



Forestry Department

Food and Agriculture Organization of the United Nations

GLOBAL FOREST RESOURCES ASSESSMENT UPDATE 2005

TERMS AND DEFINITIONS (Final version)

Rome, 2004



The Forest Resources Assessment Programme

Forests are crucial for the well being of humanity. They provide foundations for life on earth through ecological functions, by regulating the climate and water resources and by serving as habitats for plants and animals. Forests also furnish a wide range of essential goods such as wood, food, fodder and medicines, in addition to opportunities for recreation, spiritual renewal and other services.

Today, forests are under pressure from increasing demands for land-based products and services, which frequently leads to the conversion or degradation of forests into unsustainable forms of land use. When forests are lost or severely degraded, their capacity to function as regulators of the environment is also lost, increasing flood and erosion hazards, reducing soil fertility and contributing to the loss of plant and animal life. As a result, the sustainable provision of goods and services from forests is jeopardized.

FAO, at the request of the member nations and the world community, regularly monitors the world's forests through the Forest Resources Assessment Programme. The Global Forest Resources Assessment 2000 (FRA 2000) reviewed the forest situation by the end of the millennium. FRA 2000 included country-level information based on existing forest inventory data, regional investigations of land-cover change processes and a number of global studies focusing on the interaction between people and forests. The FRA 2000 Main report is published in print and is available on the World Wide Web.

The Global Forest Resources Assessment update 2005 (FRA 2005) has been requested by the FAO Committee on Forestry in 2003. The FRA 2005 will use common thematic areas of the Criteria for Sustainable Forest Management as a reporting framework. FRA 2005 will also focus on the specific conditions and issues in each country.

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The FRA Working Paper Series provides an important forum for the rapid release of preliminary findings needed for validation and to facilitate the final development of official quality-controlled publications. Should users find any errors in the documents or have comments for improving their quality they should contact fra@fao.org.

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Abbreviations

AG	Advisory Group to FRA
CBD	Convention on Biological Diversity
FAO	Food and Agriculture Organization of the United Nations
FRA	The FAO-led Global Forest Resources Assessment
GPG	Good Practice Guidance of the IPCC
ILO	International Labour Organization
IPCC	Intergovernmental Panel on Climate Change
IUCN	The World Conservation Union
LULUCF	Land Use, Land Use Change and Forestry
FRA 2005	Global Forest Resources Assessment update 2005, www.fao.org/forestry/fra2005
NC	National Correspondent to FRA, http://www.fao.org/forestry/site/fra-nc/en
NWFP	Non Wood Forest Product
SFM	Sustainable forest management
UNECE	United Nations Economic Commission for Europe
WP	Working Paper

1 Introduction

1.1 Terms and Definitions

Variations in definitions, however minor, increase the likelihood of divergent outcomes. Definitions are, therefore, the corner stone of any information and knowledge system. The definitions draw contextual and conceptual boundaries around various subsets of a data set as well as around the elements of the data set as a whole. The usefulness of a definition in any given context depends on its ability to prevent the rest (subset or elements) from intruding into the boundary. The description of the parameters of these boundaries constitutes the definition.

In a forest resources assessment, definitions draw boundaries around various sets or subsets of data on the extent, structure or characteristics, stocks, goods, services, management and use of forest resources. The context usually includes the environmental, ecological, landscape, administrative, silvicultural and legal frameworks in which forests reside.

The global forest resource assessment reports have always provided a set of definitions as the basis for their information content. The development of such a set of definitions is necessary for producing compatible information across countries and time and to facilitate harmonization of information with that provided to/by other international agencies and processes.

1.2 Purpose of this document

This Working Paper specifies the terms and definitions used for the Global Forest Resources Assessment 2005. The use of the terms and definitions is essential for global monitoring across countries and for presenting FRA 2005 report which will include global tables and thematic assessments. This working paper should be regarded as an authoritative document on the terms and definitions for FRA 2005.

The paper is distributed as part of the communication process between the FAO, the UNECE secretariat and all National Correspondents. It can be used in meetings and training at all levels aiming to build national capacity for forest resources assessment and reporting in general, and to improve country reports to FRA 2005 in particular. The set of terms and definition for FRA 2005 can also be found on the official web page of FRA 2005 (<http://www.fao.org/forestry/site/fra2005-terms/en>) at the Forestry Department's web site.

This Working Paper 83 forms part of the series of working papers released by the FRA Programme and which comprises the main reference documentation for the FRA 2005 reporting process.

