GLOBAL FOREST RESOURCES ASSESSMENT 2015

COUNTRY REPORT

United Republic of Tanzania

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world´s forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).
The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (http://www.fao.org/3/a-au190e.pdf). These reports were submitted to FAO as official government documents.

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Introductory Text

National Context

About 55% of theTanzania's 88 359 000 hectares total land area is covered by forests and woodlands that provide for wildlife habitat, unique natural ecosystems and biological diversity and water catchments amounting to 1.6 million hectares. These forests are however faced with deforestation at a rate of 372000 ha per annum, which results from heavy pressure from agricultural expansion, livestock grazing, wild fires, over-exploitation and unsustainable utilization of wood resources and other human activities mainly in the general lands.

Policies

The NFP is an instrument meant to implement the National Forest Policy, which was approved by the Government in 1998. The policy takes cognisance of macro-economic and other sectoral policies ranging from environmental conservation to sustainable development of the land based natural resources. Major policies that have a bearing on the forest sector include the Environmental Policy and Land Policy. The formulation of respective legislation and their operationalization will enhance sustainable forest management mainly in the general lands and cross-sectoral areas.

Justification

The National Forest Programme was developed in order to address the challenging responsibilities in the near future and to increase the forest sector's contribution to the national economy and more so in poverty reduction. Forests and trees play multiple roles in the rural life of majority of Tanzanian people especially women and marginal groups in relation to food security, rural energy supply and household subsistence. Forests are increasingly becoming important in the local and global environmental and biodiversity conservation. This

programme would significantly enhance not only sustainable forest management (SFM) but also improve the design and implementation of projects and programmes which have so far been fragmented and uncoordinated.

Objectives

Recognizing the ever increasing environmental degradation and loss of forest resources, Tanzania embarked on developing a long-term National Forest Programme to implement the National Forest Policy. The objectives of the NFP development programmes are (i) sustainable supply of forest products and services ensured to meet the needs at the local and national levels; (ii) enhanced national capacity to manage and develop the forest sector in a collaborative manner; (iii) enabling legal and regulatory framework for the sector in place and (iv) increased economic contribution, employment and foreign exchange earnings through sustainable forest-based industry development and trade of forest products.

Development Programmes

The National Forest Programme (NFP) is based on four implementation programmes that cover both forest resources management as well as institutional and human resources development aspects. The programmes are: (i) Forest Resources Conservation and Management programme which aims at promoting gender balanced stakeholders participation in the management of natural and plantation forests, giving priority to ecosystems conservation, catchment areas and sustainable utilization of forest resources; (ii) Institutions and Human Resources Development programme which aims at strengthening institutional set up, coordination of forest management, establishing sustainable forest sector funding and improvement in research, extension services and capacity building through strengthening human resources; (iii) Legal and Regulatory Framework programme which focuses on the development of regulatory issues including the Forest Act, rules, regulations and guidelines to facilitate operations of the private sector and participatory management, and (iv) Forestry Based Industries and Sustainable Livelihoods programme which is intended to enhance forest industry development by promoting private sector investment, improving productivity and efficiency and to tap the income generation opportunities provided by non wood forest products. More information on the Tanzania National Forest Programme (NFP) can be found at the website www.nfp.co.tz However, the National Forest programme is under review during the preparation of this report.

Desk Study?

Check "yes" if this survey is a Desk Study, "no" otherwise	
Desk Study?	no

1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

1.1 Categories and definitions

Category	Definition
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.
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 ; 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.
Other land	All land that is not classified as "Forest" or "Other wooded land".
...of which with tree cover *(sub-category)*	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span 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. It includes bothe forest and non-forest tree species.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.
Forest expansion	Expansion of forest on land that, until then, was not defined as forest.
...of which afforestation *(sub-category)*	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest.
...of which natural expansion of forest *(sub-category)*	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).
Deforestation	The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold.
...of which human induced *(sub-category)*	Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold.
Reforestation	Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.
...of which artificial reforestation *(sub-category)*	Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.

1.2 National data

1.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments

1	Millington, A., and Towsend, J. (eds.) 1989. Biomass assessment. Woody biomass in the SADC region. Earth scans Publication Ltd. London. UK.	Definition and Land use cove	1984	N/A
2	Hunting, Technical Services. 1997. National reconnaissance Level Land Use and Natural Resources Mapping	Forest Cover, Land use cover classification	1995	N/A
3	Ministry of Natural Resources and Tourism. 2001. The Tanzania National Forest Programme 2001-2010, Government Printers.	Land use	2001	N/A
4	Ministry of Natural Resources and Tourism. 2012. Participatory Forest Management in Tanzania, Facts and Figures.	Forest Trends Woodland Trends	2012	N/A
5	Ministry of Natural Resources and Tourism. 2010 National Forest Resources Monitoring and Assessment Biophysical Manual.	Protocal for National Forest Inventory	2010	N/A
6	Ministry of Natural Resources and Tourism 2014 National Forest Resources Monitoring and Assessment (NAFORMA) Final Report.	Forest and Woodlands extent, Biomass, and Above ground, Below ground, Soil and litter carbon	2014	N/A

1.2.2 Classification and definitions

National class	Definition
FOREST	A continuous stand of trees many of which may attain a height of 50 m. Species composition is quite different from that of the woodland except in areas where Forest has been disturbed and pioneer species dominate temporarily. The most important discrimination concerns the structure of the stand. True high forest has three canopy layers; emergents, middle and lower canopy. The main canopy of semi-mature and mature trees dominates the structure, with a regenerative canopy beneath. Occasional emergents or

WOODLAND	40%), Open (crown cover between 10–40%) and Woodland with Scattered Cropland " /> This is largest vegetation type in Tanzania. Canopy coverage in woodland typically ranges between 20–80%, and height between 5–20 m although occasionally being taller. Wet woodland is dominated by Brachystegia/Julbernadia sp. (Miombo woodland). Dry woodland is usually dominated by Acacia. The distinction between Closed Woodland and Open Woodland is made at a perceived canopy closure of 40 percent. One essential feature is that the trees should possess recognizable stems, normally single, that may be measured for both diameter and height. This infers the presence of a marketable timber product, which may be important for the future development planning. Woodland is characterized by only two main strata - the main canopy itself, which may vary widely in species composition but is generally uniform in stature, and a shrub / herb-layer beneath, which often contains regenerating saplings of the species comprising the main canopy. The density of this understorey layer is closely dependent upon the closure of the upper canopy and light penetration to ground level. In areas of Closed Woodland, the ground cover layer may be almost absent. Most woodlands are deciduous. Therefore the best time to choose satellite imagery is May- July when rains have stopped and the trees are in full flush. They include Closed (crown cover>40%), Open (crown cover between 10–40%) and Woodland with Scattered Cropland
BUSHLAND	Bush-land differs from Woodland in two principal ways. Stature is less, rarely exceeding 5 m and normally between 1–3 m in height. Single-stemmed plants are almost nonexistent. The exception is when there are occasional trees termed as emergents. Bush-land is fundamentally defined as being predominantly comprised of plants that are multi-stemmed from a single root base. Bush-land is one of the most varied types with four sub-divisions. The four subtypes of bush-land are as follows: Thicket, Dense bush-land, Bush-land with scattered cultivation and Open bush-land. Bushland also occurs in a wide range of densities. As Dense bushland or Open bushland, this may be merely temporary, as it often forms little more than a fallow stage in shifting agricultural or charcoal production areas. Given time the cover may change to a Wood land or Forest. A typical example of bush land as a result of charcoal production is Bwawani beside the Dar es Salaam-Morogoro road. However as Thicket it may be argued a local climax. The best example is the Itigi thicket where, ecologically this vegetation is not expected to change. Both thicket and bushland may be interrupted by cropland and may have emergent trees.
GRASSLAND	Grassland is another type possessing marked variety, with four sub types. Wooded grassland, Bushed grassland, Grassland with scattered cultivation and Open grassland. Open Grassland, is mostly confined, to the plains of the Serengeti, Masai Steppe, and to alpine areas of the Southern Highlands where exposure and edaphic conditions do not allow the natural development of anything more than a grass or herb. For the most part, this type occurs as its Sub-types in combination with either a limited Wooded or Bushed component, or with scattered subsistence cultivation. In addition, many areas mapped as grassland may be associated with seasonally inundated areas referred to as

