO Guidelines and Stockholm Convention on Persistent Organic Pollutants are followed.

Indicator 3.3.1: Use of WHO Type 1A and 1B pesticides is prohibited.

Indicator 3.3.2: Use of pesticides and herbicides restricted or banned by the government at the national/state/local level is prohibited.

Indicator 3.3.3: Permissible limits are adhered to while using pesticides and herbicides.

Indicator 3.3.4 Manufacturer's instructions are followed during application of pesticides and herbicides with proper equipment and training.

Indicator 3.3.5: Records are maintained for using hazardous substance and materials along with information on usage and disposal of containers.

Indicator 3.3.6: Integrated Pest Management (IPM) practices are encouraged.

Criterion 3.4: Where fertilizers are used, TOFM ensures adoption of SOPs developed at national/regional level.

Indicator 3.4.1: Soil testing and site-specific nutrient management practices including rotational cropping is encouraged.

Indicator 3.4.2: The use of chemical fertilizers is minimized and organic and bio-fertilisers are preferred to enhance soil fertility.

Indicator 3.4.3: Fertilizer wherever applied, should follow the SOPs as prescribed by national or regional agricultural extensions services, including GAP and national environmental protection legislation, if any.

Indicator 3.4.4: The frequency and type of fertilizer used are documented as far as possible.

Criterion 3.5: Health of TOF resource in LMU should be monitored.

Indicator 3.5.1: The parameters to monitor and maintain health of TOF resource are identified based on the local conditions, including pests, diseases, land degradation, overgrazing, overstocking, risks of fire.

Indicator 3.5.2: Parameters identified in indicator 3.5.1 are monitored periodically, and related documents are maintained.

Indicator 3.5.3: Based on the monitoring results, measures are taken to restore/maintain/improve the TOF resources.

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+, emerging and new carbon markets.

Note: Under *Theme D* *Indicators 4.2.1 and 4.2.4* under *Criterion 4.2* and *all indicators of Criterion 4.3* are not applicable to *Non-block Formations*.

Criterion 4.1: TOFM 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 TOFM should be on production of agricultural crops, wood and non-wood products in agroforestry whereas in case of UTF, emphasis is given on aesthetics, recreation, shade, pollution control and other environmental services.

Indicator 4.1.2: Best management practices incorporate traditional knowledge to ensure sustainability of goods and services.

Indicator 4.1.3: TOFM undertakes periodic review of its operations to ensure sustainability of goods and services from the LMU and relevant information are maintained.

Criterion 4.2: TOFM aims to achieve sound economic performance, considering available market information and possible new economic activities in connection with all relevant goods and services from the LMU.

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

Indicator 4.2.2: TOFM 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: TOFM endeavour to explore alternative markets for its produce and new markets for underutilized goods and services.

Indicator 4.2.4: TOFM 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 monitored as per provisions of Management Plan.

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

Indicator 4.3.2: TOFM determines the total quantum of wood that can be harvested from the LMU as per provisions of the Management Plan.

Indicator 4.3.3: TOFM documents the information of periodic survey, inventory and harvest.

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

Indicator 4.4.1: TOFM ensures that tending and harvesting operations minimize wastage and damage to the LMU TOF resource, and also adjoining properties.

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

Indicator 4.4.3: The TOFM demonstrates usage of harvest residue in a manner having 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 *Theme E, all indicators under Criteria 5.1* is not applicable to *Non-block Formations*.

Criterion 5.1: Agroforestry focuses on multiple functions of trees, agricultural crops and animal mixtures useful to society, whereas UTF focuses on recreation, aesthetic and amenity and pollution control roles. Both should consider opportunities for employment, wherever possible.

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

Indicator 5.1.2: In UTF 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 UTF is provided, subject to ownership and use rights and ecological sensitivity of the LMU.

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

Criterion 5.2: TOFM ensures payment of wages to workers in accordance with all relevant labour laws, rules and regulations. There is no discrimination among workers based on religion, sex, caste, race, gender, region.

Indicator 5.2.1: All workers shall be paid as per applicable legal wage schedules,that may be any one of the following: :

a) Minimum wages prescribed under the Minimum Wages Act, 1948
b) State Specific Wage Rates
c) Piece Wage Rates/Volume based rates as per State notifications
d) MGNREGA Wage Rates
e) Wage agreements with workers (formal, informal, verbal, etc. all such agreements are recorded)

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

Indicator 5.2.3: Equal wages are paid for equal works.

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

Indicator 5.2.5: The workers are communicated working hours, wage rates, salaries and other benefits.

Criterion 5.3: TOFM ensures safe working environment commensurate to the operational requirements, having no adverse effects on the health and well-being of workers. International Labour Organization (ILO) Conventions are respected and implemented as applicable.

Indicator 5.3.1: A safe working environment shall be fostered/maintained commensurate to the operational requirements:

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.

Indicator 5.3.4: TOFM shall respect and implement all applicable ILO Conventions.

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

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

Indicator 5.4.2: Appropriate mechanism to encourage effective communication and consultation with stakeholders for knowledge sharing exists.

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 *Theme F Indicators 6.1.1, 6.1.2 and 6.1.4 under criteria 6.1 are* not applicable to *Non-block Formations*.

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

Indicator 6.1.1: Sites of historical, cultural and spiritual importance (like monuments, sacred groves, places of worship) and ecological importance (like protected, rare or sensitive ecosystems including riparian habitats and wetlands) are identified.

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 various operations.

Indicator 6.1.3: Rare, threatened and endangered plant species as well as those with historical, cultural and spiritual significance shall be conserved.

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

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 shall be of permissible nature and as per SOP or Indicator 3.3.4.

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

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

Indicator 6.3.1: Plantation and use of invasive species is discouraged in the LMU.