The FRA 2005 documentation also includes: *Specification of National Reporting Tables for FRA 2005* (WP 81) and the *Guidelines for country reporting to FRA 2005* (WP 82).

For more details on FRA Programme, please follow these links:

www.fao.org/forestry/fra	Homepage for FRA
www.fao.org/forestry/kotka4	Kotka IV Expert consultation
www.fao.org/forestry/fra-ag	FRA Advisory Group
www.fao.org/forestry/fra-nc	FRA National Correspondents
www.fao.org/forestry/fra2005	FRA Update 2005

1.3 Structure of the document

The first section contains the final version of the *Terms and Definitions* for the National Reporting Tables to FRA 2005. The draft version of these terms and definitions (Working Paper 73) was revised, based on inputs from the National Correspondents Training Session, held in Rome in November 2003, and the FRA Advisory Group.

These terms and definitions were first published on the web but, in response to requests from the FRA 2005 National Correspondents, it was decided to collate all the definitions and prepare a paper version of the final document.

The second section contains a compilation of additional terms and definitions related to the FRA process. Some were included in the *FRA 2000 Main Report*, others have gone through a less rigorous consultative process, they have only been included to aid the reporting for FRA 2005 and shouldn't be considered as official FAO definitions.

2 Terms and Definitions for the National Reporting tables for FRA 2005

This section provides the terms and definitions used for the 15 tables in FRA 2005 with explanatory notes. The FRA Reporting Tables, to which the term is mainly related, are also indicated.

BIOMASS

Organic material both above-ground and below-ground, and both living and dead, e.g., trees, crops, grasses, tree litter, roots etc. Biomass includes the pool definition for above - and below - ground biomass.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

The term is mainly related to FRA 2005 National Reporting Table T6.

(Note however that countries are not requested to provide information on the biomass of Litter for FRA 2005)

Above-ground biomass

All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

Explanatory note:

1. Where the forest understorey is a relatively small component of the above-ground biomass, it is acceptable to exclude it, provided this is done in a consistent manner throughout the inventory time series.

The term is mainly related to FRA 2005 National Reporting Table T6.

Below-ground biomass

All living biomass of live roots. Fine roots of less than (suggested) 2mm diameter are sometimes excluded because these often cannot be distinguished empirically from soil organic matter or litter.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

Explanatory notes:

1. May include 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.

The term is mainly related to FRA 2005 National Reporting Table T6.

Dead wood biomass

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.

Explanatory note:

1. The country may use another threshold value than 10 cm, but in such a case the threshold value used must be documented.

The term is mainly related to FRA 2005 National Reporting Table T6.

CARBON STOCK

The quantity of carbon in a “pool”, meaning a reservoir or system which has the capacity to accumulate or release carbon.

Explanatory note:

1. For FRA 2005 purposes, examples of carbon pools are Living biomass (including Above and below-ground biomass); Dead organic matter (including dead wood and litter); Soils (soils organic matter). The units are mass.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

Carbon in above-ground biomass

Carbon in all living biomass above the soil, including stem, stump, branches, bark, seeds, and foliage.

Explanatory note:

1. Where the forest under-storey is a relatively small component of the above ground biomass carbon pool, it is acceptable to exclude it, provided this is done in a consistent manner throughout the inventory time series.

The term is mainly related to FRA 2005 National Reporting Table T7.

Carbon in below-ground biomass

Carbon in all living biomass of live roots.

Explanatory notes:

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.
3. Fine roots of less than 2 mm diameter are excluded, because these often cannot be distinguished empirically from soil organic matter or litter.

The term is mainly related to FRA 2005 National Reporting Table T7.

Carbon in dead wood biomass

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.

Explanatory note:

1. The country may use another threshold value than 10 cm, but in such a case the threshold value used must be documented.

The term is mainly related to FRA 2005 National Reporting Table T7.

Carbon in litter

Carbon in all non-living biomass with a diameter less than a minimum diameter chosen by the country in various states of decomposition above the mineral or organic soil. This includes the litter, fomic, and humic layers.

Explanatory note:

1. Live fine roots of less than 2 mm (or other value chosen by the country as diameter limit for below-ground biomass) are included in the litter where they cannot be distinguished from it empirically.

The term is mainly related to FRA 2005 National Reporting Table T7.

Soil Carbon

Organic carbon in mineral and organic soils (including peat) to a specified depth chosen by the country and applied consistently through the time series.

Explanatory note:

1. Live 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.

The term is mainly related to FRA 2005 National Reporting Table T7.

