



Forestry Department

Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES ASSESSMENT 2010

SPECIFICATION OF NATIONAL REPORTING TABLES FOR FRA 2010

NOVEMBER, 2007



The Forest Resources Assessment Programme

Sustainably managed forests have multiple environmental and socio-economic functions which are important at the global, national and local scales, and they play a vital part in sustainable development. Reliable and up-to-date information on the state of forest resources - not only on area and area change, but also on such variables as growing stock, wood and non-wood products, carbon, protected areas, use of forests for recreation and other services, biological diversity and forests' contribution to national economies - is crucial to support decision-making for policies and programmes in forestry and sustainable development at all levels.

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. The Global Forest Resources Assessment 2010 (FRA 2010) has been requested by the FAO Committee on Forestry in 2007 and will be based on a comprehensive country reporting process, complemented by a global remote sensing survey. The assessment will cover all seven thematic elements of sustainable forest management, including variables related to the policy, legal and institutional framework. FRA 2010 is also aimed at providing information to facilitate the assessment of progress towards the Global Objectives on Forests of the United Nations Forum on Forests and the 2010 Biodiversity Target of the Convention on Biological Diversity. Results are expected to be published in 2010.

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The FRA Working Paper Series provides an important forum for the rapid release of information related to the FRA programme. Should users find any errors in the documents or would like to provide comments for improving their quality they should contact fra@fao.org.

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Abbreviations

C&I	Criteria and Indicators (for Sustainable Forest Management)
CBD	Convention on Biological Diversity
COFO	Committee on Forestry
CSD	United Nations Commission on Sustainable Development
FAO	Food and Agriculture Organization of the United Nations
FAOSTAT	FAO Statistical Databases
FRA	Global Forest Resources Assessment
IFF	Intergovernmental Forum on Forests
IPCC	International Panel on Climate Change
IPF	Intergovernmental Panel on Forests
ISCED	International Standard of Classification of Education
ISIC	International Standard Industrial Classification of all Economic Activities
ITTO	International Tropical Timber Organization
IUCN	The World Conservation Union
MDG	Millennium Development Goals
MCPFE	Ministerial Conference on the Protection of Forests in Europe
NACE	Classification of Economic Activities in the European Community
NFP	National Forest Programme
NWFP	Non-wood forest products
OWL	Other wooded land
PFE	Permanent forest estate
SOFO	State of the World's Forests
SFM	Sustainable Forest Management
UNCCD	United Nations Convention to Combat Desertification
UNCSD	United Nations Commission on Sustainable Development
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNFF	United Nations Forum on Forests
UNFCCC	United Nations Framework Convention on Climate Change

Introduction

Background to FRA 2010

Global forest resources assessments have been carried out by FAO since 1946, practically since FAO was formed. The mandate to carry out these assessments stems both from the basic statutes of FAO and by the Committee on Forestry (COFO). Global forest resources assessment reports have been published at periodic intervals. The latest of these reports, FRA 2005, was published in 2006.

The Global Forest Resources Assessment 2010, or FRA 2010, is mandated by the COFO 2007 and consists of two main components:

- A country reporting process, where countries are requested to submit country reports to FAO, following a standardized reporting format and methodology.
- A complementary remote sensing assessment, aiming at obtaining better information of forest change processes on global, regional and biome level.

Furthermore, there will be a number of special studies linked to FRA 2010, covering special issues.

The key milestones of the country reporting process for FRA 2010 are outlined below to give an overview of the process and the deadlines.

Milestone / Activity	Date	Comment
Global meeting of National Correspondents (Rome)	3-7 March 2008	Launch of the FRA 2010 country reporting process. Training of National Correspondents and work on national reporting tables.
Regional and sub-regional workshops	April 2008 – Early 2009	Further training of national correspondents, technical assistance and review of draft country reports.
Deadline for submission of country reports	March 2009	
Validation of final country reports	July-August 2009	Official request for validation of the final country reports will be sent to countries.
Launch of FRA 2010 Key Findings	April 2010	
Launch of FRA 2010 Main report	December 2010	

For more details regarding the Global Forest Resources Assessment, please visit the FRA Website at: www.fao.org/forestry/fra.

Coordination with other reporting processes and international arrangements

The FRA 2010 will provide information that is relevant for many other forest related international processes and agencies. For example, the reporting tables on biomass and carbon follow the reporting requirements established by IPCC. Similarly, the FRA 2010 reporting now includes several variables related to international processes on biodiversity, Criteria & Indicators for sustainable forest management, etc. In particular should be mentioned that FRA 2010 will provide information to the Convention on Biological Diversity (CBD) on forest-related indicators for the 2010 Biodiversity Target. FRA has also been requested by the Committee on Forestry to provide information needed to monitor progress towards the Global Objectives on Forests that were agreed upon at the sixth session of the United Nations Forum on Forests (UNFF) in 2006.

Many member organizations of the Collaborative Partnership on Forests (CPF) are partners by providing information and advice to the FRA process or by using the FRA results in their reporting and analyses. FAO, especially through the FRA programme, participates actively in international efforts on harmonizing information requirements of various international processes that will contribute to reducing the reporting burden of countries.

The FRA process is closely coordinated with other global reporting processes related to forests and implemented by FAO, such as the Joint Forest Sector Questionnaire (JFSQ) that annually collects information on forest production and trade, and the national forest programme updates that collect detailed information on the policy, legal and institutional framework related to forests. FAO subject specialists have been closely involved in the development of the FRA 2010 reporting framework and will participate in the analysis of the data.

The FRA process also works closely with regional reporting processes related to forests. In particular, the UNECE/FAO Timber Section in Geneva plays an instrumental role for the coordination of the FRA reporting process in Europe.

Purpose of this document

This document contains the technical specifications of the 17 reporting tables that countries are requested to complete to the extent possible and submit in a country report to FAO. The specifications given in this document and the detailed guidelines provided in a separate document should be closely followed while preparing the country report. In order to facilitate reporting, national correspondents will be provided with a preformatted country report template.

Specification of National Reporting Tables

What's new in the FRA 2010 reporting tables

The Kotka V expert consultation held in June 2006, recommended that the scope of the FRA 2010 country reporting should be extended to also include information related to the policy, legal and institutional framework. It also recommended that the FRA process should provide the forest-related information for assessing progress towards the 2010 Biodiversity Target of the CBD.

The Committee on Forestry during its 18th session in March 2007 endorsed the recommendations from the Kotka V expert consultation and further “requested that FRA 2010 take into full account the Global Objectives on Forests”.

The recommendations from the Kotka V expert consultation and the Committee on Forestry have been incorporated into the reporting framework for FRA 2010. The major changes in relation to FRA 2005 are outlined below.