CULTIVATED LAND	Four sub-types are recognizable within the Cultivated land class, Agroforestry systems, Wooded crops, Herbaceous crops and Grain crops. The physiognomy varies widely in accordance with the significance of the tree and crop component associated with each sub-class. The agroforestry systems contain permanent tree crops (timber and fruit), which are mixed with permanent and annual agricultural crops (yam, beans, banana, coffee, etc) such as the Chagga, Meru and Haya (Bukoba) home gardens are recognized as one sub-type. The tree crops (Gravillea, Albizia, Cordia, Citrus, Acrocarpus, etc) which form the upper canopy act as shade to the lower canopy crops (banana, coffee, beans). Cultivation with herbaceous crops (e.g. cotton, vegetables,sisal, tobacco,flowers etc) where the tree component may be reduced to the occasional fruit tree or trees retained to demarcate field boundaries. Cultivation with Grain Crops is a sub-class that approaches open grassland where the role of trees are often diminished. The physiognomy approaches a Closed woodland, or Woodland with scattered cropland. The sub-types for cultivated land are therefore: Agro-forestry systems, Cultivated land with wooded crops, Cultivated land with herbaceous crops and Cultivated land with grain crops. Here the role of the trees as shade provider is diminished. At the other extreme, cultivation with pure woody crops of cashew, tea, coffee, mango, citrus, jackfruit and coconut are common and identifiable as a sub-class where the physiognomy approaches a Closed woodland, or Woodland with scattered cropland.
OPEN LAND	There are four Open Land sub-types included in the classification as follows: Bare soil, Costal bare lands, Rock outcrops and Ice cap/snow. The common feature is that vegetation cover is almost or entirely absent in each case, although many rock outcrops often bear small pockets of xerophytes that are botanically very interesting. These units are not represented extensively upon the maps. Bare Soil type may be more widely represented, but is generally confined to the larger lake shores and disturbed areas.
WATER FEATURES	Water Features include: Ocean, Inland water, Wetlands. Inland water bodies are recognized to the level of the minimum mapping unit (equivalent to about 100 ha). Wetlands are water logged seasonally inundated areas, and this Sub-class is quite extensive, particularly in the western part of the country (in the shallow catchments feeding Lakes Tanganyika and Rukwa) and in the east, in the floodplains of the Ruvu and Ruaha Rivers. Such swamps may bear varied vegetation. Grasses may be present, but sedges and rushes predominate. Occasionally, Papyrus occurs in almost pure stands.
OTHERS	These include; Urban areas, airfields and other infrastructure (e.g. power line, railways, and mining sites). Urban areas contain considerable woody biomass, which is often forgotten in carbon stock estimations

1.2.3 Original data

Primary vegetation	No Data	Forest	Woodland	Bushland	Grassland	Cultivated land	Open land	Water	Other areas
Estimated Area	3,642.53	3,352,538.36	44,567,808.64	6,422,639.02	8,213,047.79	22,169,280.85	251,621.78	1,158,433.76	1,886,015.27

1.3 Analysis and processing of national data

1.3.1 Adjustment

1.3.2 Estimation and forecasting

1.3.3 Reclassification

1.4 Data

Table 1a

Categories		Area (000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Forest	55920	51920	49920	47920	46060
CFRQ	Other wooded land	18017	13890	11961	10005	7984
CFRQ	Other land	14643	22770	26699	30655	34536
CFRQ	... of which with tree cover	N/A	N/A	N/A	N/A	N/A
CFRQ	Inland water bodies	6150	6150	6150	6150	6150
	TOTAL	94730.00	94730.00	94730.00	94730.00	94730.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
CFRQ	Forest expansion	50	70	80	100	50	70	80	100

CFRQ	... of which afforestation	50	70	80	100	50	70	80	100
CFRQ	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFRQ	Deforestation	400	400	400	372	N/A	N/A	N/A	N/A
CFRQ	... of which human induced	400	400	400	372	N/A	N/A	N/A	N/A
CFRQ	Reforestation	15	20	24	27	15	20	24	27
CFRQ	... of which artificial	15	20	22	27	15	20	24	27

Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 3	Tier 2
Other wooded land	Tier 3	Tier 2
Forest expansion	Tier 3	Tier 2
Deforestation	Tier 3	Tier 2
Reforestation	Tier 3	Tier 2

Tier criteria

Category	Tier for status	Tier for reported trend
• Forest • Other wooded land • Afforestation • Reforestation • Natural expansion of forest • Deforestation	**Tier 3** : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs **Tier 2** : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends

Forest	Public land is now called General land, same applies to Public forests are called General land forests.Forest is described as continous vegetation cover with a canopy cover over 10% with height of 5m in 0.5 hectares	Based on the data sources, the present trend has been defined. Nevertheless, the estimate of forest change raises questions. In fact, it remains difficult to assess the forest changes. The National Forest Resources Monitoring and Assessment (NAFORMA) Remote sensing component confirms the previous estimated deforestation rate of 400 000 ha annually. Besides, it is difficult to survey and analyse the impact of programmes, such as: Community Based Forest Management and Joint Forest Management
Other wooded land	Land that does not meet the forest thresholds but dominated by wooded vegetation like bush land and thickets	Similar comment than above.
Other land	Not described as forest or other wooded land	N/A
Other land with tree cover	Predominantly agriculture or urban lands use and have some patches of tree cover more than .5 hectares with canopy cover more than 10% with height of 5m	NAFORMA found that there is significant amount of biomass in urban and agricultural lands. These are tree outside the forest (ToF), which contribite a significant amount of wood demand.
Inland water bodies	Major rivers, lakes, reservoirs	The inland water bodies have remained stable as at FRA 2010
Forest expansion	Expanded forest on land that was not defined as forest	There is deliberate efforts to encourage the Private Sector to establish their own forest in General lands
Deforestation	Conversion of forest to other land uses	The deforestation in the country is caused by human activities especially shifting cultivation, wiidfires, overgrazing illegal logging and charcoal making. However the NAFORMA has found that the rate of deforestation stands to 372,000 ha which is 28,000 ha less than what was priviously reported this is because of the intersified ground truthing of NAFORMA mapping, which resulted into a more accurate data set.
Reforestation	Natural regeneration or re establishment of forest	Afforestation and Reforestation have been accounted in terms of the number of tree seedlings planted and not the in tems of hactares. if reported in terms of hectres the reports just converted the number of seedling raised in the nursery to hactres that can cover. NAFORMA has revieled that there is high potenntial of forest regeneration in that country.

Other general comments to the table

It should be noted that there are several changes in the FRA 2015, compared to FRA 2010:- Land area of Tanzania has been reassessed (NAFORMA) and is now equal to 88 334 300 ha,- From the data source 1984, the “Semi-Arid Steppe” category has been classified differently to better match the FRA definition of “other wooded land”.According to a report by the Centre for Energy, Environment, Science and Technology (1999), 24.4% of original tropical closed forests cover was transferred to other classes during the period of 1976 through 1990 as follows:115 000 ha converted to permanent agricultural land and pasture38 000 ha to secondary forests (i.e. 8000 ha to thickets and 30000 ha to bushland /thickets)202 000 ha converted to wooded grassland or fragmented forests, which in turn changed to other land cover as an intermediate stage towards permanent agriculture and pasture.Forests in General Land are the most affected forests types by human activities. The National Forest programme in Tanzania (2001-2010) estimates a deforestation rate between 130 000 ha and 500 000 ha. The main reason for deforestation are reported as agriculture, overgrazing, charcoal burning, woodfuel harvesting, bush fires for various reasons and harvesting for industrial wood, particularly export of logs to China and the Far East.Recent efforts to establish Community based Forest Management and Joint Forest Management are thought to have reduced the annual net loss of forest, but reliable figures on their impact are not yet available.

2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

2.1 Categories and definitions

Term	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Naturalized introduced species	Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time.
Introduced species	A species, subspecies or lower taxon occurring outside 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).
Category	**Definition**
Primary forest	Naturally regenerated forest of native species where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.
...of which of introduced species *(sub-category)*	Other naturally regenerated forest where the trees are predominantly of introduced species.
...of which naturalized *(sub-sub category)*	Other naturally regenerated forest where the trees are predominantly of naturalized introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
...of which of introduced species *(sub-category)*	Planted forest where the planted/seeded trees are predominantly of introduced species.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
...of which planted *(sub-category)*	Mangroves predominantly composed of trees established through planting.

2.2 National data

2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. 2001. The Tanzania National Forest Programme 2001-2010, Government Printers.	Forests trends	1998	The National Forest Programme is currently under review

2	Ministry of Natural Resources and Tourism. 2008. Participatory Forest Management in Tanzania, Facts and Figures	Forest TrendsWoodland Trends	2005/2008	N/A
3	The world's mangrove 2005-2010	Mangroves	2000, 2005, and 2010	Data are directly reported in the table 2b.
4	Ministry of Natural Resources and Tourism. 2010 National Forest Resources Monitoring and Assessment Biophysical Manual.	Protocol for National Forest Inventory	2010	N/A
5	Ministry of Natural Resources and Tourism 2014 National Forest Resources Monitoring and Assessment (NAFORMA) Final Report.	Forest and Woodland trends, Biomass, Above below ground carbon, caborn in the soil and in the litter.	2014	N/A

2.2.2 Classification and definitions

National class	Definition
FOREST	A continuous stand of trees many of which may attain a height of 50 m. Species composition is quite different from that of the woodland except in areas where Forest has been disturbed and pioneer species dominate temporarily. The most important discrimination concerns the structure of the stand. True high forest has three canopy layers; emergents, middle and lower canopy. The main canopy of semi-mature and mature trees dominates the structure, with a regenerative canopy beneath. Occasional emergents or