DESIGNATED FUNCTIONS (of Forest and Other wooded land)

For the purpose of FRA 2005 the designated function refers to the function or purpose assigned to a piece of land either by legal prescriptions or by decision of the land owner/manager. It applies to land classified as “Forest” and as “Other wooded land”.

The term is mainly related to FRA 2005 National Reporting Table T3.

Conservation of biodiversity

Forest/Other wooded land designated for conservation of biological diversity.

Explanatory note:

1. Includes, but is not limited to, Protected Areas.

The term is mainly related to FRA 2005 National Reporting Table T3.

Multiple purpose

Forest/Other wooded land designated to any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of socio-cultural services and where none of these alone can be considered as being significantly more important than the others.

The term is mainly related to FRA 2005 National Reporting Table T3.

Primary function

A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set aside for specific purposes.

Explanatory notes:

1. When reporting on Primary function, the sum of areas of forest and other wooded land should match with the totals in table T1.
2. The category Multiple purpose is considered as a primary function when legal prescriptions and/or landowner decisions explicitly assigns functions that correspond to two or more of the designation categories and where none of these is significantly more important than the others.

The term is mainly related to FRA 2005 National Reporting Table T3.

Production

Forest/Other wooded land designated for production and extraction of forest goods, including both wood and non-wood forest products.

The term is mainly related to FRA 2005 National Reporting Table T3.

Protection of soil and water

Forest/Other wooded land designated for protection of soil and water.

The term is mainly related to FRA 2005 National Reporting Table T3.

Social services

Forest/Other wooded land designated for the provision of social services.

Explanatory note:

1. These services may include recreation, tourism, education and/or conservation of cultural/spiritual sites

The term is mainly related to FRA 2005 National Reporting Table T3.

Total area with function

Total area where a specific function has been designated, regardless of whether it is primary or not.

Explanatory notes:

1. When reporting on Total area with function, the designation categories are not exclusive. Hence, areas can be counted more than once e.g.:
 - a. Areas with Multiple purposes as primary function should be counted once for each specific function included in the Multiple purposes.
 - b. Areas with a specific designated primary function should be counted more than once if other, less significant, functions have also been designated.
2. This column does not apply to the categories Multiple purpose and Unknown function.

The term is mainly related to FRA 2005 National Reporting Table T3.

Unknown function

Forest/Other wooded land for which a specific function has not been designated or where the designated function is unknown.

The term is mainly related to FRA 2005 National Reporting Table T3.

DISTURBANCES (affecting forest health and vitality)

A disturbance is defined as *an environmental fluctuation and destructive event that disturb forest health, structure, and/or change resources or physical environment at any given spatial or temporal scale*. Disturbances that affect health and vitality, include biotic agents such as insects and diseases and abiotic agents such as fire, pollution and extreme weather conditions.

(White and Pickett, 1985.

<http://www.mcgregor.bc.ca/publications/InteractionsWithInsectsAndPathogens.pdf>)

The term is mainly related to FRA 2005 National Reporting Table T8.

Disturbance by diseases

Disturbance caused by diseases attributable to pathogens, such as a bacteria, fungi, phytoplasma or virus.

The term is mainly related to FRA 2005 National Reporting Table T8.

Disturbance by fire

Disturbance caused by wildfire, regardless of whether it broke out inside or outside the Forest/Other wooded land.

Explanatory note:

1. A wildfire is any unplanned and uncontrolled wildland fire which, regardless of ignition source, may require suppression response.

The term is mainly related to FRA 2005 National Reporting Table T8.

Disturbance by insects

Disturbance caused by insect pests that are detrimental to tree health.

The term is mainly related to FRA 2005 National Reporting Table T8.

Other disturbance

Disturbance caused by factors other than fire, insects or diseases.

Explanatory note:

1. May includes areas affected by drought, flooding, windfalls, acid rain, etc.

The term is mainly related to FRA 2005 National Reporting Table T8.

EMPLOYMENT

Any type of work performed or services rendered under a contract of hire, written or oral, in exchange for wage or salary, in cash or in kind.

(Based on definitions by ILO and the Employment Security Commission)

Employment related to the Primary production of goods

Employment in activities related to the primary production of goods, such as industrial roundwood, wood fuel and non-wood forest products.

Explanatory notes:

1. Includes employment in direct productive activities such as planting, seeding, silviculture, logging, terrain transport, collection of NWFP, including administrative and supervisory staff in companies that are engaged in such activities.