Indicator 6.3.2: Invasive species, if planted, these should be monitored intensively to avoid any adverse impact.

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

Note: Presently 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 (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 always comply with recognized standards and protocols along with precautionary approach.

Annex: Terms and Definitions

The Annex was adopted by the Governing Body of the NCCF on 10th August 2019. It defines the basic and fundamental terms relating to trees outside forest (TOF) certification and in particular to NCCF TOF certification standard.

Document Code: NCCF-STD-TOF-01/2019

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Glossary

Agroforestry
Agroforestry is defined as a land use system which integrates trees, crops and shrubs on farmlands and rural landscapes to enhance productivity, profitability, diversity and ecosystem sustainability. It is a dynamic, ecologically based, natural resource management system that, through integration of woody perennials on farms and in the agricultural landscape, diversifies and sustains production and builds social institutions. (*Source: ICRAF*)

a) Agrisilviculture
Agri-silviculture is a production technique which combines the growing of agricultural crops with simultaneously raised and protected forest crops.

b) Silvipasture
Silvipasture is an agroforestry practice that integrates livestock, forage production, and forestry on the same land management unit.

c) Agrosylvipasture
Agrosylvipasture (ASPS) is a collective name for land-use systems, implying the combination or deliberate association of a woody component (trees or shrubs) with cattle in the same site.

d) Block Agroforest (Block Formations)
Agroforests or agroforest formations with minimum area of 0.1 ha having one edge longer than 10 m.

e) Non-Block Agroforest (Non-Block Formations)
Tree growing in linear, isolated & scatter, bund, tank bund, homesteads, etc. fall under the non-block agroforest category. The linear formations can be single or multiple row and with maximum width of 10 m.

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 (Biofertilizer)
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: TNAU*)

Bund Plantation)
Tree plantations along the boundary of water ponds and agricultural farms.

Capacity Building
A process of developing and strengthening, human resource, scientific & technological capabilities, organizational & institutional capabilities. (*Source: WHO*)

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
Climate change is defined as the shift in the average global temperature due to increase in Greenhouses Gases in atmosphere, consequences of which include, global warming, melting of ice-caps, rise in sea level, acidification of oceans etc.

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.

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 (Cultural Site)
In context of trees outside forests, these are sites which have social, historical and cultural significant and includes protected trees, trees which are worshiped and sacred groves.

Degradation of sites (Degraded Land)
A reduction in the capacity of a land/area 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 land/area but it impacts the quality of land/area, there is decrease in number of species, reduction or alteration in tree cover/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.*)

Deep Soil Tillage
Preparation of soil by mechanical agitation of various types, such as digging, stirring, and overturning is called as tillage. Tillage in the range of 20-30 cm is classified as deep soil tillage.

e-NAM
National Agriculture Market or eNAM is a is a pan-India electronic trading portal which networks the existing physical APMC mandis to create a unified national market for agricultural commodities which can be accessed online. It seeks to leverage the physical infrastructure of the mandis through an online trading portal, enabling buyers situated even outside the Mandi/ State (whether regulated or private) to participate in trading at the local level.

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: CBD glossary*)

Farm Forestry
The practice of cultivating and managing trees in compact blocks on agricultural lands/farms. (*Source: NCA, 1976*

Forest

a) Recorded Forests (Recorded Forests Area)
Recorded forest area means, the area recorded as "Forest" in government and/or legal records and includes reserved, protected and unclassed forests.

b) 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.

c) 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.

d) 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*)

e) Social Forestry

Growing, managing and protecting forests on barren/vacant common lands outside the forest areas for meeting needs of the local population, contributing to environmental amelioration as well as social, and rural development. The goods produced from such forests include wood, fuel, fodder, environmental services, etc. (*Source: TNAU*)

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)*).

Good Agriculture Practices

A collection of principles to apply for on-farm production and post-production processes, resulting in safe and healthy food and non-food agricultural products, taking into account economic, social and environmental sustainability. (*Source: FAO*)

Greenhouse Gas Project (GHG Project)

GHG project refers to activity(s) that alter the conditions identified in the baseline scenario which cause greenhouse gas emission reductions or greenhouse gas removal enhancements. (*Source: ISO 14064 Part 2*)

Growing Stock

Volume of wood of a tree stand in a given area 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*)

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. (*Source: Government of India, Ministry of Agriculture, Department of Agriculture and Cooperation, Integrated Pest Management, 08-October-2014*)

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 or a group of land parcels where trees, agriculture, animals, pastures, etc. are practiced and managed according to a set objectives and land use. (*Source: FAO*)

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.

Leased Land
A piece of land or land parcel granted against a contract for use or occupation for a specified time duration for a specified payment.

Management Plan
A written document based on the data, reports, surveys, management practices, 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 land supporting TOF resource.

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. (*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)
Trees, 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)

Legal Boundary
Boundary of a Land Management Unit (LMU) as defined in the land revenue records of the government.

Linear Plantation
Trees planted along roadside, canal-side, rail-side etc. in a linear strip, laid out with a minimum width of 10 m and irrespective of the canopy of the strip of trees.

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*)

Rotational Cropping (Crop Rotation)
Crop rotation, is the successive cultivation of different crops in a specified order on the same fields. In terms of the TOF Certification it implies rotation of only the crop component and not necessarily the tree/woody component.

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*)

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*)

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, linear plantations including plantations on sides of road, railway or canal irrespective of "Recorded Forest" status will fall under TOF for implementation of NCCF Certification Scheme in India. 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.

Urban Trees and Forests (UTF)
Networks or systems comprising all woodlands, groups of trees and individual trees located in urban and peri-urban areas. These include, forests, street trees, trees in parks and gardens, and trees in derelict corners. They provide economic, environmental and sociocultural benefits. (*Source: FAO*)

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

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