WOODLAND	40%), Open (crown cover between 10–40%) and Woodland with Scattered Cropland.The canopy coverage in woodland typically ranges between 20–80%, and height between 5–20 m although occasionally being taller. Wet woodland is dominated by Brachystegia/Julbernadia sp. (Miombo woodland). Dry woodland is usually dominated by Acacia. The distinction between Closed Woodland and Open Woodland is made at a perceived canopy closure of 40 percent. One essential feature is that the trees should possess recognizable stems, normally single, that may be measured for both diameter and height. This infers the presence of a marketable timber product, which may be important for the future development planning.Woodland is characterized by only two main strata - the main canopy itself, which may vary widely in species composition but is generally uniform in stature, and a shrub / herb-layer beneath, which often contains regenerating saplings of the species comprising the main canopy. The density of this understorey layer is closely dependent upon the closure of the upper canopy and light penetration to ground level. In areas of Closed Woodland, the ground cover layer may be almost absent. Most woodlands are deciduous. Therefore the best time to choose satellite imagery is May- July when rains have stopped and the trees are in full flush." /> This constitutes the largest vegetation type in Tanzania.Woodland has three subtypes:? Closed (crown cover>40%), Open (crown cover between 10–40%) and Woodland with Scattered Cropland.The canopy coverage in woodland typically ranges between 20–80%, and height between 5–20 m although occasionally being taller. Wet woodland is dominated by Brachystegia/Julbernadia sp. (Miombo woodland). Dry woodland is usually dominated by Acacia. The distinction between Closed Woodland and Open Woodland is made at a perceived canopy closure of 40 percent. One essential feature is that the trees should possess recognizable stems, normally single, that may be measured for both diameter and height. This infers the presence of a marketable timber product, which may be important for the future development planning.Woodland is characterized by only two main strata - the main canopy itself, which may vary widely in species composition but is generally uniform in stature, and a shrub / herb-layer beneath, which often contains regenerating saplings of the species comprising the main canopy. The density of this understorey layer is closely dependent upon the closure of the upper canopy and light penetration to ground level. In areas of Closed Woodland, the ground cover layer may be almost absent. Most woodlands are deciduous. Therefore the best time to choose satellite imagery is May- July when rains have stopped and the trees are in full flush.

BUSHLAND	Bushland differs from Woodland in two principal ways. Stature is less, rarely exceeding 5 m and normally between 1–3 m in height. Single-stemmed plants are almost nonexistent. The exception is when there are occasional trees termed as emergents. Bushland is fundamentally defined as being predominantly comprised of plants that are multi-stemmed from a single root base.Bushland is one of the most varied types with four sub-divisions. The four subtypes of bushland are as follows:? Thicket, Dense bushland, Bushland with scattered cultivation and?Open bushland.Thicket, Dense bushland, Bushland with scattered cultivation, and Open bushland. Bushland also occurs in a wide range of densities. As Dense bushland or Open bushland, this may be merely temporary, as it often forms little more than a fallow stage in shifting agricultural or charcoal production areas. Given time the cover may change to a Wood land or Forest. A typical example of bush land as a result of charcoal production is Bwawani beside the Dar es Salaam-Morogoro road. However as Thicket it may be argued a local climax. The best example is the Itigi thicket where, ecologically this vegetation is not expected to change. Both thicket and bushland may be interrupted by cropland and may have emergent trees.
GRASSLAND	Grassland is another type possessing marked variety, with four sub types.? Wooded grassland, Bushed grassland, Grassland with scattered cultivation and Open grassland.Open Grassland, is mostly confined, to the plains of the Serengeti, Masai Steppe, and to alpine areas of the Southern Highlands where exposure and edaphic conditions do not allow the natural development of anything more than a grass or herb. For the most part, this type occurs as its Sub-types in combination with either a limited Wooded or Bushed component, or with scattered subsistence cultivation. In addition, many areas mapped as grassland may be associated with seasonally inundated areas referred to as

OPEN LAND	Four sub-types are recognizable within the cultivated land class? Agroforestry systems, wooded crops, Herbaceous crops and Grain crops.The physiognomy varies widely in accordance with the significance of the tree and crop component associated with each sub-class. The agroforestry systems contain permanent tree crops (timber and fruit) which are mixed with permanent and annual agricultural crops (yam, beans, banana, coffee, etc) such as the Chagga, Meru andHaya (Bukoba) home gardens are recognized as one sub-type.The tree crops (Gravillea, Albizia, Cordia, Citrus, Acrocarpus, etc), which form the upper canopy act as shade to the lower canopy crops (banana, coffee, beans). Cultivation with herbaceous crops (e.g. cotton, vegetables,sisal, tobacco,flowers etc) where the tree component may be reduced to the occasional fruit tree or trees retained to demarcate field boundaries. Cultivation with Grain Crops is a sub-class that approaches open grassland where the role of trees are often diminished.The physiognomy approaches a Closed woodland, or Woodland with scattered cropland. The sub-types for cultivated land are therefore: Agro-forestry systems, Cultivated land with wooded crops, Cultivated land with herbaceous crops and Cultivated land with grain crops. Here the role of the trees as shade provider is diminished. At the other extreme, cultivation with pure woody crops of cashew, tea, coffee, mango, citrus, jackfruit and coconut are common and identifiable as a sub-class where the physiognomy approaches a Closed woodland, or Woodland with scattered cropland.
OPEN LAND	There are four Open Land sub-types included in the classification as follows: Bare soil, Costal bare lands, Rock outcrops and Ice cap /snow.The common feature is that vegetation cover is almost or entirely absent in each case, although many rock outcrops often bear small pockets of xerophytes that are botanically very interesting. These units are not represented extensively upon the maps. Bare Soil type may be more widely represented, but is generally confined to the larger lakeshores and disturbed areas.
WATER FEATURES	Water Features include:Ocean, Inland water, Wetlands.? Inland water bodies are recognized to the level of the minimum mapping unit (equivalent to about 100 ha).?Wetlands are water logged seasonally inundated areas, and this Sub-class is quite extensive, particularly in the western part of the country (in the shallow catchments feeding Lakes Tanganyika and Rukwa) and in the east, in the floodplains of the Ruvu and Ruaha Rivers. Such swamps may bear varied vegetation. Grasses may be present, but sedges and rushes predominate. Occasionally, Papyrus occurs in almost pure stands..
OTHERS	These include Urban areas, airfields and other infrastructure (e.g. power line, railways, and mining sites). Urban areas contain considerable woody biomass, which is often forgotten in carbon stock estimations.

2.2.3 Original data

According to Tanzania Forestry Action Plan (1990/91-2007/08), it is said that 83 000 ha of industrial plantations are managed by central and local governments.

Furthermore the forested area under private and community forestry is estimated between 70 000 and 150 000 ha, which are mainly plantations. Assumption has been made in Question 19 about the expansion of these private forests between 1990 and 2005.

	Forest area (1000 hectares)		
	1990	**2000**	**2005**
Private ownership	70	120	150

Then, recently, there is large-scale of plantation project with Kilombero Valley Teak Company, Green Resources Limited and small holders. They intended to reach 10 350 ha in 2011.

2.3 Analysis and processing of national data

2.3.1 Adjustment

2.3.2 Estimation and forecasting

For the reporting years (1990, 2000 2005 and 2010), planted forest is equal government plantations + private plantation.

For 2015, it is assumed that planted forest may increase by 10 000 ha compared to 2010 (Expert opinion).

2.3.3 Reclassification

2.4 Data

Table 2a

Categories	**Forest area (000 hectares)**				
	1990	**2000**	**2005**	**2010**	**2015**

CFRQ	Primary forest	0	0	0	0	0
CFRQ	Other naturally regenerated forest	55770	51720	49690	47680	45770
CFRQ	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which naturalized	N/A	N/A	N/A	N/A	N/A
CFRQ	Planted forest	150	200	230	240	290
CFRQ	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
TOTAL		55920.00	51920.00	49920.00	47920.00	46060.00

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
0	0	0	0	0	0	0	0	0

Table 2c

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015
Mangroves (forest and OWL)	140	127	125	123	121
... of which planted	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 1	Tier 1
Other naturally regenerated forest	Tier 2	Tier 1
Planted forest	Tier 2	Tier 1
Mangroves	Tier 2	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend

Primary forest/Other naturally regenerated forest/Planted forest	**Tier 3** : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs **Tier 2** : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years) **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	Very little proportion of primary forests are remaining in Tanzania, and mostly as fragments, this is because of the extent of disturbance by wild fires and illegal logging in 1980s to 1990s.	N/A
Other naturally regenerating forest	Difficult to determine the area as most of the species are introduced for enrichment planting. There is no study on natural regeneration conducted for the entire countryso, there is no realiable data.	N/A
Planted forest	Planted forests are by a large proportion state owned.A lot of tree planting has been done, particularly of exotic (introduced species) under the continuation of Millennium tree planting campaigns, which started in January 1st 2000. Most of introduced species are found as woodlots and wood fuel plantations. NAFORMA found that 572,000 ha are covered by planted forests.	N/A
Mangroves	The mangroves are permanent estate forest reserves, effectively protected by the Forest Act 2002.Officially recognized area of mangrove forests which are under National gazette is 115 000 ha. This is area is Officially Gazetted as National Forest Reserve, and effectively protected by the Forest Act 2002 and the Environmental Act 2004. However, NAFORMA found that there are some mongroves in resodential and private land areas.	N/A

Other general comments to the table
Tanzania has completed her first National Forest Inventory (NAFORMA) a reason for having new data and a lot of adjustments for the previous reported information to suit the FRA reporting. For example, it is stated in the Forest Act of 2002 that all mangroves are going in reserved areas, NAFORMA found some mangroves in residential and private lands.

3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

3.1 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches.
Net Annual Increment (NAI)	Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock".
Above-ground biomass	All living biomass above the soil including stem stump branches bark seeds and foliage.
Below-ground biomass	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.
Dead wood	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.
Carbon in above-ground biomass	Carbon in all living biomass above the soil including stem stump branches bark seeds and foliage.
Carbon in below-ground biomass	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.
Carbon in dead wood	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.
Carbon in litter	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.
Soil carbon	Organic carbon in mineral and organic soils (including peat) to a soil depth of 30 cm.