2. Employment in direct supporting activities to production of goods, such as plant production in nurseries, etc.
3. Contractors working in activities as mentioned under (1) above, even if these are legally considered as self-employed.
4. Employment in direct supervision of these activities by private and/or public entities.

The term is mainly related to FRA 2005 National Reporting Table T15.

Employment related to the Provision of services

Employment in activities directly related to the provision of services by forests and woodlands.

Explanatory notes:

1. Includes employment in activities such as forest-related eco-tourism, establishment and management of protective plantations, guarding of national parks, etc., regardless of whether carried out by private or public entities.
2. Includes employment in direct supervision of these activities by private and/or public entities.

The term is mainly related to FRA 2005 National Reporting Table T15.

Employment in Unspecified forestry activities

Employment in unspecified forestry activities related to the primary production of goods and/or the provision of services by forest.

Explanatory note:

1. Countries may choose to report employment under this category if their data does not permit a separate reporting on the previous categories.

The term is mainly related to FRA 2005 National Reporting Table T15.

ENDANGERED SPECIES

A *taxon* is Endangered when the best available evidence indicates that it meets any of the criteria A to E specified for the Endangered category of the IUCN Red list and it is therefore considered to be facing a very high risk of extinction in the wild.

(For details visit the IUCN website:

<http://www.iucn.org/themes/ssc/RedList2003/English/backgroundEn.htm>)

The term is mainly related to FRA 2005 National Reporting Table T9.

Critically Endangered Species (CR)

A *taxon* is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for the Critically Endangered category of the IUCN Red list and is therefore considered to be facing an extremely high risk of extinction in the wild.

(For details visit the IUCN website:

<http://www.iucn.org/themes/ssc/RedList2003/English/backgroundEn.htm>)

The term is mainly related to FRA 2005 National Reporting Table T9.

Vulnerable Species (VU)

A *taxon* is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable category of IUCN Red list and is therefore considered to be facing a high risk of extinction in the wild.

(For more details visit the IUCN website:

<http://www.iucn.org/themes/ssc/RedList2003/English/backgroundEn.htm>)

The term is mainly related to FRA 2005 National Reporting Table T9.

Native species

A native species is one which naturally exists at a given location or in a particular ecosystem, i.e. it has not been moved there by humans.

(CBD web site: <http://www.biodiv.org/programmes/areas/forest/definitions.asp>)

The term Native species is synonymous with Indigenous species.

The term is mainly related to FRA 2005 National Reporting Table T4 (where it refers to native tree species) and T9.

FOREST AND OTHER WOODED LAND

Forest

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 *in situ*. It does not include land that is predominantly under agricultural or urban land use.

Explanatory notes:

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 *in situ*. Areas under reforestation that have not yet reached but are expected to reach a canopy cover of 10 percent and a tree height of 5 m are included, as are temporarily unstocked areas, resulting from human intervention or natural causes, which are expected to regenerate.
2. Includes areas with bamboo and palms provided that height and canopy cover criteria are met.
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 scientific, historical, cultural or spiritual interest.
4. Includes windbreaks, shelterbelts and corridors of trees with an area of more than 0.5 ha and width of more than 20 m.
5. Includes plantations primarily used for forestry or protection purposes, such as rubber-wood plantations and cork oak stands.
6. Excludes tree stands in agricultural production systems, for example in fruit plantations and agroforestry systems. The term also excludes trees in urban parks and gardens.

The term is mainly related to FRA 2005 National Reporting Table T1.

Other wooded land

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 *in situ*; 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.

The term is mainly related to FRA 2005 National Reporting Table T1.

FOREST CHARACTERISTICS

Modified natural Forest/Other Wooded Land

Forest/Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities.

Explanatory notes:

1. Includes, but is not limited to: selectively logged-over areas, areas naturally regenerating following agricultural land use, areas recovering from human-induced fires, etc.
2. Includes areas where it is not possible to distinguish whether the regeneration has been natural or assisted.

The term is mainly related to FRA 2005 National Reporting Table T4.

Primary Forest/Other wooded land

Forest/Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.

Explanatory note:

1. Includes areas where collection of non-wood forest products occurs, provided the human impact is small. Some trees may have been removed.

The term is mainly related to FRA 2005 National Reporting Table T4.

Productive plantation (in Forest/Other wooded land)

Forest/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.

Explanatory notes:

1. Includes all stands of introduced species established for production of wood or non-wood goods.
2. May include areas of native species characterized by few species, straight tree lines and/or even-aged stands.