- The table on forest ownership has been expanded to also include information on how the rights to manage and use the public forests have been transferred to different user categories. Furthermore, ownership now refers to the trees, not to the land. These changes have been included as a result from the conclusions and recommendations of the thematic study on forest ownership carried out as part of FRA 2005.
- The table on forest designation has been simplified in that it now only covers forest. Furthermore, reporting on “total area with function” has been removed as it was conceptually difficult and the response rate in FRA 2005 was low.
- A table on special categories of forest designation and management has been added, in order to respond to information needs for the C&I processes and the 2010 Biodiversity Target.
- The table on forest characteristics has undergone several changes in order to make it clearer and easier to report on. First, the concept of planted forests is introduced instead of forest plantations. Planted forests is a wider concept also covering the planted forest of native species that were considered semi-natural in FRA 2005. Second, the modified natural forests and the naturally regenerated component of the semi-natural forest are now merged into one new category – other naturally regenerated forests.
- A table with a few specific categories of forest types has been added. It includes the area of rubber plantations which is important in order to consolidate global land use statistics, as rubber plantations in many statistics are reported as agricultural land use. It also include the area of mangroves and bamboo.
- A new table on forest establishment and reforestation has been added in order to respond to information needs to monitor progress towards the Global Objectives on Forests.
- Commercial growing stock has been replaced with growing stock of commercial species, which is easier to report on as it does not involve assumptions on areas legally, technically and economically available for wood supply.

- A new table on forest fires has been added, including more information on area and number fires, and the proportion of wildfires and planned fires.
- In the table on health and vitality, some more information is requested on major outbreaks of insects and diseases, and on invasive species.
- The table on diversity of tree species has been removed.
- The table on non-wood forest products (NWFP) has been redesigned. Countries are now requested to report on the removed quantity and value of the 10 most important NWFPs.
- Four new reporting tables related to the policy, legal and institutional framework have been included. Requested information is limited to variables with global relevance, most of which are quantifiable or simple yes/no questions.

Overview of the reporting tables

FAO is requesting countries to submit their country report for FRA 2010 according to a predefined format, which consists of the following 17 reporting tables:

T 1	Extent of forest and other wooded land
T 2	Forest ownership and management rights
T 3	Forest designation and management
T 4	Forest characteristics
T 5	Forest establishment and reforestation
T 6	Growing stock
T 7	Biomass stock
T 8	Carbon stock
T 9	Forest fires
T 10	Other disturbances affecting forest health and vitality
T 11	Wood removals and value of removals
T 12	Non-wood forest products removals and value of removals
T 13	Employment
T 14	Policy and legal framework
T 15	Institutional framework
T 16	Education and research
T 17	Public revenue collection and expenditure

Technical specifications

The detailed technical specification of each reporting table includes the rationale, unit of reporting, area to which reported figures refer and reference years for which information is to be provided. It also includes definitions and explanatory notes to all terms and categories to be reported on.

T 1 Extent of forest and other wooded land

T1.1 Rationale

Information on the extent of Forest and Other wooded land is central for assessing the current state and monitoring trends of forest resources at national, regional and global scale. It is a key indicator in various international reporting processes, conventions and other instruments, such as the Millennium Development Goals, Criteria and Indicator processes, CBD, UNCCD, UNFCCC, UNFF, ITTO, MCPFE, UNECE, UNCSD, etc.

T1.2 Specification

Units, areas and reporting years

Unit of reporting	1000 hectares
Area to which reported figures refer	Total area of country or territory
Reporting years	1990, 2000, 2005 and 2010

Categories and definitions

Category	Definition
Forest	<p>Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds <i>in situ</i>. It does not include land that is predominantly under agricultural or urban land use.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Forest is determined both by the presence of trees and the absence of other predominant land uses. The trees should be able to reach a minimum height of 5 meters <i>in situ</i>. 2. Includes areas with young trees that have not yet reached but which are expected to reach a canopy cover of 10 percent and tree height of 5 meters. It also includes areas that are temporarily unstocked due to clear-cutting as part of a forest management practice or natural disasters, and which are expected to be regenerated within 5 years. Local conditions may, in exceptional cases, justify that a longer time frame is used. 3. Includes forest roads, firebreaks and other small open areas; forest in national parks, nature reserves and other protected areas such as those of specific environmental, scientific, historical, cultural or spiritual interest. 4. Includes windbreaks, shelterbelts and corridors of trees with an area of more than 0.5 hectares and width of more than 20 meters. 5. Includes abandoned shifting cultivation land with a regeneration of trees that have, or is expected to reach, a canopy cover of 10 percent and tree height of 5 meters. 6. Includes areas with mangroves in tidal zones, regardless whether this area is classified as land area or not. 7. Includes rubber-wood, cork oak and Christmas tree plantations.

	<p>8. Includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met.</p> <p>9. <u>Excludes</u> tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems when crops are grown under tree cover. <u>Note:</u> Some agroforestry systems such as the “Taungya” system where crops are grown only during the first years of the forest rotation should be classified as forest.</p>
Other wooded land	<p>Land not classified as “Forest”, spanning more than 0.5 hectares; with trees higher than 5 meters and a canopy cover of 5-10 percent, or trees able to reach these thresholds <i>in situ</i>; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.</p> <p><u>Explanatory notes</u></p> <p>1. The definition above has two options:</p> <ul style="list-style-type: none"> • The canopy cover of trees is between 5 and 10 percent; trees should be higher than 5 meters or able to reach 5 meters <i>in situ</i>. <p>or</p> <ul style="list-style-type: none"> • The canopy cover of trees is less than 5 percent but the combined cover of shrubs, bushes and trees is more than 10 percent. Includes areas of shrubs and bushes where no trees are present. <p>2. Includes areas with trees that will not reach a height of 5 meters <i>in situ</i> and with a canopy cover of 10 percent or more, e.g. some alpine tree vegetation types, arid zone mangroves, etc.</p> <p>3. Includes areas with bamboo and palms provided that land use, height and canopy cover criteria are met.</p>
Other land	<p>All land that is not classified as “Forest” or “Other wooded land”.</p> <p><u>Explanatory notes</u></p> <p>1. Includes agricultural land, meadows and pastures, built-up areas, barren land, land under permanent ice, etc.</p> <p>2. Includes all areas classified under the sub-category “Other land with tree cover”.</p>
Other land with tree cover (sub-category of “Other land”)	<p>Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity.</p> <p><u>Explanatory notes</u></p> <p>1. The difference between “Forest” and “Other land with tree cover” is the land use criteria.</p> <p>2. Includes groups of trees and scattered trees in agricultural landscapes, parks, gardens and around buildings, provided that area, height and canopy cover criteria are met.</p> <p>3. Includes tree stands in agricultural production systems, for example in fruit tree plantations and agroforestry systems when crops are grown under tree cover. Also includes tree plantations established mainly for other purposes than wood, such as oil palm plantations.</p> <p>4. <u>Excludes</u> scattered trees with a canopy cover less than 10 percent, small groups of trees covering less than 0.5 hectares and tree lines less than 20 meters wide.</p>
Inland water bodies	<p>Inland water bodies generally include major rivers, lakes and water reservoirs.</p>

Reporting table template

FRA categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest				
Other wooded land				
Other land				
...of which with tree cover				
Inland water bodies				
TOTAL				

Note: If it is not possible to reclassify national data according to the FRA definitions in such a way that a consistent time series can be ensured, countries may use national thresholds on minimum area, canopy cover and tree height as long as the thresholds used are documented in comments to the table.

Internal consistency

The sum of areas from the four main categories constitute the total area of the country or reporting territory and should match with internationally reported and validated area of country/territory, as maintained by the UN Statistical Division. (See Guidelines for Country Reporting). Likewise, the sum of areas of forest, other wooded land and other land constitute the total land area and should correspond to the official figure maintained by FAOSTAT.