3.2 National data

3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	The Centre for Energy, Environment, Science and Technology, 1999: Climate Change Mitigation in Southern Africa: Tanzania Country Study. Ministry of Energy and Minerals, Tanzania	Vol/ha by vegetation classes	1999	N/A
2	Ministry of Natural Resources and Tourism 2009. National Ocular Estimates and Plantation inventories	GS common species (plantations)	N/A	N/A

3	Ministry of Natural Resources and Tourism 2014 National Forest Resources Monitoring and Assessment (NAFORMA) Final Report.	Vol/ha by vegetation classes	2014	N/A
4	N/A	N/A	N/A	N/A

3.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

3.2.3 Original data

Growing stock

Volume per ha as given by source 1

National Categories (1)	Area 1000 ha	Avg m3/ha
Miombo woodlands	44 726.3	55
Closed Forest	3 206.3	111.8
Mangrove	158.1	48.8
Total Forest	**48 090.7**	**71.9**
Shrubs and thickets	8242.2	**21.9**

Biomass stock

Data on growing stock (table 3a) and GS

Carbon stock

Original Data on growing stock (table 3a) and biomass stock (table 3d).

3.3 Analysis and processing of national data

3.3.1 Adjustment

3.3.2 Estimation and forecasting

Growing stock

It is assumed that:

Vol forest = 37 m3/ha, and;

Vol Shrubs and thickets = Vol OWL = 10 m3/ha.

Applying average volume per ha to the table below to obtain growing stock gives:

	1990	**2000**	**2005**	**2010**
Forest area (1 000 ha)	41 495	37 462	35 445	33 428
Other wooded land area (1 000 ha)	18 183	14 901	13 260	11 619

	1990	**2000**	**2005**	**2010**
Forest vol (1 000 m3)	1535315	1386094	1311465	1236836
Other wooded land vol (1 000 m3)	181830	149010	132600	116190

Biomass stock

The Formula for calculating above ground biomass has been used, based on the growing stock. The IPCC guidelines Biomass conversion and expansion factor (BCEF in humid tropical zone) has been applied as provided in the Guideline for Country reporting FRA 2010.

AGB=GS x BCEF

BCEF (forest) = 2.8

BCEF (OWL) = 9.0

BGB = AGB x R

Root shoot ratio (R) = 0.24

Carbon stock

A conversion factor of 0.47 for converting biomass to carbon has been used as suggested by IPCC 2006 good practice guidelines.

B/- Carbon in the litter has been estimated, based on the standard factor of 2.1 (Tropical), and

- Soil carbon has been estimated, based on the factor of 47 (Tropical, moist with LAC soils).

The biomass/ hectare values are then applied to the forest and other wooded land area values in table T1 to get the biomass for the reporting years.

Year	**1990**	**2000**	**2005**	**2010**
Total Forest area (1000 ha)	41495	37462	35445	33428
Carbon in the litter (1000 C)	87140	78670	74435	70199
Soil carbon (1000 C)	1950265	1760714	1665915	1571116

Year	**1990**	**2000**	**2005**	**2010**

Total OWL area (1000 ha)	18183	14901	13260	11619
Carbon in the litter (1000 C)	38184	31292	27846	24400
Soil carbon (1000 C)	854601	700347	623220	546093

3.3.3 Reclassification

3.4 Data

Table 3a

Category		Growing stock volume (million m ^{3} over bark)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
CFRQ	Total growing stock	4046.13	3756.7	3611.99	3467.28	3332.7	352.04	271.4	233.71	195.49	156
CFRQ	... of which coniferous	694.45	644.77	619.94	595.1	572	163.38	125.96	108.46	90.73	72.4
CFRQ	... of which broadleaved	3351.68	3111.93	2992.06	2872.18	2760.7	188.65	145.44	125.24	104.76	83.6

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	Pinus patula	Pines	563	563	563	563
2 nd	Eucalyptus maidenii	Eucalyptus	72	72	72	72
3 rd	Gravillia robusta	Gravillia	69	69	69	69
4 th	Tectona grandis	Teak	65	65	65	65
5 th	Pinus eliotii	Pines	54	54	54	54
6 th	Cupressus lustanica	Cypress	33	33	33	33

7 th	Pinus caribea	Pines	30	30	30	30
8 th	Eucalyptus grandis	Mkaratusi	28	28	28	28
9 th	Juniperus procera	Cedar	23	23	23	23
10 th	Milletia excelsa	Mvule	19	19	19	19
Remaining			3090.13	2800.7	2655.99	2511.28
TOTAL			4046.13	3756.70	3611.99	3467.28

THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	8.4	National Plantation Forests Inventories 2009/ National Ocular Estimates 2007
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	5.6	National Plantation Forests Inventories 2009/ National Ocular Estimates 2007
Minimum diameter (cm) of branches included in growing stock (W)	1	National Plantation Forests Inventories 2009/ National Ocular Estimates 2007
Volume refers to above ground (AG) or above stump (AS)	AG	National Plantation Forests Inventories 2009/ National Ocular Estimates 2007

PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.

Table 3c

Category		Net annual increment (m^3 per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
CFRQ	Net annual increment	2.5	2.5	2.5	2.5	2
CFRQ	... of which coniferous	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which broadleaved	N/A	N/A	N/A	N/A	N/A

Table 3d

Category	Biomass (million metric tonnes oven-dry weight)	
	Forest	Other wooded land

		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
CFRQ	Above ground biomass	11329.15	10518.77	10113.58	9708.39	9331.56	316.83	244.26	210.34	175.94	140.4
CFRQ	Below ground biomass	2719	2524.51	2427.26	2330.01	2239.57	76.04	58.62	50.48	42.23	33.7
CFRQ	Dead wood	N/A	N/A	N/A	N/A	113.83	N/A	N/A	N/A	N/A	1993.62
TOTAL		14048.15	13043.28	12540.84	12038.40	11684.96	392.87	302.88	260.82	218.17	2167.72

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
CFRQ	Carbon in above ground biomass	5324.7	4943.82	4753.38	4562.94	4385.83	148.91	114.8	98.86	82.69	65.99
CFRQ	Carbon in below ground biomass	1277.93	1186.52	1140.81	1095.11	1052.6	35.74	27.55	23.73	19.85	15.84
CFRQ	*Subtotal Living biomass*	6602.63	6130.34	5894.19	5658.05	5438.43	184.65	142.35	122.58	102.54	81.83
CFRQ	Carbon in dead wood	64.95	60.31	57.98	55.66	53.5	21.21	16.35	14.08	11.78	9.4
CFRQ	Carbon in litter	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFRQ	*Subtotal Dead wood and litter*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CFRQ	Soil carbon	3042.46	2824.83	2716.01	2607.2	2506	2069.78	1595.67	1374.07	917.2	937
TOTAL		9710.04	9015.48	8668.18	8320.91	7997.93	2275.64	1754.37	1510.74	1031.52	1028.23

Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 3	Tier 1
Net annual increment	Tier 3	Tier 1

Above ground biomass	Tier 1	Tier 1
Below ground biomass	Tier 1	Tier 1
Dead wood	Tier 2	Tier 1
Carbon in above-ground biomass	Tier 1	Tier 1
Carbon in below ground biomass	Tier 1	Tier 1
Carbon in dead wood and litter	Tier 2	Tier 1
Soil carbon	Tier 3	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other
• Carbon in above ground biomass • Carbon in below ground biomass • Carbon in dead wood and litter • Soil carbon	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend

Total growing stock	NAFORMA project has revealed total growing stock from both trees in forest and those out side the forest. Data for the previous years have been estimated according to the new data.	N/A
Growing stock of broadleaved coniferous	Broad leaved tree species is the dominating forest cover in Tanzania	N/A
Growing stock composition	The growing stock complosition includes both hard and soft wood species	N/A
Net annual increment	The total annua increment is estimated at 83.7 million cubic metres. However, the annual increment from the productive forest is 42.8 million cubic metre while the annual consumption is 62.3 million cubic metre meaning that forest in Tanzania are over expolited by 19.5 million cubic metres	N/A
Above-ground biomass	NAFORMA is the first study that provide accurate information of the Nforest in Tanzania	N/A
Below-ground biomass	NAFORMA is the first study that provide accurate information of the forest in Tanzania	N/A
Dead wood	NAFORMA is the first study that provide accurate information of the forest in Tanzania	N/A
Carbon in above-ground biomass	NAFORMA is the first study that provide accurate information of the forest in Tanzania	N/A
Carbon in below-ground biomass	NAFORMA is the first study that provide accurate information of the forest in Tanzania	N/A
Carbon in dead wood	NAFORMA is the first study that provide accurate information of the forest in Tanzania	N/A
Carbon in litter	No any serious study has ever been done that can provide reliable country information	N/A
Soil carbon	NAFORMA is the first study that provide accurate information of the forest in Tanzania	N/A

Other general comments to the table
Tanzania has just concluded her first National Forest Inventory (NFI) popularly known as National Forest resources Monitoring and Assessment (NAFORMA) in 2014. More accurate informationa has been generated which has significant variation with the previously reported information.