The term is mainly related to FRA 2005 National Reporting Table T4.

Protective plantation (in Forest/Other wooded land)

Forest/Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services.

Explanatory notes:

1. Includes all stands of introduced species established for provision of environmental services, such as soil and water protection, pest control and conservation of habitats to biological diversity.
2. Includes areas of native species characterized by few species, straight tree lines and even-aged stands.

The term is mainly related to FRA 2005 National Reporting Table T4

Semi-natural Forest/Other wooded land

Forest/Other wooded land of native species, established through planting, seeding or assisted natural regeneration.

Explanatory notes:

1. Includes areas under intensive management where native species are used and deliberate efforts are made to increase/optimize the proportion of desirable species, thus leading to changes in the structure and composition of the forest.
2. Naturally regenerated trees from other species than those planted/seeded may be present.
3. May include areas with naturally regenerated trees of introduced species.
4. Includes areas under intensive management where deliberate efforts, such as thinning or fertilizing, are made to improve or optimise desirable functions of the forest. These efforts may lead to changes in the structure and composition of the forest.

The term is mainly related to FRA 2005 National Reporting Table T4.

GROWING STOCK

Volume over bark of all living trees more than X cm in diameter at breast height. 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.

Explanatory notes:

1. The countries must indicate the three thresholds (X, Y, W in cm) and the parts of the tree that are not included in the volume. The countries must also indicate whether the reported figures refer to volume above ground or above stump.
2. The diameter is measured at 30 cm above the end of the buttresses if these are higher than 1 meter.
3. Includes windfallen living trees.
4. Excludes: Smaller branches, twigs, foliage, flowers, seeds, and roots.

The term is mainly related to FRA 2005 National Reporting Table T5.

Commercial growing stock

The part of the growing stock that is considered as commercial or potentially commercial under current market conditions (and with a diameter at breast height of Z cm or more).

Explanatory notes:

1. Includes all commercial and potentially commercial (merchantable) species for domestic and international markets.
2. Excludes growing stock on areas where legal, economic or other specific restrictions prevent felling and removal of wood.
3. The countries must indicate the minimum diameter at breast height (Z cm) applied for considering a tree as being commercial.
4. When most species are commercial, i.e. in the temperate and boreal zone, the commercial growing stock can be close to the total growing stock. On the other hand, when only a small fraction of all species is merchantable, it can be considerably smaller.

The term is mainly related to FRA 2005 National Reporting Table T5.

LAND AREA

Total country area excluding area under inland water bodies.

Explanatory notes:

1. The definition of inland water bodies generally includes major rivers and lakes.
2. Validated data in this category are obtained mainly from the United Nations Statistics Division, New York. Possible variations in the data may be due to updating and revisions of the country data and not necessarily to any change of area.

The term is mainly related to FRA 2005 National Reporting Table T1.

Inland water bodies

Inland water bodies generally include major rivers, lakes and water reservoirs.

The term is mainly related to FRA 2005 National Reporting Table T1.

Other land

All land that is not classified as Forest or Other wooded land.

Explanatory notes:

1. Includes agricultural land, meadows and pastures, built-up areas, barren land, etc.
2. If a country has areas with meadows and pastures and it is difficult to determine whether they should be classified as Forest/Other wooded land or as Other land, the country should explain the criteria used and how this classification is done.
3. Includes areas classified under the sub-category Other land with tree cover.

The term is mainly related to FRA 2005 National Reporting Table T1.

Other land with tree cover

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.

Explanatory notes:

1. Includes groups of trees and scattered trees in agricultural landscapes, parks, gardens and around buildings, provided that the area, height and canopy cover criteria are met.
2. Includes tree plantations established mainly for other purposes than wood, such as fruit orchards.

The term is mainly related to FRA 2005 National Reporting Table T1.

OWNERSHIP

Other ownership

Land that is not classified either as Public ownership or as Private ownership.

Explanatory note:

1. Includes land where ownership is not defined or unknown.

The term is mainly related to FRA 2005 National Reporting Table T2.

Private ownership

Land owned by individuals, families, private co-operatives, corporations, industries, private religious and educational institutions, pension or investment funds, and other private institutions.

Explanatory note:

1. Private owners may be engaged in agriculture or other occupations including forestry.

The term is mainly related to FRA 2005 National Reporting Table T2.

Public ownership

Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities and villages.

The term is mainly related to FRA 2005 National Reporting Table T2.

VALUE OF WOOD REMOVAL AND NWFP

Value of wood removal

Value of the wood removed for production of goods and services other than energy production (wood fuel).