The area of Forest as presented in this table constitute the basis for reporting in many of the other reporting tables. For internal consistency, the forest area must match with corresponding figure in tables T2a ,T3a and T4a.

T 2 Forest ownership and management rights

T2.1 Rationale

The allocation of forest ownership and management rights defines who exercises control over which forest resources, for how long, and under what conditions. Thus, the information on this variable is important for policy, institutional and management purposes.

T2.2 Specifications

Unit, areas and reporting years

Unit of reporting	1000 hectares
Area to which reported figures refer	Area classified as Forest in table T1
Reporting years	1990, 2000 and 2005

General definitions

Term	Definition
Forest ownership	<p>Generally refers to the legal right to freely and exclusively use, control, transfer, or otherwise benefit from a forest. Ownership can be acquired through transfers such as sales, donations, and inheritance.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> For this reporting table, forest ownership refers to the ownership of the <u>trees</u> growing on land classified as forest, regardless of whether or not the ownership of these trees coincides with the ownership of the land itself.
Management rights of public forests	<p>Refers to the right to manage and use publicly owned forests for a specific period of time.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> Generally includes agreements that regulate not only the right to harvest or collect products, but also the responsibility to manage the forest for long-term benefits. Generally <u>excludes</u> harvesting licences, permits and rights to collect non-wood forest products when such use rights are not linked to a long-term forest management responsibility.

Categories and definitions

Category	Definition
Public ownership	<p>Forest owned by the State; or administrative units of the Public Administration; or by institutions or corporations owned by the Public Administration.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes all the hierarchical levels of Public Administration within a country, e.g. State, Province and Municipality. 2. Shareholder corporations that are partially State-owned, are considered as under public ownership when the State holds a majority of the shares. 3. Public ownership may exclude the possibility to transfer.
Private ownership	<p>Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.</p>
Individuals <i>(sub-category of Private ownership)</i>	<p>Forest owned by individuals and families.</p>
Private business entities and institutions <i>(sub-category of Private ownership)</i>	<p>Forest owned by private corporations, co-operatives, companies and other business entities, as well as private organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. Includes both profit and non-profit entities and institutions.
Local communities <i>(sub-category of Private ownership)</i>	<p>Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. For the purpose of this reporting table, forest owned by local communities is differentiated from forest owned by indigenous and tribal communities.
Indigenous / tribal communities <i>(sub-category of Private ownership)</i>	<p>Forest owned by communities of indigenous or tribal people.</p> <p><u>Explanatory notes</u></p> <p>Indigenous and tribal people include:</p> <ol style="list-style-type: none"> 1. People regarded as indigenous on account of their descent from the population which inhabited the country, or a geographical region to which the country belongs, at a time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all their own social, economic cultural and political institutions. 2. Tribal people whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partly by their own customs or traditions or by special laws and regulations.
Other types of ownership	<p>Other kinds of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.</p>

Categories related to the holder of management rights of public forest resources	
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals/households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

Reporting table template

Table 2a - Forest ownership

FRA categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership			
Private ownership			
...of which owned by individuals			
...of which owned by private business entities and institutions			
...of which owned by local communities			
...of which owned by indigenous / tribal communities			
Other types of ownership			
TOTAL			

Note: If other types of ownership is reported, please specify details in comment to the table.

Does ownership of trees coincide with ownership of the land on which they are situated?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
If No above, please describe below how the two differ:		

Table 2b - Holder of management rights of public forests

FRA categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration			
Individuals			
Private corporations and institutions			
Communities			
Other			
TOTAL			

Internal consistency

The sum of all the main ownership categories (public, private and other) in table 2a should correspond to the forest area in table T1. The sum of area of the management rights categories in 2b should match with the area reported under public ownership in 2a.

T 3 Forest designation and management

T3.1 Rationale

The information on the designation and management is essential for efficient planning, design and implementation of forest policy and for assessment of cross-sectoral impacts. It describes how the forest is intended to be managed and used and relates to the common thematic areas of sustainable forest management that have been adopted as a reporting framework for FRA.

Several of the categories are directly related to information requirements of other international organizations and arrangements, such as the CBD, UNFF, MCPFE and ITTO.

T3.2 Specification

Units, areas and reporting years

Unit of reporting	1000 hectares
Area to which reported figures refer	Area classified as Forest in table T1
Reporting years	1990, 2000, 2005 and 2010

General definitions

Term	Definition
Primary designated function	<p>The primary function or management objective assigned to a management unit either by legal prescription, documented decision of the landowner/manager, or evidence provided by documented studies of forest management practices and customary use.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. In order to be considered primary, the designated function should be significantly more important than other functions. 2. Nation-wide functions established in general clauses of national legislation or policies (such as e.g. “<i>all forest land should be managed for production, conservation and social purposes</i>”) should not be considered as designations.
Protected areas	<p>Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.</p>

Categories of primary designated functions

Category	Definition
Production	<p>Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. Includes areas for subsistence collection of wood and/or non-wood forest products.
Protection of soil and water	<p>Forest area designated primarily for protection of soil and water.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Harvesting of wood and non-wood forest products may (sometimes) be allowed, but with specific restrictions aimed at maintaining the tree cover and not damaging the vegetation that protects the soil. 2. National legislation may stipulate that buffer zones should be maintained along rivers and may restrict wood harvesting on slopes exceeding certain steepness. Such areas should be considered as designated for protection of soil and water. 3. Includes forest areas managed for combating desertification.
Conservation of biodiversity	<p>Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.</p>
Social services	<p>Forest area designated primarily for social services.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes services such as: recreation, tourism, education, research and/or conservation of cultural/spiritual sites. 2. <u>Excludes</u> areas for subsistence collection of wood and/or non-wood forest products unless also designated for any of the services mentioned above.
Multiple use	<p>Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone is considered as the predominant function. 2. Clauses in national legislation or policies stating an overarching objective of multiple use (such as e.g. "<i>all forest land should be managed for production, conservation and social purposes</i>") should not generally be considered as designated for multiple use.
Other	<p>Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. Countries should specify in comments to the table what areas they have included in this category.
No / unknown	No or unknown designation.

Special designation and management categories

Area of permanent forest estate (PFE)	<p>Forest area that is designated to be retained as forest and may not be converted to other land use.</p> <p><u>Explanatory note</u></p> <p>1. If the PFE contains both forest and non-forest areas, the reporting should refer only to the forest area within the PFE.</p>
Forest area within protected areas	<p>Forest area within formally established protected areas independently of the purpose for which the protected areas were established.</p> <p><u>Explanatory notes</u></p> <p>1. Includes IUCN Categories I – IV</p> <p>2. <u>Excludes</u> IUCN Categories V-VI</p>
Forest area under sustainable forest management	<p>To be defined and documented by the country.</p> <p>Countries should apply their own national definition or description of sustainable forest management and document in the country report the definition, criteria and process applied for estimating the area under sustainable forest management.</p> <p>If no national definition or criteria exist, countries may use the following (ITTO, 2006):</p> <p>Forest areas that fulfil <u>any</u> of the following conditions:</p> <ol style="list-style-type: none"> i. have been independently certified or in which progress towards certification is being made; ii. have fully developed, long-term (ten years or more) forest management plans with firm information that these plans are being implemented effectively; iii. are considered as model forest units in their country and information is available on the quality of management; iv. are community-based forest management units with secure tenure for which the quality of management is known to be of high standard; v. are protected areas with secure boundaries and a management plan that are generally considered in the country and by other observers to be well managed and that are not under significant threat from destructive agents.
Forest area with management plan	<p>Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. A forest area with management plan may refer to forest management unit level or aggregated forest management unit level (forest blocks, farms, enterprises, watersheds, municipalities, or wider units). 2. A management plan may include details on operations planned for individual operational units (stands or compartments) but may also be limited to provide general strategies and activities planned to reach the management goals. 3. Includes forest area in protected areas with management plan.