4. What is the status of forest production and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

4.1 Categories and definitions

Term	Definition
Primary designated function	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.
Non wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Commercial value of NWFP	For the purpose of this table, value is defined as the commercial market value at the forest gate.
Category	**Definition**
Production forest	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Multiple use forest	Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function.
Total wood removals	The total of industrial round wood removals and woodfuel removals.
...of which woodfuel	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

4.2 National data

4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Shand M.C: Digital Cartography. Department of Geography and Topographic Science. University of Glasgow. Glasgow, Scotland U.K 1996-1997	National parks, Game Reserves and Conservation areas	1996/97	National Parks and Game reserves are highly protected areas, in terms of coverage and conservation status, these fall under the jurisdiction of the Wildlife Act in the Wildlife Division and not the Forest Act 2002 under the Forest and Beekeeping Division in Tanzania. However both Acts are under the same Ministry i.e. The Minister responsible for Forests is also responsible for Wildlife (National Parks & Game Reserves).

2	Kihiyo V.B.M.S 1998. Forest Policy changes in Tanzania: Towards Community Participation in Forest Management	Production and Protection Forest	1963/98	Changes were made to the 1963 Policy to come up with the 1998 policy, which is also currently under review
3	Ministry of Natural Resources and Tourism. Budget Speeches 2005/06; 2006/07 & 2007/08: www.tanzania.go.tz	Production and Protection Forest	2005/2008	N/A
4	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A
5	Ministry of Natural Resources and Tourism. National Forest Programme 2010/2011. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2008/2011	N/A

4.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

4.2.3 Original data

There two primary functions of forests in Tanzania, production and protective. According to Kihiyo, 1998, production forests are estimated at 71% of the total forests area as opposed to 29% protective forests.

Source 2 : Reference year, 1997.

Use of forest land	Area in 1000 hectares
Production forest	23 810
Protection (including water catchments)	9 745
Total	**33 555**

Legal status	
Forest reserve	12 517
Forest/woodland within national parks etc	2 000
Non-reserved forest land	19 038
Total	**33 555**

4.3 Analysis and processing of national data

4.3.1 Adjustment

4.3.2 Estimation and forecasting

Results of Question 1 will be used as inputs.

For the different reporting years, it has been considered that the “conservation of biodiversity” area (2 000 000 ha) remains constant.

Then, for 1990, 2000 and 2005, the remaining area is subdivided in Production and Multipurpose categories, based on the following percentages: 75% and 25%.

FRA Categories	**Area in 1000 hectares**			
	1990	**2000**	**2005**	**2010**
Production	29 621	26 597	25 084	23 571
Conservation of biodiversity	2 000	2 000	2 000	2 000
Multipurpose	9 874	8 866	8 361	7 857
Total Forest	**41 495**	**37 462**	**35 445**	**33 428**

4.3.3 Reclassification

FRA Categories	Production	Protection of soil and water	Conservation of biodiversity	Social	Multipurpose
Production	100%				
Protection*			21%		79%
Non-reserved forest land					100%

Note: In Tanzania, the Conservation of Soil Forests fall under Multiple use forest you can not separate and account them in terms of areas separately/independently.

Results after reclassification:

FRA Categories	1997 (in 1000 ha)	%
Production	23 810	71%
Conservation of biodiversity	2 000	6%
Multipurpose	7 745	23%
Total Forest Area	**33 555**	100%

4.4 Data

Table 4a

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Production forest	29621	26596	25084	23571	19788
CFRQ	Multiple use forest	9874	8866	8361	7857	26272

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Honey and Beewax	N/A	4181421	N/A
2 nd	Living Animals	N/A	133377	N/A
3 rd	Hide sand Trophy	N/A	21450	N/A
4 th	N/A	N/A	N/A	N/A
5 th	N/A	N/A	N/A	N/A
6 th	N/A	N/A	N/A	N/A
7 th	N/A	N/A	N/A	N/A
8 th	N/A	N/A	N/A	N/A
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			4336248.00	

2010	
Name of local currency	Tanzanian Shillings

Category
Plant products / raw material
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
Animal products / raw material

9 Living animals
10 Hides skins and trophies
11 Wild honey and beewax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products
16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m^3 u.b.)	
	Total wood removals	...of which woodfuel
1990	20513.2	18567.2
1991	20909.1	18921.1
1992	21701.6	19432.61
1993	22009.8	19841.75
1994	22294.3	20163.26
1995	22608.1	20435.06
1996	22802.7	20591.74
1997	22943.4	20697.36
1998	22958.1	20678.13
1999	23051.2	20737.17
2000	23100.6	20786.65
2001	23264.5	20950.51
2002	23438.8	21124.76
2003	23623.6	21309.58
2004	23819.2	21505.21
2005	24025.9	21711.85

2006	24228	21913.96
2007	24441.2	22127.2
2008	24665.7	22351.7
2009	24901.8	22587.79
2010	25149.7	22835.7
2011	25149.7	22835.7

Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 3	Tier 1
Multiple use forest	Tier 3	Tier 2

Tier Criteria

Category	Tier for status	Tier for reported trend
Production forest Multiple use forest	Tier 3: Updated including field verifications national forest maps including functions Tier 2: Forest maps older than 6 years including forest functions Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Production forest	These are forest whereby legal harvesting is allowed under prescribed Forest Management Plan	N/A
Multiple use forest	Multiple use forest management objectives overlap also with production management objectives.	N/A
Total wood removals	These include both legally and ileggaly forest products removal from protective and productive forests	N/A
Commercial value of NWFP	There are many NWFP but most of them were no captured data for their values	N/A

Other general comments to the table
Environmental services provided by forest such as, Biodiversty, co-tourism and soil protection their values was not determined. Even values for medicinal activities were also not captured.

5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

5.1 Categories and definitions

Category	Definition
Protection of soil and water	Forest area designated or managed for protection of soil and water
...of which production of clean water *(sub-category)*	Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality.
...of which coastal stabilization *(sub-category)*	Forest area primarily designated or managed for coastal stabilization.
...of which desertification control *(sub-category)*	Forest area primarily designated or managed for desertification control.
...of which avalanche control *(sub-category)*	Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure.
...of which erosion, flood protection or reducing flood risk *(sub-category)*	Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services.
...of which other *(sub-category)*	Forest area primarily designated or managed for other protective functions.
Ecosystem services, cultural or spiritual values	Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values.
...of which public recreation *(sub-category)*	Forest area designated or managed for public recreation.
...of which carbon storage or sequestration *(sub-category)*	Forest area designated or managed for carbon storage or sequestration.
...of which spiritual or cultural services *(sub-category)*	Forest area designated or managed for spiritual or cultural services.
...of which other *(sub-category)*	Forest area designated or managed for other ecosystem services.

5.2 National data

5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments

1	Shand M.C: Digital Cartography. Department of Geography and Topographic Science. University of Glasgow. Glasgow, Scotland U.K 1996-1997	National parks, Game Reserves and Conservation areas	1996/97	National Parks and Game reserves are highly protected areas, in terms of coverage and conservation status, these fall under the jurisdiction of the Wildlife Act in the Wildlife Division and not the Forest Act 2002 under the Forest and Beekeeping Division in Tanzania. However both Acts are under the same Ministry i.e. The Minister responsible for Forests is also responsible for Wildlife (National Parks & Game Reserves).
2	Kihiyo V.B.M.S 1998. Forest Policy changes in Tanzania: Towards Community Participation in Forest Management	Production and Protection Forest	1963/98	Changes were made to the 1963 Policy to come up with the 1998 policy, which is also currently under review
3	Ministry of Natural Resources and Tourism. Budget Speeches 2005/06; 2006/07 & 2007/08: www.tanzania.go.tz	Production and Protection Forest	2005/2008	N/A
4	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A
5	Ministry of Natural Resources and Tourism. National Forest Programme 2010/2011. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2008/2011	N/A

5.2.2 Classification and definitions

National class	Definition
FOREST	A continuous stand of trees many of which may attain a height of 50 m. Species composition is quite different from that of the woodland except in areas where Forest has been disturbed and pioneer species dominate temporarily. The most important discrimination concerns the structure of the stand. True high forest has three canopy layers; emergents, middle and lower canopy. The main canopy of semi-mature and mature trees dominates the structure, with a regenerative canopy beneath. Occasional emergents or

WOODLAND	40%), Open (crown cover between 10–40%) and Woodland with Scattered Cropland.The canopy coverage in woodland typically ranges between 20–80%, and height between 5–20 m although occasionally being taller. Wet woodland is dominated by Brachystegia/Julbernadia sp. (Miombo woodland). Dry woodland is usually dominated by Acacia. The distinction between Closed Woodland and Open Woodland is made at a perceived canopy closure of 40 percent. One essential feature is that the trees should possess recognizable stems, normally single, that may be measured for both diameter and height. This infers the presence of a marketable timber product, which may be important for the future development planning.Woodland is characterized by only two main strata - the main canopy itself, which may vary widely in species composition but is generally uniform in stature, and a shrub / herb-layer beneath, which often contains regenerating saplings of the species comprising the main canopy. The density of this understorey layer is closely dependent upon the closure of the upper canopy and light penetration to ground level. In areas of Closed Woodland, the ground cover layer may be almost absent. Most woodlands are deciduous. Therefore the best time to choose satellite imagery is May- July when rains have stopped and the trees are in full flush." /> This constitutes the largest vegetation type in Tanzania.Woodland has three subtypes:? Closed (crown cover>40%), Open (crown cover between 10–40%) and Woodland with Scattered Cropland.The canopy coverage in woodland typically ranges between 20–80%, and height between 5–20 m although occasionally being taller. Wet woodland is dominated by Brachystegia/Julbernadia sp. (Miombo woodland). Dry woodland is usually dominated by Acacia. The distinction between Closed Woodland and Open Woodland is made at a perceived canopy closure of 40 percent. One essential feature is that the trees should possess recognizable stems, normally single, that may be measured for both diameter and height. This infers the presence of a marketable timber product, which may be important for the future development planning.Woodland is characterized by only two main strata - the main canopy itself, which may vary widely in species composition but is generally uniform in stature, and a shrub / herb-layer beneath, which often contains regenerating saplings of the species comprising the main canopy. The density of this understorey layer is closely dependent upon the closure of the upper canopy and light penetration to ground level. In areas of Closed Woodland, the ground cover layer may be almost absent. Most woodlands are deciduous. Therefore the best time to choose satellite imagery is May- July when rains have stopped and the trees are in full flush.