Explanatory notes:

1. The value to be reported refers to the market value at the site of removal. Where values are obtained from a point further down the production chain, transport costs and possible handling and/or processing costs should be deducted.
2. If the wood is removed for subsistence use, the value should be calculated based on local market price.
3. The value should be reported excluding taxes.

The term is mainly related to FRA 2005 National Reporting Table T12.

Value of wood fuel removal

Value of the wood removed for energy production purposes, regardless of whether for industrial, commercial or domestic use.

Explanatory notes:

1. The value to be reported refers to the market value at the site of removal. Where values are obtained from a point further down the production chain, transport costs and possible handling and/or processing costs should be deducted.
2. If the wood is removed for subsistence use, the value should be calculated based on local market price.
3. The value should be reported excluding taxes.

The term is mainly related to FRA 2005 National Reporting Table T12.

Value of Non-Wood Forest Product removal

Value of the annual removal of primary Non-Wood Forest Products (NWFP).

Explanatory notes:

1. The value to be reported refers to the market value at the site of removal. Where values are obtained from a point further down the production chain, transport costs and possible handling and/or processing costs should be deducted.
2. If the NWFP is removed for subsistence use, the value should be calculated based on local market price.
3. The value should be reported excluding taxes.

The term is mainly related to FRA 2005 National Reporting Table T14.

WOOD AND NWFP REMOVAL

Wood removal

The wood removed (volume of round wood over bark) for production of goods and services other than energy production (wood fuel).

Explanatory notes:

1. The term removal differs from felling as it excludes felled trees left in the forest.

2. Includes removal from fellings in an earlier period and from trees killed or damaged by natural causes.
3. Includes removal by local people or owners for their own use.

The term is mainly related to FRA 2005 National Reporting Table T11.

Wood fuel removal

The wood removed for energy production purposes, regardless of whether for industrial, commercial or domestic use.

Explanatory notes:

1. Wood fuel includes wood collected or removed directly from Forest or Other wooded land for energy purposes only and excludes wood fuel which is produced as a by-product or residual matter from the industrial processing of round wood.
2. Includes removal from fellings in an earlier period and from trees killed or damaged by natural causes.
3. Includes removal by local people or owners for their own use.

The term is mainly related to FRA 2005 National Reporting Table T11.

Non-Wood Forest Product removal

Annual removal of a Non-Wood Forest Product (NWFP) from Forest and Other wooded land.

The term is mainly related to FRA 2005 National Reporting Tables T13 and T14.

3 Additional terms and definitions related to forest resources assessment

Afforestation

Establishment of forest plantations on land that, until then, was not classified as forest. Implies a transformation from non-forest to forest.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Area of a country

For the purpose of FRA 2005, the area of a country is its area figure maintained by the United Nations Statistics Division, New York.

Explanatory note:

1. For FRA 2005, it is the total of the areas under Forests, Other wooded lands, Other land, and Inland water bodies.

The term is mainly related to FRA 2005 National Reporting Table T1.

Assisted natural regeneration

Natural regeneration of forest/other wooded land with deliberate human intervention aimed at enhancing the ability of desired species to regenerate

Explanatory notes:

1. Interventions may include removal of external pressures, such as weeds and biotic interference; the application of controlled disturbances to trigger germination of native species such as mosaic and or ecological burns; or the preparation of the germination site e.g. through scarification.
2. The source of seed or vegetative reproduction is limited to the site and its immediate surroundings and may comprise both native and introduced species.

The term is mainly related to FRA 2005 National Reporting Table T4.

Basic wood density

Ratio between oven dry mass and fresh stem-wood volume without bark. It allows calculation of woody biomass in dry matter mass.

(IPCC. 2003. *Good Practice Guidance for LULUCF – Glossary*)

Biodiversity

It's 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.

(Convention on Biological Diversity, art 2:

<http://www.biodiv.org/convention/articles.asp?lg=0&a=cbd-02>)

The term is mainly related to FRA 2005 National Reporting Tables T9 and T10.

Biomass Expansion Factor (BEF)

Is a multiplication factor that expands growing stock, or commercial round-wood harvest volume, or growing stock volume increment data, to account for non-merchantable biomass components such as branches, foliage, and non-commercial trees.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

Canopy cover

The percentage of the ground covered by a vertical projection of the outermost perimeter of the natural spread of the foliage of plants. Cannot exceed percent. (Also called crown closure) Same as crown cover.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

Deforestation

The conversion of forest to another land use *or* the long-term reduction of the tree canopy cover below the minimum 10 percent threshold.