Reporting table template

Table 3a – Primary designated function

FRA categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production				
Protection of soil and water				
Conservation of biodiversity				
Social services				
Multiple use				
Other (please specify in comments below the table)				
No / unknown				
TOTAL				

Table 3b – Special designation and management categories

FRA categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate				
Forest area within protected areas				
Forest area under sustainable forest management ¹⁾				
Forest area with management plan				

¹⁾ Countries should document the definitions used and criteria and process applied for estimating forest area under sustainable forest management.

Internal consistency

The total of the primary designated functions in table 3a must correspond to the total forest area as reported in table T1.

The other categories in table 3b are non-exclusive and may be partially overlapping. None of the individual values may be greater than total forest area as reported in table T1.

T 4 Forest characteristics

T4.1 Rationale

Information on forest characteristics is essential to understand the extent and degree of human impact on the forest ecosystems. The categories in table 4a represent a continuum from undisturbed primary forests to planted forests with introduced species. The categories in table 4b are important for consolidating land use assessments and to monitor particular forest ecosystems.

T4.2 Specification

Units, areas and reporting years

Unit of reporting	1000 hectares
Area to which reported figures refer	Area classified as Forest and Other wooded land in table T1 (for Mangrove and Bamboo categories) Area classified as Forest in table T1 (for all other categories)
Reporting years	1990, 2000, 2005 and 2010

General terms and definitions

Term	Definition
Naturally regenerated forest	<p>Forest predominantly composed of trees established through natural regeneration.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. In this context, predominantly means that the trees established through natural regeneration are expected to constitute more than 50% of the growing stock at maturity. 2. Includes coppice from trees established through natural regeneration. 3. Includes naturally regenerated trees of introduced species.
Introduced species	<p>A species, subspecies or lower taxon, occurring <u>outside</u> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).</p>

Characteristics categories and definitions

Category	Definition
Primary forest	<p>Naturally regenerated forest of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> Some key characteristics of primary forests are: <ul style="list-style-type: none"> they show natural forest dynamics, such as natural tree species composition, occurrence of dead wood, natural age structure and natural regeneration processes; the area is large enough to maintain its natural characteristics; there has been no known significant human intervention or the last significant human intervention was long enough ago to have allowed the natural species composition and processes to have become re-established.
Other naturally regenerated forest	<p>Naturally regenerated forest where there are clearly visible indications of human activities.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> Includes selectively logged-over areas, areas regenerating following agricultural land use, areas recovering from human-induced fires, etc. Includes forests where it is not possible to distinguish whether planted or naturally regenerated. Includes forests with a mix of naturally regenerated trees and planted/seeded trees, and where the naturally regenerated trees are expected to constitute more than 50% of the growing stock at stand maturity.
Other naturally regenerated forest of introduced species (sub-category)	<p>Other naturally regenerated forest where the trees are predominantly of introduced species.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> In this context, predominantly means that the trees of introduced species are expected to constitute more than 50% of the growing stock at maturity.
Planted forest	<p>Forest predominantly composed of trees established through planting and/or deliberate seeding.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> In this context, predominantly means that the planted/seeded trees are expected to constitute more than 50% of the growing stock at maturity. Includes coppice from trees that were originally planted or seeded. <u>Excludes</u> self-sown trees of introduced species.
Planted forest of introduced species (sub-category)	<p>Planted forest, where the planted/seeded trees are predominantly of introduced species.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> In this context, predominantly means that the planted/seeded trees of introduced species are expected to constitute more than 50% of the growing stock at maturity.

Special categories

Category	Definition
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

Reporting table template

Table 4a - Characteristics

FRA categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest				
Other naturally regenerated forest				
...of which of introduced species				
Planted forest				
...of which of introduced species				
TOTAL				

Table 4b – Special categories

FRA categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)				
Mangroves (Forest and OWL)				
Bamboo (Forest and OWL)				

Internal consistency

The total of the categories in table 4a must correspond to the total forest area as reported in table T1.

T 5 Forest establishment and reforestation

T5.1 Rationale

Information on forest establishment and reforestation is essential to monitor the progress towards sustainable forest management and the global objectives on forests of the United Nations Forum on Forests.

T5.2 Specification

Units, areas and reporting years

Unit of reporting	Hectares per year
Area to which reported figures refer	Area classified as Forest in table T1
Reporting years	1990, 2000 and 2005

Categories and definitions

Term	Definition
Afforestation	<p>Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. Implies a transformation of land use from non-forest to forest.
Reforestation	<p>Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Implies no change of land use. 2. Includes planting/seeding of temporarily unstocked forest areas as well as planting/seeding of areas with forest cover. 3. Includes coppice from trees that were originally planted or seeded. 4. <u>Excludes</u> natural regeneration of forest.
Natural expansion of forest	<p>Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. Implies a transformation of land use from non-forest to forest.

Reporting table template

FRA categories	Annual forest establishment ¹⁾ (hectares/year)			...of which of introduced species ¹⁾ (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation						
Reforestation						
...of which on areas previously planted ²⁾						
Natural expansion of forest						

Notes: ¹⁾ The figures for the reporting years refer to the averages for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

²⁾ In this context, “previously” refers to the most recent forest cover. For the definition of planted forest, see table T4.

T 6 Growing stock

T6.1 Rationale

The information on growing stock is essential to understand the dynamics and productive capacity of Forest and Other wooded land in order to develop national policies and strategies for a sustainable use of the forest resources.

T6.2 Specifications

Units, areas and reporting years

Unit of reporting	Million cubic meters over bark
Area to which reported figures refer	Table 6a: Area classified as Forest and as Other wooded land in table T1 Table 6b: Area classified as Forest in table T1
Reporting years	Table 6a: 1990, 2000, 2005 and 2010 Table 6b: 1990, 2000 and 2005

Categories and definitions

Category	Definition
Growing stock	<p>Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Countries must indicate the three thresholds (X, Y, W in cm) and the parts of the tree that are not included in the volume. They must also indicate whether the reported figures refer to volume above ground or above stump. These specifications should be applied consistently through the time series. 2. Includes windfallen living trees. 3. <u>Excludes</u> smaller branches, twigs, foliage, flowers, seeds, and roots.
Growing stock of commercial species	<p>Growing stock (see def. above) of commercial species.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Commercial species are all species that currently are being commercialized for domestic and/or international markets. 2. Includes all trees of commercial species within the threshold limits given for growing stock, regardless whether they have reached commercial dimensions or not.