BUSHLAND	Bushland differs from Woodland in two principal ways. Stature is less, rarely exceeding 5 m and normally between 1–3 m in height. Single-stemmed plants are almost nonexistent. The exception is when there are occasional trees termed as emergents. Bushland is fundamentally defined as being predominantly comprised of plants that are multi-stemmed from a single root base.Bushland is one of the most varied types with four sub-divisions. The four subtypes of bushland are as follows:? Thicket, Dense bushland, Bushland with scattered cultivation and?Open bushland.Thicket, Dense bushland, Bushland with scattered cultivation, and Open bushland. Bushland also occurs in a wide range of densities. As Dense bushland or Open bushland, this may be merely temporary, as it often forms little more than a fallow stage in shifting agricultural or charcoal production areas. Given time the cover may change to a Wood land or Forest. A typical example of bush land as a result of charcoal production is Bwawani beside the Dar es Salaam-Morogoro road. However as Thicket it may be argued a local climax. The best example is the Itigi thicket where, ecologically this vegetation is not expected to change. Both thicket and bushland may be interrupted by cropland and may have emergent trees.
GRASSLAND	Grassland is another type possessing marked variety, with four sub types.? Wooded grassland, Bushed grassland, Grassland with scattered cultivation and Open grassland.Open Grassland, is mostly confined, to the plains of the Serengeti, Masai Steppe, and to alpine areas of the Southern Highlands where exposure and edaphic conditions do not allow the natural development of anything more than a grass or herb. For the most part, this type occurs as its Sub-types in combination with either a limited Wooded or Bushed component, or with scattered subsistence cultivation. In addition, many areas mapped as grassland may be associated with seasonally inundated areas referred to as

OPEN LAND	Four sub-types are recognizable within the cultivated land class? Agroforestry systems, wooded crops, Herbaceous crops and Grain crops.The physiognomy varies widely in accordance with the significance of the tree and crop component associated with each sub-class. The agroforestry systems contain permanent tree crops (timber and fruit) which are mixed with permanent and annual agricultural crops (yam, beans, banana, coffee, etc) such as the Chagga, Meru andHaya (Bukoba) home gardens are recognized as one sub-type.The tree crops (Gravillea, Albizia, Cordia, Citrus, Acrocarpus, etc), which form the upper canopy act as shade to the lower canopy crops (banana, coffee, beans). Cultivation with herbaceous crops (e.g. cotton, vegetables,sisal, tobacco,flowers etc) where the tree component may be reduced to the occasional fruit tree or trees retained to demarcate field boundaries. Cultivation with Grain Crops is a sub-class that approaches open grassland where the role of trees are often diminished.The physiognomy approaches a Closed woodland, or Woodland with scattered cropland. The sub-types for cultivated land are therefore: Agro-forestry systems, Cultivated land with wooded crops, Cultivated land with herbaceous crops and Cultivated land with grain crops. Here the role of the trees as shade provider is diminished. At the other extreme, cultivation with pure woody crops of cashew, tea, coffee, mango, citrus, jackfruit and coconut are common and identifiable as a sub-class where the physiognomy approaches a Closed woodland, or Woodland with scattered cropland.
OPEN LAND	There are four Open Land sub-types included in the classification as follows: Bare soil, Costal bare lands, Rock outcrops and Ice cap /snow.The common feature is that vegetation cover is almost or entirely absent in each case, although many rock outcrops often bear small pockets of xerophytes that are botanically very interesting. These units are not represented extensively upon the maps. Bare Soil type may be more widely represented, but is generally confined to the larger lakeshores and disturbed areas.
WATER FEATURES	Water Features include:Ocean, Inland water, Wetlands.? Inland water bodies are recognized to the level of the minimum mapping unit (equivalent to about 100 ha).?Wetlands are water logged seasonally inundated areas, and this Sub-class is quite extensive, particularly in the western part of the country (in the shallow catchments feeding Lakes Tanganyika and Rukwa) and in the east, in the floodplains of the Ruvu and Ruaha Rivers. Such swamps may bear varied vegetation. Grasses may be present, but sedges and rushes predominate. Occasionally, Papyrus occurs in almost pure stands..
OTHERS	These include Urban areas, airfields and other infrastructure (e.g. power line, railways, and mining sites). Urban areas contain considerable woody biomass, which is often forgotten in carbon stock estimations.

5.2.3 Original data

5.3 Analysis and processing of national data

5.3.1 Adjustment

5.3.2 Estimation and forecasting

5.3.3 Reclassification

5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Protection of soil and water	9645	9645	9655	9645	9645
CFRQ	... of which production of clean water	1600	1600	1600	1600	1600
CFRQ	... of which coastal stabilization	148	148	148	149	148
CFRQ	... of which desertification control	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which avalanche control	1.6	1.6	1.6	1.6	1.6
CFRQ	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	N/A
CFRQ	... of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Other
N/A

Table 5b

Categories	Forest area (1000 hectares)

	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	N/A	N/A	N/A	N/A	N/A
...of which public recreation	N/A	N/A	N/A	N/A	N/A
...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	N/A	N/A	N/A
...of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 1	Tier 1
Ecosystem services, cultural or spiritual values	Tier 1	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other
• Cultural or spiritual values • Public recreation • Spiritual or cultural services • Other	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend

Protection of soil and water	N/A	N/A
Production of clean water	N/A	N/A
Coastal stabilization	N/A	N/A
Desertification control	N/A	N/A
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	N/A	N/A
Other protective functions	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	N/A
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A
Other ecosystem services	N/A	N/A

Other general comments to the table
No statistics available but some of the qualitative environmental services information were collected

6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

6.1 Categories and definitions

Category	Definition
Conservation of biodiversity	Forest area designated primarily for conservation of biological diversity. Includes but is not limited to areas designated for biodiversity conservation within the protected areas.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.

6.2 National data

6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. Budget Speeches 2010/11; 2011/12 & 2012/13: www.tanzania.go.tz	Production and Protection Forest	2005/2008	N/A
2	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

6.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

6.2.3 Original data

See 4.2.3.

6.3 Analysis and processing of national data

6.3.1 Adjustment

6.3.2 Estimation and forecasting

See 4.3.2.

6.3.3 Reclassification

See 4.3.3.

6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
CFRQ	Conservation of biodiversity	2000	2000	2000	2000	2000
CFRQ	Forest area within protected areas	2000	2000	2000	2000	2000

Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 2	Tier 1
Forest area within protected areas	Tier 2	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend

• Conservation of biodiversity • Forests within protected areas	Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	Areas under this category are usually permanent estates with no significant changes, usually stable	N/A
Forest area within protected areas	Areas under this category are usually permanent estates with no significant changes, usually stable	N/A

Other general comments to the table
Tanzania has just accomplished her first National forest Inventory whuch come out with more accurate and reliable information however, with a significant variation from the prevously reported data.

7. What is the area of forest affected by woody invasive species?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

7.1 Categories and definitions

Category	Definition
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.

7.2 National data

7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. Budget Speeches 2010/11; 2011/12 & 2012/13: www.tanzania.go.tz	Production and Protection Forest	2010/2013	N/A
2	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A
3	References to sources of information	Variable(s)	Year(s)	Additional comments
4	N/A	N/A	N/A	N/A

7.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

7.2.3 Original data

7.3 Analysis and processing of national data

7.3.1 Adjustment

7.3.2 Estimation and forecasting

7.3.3 Reclassification

7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
1.Lantana camara	N/A	N/A
2.Maesopsi eminii	N/A	N/A
3.	N/A	N/A
4.	N/A	N/A
5.	N/A	N/A
6.	N/A	N/A
7.	N/A	N/A
8.	N/A	N/A
9.	N/A	N/A
10.	N/A	N/A
Total	N/A	N/A

Tiers

Category	Tier for status	Tier for reported trend
Invasive species	Tier 1	Tier 1

Tier Criteria

Category	Tier for status	Tier for reported trend
Invasive species	Tier 3: Systematic assessment in forest inventory or other survey (e.g. by conservation department) within the last 5 years) Tier 2: Systematic assessment in forest inventory or other survey (e.g. by conservation department conducted more than 5 years ago) Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	There are about 60 invasive spp in Tanzania, including trees, shrubs and grasses	N/A

Other general comments to the table
No data available

8. How much forest area is damaged each year?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

8.1 Categories and definitions

Category	Definition
Number of fires	Number of fires per year
Burned area	Area burned per year
Outbreaks of insects	A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects.
Outbreaks of diseases	A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus.
Severe weather events	Damage caused severe weather events, such as snow, storm, drought, etc.