Explanatory notes:

1. Deforestation implies the long-term or permanent loss of forest cover and implies transformation into another land use. Such a loss can only be caused and maintained by a continued human-induced or natural perturbation.
2. Deforestation includes areas of forest converted to agriculture, pasture, water reservoirs and urban areas.

3. The term specifically excludes areas where the trees have been removed as a result of harvesting or logging, and where the forest is expected to regenerate naturally or with the aid of silvicultural measures. Unless logging is followed by the clearing of the remaining logged-over forest for the introduction of alternative land uses, or the maintenance of the clearings through continued disturbance, forests commonly regenerate, although often to a different, secondary condition. In areas of shifting agriculture, forest, forest fallow and agricultural lands appear in a dynamic pattern where deforestation and the return of forest occur frequently in small patches. To simplify reporting of such areas, the net change over a larger area is typically used.
4. Deforestation also includes areas where, for example, the impact of disturbance, overutilization or changing environmental conditions affects the forest to an extent that it cannot sustain a tree cover above the 10 percent threshold.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Dry biomass (or dry matter)

Dry matter refers to biomass that has been dried to an oven-dry state, often at 70C.

(IPCC. 2003. *Good Practice Guidance for LULUCF - Glossary*)

Fellings

Volume (over bark) of all trees, living or dead, above 10 cm diameter at breast height, felled annually in Forest and Other wooded land.

Explanatory notes:

1. It includes volume of all felled trees whether or not they are removed from “forest” and “other wooded land”.
2. It includes silvicultural and pre-commercial thinning and cleanings of trees of more than 10 cm diameter left in the forest, and natural losses that are recovered.

The term is mainly related to FRA 2005 National Reporting Table T11.

Forest degradation

Changes within the forest which negatively affect the structure or function of the stand or site, and thereby lower the capacity to supply products and/or services.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Forest improvement

Changes within the forest which positively affect the structure or function of the stand or site, and thereby increase the capacity to supply products and/or services.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Forest management

The processes of planning and implementing practices for the stewardship and use of forests and other wooded land aimed at achieving specific environmental, economic, social and /or cultural objectives.

Explanatory note:

1. Includes management at all scales such as normative, strategic, tactical and operational level management.

Forest plantation

Forest stands established by planting or/and seeding in the process of afforestation or reforestation. They are either of introduced species (all planted stands), or intensively managed stands of indigenous species, which meet all the following criteria: one or two species at plantation, even age class, regular spacing.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Forest resources

For the purposes of the global forest resources assessments, forest resources include those found in forests and other wooded land and as trees outside forests.

Growing stock composition

The composition of the Growing stock in Forest and Other wooded land by (each inventoried) forest tree species.

Explanatory notes:

1. For FRA 2005 the focus is on the ten most common forest tree species in terms of total growing stock.
2. It is based on forest inventories at national, sub-national and local level implemented during a given time period (last five years).

The term is mainly related to FRA 2005 National Reporting Table T10.

Intensive forest management

A regime of forest management, where silvicultural practices define the structure and composition of forest stands. A formal or informal forest management plan exists.

Explanatory note:

1. A forest is not under intensive management, if mainly natural ecological processes define the structure and composition of stands.

The term is mainly related to FRA 2005 National Reporting Table T4.

Introduced species

A species introduced outside of its normal past and current distribution.

Explanatory note:

1. Its synonyms are "alien species" and "exotic species".

The term is mainly related to FRA 2005 National Reporting Table T4.

Litter

Includes all non-living biomass with a diameter less than a minimum diameter chosen by the country for lying dead (for example 10 cm), in various states of decomposition above the mineral or organic soil. This includes the litter, fomic, and humic layers. Live fine roots (of less than the suggested diameter limit for below-ground biomass) are included in litter where they cannot be distinguished from it empirically.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

The term is mainly related to FRA 2005 National Reporting Tables T6 and T7.

Managed Forest/Other wooded land

Forest and other wooded land that is managed in accordance with a formal or an informal plan applied regularly over a sufficiently long period (five years or more).

Note:

The definition was adapted to the different needs of each world region. See: Area under forest management plan in 2000, pages 373-374 of the reference below.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Mineral soil

A soil in Forest and Other wooded land which is not “organic soil”.