Reporting table template

Table 6a – Growing stock

FRA categories	Volume (million cubic meters over bark)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Total growing stock								
... of which coniferous								
... of which broadleaved								
Growing stock of commercial species								

Table 6b – Growing stock of the 10 most common species

FRA category / Species name ¹⁾			Growing stock in forest (million cubic meters o.b.)		
Rank ²⁾	Scientific name	Common name	1990	2000	2005
1 st					
2 nd					
3 rd					
...					
10 th					
Remaining					
TOTAL					

Notes:

- 1) Each species should be specified by both scientific name and common name. Countries may report on genera instead of species if their inventory data do not allow the distinction of individual species within certain species groups.
- 2) Rank refers to the order of importance in terms of growing stock, i.e. 1st is the species with the highest growing stock. Year 2000 is the reference year for defining the species list and the order of the species.

Table 6c – Specification of threshold values

Item	Value	Complementary information
Minimum diameter (cm) at breast height ¹ of trees included in growing stock (X)		
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)		
Minimum diameter (cm) of branches included in growing stock (W)		
Volume refers to “above ground” (AG) or “above stump” (AS)		

Internal consistency

The table T6 is related to national reporting tables biomass and carbon (T7 and T8) as the figures on growing stock usually constitute the basis for calculation of biomass and carbon stock.

¹ Diameter at breast height (DBH) refers to diameter over bark measured at a height of 1.30 m above ground level or 30 cm above buttresses if these are higher than 1 m.

T 7 Biomass stock

T7.1 Rationale

The information on biomass stock is essential to assess the amount of carbon that exists in the woody vegetation on Forest and Other wooded land. This information is directly linked to the international processes reporting on greenhouse gases and climate change. The information on biomass stock is also of interest from a wood energy point of view.

T7.2 Specifications

Units, areas and reporting years

Unit of reporting	Million metric tonnes (oven dry weight)
Area to which reported figures refer	Area classified as Forest and as Other wooded land in table T1
Reporting years	1990, 2000, 2005 and 2010

Categories and definitions

In order to harmonise with ongoing international processes and to reduce the reporting burden, the categories and definitions used in FRA 2010 correspond to those established by the Intergovernmental Panel on Climate Change.

Category	Definition
Above-ground biomass	<p>All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> In cases where forest understorey is a relatively small component of the aboveground biomass carbon pool, it is acceptable to exclude it, provided this is done in a consistent manner throughout the inventory time series.
Below-ground biomass	<p>All biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> Includes the below-ground part of the stump. The country may use another threshold value than 2 mm for fine roots, but in such a case the threshold value used must be documented.
Dead wood	<p>All non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> The country may use another threshold value than 10 cm, but in such a case the threshold value used must be documented.

Reporting table template

FRA categories	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass								
Below-ground biomass								
Dead wood								
TOTAL								

Internal consistency

The biomass figures are generally derived from the growing stock figures reported in table T6 through biomass conversion and expansion factors. The conversion and expansion factors are multiplication factors that expand growing stock to different biomass components such as branches, foliage and roots.

T 8 Carbon stock

T8.1 Rationale

The information on carbon stock indicates the contribution of Forest and Other wooded land to the carbon cycle. This information is used by international processes that monitor greenhouse gases and climate change.

T8.2 Specifications

Units, areas and reporting years

Unit of reporting	Million metric tonnes
Area to which reported figures refer	Area classified as Forest and as Other wooded land in T1
Reporting years	1990, 2000, 2005 and 2010

Categories and definitions

In order to harmonise with ongoing international processes and to reduce the reporting burden, the categories and definitions used in FRA 2010 correspond to those established by the Intergovernmental Panel on Climate Change.

Category	Definition
Carbon in above-ground biomass	<p>Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. In cases where forest understorey is a relatively small component of the aboveground biomass carbon pool, it is acceptable to exclude it, provided this is done in a consistent manner throughout the time series.
Carbon in below-ground biomass	<p>Carbon in all biomass of live roots. Fine roots of less than 2 mm diameter are excluded, because these often cannot be distinguished empirically from soil organic matter or litter.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes the below-ground part of the stump. 2. The country may use another threshold value than 2 mm for fine roots, but in such a case the threshold value used must be documented.
Carbon in dead wood	<p>Carbon in all non-living woody biomass not contained in the litter, either standing, lying on the ground, or in the soil. Dead wood includes wood lying on the surface, dead roots, and stumps larger than or equal to 10 cm in diameter or any other diameter used by the country.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. The country may use another threshold value than 10 cm, but in such a case the threshold value used must be documented.

Carbon in litter	<p>Carbon in all non-living biomass with a diameter less than the minimum diameter for dead wood (e.g. 10 cm), lying dead in various states of decomposition above the mineral or organic soil.</p> <p><u>Explanatory note</u></p> <p>1. Fine roots of less than 2 mm (or other value chosen by the country as diameter limit for below-ground biomass) above the mineral or organic soil are included in the litter where they cannot be distinguished from it empirically.</p>
Soil carbon	<p>Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.</p> <p><u>Explanatory note</u></p> <p>1. Fine roots of less than 2 mm (or other value chosen by the country as diameter limit for below-ground biomass) are included with soil organic matter where they cannot be distinguished from it empirically.</p>

Reporting table template

FRA categories	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass								
Carbon in below-ground biomass								
<i>Sub-total: Living biomass</i>								
Carbon in dead wood								
Carbon in litter								
<i>Sub-total: Dead wood and litter</i>								
Soil carbon								
TOTAL								

Soil depth (cm) used for soil carbon estimates	
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Internal consistency

Carbon content in biomass is usually derived using conversion factors. The reported figures on carbon stock are therefore closely related to corresponding figures on biomass stock in table T7 and growing stock in table T6.

T 9 Forest fires

T9.1 Rationale

In many ecosystems, natural fires are essential to maintain ecosystem dynamics, biodiversity and productivity. But fire can also cause damage to forests, woodlands and other vegetation. Knowledge about the extent, causes and damages caused by fires is important for planning prevention and suppression measures and for monitoring the effect of such measures.

T9.2 Specifications

Units, areas and reporting years

Unit of reporting	Table 9a: Number of fires and area (1000 hectares) Table 9b: Percent
Area to which reported figures refer	Table 9a: All land area Table 9b: Area classified as Forest in table T1
Reporting years	1990, 2000 and 2005

Categories and definitions

Category	Definition
Number of fires	Number of vegetation fires per year.
Area affected by fire	Area affected by vegetation fires per year.
Vegetation fire <i>(supplementary term)</i>	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	<p>Any unplanned and/or uncontrolled vegetation fire.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes management-ignited vegetation fires that exceed the restrictions in the fire plan and require suppression actions. 2. <u>Excludes</u> unplanned vegetation fires that burn in accordance with management objectives.
Planned fire	<p>A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes unplanned vegetation fires that burn in accordance with management objectives (e.g. "let burn") and therefore not subject to suppression measures. 2. <u>Excludes</u> management-ignited vegetation fires that exceed the restrictions in the fire plan.

Reporting table template

Table 9a – Area and number of fires

FRA categories	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire						
... of which on forest						
... of which on other wooded land						
... of which on other land						

Notes: The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively

Total area affected by fire is the main estimate that should be supported by national data whenever possible. The further breakdown of the area into forest, other wooded land and other land can be rough expert estimates if no data are available.

Table 9b – Proportion of planned fires and wildfires in forest

FRA categories	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire			
Planned fire			

T 10 Other disturbances affecting forest health and vitality

T10.1 Rationale

Disturbances caused by biotic agents or abiotic factors affect the health and vitality of the forest resources. Information about the type, magnitude and periodicity of such disturbances are essential in order to develop appropriate management regimes to control and mitigate their impact on forest health and vitality.