8.2 National data

8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. Budget Speeches 2010/11; 2011/12 & 2012/13: www.tanzania.go.tz	Production and Protection Forest	2012/2013	N/A
2	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A
3	Ministry of Natural Resources and Tourism. Final Report National Forest Resources Monitoring and Assessment 2014.	Varieties of stattistics	2014	N/A
4	N/A	N/A	N/A	N/A

8.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A

N/A	N/A
N/A	N/A

8.2.3 Original data

8.3 Analysis and processing of national data

8.3.1 Adjustment

8.3.2 Estimation and forecasting

8.3.3 Reclassification

8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	12548.84	N/A	12874.09	N/A	12173.61	N/A	9138.55	N/A	10839.63	N/A
CFRQ	... of which forest area burned	746.84	N/A	739.51	N/A	928.33	N/A	1609.34	N/A	953.94	N/A
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
CFRQ	Total land area burned	10831.25	N/A	11041.84	N/A	12019.1	N/A	9035.59	N/A	9368.29	N/A

CFRQ	... of which forest area burned	786.4	N/A	916.32	N/A	992.22	N/A	628.84	N/A	587.28	N/A

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
2	Die back and Heart rot	2011	1040
3	Natural factors	2011	2563
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A

Outbreak category
1 Insects
2 Diseases
3 Severe weather events

Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 2	Tier 2
• Insects • Diseases • Severe weather events	Tier 1	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend

Burned area	**Tier 3** : National fire monitoring routines **Tier 2** : Remote sensing surveys **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other
• Insects • Diseases • Severe weather events	**Tier 3** : Systematic survey (e.g. via inventory or aerial damage assessment) **Tier 2** : Management records **Tier 1** : Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Burned area	Most of the fire are human made	N/A
Insects	Mostly observed in Plantation forests	N/A
Diseases	Mostly observed in plantation forests	N/A
Severe weather events	Climate change has caused negative impacts to survival of trees in both natural and plantation forests.	N/A

Other general comments to the table
Fire was regarded as the most destructive agent on forest. However, NAFORMA has found that trees in natural forest have developed a five resustance mechanism.

9. What is the forest area with reduced canopy cover?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

Category	Definition
Reduction in canopy cover	Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor.

Table 9

Category	Area of forest with reduced canopy cover (000 ha)
Reduction in canopy cover	3320.03

Tiers

Category	Tier for reported trend
Reduction in canopy cover	Tier 2

Tier criteria

Category	Tier for reported trend
Reduction in canopy cover	**Tier 3** : Remote sensing with ground truthing and/or Landsat imagery **Tier 2** : Remote sensing using Modis (using pre-filled data provided by FAO) **Tier 1** : Expert opinion

Comments

Category	Comments related to data definitions etc
Reduction in canopy cover	There is no serious study currently done on degration rate i.e canopy cover reduction

Other general comments

10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

10.1 Categories and definitions

Category	Definition
Policies supporting sustainable forest management	Policies or strategies that explicitly encourage sustainable forest management.
Legislation and regulations supporting sustainable forest management	Legislation and regulations that govern and guide sustainable forest management, operations and use.

10.2 National data

10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. Budget Speeches 2010/11; 2011/12 & 2012/13: www.tanzania.go.tz	Production and Protection Forest	20102013	N/A
2	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2010	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

10.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

10.2.3 Original data

10.3 Data

Table 10

Category	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management	yes	no	yes	no
... of which, in publicly owned forests	yes	no	no	no
... of which, in privately owned forests	yes	no	yes	no
Legislation and regulations supporting sustainable forest management	yes	no	yes	yes
... of which, in publicly owned forests	yes	no	yes	no
... of which, in privately owned forests	yes	no	no	no

10.4 Comments

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	The policy is a national wide
Legislation and regulations supporting sustainable forest management	Legislation and regulations are nation wide

Other general comments

11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

11.1 Categories and definitions

Category	Definition
National stakeholder platform	A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy.

11.2 National data

11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	National Forest Policy	1998	It is a national requirement for stakeholders involvement in the development of supportive tools for SFM
2	Forest Act	2002	It is a national requirement for stakeholders involvement in the development of supportive tools for SFM
3	National Forest Programme	2001/2010	It is a national requirement for stakeholders involvement in the development of supportive tools for SFM
4	N/A	N/A	N/A

Table 11

Is there a national platform that promotes or allows for stakeholder participation in forest policy development?	no

11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	It is no a well established platform for informed decision making pertaining SFM

Other general comments

12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

12.1 Categories and definitions

Category	Definition
Forest area intended to be in permanent forest land use	Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use.
...of which permanent forest estate *(sub-category)*	Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use.

12.2 National data

12.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Shand M.C: Digital Cartography. Department of Geography and Topographic Science. University of Glasgow. Glasgow, Scotland U.K 1996-1997	National parks, Game Reserves and Conservation areas	1996/97	National Parks and Game reserves are highly protected areas, in terms of coverage and conservation status, these fall under the jurisdiction of the Wildlife Act in the Wildlife Division and not the Forest Act 2002 under the Forest and Beekeeping Division in Tanzania. However both Acts are under the same Ministry i.e. The Minister responsible for Forests is also responsible for Wildlife (National Parks & Game Reserves).
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

12.2.2 Classification and definitions

National class	Definition
N/A	N/A

N/A	N/A
N/A	N/A
N/A	N/A

12.2.3 Original data

12.3 Analysis and processing of national data

12.3.1 Adjustment

12.3.2 Estimation and forecasting

12.3.3 Reclassification

12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
CFRQ	Forest area intended to be in permanent forest land use	13846
CFRQ	... of which permanent forest estate	13000

Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 2
Permanent forest estate	Tier 2

Tier Criteria

Category	Tier for status
Forest area intended to be in permanent forest land use	**Tier 3** : National or sub-national land use plans strategy documents or other reports within the past 10 years **Tier 2** : National or sub-national land use plans strategy documents or other reports within the past 20 years **Tier 1** : Other

Permanent forest estate	**Tier 3** : National or sub-national land use plans strategy documents or other reports within the past 10 years **Tier 2** : National or sub-national land use plans strategy documents or other reports within the past 20 years **Tier 1** : Other

12.5 Comments

Category	Comments related to data definitions etc
Forest area intended to be in permanent forest land use	Forest in protected areas such wildlife and forest reserves are intended to be permanent forest land use
Permanent forest estate	as above

Other general comments

13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

13.1 Categories and definitions

Category	Definition
Forest area monitored under a national forest monitoring framework	Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality.
Forest reporting at national scale	National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management.

13.2 National data

13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. Budget Speeches 2010/11; 2011/12 & 2012/13: www.tanzania.go.tz	Production and Protection Forest	2010/2013	N/A
2	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A
3	Ministry of Natural Resources and Tourism. National Forest Programme 2010/2011. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2008/2011	N/A
4	N/A	N/A	N/A	N/A

13.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/ remote sensing sample based	Aerial/ remote sensing full coverage
Forest inventory	100	2012	yes	no	yes	yes	no	yes
Other field assessments	38	1995	no	yes	no	no	no	yes
Updates to other sources	N/A	N/A	yes	yes				
Expert estimate	N/A	N/A						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	yes
2 Periodic national state of the forest report	yes
3 Other (please document)	yes
4 None	

Other type of forest reporting
N/A

13.4 Comments

Category	Comments
Field Inventory	The first ever nationwide forest inventory
Remote sensing	Supported further information from previous assessments
N/A	N/A

Other general comments

14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

14.1 Categories and definitions

Category	Definition
Forest area with management plan	Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised
...of which for production *(sub-category)*	Forest management plan mainly focused on production
...of which for conservation *(sub-category)*	Forest management plan mainly focused on conservation
Monitoring of forest management plans	Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance

14.2 National data

14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Shand M.C: Digital Cartography. Department of Geography and Topographic Science. University of Glasgow. Glasgow, Scotland U.K 1996-1997	National parks, Game Reserves and Conservation areas	1996/97	National Parks and Game reserves are highly protected areas, in terms of coverage and conservation status, these fall under the jurisdiction of the Wildlife Act in the Wildlife Division and not the Forest Act 2002 under the Forest and Beekeeping Division in Tanzania. However both Acts are under the same Ministry i.e. The Minister responsible for Forests is also responsible for Wildlife (National Parks & Game Reserves).
2	References to sources of information	Variable(s)	Year(s)	Additional comments

3	Shand M.C: Digital Cartography. Department of Geography and Topographic Science. University of Glasgow. Glasgow, Scotland U.K 1996-1997	National parks, Game Reserves and Conservation areas	1996/97	National Parks and Game reserves are highly protected areas, in terms of coverage and conservation status, these fall under the jurisdiction of the Wildlife Act in the Wildlife Division and not the Forest Act 2002 under the Forest and Beekeeping Division in Tanzania. However both Acts are under the same Ministry i.e. The Minister responsible for Forests is also responsible for Wildlife (National Parks & Game Reserves).
4	Kihiyo V.B.M.S 1998. Forest Policy changes in Tanzania: Towards Community Participation in Forest Management	Production and Protection Forest	1963/98	Changes were made to the 1963 Policy to come up with the 1998 policy, which is also currently under review
5	Ministry of Natural Resources and Tourism. Budget Speeches 2010/11; 2011/12 & 2012/13: www.tanzania.go.tz	Production and Protection Forest	2010/2013	N/A
6	Ministry of Natural Resources and Tourism. National Forest Programme 2001-2010. www.nfp.co.tz	Conservation of Biodiversity and Multipurpose forests	2005/2008	N/A