Explanatory note

1. Nearly all soils contain more than traces of both mineral and organic components but some are dominating in one or the other. The soil horizons that are less than about 20 to 35 percent organic matter by weight have properties that are closer to “mineral soils” than to “organic soils”.
2. If a soil has both organic and mineral horizons, then the cumulative thickness of both types of horizon are estimated to classify the soil into mineral or organic class.

(IPCC. 2003. *Good Practice Guidance for LULUCF - Glossary*)

The term is mainly related to FRA 2005 National Reporting Table T7

Natural expansion of forest

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). Implies a transformation from non-forest to forest.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Natural forest

A forest composed of indigenous trees and not classified as a forest plantation.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Non-Wood Forest Product (NWFP)

A product of biological origin other than wood derived from forests, other wooded land and trees outside forests.

(FAO, NWFP website: <http://www.fao.org/forestry/site/6388/en>)

Explanatory notes:

1. NWFP may be gathered from the wild or produced in forest plantations in Forest or Other wooded land.
2. FRA 2005 classifies NWFPs into 16 categories. The plant products are classified into 8 categories (food; fodder; raw material for medicine and aromatic products; colorants and dyes; utensils, handicrafts and construction; ornamental plants; exudates and other plants products). The animal products are classified into 8 categories (living animals; hides, skins and trophies; wild honey and bee-wax; bush meat; raw material for medicines; raw material for colorants; other edible animal products and other non-edible animal products).

The term is mainly related to FRA 2005 National Reporting Tables T13 and T14.

Organic soil

A soil in “forest and “other wooded land” is an organic soil (*Histosol*) if it satisfies any one of the following conditions:

- a. If the soil is never saturated with water for more than a few days and contains more than 20 percent carbon (about 35 percent humus); or
- b. If the soil is subject to water saturation episodes and has either ;
 - At least 12 percent organic carbon (about 21 percent humus) if it has no clay; or
 - At least 18 percent organic carbon (about 31 percent humus) if it has 60 percent or more clay
 - An intermediate, proportional amount of organic carbon for intermediate amounts of clay.

Explanatory note:

1. Soils that do not satisfy the criteria for classification as organic soils are mineral soils.

(IPCC. 2003. *Good Practice Guidance for LULUCF* - Glossary)

The term is mainly related to FRA 2005 National Reporting Table T7

Plantation forest / other wooded land

Forest/other wooded land of introduced species, and in some cases native species, established through planting or seeding.

Explanatory notes:

1. Includes all stands of introduced species established through planting or seeding.
2. May include areas of native species characterized by few species, even spacing and/or even-aged stands
3. Plantation forest is a sub-set of planted forest.

Planted forest / other wooded land

Forest/other wooded land in which trees have been established through planting or seeding.

Explanatory note:

1. Includes all stands established through planting or seeding of both native and introduced species.

Reforestation

Establishment of forest plantations on temporarily unstocked lands that are considered as forest.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

Secondary forest

Forest regenerated largely through natural processes after significant human or natural disturbance of the original forest vegetation.

Explanatory notes:

1. The disturbance may have occurred at a single point in time or over an extended period;
2. The forest may display significant differences in structure and/or canopy species composition in relation to nearby primary forest on similar sites

Shrub

It refers to vegetation types where the dominant woody elements are shrubs i.e. woody perennial plants, generally more than 0.5 meters and less than 5 meters in height at maturity

and without a definite crown. The height limits for trees and shrubs should be interpreted with flexibility, particularly the minimum tree and maximum shrub height, which may vary between 5 meters and 7 meters.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

The term is mainly related to FRA 2005 National Reporting Table T1.

Silviculture

The art and science of controlling the establishment, growth, composition, health and quality of forest and woodlands to meet the targeted diverse needs and values of landowners and society on a sustainable basis.

(web: <http://www.iufro.org/>)

The term is mainly related to FRA 2005 National Reporting Table T15.

Tree

A woody perennial with a single main stem, or in the case of coppice with several stems, having a more or less definite crown.

Explanatory note:

1. Includes bamboos, palms, and other woody plants meeting the above criteria.

(FAO. 2001. *Global Forest Resources Assessment FRA 2000 – Main report*. Rome)

The term is mainly related to FRA 2005 National Reporting Tables T1 and T9.

Trees outside forests

Trees outside forests include all trees found outside forests and outside other wooded lands:

- stands smaller than 0.5 ha;
- tree cover in agricultural land, e.g. agroforestry systems, homegardens, orchards;
- trees in urban environments;
- along roads and scattered in the landscape.

(web: <http://www.fao.org/forestry/site/tof/en>)

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