T10.2 Specifications

Units, areas and reporting years

Unit of reporting	1000 hectares
Area to which reported figures refer	Area classified as Forest in T1
Reporting years	1990, 2000 and 2005

General terms and definitions

Term	Definition
Disturbance	Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities. <u>Explanatory note</u> 1. For the purpose of this reporting table, disturbances exclude forest fires as these are reported on in a separate table.
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. <u>Explanatory note</u> 1. For the purpose of this table, the reporting is restricted to cover only the woody invasive species.

Categories and definitions

Category	Definition
Disturbance by insects	Disturbance caused by insect pests.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Disturbance by other biotic agents	Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc.
Disturbance caused by abiotic factors	Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc.

In order to be accounted for and included in the reported figures, a disturbance should cover an area of at least 0.5 hectares and generate an impact that significantly affects the health and vitality of the forest. The categories in this table are not exclusive; hence a piece of land with two or more types of disturbances that affect health and vitality will be accounted for under each type of disturbance. A list of all major outbreaks of insects and diseases that have occurred since 1990 should be reported in table 10b.

If woody invasive species constitute, or are expected to constitute, a problem for forest ecosystem health and vitality, the scientific name of those considered to be of most significance should be listed in table 10c.

Reporting table template

Table 10a – Disturbances

FRA categories	Affected forest area (1000 hectares) ¹⁾		
	1990	2000	2005
Disturbance by insects			
Disturbance by diseases			
Disturbance by other biotic agents			
Disturbance caused by abiotic factors			
Total area affected by disturbances ²⁾			

Notes: ¹⁾ The figures for the reporting years refer to the averages of annually affected areas for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

²⁾ The total area affected by disturbances is not necessarily the sum of the individual disturbances as these may be overlapping.

Table 10b – Major outbreaks of insects and diseases affecting forest health and vitality

Description / name ¹⁾	Tree species or genera affected (scientific name)	Year(s) of latest outbreak	Area affected ²⁾ (1000 hectares)	If cyclic, approx. cycle (years)
Disturbance 1				
Disturbance 2				
Disturbance 3				
Disturbance 4				
Disturbance 5				
Disturbance 6				
Disturbance 7				
Disturbance 8				
Disturbance 9				
Disturbance 10				

Notes: ¹⁾ Provide scientific name of insect or disease causing the outbreak.

²⁾ Area affected refers to the total area affected during the outbreak.

Table 10c – Area of forest affected by woody invasive species

Scientific name of woody invasive species	Forest area affected 2005 (1000 hectares)
Sp.1	
Sp.2	
Sp.3	
Sp.4	
Sp.5	
Total forest area affected by woody invasive species	

Note: The total forest area affected by woody invasive species is not necessary the sum of the values above, as these may be overlapping.

T 11 Wood removals and value of removals

T11.1 Rationale

The table provides information on actual removal of wood from forest, other wooded land and other land, and the value of the removal. It indicates the economic and social utility of forest resources for national economy and dependent local communities.

T11.2 Specifications

Units, areas and reporting years

Units of reporting	1000 m ³ of roundwood (measured over bark) Unit value (average value in local currency per m ³ o.b. of roundwood)
Area to which reported figures refer	All land area
Reporting years	1990, 2000 and 2005

Categories and definitions

Category	Definition
Industrial roundwood removals	<p>The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. The term "removal" differs from "felling" as it excludes trees that were felled but not removed. 2. Includes removals from fellings in an earlier period and from trees killed or damaged by natural causes.
Woodfuel removals	<p>The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes all wood collected or removed for energy purposes, such as fuelwood, wood for charcoal production, harvesting residues, stumps, etc. 2. Includes removals from fellings in an earlier period and from trees killed or damaged by natural causes. 3. <u>Excludes</u> woodfuel which is produced as a by-product or residual matter from industrial processing of roundwood.

Reporting table template

FRA categories	Industrial roundwood removals			Woodfuel removals		
	1990	2000	2005	1990	2000	2005
Total volume (1000 m ³ o.b.)						
... of which from forest						
Unit value (local currency / m ³ o.b.)						
Total value (1000 local currency)						

Note: The figures for the reporting years refer to the averages for the 5-year periods 1988-1992, 1998-2002 and 2003-2007 respectively.

	1990	2000	2005
Name of local currency			

T 12 Non-wood forest products removals and value of removals

T12.1 Rationale

The information on removals and value of non-wood forest products (NWFP) demonstrates the potential of forests to provide NWFP, both as important commodities for national and international markets, and for the livelihood of local and indigenous people dependent on them. This information is important to show that NWFP will often deserve a higher priority in the development of national policies and forest management strategies.

Often, a multitude of NWFP are produced and consumed in the countries both for subsistence and commercial use. Quantitative data on production and value of all NWFP are difficult to obtain, therefore information in this table focus on the most important NWFP in terms of total value of removals.

T12.2 Specifications

This reporting table is focused on listing the ten most important non-wood forest products in order of importance. The importance should be based on the value (or estimated value) of the removals. Countries should list the products regardless of whether they have data on quantity and value of the removals. If data are missing, countries are requested to provide expert estimates.

Units, areas and reporting years

Unit of reporting	For quantity of removals the unit must be one of the following <ul style="list-style-type: none"> • Number (e.g. number of skins and hides) • Tonnes or kg (when weight is most relevant measure) • m³ or litres (when volume is the most relevant measure) For value of removals: 1000 local currency.
Area to which reported figures refer	Area classified as Forest in table T1
Reporting year	2005

Terms and definitions

Term	Definition
Non-wood forest product (NWFP)	<p>Goods derived from forests that are tangible and physical objects of biological origin other than wood.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Generally includes non-wood plant and animal products collected from areas defined as forest (see definition of forest in table T1). 2. Specifically includes the following regardless of whether from natural forests or plantations: <ul style="list-style-type: none"> - gum arabic, rubber/latex and resin; - Christmas trees, cork, bamboo and rattan. 3. Generally <u>excludes</u> products collected in tree stands in agricultural production systems, such as fruit tree plantations, oil palm plantations and agroforestry systems when crops are grown under tree cover. 4. Specifically <u>excludes</u> the following: <ul style="list-style-type: none"> - woody raw materials and products, such as chips, charcoal, fuelwood and wood used for tools, household equipment and carvings; - grazing in the forest; - fish and shellfish.
Value of NWFP removals	<p>For the purpose of this table, value is defined as the market value at the site of collection or forest border.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. If values are obtained from a point further down the production chain, transport costs and possible handling and/or processing costs should be subtracted whenever possible. 2. When NWFPs are removed for subsistence use, the value should be calculated based on local market value.

Reporting table template

Rank	Name of product	Key species	Unit	NWFP removals 2005		NWFP category
				Quantity	Value (1000 local currency)	
1 st						
2 nd						
3 rd						
4 th						
5 th						
6 th						
7 th						
8 th						
9 th						
10 th						
All other plant products						
All other animal products						
TOTAL						

	2005
Name of local currency	

Note: Use trade name/commercial name when listing the products and scientific name when listing the key species.

NWFP categories

Category
<u>Plant products / raw material</u>
1. Food
2. Fodder
3. Raw material for medicine and aromatic products
4. Raw material for colorants and dyes
5. Raw material for utensils, handicrafts & construction
6. Ornamental plants
7. Exudates
8. Other plant products
<u>Animal products / raw material</u>
9. Living animals
10. Hides, skins and trophies
11. Wild honey and bee-wax
12. Wild meat
13. Raw material for medicine
14. Raw material for colorants
15. Other edible animal products
16. Other non-edible animal products

T 13 Employment

T13.1 Rationale

The information on employment in forestry is useful in identifying trends, especially in the context of public expectations, government policies, industry developments and socio-economic importance.

T13.2 Specifications

Units and reporting years

Unit of reporting	1000 full-time equivalents
Reporting years	1990, 2000 and 2005

General terms and definitions

Category	Definition
Full-time equivalents (FTE)	<p>A measurement equal to one person working full-time during a specified reference period.</p> <p><u>Explanatory note</u></p> <p>1. One fulltime employee counts as one FTE, and two half-time employees also count as one FTE.</p>
Employment	<p>Includes all persons in paid employment or self-employment.</p> <p><u>Explanatory note</u></p> <p>1. The full definition of the terms “Employment”, “Paid employment” and “Self-employment” as used by UN Statistics Division can be found at http://unstats.un.org/unsd/cdb/cdb_dict_xrxx.asp?def_code=388</p>
Paid employment	<p>Persons who during a specified reference period performed some work for <u>wage or salary</u> in cash or in kind.</p> <p><u>Explanatory note</u></p> <p>1. Includes limited periods of absence from an on-going job due to illness or injury, holiday or vacation, strike or lockout, maternity or parental leave or educational or training leave.</p>
Self-employment	<p>Persons who during a specified reference period performed some work for <u>profit or family gain</u> in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers).</p> <p><u>Explanatory note</u></p> <p>1. Includes persons with an enterprise (i.e. a business enterprise, farm or service undertaking) who were temporarily not at work during the reference period for any reason.</p>

Categories and definition

Category	Definition
Employment in primary production of goods²	<p>Employment in activities related to production of goods derived from forests.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Includes employment in the production of industrial roundwood, woodfuel and non-wood forest products (see definitions for tables T11 and T12). 2. Includes employment in silvicultural activities such as reforestation, afforestation, thinning, pruning, operation of forest tree nurseries, etc. 3. Includes employment in Christmas tree, rubber and bamboo plantations. 4. Includes employment in support services the activities mentioned above, such as: <ul style="list-style-type: none"> - forest inventories - forest management consulting services - timber value assessments - forest fire fighting and protection - forest pest control - harvesting and transport of logs within the forest 5. <u>Excludes</u> employment in: <ul style="list-style-type: none"> - administration and management of protected areas - forestry research and education - further processing of the goods derived from forests, independently of whether industrial or small-scale
Employment in management of protected areas	Employment in activities related to the management of protected areas with forests.

Reporting table template

FRA categories	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods			
...of which paid employment			
...of which self-employment			
Employment in management of protected areas			

² This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry, logging and related service activities) with the exception of the activities “growing of Christmas trees” and “growing of rubber trees” which are included in the FRA definition but excluded in the ISIC activity A02.

Country statistics based on earlier revisions of ISIC/NACE should note that apart from the exceptions mentioned above, also the collection of mushrooms, truffles, berries and nuts are not included under the ISIC/NACE activity A02.

T 14 Policy and legal framework

T14.1 Rationale

The national policy and the legal framework related to forests provide the fundamental basis for sustainable forest management. Information requested about national forest programmes indicates the status of integration of the forest sector into society. Additional information is requested from countries that have decentralised all or part of the responsibility for forest management to regions/states/provinces.

T14.2 Specifications

Units and reporting years

Unit of reporting	Not applicable
Reporting years	All information in this reporting table should refer to the situation in the year 2008.

General terms and definitions

Term	Definition
Forest policy	A set of orientations and principles of actions adopted by public authorities in harmony with national socio-economic and environmental policies in a given country to guide future decisions in relation to the management, use and conservation of forest and tree resources for the benefit of society.
Forest policy statement	A document that describes the objectives, priorities and means for implementation of the forest policy.
National forest programme (nfp)	A generic expression that refers to a wide range of approaches towards forest policy formulation, planning and implementation at national and sub-national levels. The national forest programme provides a framework and guidance for country-driven forest sector development with participation of all stakeholders and in consistence with policies of other sectors and international policies.
Law (Act or Code) on forest	A set of rules enacted by the legislative authority of a country regulating the access, management, conservation and use of forest resources.

Reporting table template

Indicate the existence of the following (2008)		
Forest policy statement with national scope		<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes above, provide:	Year of endorsement ¹⁾	
	Reference to document	
National forest programme (nfp)		<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes above, provide:	Name of nfp in country	
	Starting year	
	Current status	<input type="checkbox"/> In formulation <input type="checkbox"/> In implementation <input type="checkbox"/> Under revision <input type="checkbox"/> Process temporarily suspended
	Reference to document or web site	
Law (Act or Code) on forest with national scope		<input type="checkbox"/> Yes, specific forest law exists <input type="checkbox"/> Yes, but rules on forests are incorporated in other (broader) legislation <input type="checkbox"/> No, forest issues are not regulated by national legislation
If Yes above, provide:	Year of enactment ²⁾	
	Year of latest amendment	
	Reference to document	

If the responsibility for forest policy- and/or forest law-making is decentralized, please indicate the existence of the following and explain in the comments below the table how the responsibility for forest policy- and law-making is organized in your country.	
Sub-national forest policy statements	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes above, indicate the number of regions/states/provinces with forest policy statements	
Sub-national Laws (Acts or Codes) on forest	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes above, indicate the number of regions/states/provinces with Laws on forests	

Notes:

1. The forest policy statement is endorsed when it is officially recognised as a government policy or instruction. The endorsement is formalised by a dated and signed document.
2. The Law is enacted when the legislative authority adopted its text.

T 15 Institutional framework

T15.1 Rationale

Effective forest policy formulation and implementation depends on the institutional capacity of national and sub-national forest agencies. Many such agencies are also responsible for the enforcement of forest laws and regulations. This table provides information about the managerial and technical capacities of the main forest-related public institutions in the country for implementing sustainable forest management. Information provided includes the number and qualification of staff as well the breakdown by gender.

T15.2 Specifications

Units and reporting years

Unit of reporting	Table 15a: Not applicable Table 15b: Number of persons, percent female
Reporting years	Table 15a: 2008 Table 15b: 2000, 2005 and 2008

Categories and definitions

Term	Definition
Minister responsible for forest policy-making	Minister holding the main responsibility for forest issues and the formulation of the forest policy. <u>Explanatory note</u> 1. The title includes the full name of the Ministry and often translates the development orientation given to the forest sector.
Head of Forestry	The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests. <u>Explanatory note</u> 1. The Head of Forestry can be a high Government Officer within a Ministry, but can also be the head of a public forest agency.
Level of subordination	Number of administrative levels between the Head of Forestry and the Minister. <u>Examples</u> 1. Level 1: The Head of Forestry reports directly to the Minister. 2. Level 2: The Head of Forestry reports to a vice-Minister (or equivalent) who in turn reports to the Minister. 3. Level 3: The Head of Forestry reports to a Department Director (or equivalent). The Department director reports to the vice-Minister who reports to the Minister.
University degree	Qualification provided by University after a minimum of 3 years of post secondary education.

Reporting table template

Table 15a – Institutions

FRA categories	2008
Minister responsible for forest policy formulation : please provide full title	
Level of subordination of Head of Forestry within the Ministry	<input type="checkbox"/> 1 st level subordination to Minister <input type="checkbox"/> 2 nd level subordination to Minister <input type="checkbox"/> 3 rd level subordination to Minister <input type="checkbox"/> 4 th or lower level subordination to Minister
Other public forest agencies at national level	
Institution(s) responsible for forest law enforcement	

Notes:

1. If more than one Minister is responsible for forest issues and formulation of forest policy, please indicate in comments and describe how the responsibilities are shared.
2. If more than one institution is responsible for forest law enforcement, please provide explanation in the comments below the table on how the responsibilities are shared.

Table 15b – Human resources

FRA categories	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff						
...of which with university degree or equivalent						

Notes:

1. Includes human resources within public forest institutions at sub-national level
2. Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

T 16 Education and research

T16.1 Rationale

To achieve sustainable forest management, forest research and education capacities and programmes are needed. This table will provide gender disaggregated time series of number and qualification of graduated forest students and researchers, indicating the national capacities to achieve sustainable forest management.

T16.2 Specifications

Units and reporting years

Unit of reporting	Number of persons
Reporting years	2000, 2005 and 2008

Categories and definitions

Term	Definition
Forest-related education	Post-secondary education programme with focus on forests and related subjects.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years. <u>Explanatory notes</u> 1. Corresponds to the second stage of the tertiary education (level 6 ISCED). 2. It typically requires the submission of a thesis or dissertation of publishable quality which is the product of original research and represents a significant contribution to knowledge. 3. Usually two to three years of post-graduate studies after a master's degree.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years. <u>Explanatory notes</u> 1. Corresponds to the first stage of tertiary education (level 5 ISCED). 2. Usually two years of post-graduate studies after a bachelor's degree.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years. <u>Explanatory note</u> 1. Corresponds to post-secondary non tertiary education (level 4 ISCED).
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions.

Reporting table template

FRA categories	Graduation ¹⁾ of students in forest-related education					
	2000		2005		2008	
	Number	% Female	Number	% Female	Number	% Female
Master's degree (MSc) or equivalent						
Bachelor's degree (BSc) or equivalent						
Technician certificate / diploma						
FRA categories	Professionals working in publicly funded forest research centres ²⁾					
	2000		2005		2008	
	Number	% Female	Number	% Female	Number	% Female
Doctor's degree (PhD)						
Master's degree (MSc) or equivalent						
Bachelor's degree (BSc) or equivalent						

Notes:

1. Graduation refers to the number of students that have successfully completed a Bachelor's or higher degree or achieved a certificate or diploma as forest technician.
2. Covers degrees in all sciences, not only forestry.

T 17 Public revenue collection and expenditure

T17.1 Rationale

Revenue collected from the forest sector is an indication of the contribution of the sector to government finances and, conversely, public sector expenditure on forests is an indication of government support for forest sector. There is little information available about the financial flows between the forest sector and governments and, in particular, the expenditure of governments in support of sustainable forest management. This table will provide information about the total amount of money collected by governments from the forest sector and total public expenditure on forest activities.

Total government expenditure includes expenditure on forest activities of all relevant institutions (except publicly owned business entities)³ and is divided into operational expenditure and transfer payments (payments to support non-governmental and private sector forest related activities, e.g. as grants and subsidies). Both of these types of expenditure are further subdivided by source of funding (domestic or external). Information is collected for 2000 and 2005 to indicate trends in the total amount and structure of government expenditure on forest sector.

T17.2 Specifications

Units and reporting years

Unit of reporting	1000 local currency
Reporting years	2000 and 2005

Categories and definitions

Category	Definition
Forest revenue	<p>All government revenue collected from the domestic production and trade of forest products and services. For this purpose, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.</p> <p><u>Explanatory notes</u></p> <p>1. It includes: all charges collected <u>specifically</u> from individuals and enterprises engaged in the production of forest products and services (e.g. concession fees and royalties, stumpage payments, public timber sales revenue, taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest-related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for hunting, recreation and other forest related activities).</p>

³ Where it is impossible or inappropriate to separate the activities of publicly owned business entities from other public sector activities in forest sector, this should be noted and both income and expenditure of the entities should be included in the tables.

	<p>2. It <u>excludes</u>: taxes and charges <u>generally</u> collected from all individuals and enterprises (e.g. corporate taxes, payroll taxes, income taxes, land and property taxes, sales or value-added taxes); import taxes or duties levied on forest products; repayments of government loans to individuals and enterprises engaged in the production of forest products and services.</p>
Public expenditure	<p>All government expenditure on forest related activities (further defined below).</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. Correspond to the total budget allocated and spent by all concerned institutions. 2. Include expenditures for administrative functions, reforestation funds, direct support to forest sector (e.g. grants and subsidies) and support to other institutions (e.g. training and research centres). 3. <u>Exclude</u> expenditures in publicly owned business entities.
Operational expenditure (<i>sub-category to Public expenditure</i>)	<p>All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. It includes expenditure on: personnel; materials; operating costs; and capital investment (e.g. buildings, equipment, tools, vehicles and machinery), whether funded by domestic or external sources of finance. It includes expenditure on contract or outsourced activities. It also includes the operating costs associated with any forest sector incentive schemes. 2. It <u>excludes</u> expenditure on: marketing; trade facilitation; general research, education, training; or development projects, where forest is not the main focus of activities.
Transfer payments (<i>sub-category to Public expenditure</i>)	<p>All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities.</p> <p><u>Explanatory notes</u></p> <ol style="list-style-type: none"> 1. It includes: cash grants and subsidies. 2. It <u>excludes</u>: tax incentives; government loans; benefits in kind (free or subsidised materials and/or advice). It also excludes direct financial incentives available to all individuals and enterprises or not specifically related to forest related activities (e.g. relocation grants, employment subsidies, general training grant schemes).
Domestic funding	<p>Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).</p>
External funding	<p>Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions.</p> <p><u>Explanatory note</u></p> <ol style="list-style-type: none"> 1. As far as possible, this should <u>exclude</u> expenditure on technical assistance that is funded directly by the external agency and external funding that is not channelled through the government (e.g. external funding channelled through non-governmental agencies and the private sector).

Reporting table template

Table 17a - Forest revenues

FRA categories	Revenues (1000 local currency)	
	2000	2005
Forest revenue		

Table 17b - Public expenditure in forest sector by funding source

FRA categories	Domestic funding (1000 local currency)		External funding (1000 local currency)		Total (1000 local currency)	
	2000	2005	2000	2005	2000	2005
Operational expenditure						
Transfer payments						
Total public expenditure						
If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply.			<input type="checkbox"/> Reforestation <input type="checkbox"/> Afforestation <input type="checkbox"/> Forest inventory and/or planning <input type="checkbox"/> Conservation of forest biodiversity <input type="checkbox"/> Protection of soil and water <input type="checkbox"/> Forest stand improvement <input type="checkbox"/> Establishment or maintenance of protected areas <input type="checkbox"/> Other, specify below			