14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	28577
... of which for production	255
... of which for conservation	28322

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country	
1 Soil and water management	yes
2 High conservation value forest delineation	yes
3 Social considerations community involvement	yes

Table 14c

Percent of area under forest management plan that is monitored annually	N/A

Tiers

Category	Tier for status
Forest area with management plan	Tier 3
Percent of area under forest management plan that is monitored annually	N/A

Tier criteria

Category	Tier for status
Forest area with management plan	**Tier 3** : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans **Tier 2** : Industry or other records indicating the presence of a long-term forest management plan **Tier 1** : Other
Percent of area under forest management plan that is monitored annually	**Tier 3** : Government documentation of monitoring extent **Tier 2** : Reports from forest managers or other documental sources **Tier 1** : Other

14.4 Comments

Category	Comments
Forest area with management plan	Figures (for 1990 to 2005) are based on expert knowledge. Since 2005, there is an increase in areas under Participatory Forest Management Plans. Some of these plans cover areas which are classified as “Other Wooded land”. Note that most of other woodland areas when under PFM if managed under the regime for a considerable time they transform into forest category (enhancements)(cases can be noted from “ngitili” of Shinyanga in central Tanzania)More efforts is being directed to have all forests under management plans as the country enters in REDD initiatives strategies under various arrangements and Partnerships.
N/A	N/A
N/A	N/A

Other general comments

15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

15.1 Categories and definitions

Category	Definition
Stakeholder involvement	Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	yes
3. Review of operations	yes

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 3

Tier criteria

Category	Tier for status
Type of stakeholder inputs	**Tier 3** : Government (national or sub-national) documentation of stakeholder inputs **Tier 2** : Government (national or subnational) requirement but stakeholder inputs not documented **Tier 1** : Other

15.2 Comments

Category	Comments
Planning	Forest Management plan is a pre-requisite for harvesting permission. Request for harvesting permit originates from the village government level
Operational phase	Governmental and Non Governmental Institutions have programmes on public awareness raising pertaining issues of forest Conservation and reforestation
Review of operations	Forest management plan writing consider all aspects of stakeholders

Other general comments

16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

16.1 Categories and definitions

Category	Definition
FSC certification	Forest area certified under the Forest Stewardship Council certification scheme
PEFC certification	Forest area certified under the Programme for the Endorsement of Forest Certification scheme
Other international forest management certification	Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification.
Certified forest area using a domestic forest management certification scheme	Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty

16.2 Data

Table 16a

International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
CFRQ	FSC	0	0	0	0	0	0	0
CFRQ	PEFC	0	0	0	0	0	0	0
CFRQ	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
CFRQ	FSC	15.56	15.56	36.36	20.8	46.96	51.27	
CFRQ	PEFC	0	0	0	0	0	0	
CFRQ	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
CFRQ	1.Name	0	0	0	0	0	0	0
CFRQ	2.Name	0	0	0	0	0	0	0
CFRQ	3.Name	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
CFRQ	1.Name	0	0	0	0	0	0	
CFRQ	2.Name	0	0	0	0	0	0	
CFRQ	3.Name	0	0	0	0	0	0	

Tier criteria

Category	Tier for status
International forest management certification	Tier 3: International forest management scheme records maintained by the certifying organization for the reporting year Tier 2: International forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other
Domestic forest management certification	Tier 3: National registry reports for domestic forest management certification maintained by the certifying organization for the reporting year Tier 2: Domestic forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other

Tiers

Category	Tier for status
International forest management certification	Tier 3
Domestic forest management certification	Tier 1

16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	Certification is piloted ny some NGOs to some species like Dalbergia melanoxylon. Not data provided for United Republic of Tanzania for FSC
Domestic forest management certification	Certification is piloted ny some NGOs to some species like Dalbergia melanoxylon

Other general comments

17. How much money do governments collect from and spend on forests?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

17.1 Categories and definitions

Category	Definition
Forest revenue	All government revenue collected from the domestic production and trade of forest products and services. For this purpose revenue include: • Goods : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products. • Services : including 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 recreation and other forest related activities.
Public expenditure on forestry	All government expenditure on forest related activities.

17.2 National data

17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Support to National Forest Programme Phase II: 2009/2011	Revenue data	2009/11	N/A
2	Ministry of Natural Resources and Tourism. 2001. The Tanzania National Forest Programme 2001-2010, Government Printers.	Financing of the Forest Sector	2001	N/A
3	Ministry of Natural Resources and Tourism. Budget Speech 2007/08., Government Printers.	Growing stock	1998	N/A
4	Ministry of Natural Resources and Tourism. 2000. Study on Financing of the Forest Sector	Financing of the Forest Sector	1998	N/A

17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010

Forest revenue	5987.24	11637.3	24701
Public expenditure on forestry	42472.3	87325.73	14263

	2000	2005	2010
Name of Local Currency	Tanzanian Shillings	Tanzanian Shillings	Tanzanian Shillings

17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	Note: The value is reported in thousand Tanzania Shilling. Revenue leakages due to various reasons are not taken into accounts. This amount corresponds to the value of exported industrial roundwood from government-owned land (see T11 FRA2010).The combined annual value of forest goods and services by 2008 is estimated at US$ 2,213,981,070. It is further estimated that the sector contributes above 10% of the total GDP (National Forest and Beekeeping Programme 2009/2011)
Public expenditure on forestry	Operational expenditureNote: The value is reporting in 1000 Tanzanian Shillings. Personnel Emolument provided by the Government (for Salary & Statutory benefits is been included under this category).The Forest Resource is under two Parallel administrations i.e. Central Government and Local Governments, each line has autonomy over human resource, operational expenditure and transfer of payments.
Other general comments	N/A

Other general comments

18. Who owns and manages the forests and how has this changed?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

18.1 Categories and definitions

Category	Definition
Public ownership	Forest owned by the State or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at national scale *(sub-category)*	Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at the sub-national government scale *(sub-category)*	Forest owned by the State at the sub-national government scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
Private ownership	Forest owned by individuals, families, communities, private cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
...of which individuals *(sub-category)*	Forest owned by individuals and families.
...of which private business entities and institutions *(sub-category)*	Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc.
...of which local tribal and indigenous communities *(sub-category)*	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development.
Unknown ownership	Forest area where ownership is unknown includes areas where ownership is unclear or disputed.
Categories related to management rights of public forests	**Definition**
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 companies	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit 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.

18.2 National data

18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism. 2001. The Tanzania National Forest Programme 2001-2010, Government Printers.	Forests trends	1998	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

18.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

18.2.3 Original data

According to the above source, about 13 millions hectares of forest have been gazetted as forest reserve and they are managed by the Forest and Beekeeping Division. It is broadly estimated that area under Private and Community is between 70 000 – 150 000 ha. Then the remaining forest area belongs to public land.

These data are considered to be valid for the different reporting years.

18.3 Analysis and processing of national data

18.3.1 Adjustment

18.3.2 Estimation and forecasting

A- Forest ownership

It is assumed that:

- Public ownership includes forest reserves and forests on public land.

- Private Ownership was 70 000 ha in 1990, 120 000 ha in 2000 and 150 000 ha in 2005.

B- Management of Public forest

It is known that the 13 millions hectares of forest reserves are managed by Public Administration. For the remaining, the management could be by the central or local governments or communities.

18.3.3 Reclassification

18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
CFRQ	Public ownership	55850	51800	49770	47750
CFRQ	... of which owned by the state at national scale	N/A	N/A	N/A	28573
CFRQ	... of which owned by the state at the sub-national government scale	N/A	N/A	N/A	19357
CFRQ	Private ownership	70	120	150	170
CFRQ	... of which owned by individuals	N/A	N/A	N/A	N/A
CFRQ	... of which owned by private business entities and institutions	N/A	N/A	N/A	N/A
CFRQ	... of which owned by local, tribal and indigenous communities	N/A	N/A	N/A	N/A

	Unknown ownership	0	0	0	0
TOTAL		55920.00	51920.00	49920.00	47920.00

Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	Tier 1
Private ownership	Tier 3	Tier 1
Unknown ownership	Tier 2	Tier 1

Tier criteria

Category	Tier for status	Tier for reported trend
Ownership	Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less. Tier 2:National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old. Tier 1: Other	**Tier 3** : Estimate based on repeated compatible tiers 3 (tier for status) **Tier 2** : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) **Tier 1** : Other

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	13000	13000	13000	13000
Individuals	N/A	N/A	N/A	N/A
Private companies	N/A	N/A	N/A	N/A
Communities	N/A	N/A	N/A	N/A
Other	28425	24342	22295	35100
TOTAL	41425.00	37342.00	35295.00	48100.00

Category	Tier for reported trend	Tier for status
Public Administration	Tier 1	Tier 3
Individuals	Tier 1	Tier 3
Private companies	Tier 1	Tier 3

Communities	Tier 1	Tier 3
Other	Tier 1	Tier 3

18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	All forests on General land and National Reserves are owned by the public.Public forest management is by public administration. There are no concessions to local communities, privates or others to manage public forests.Under limited cases there are joint management between the Public administration and communities, but these are not concessions, they are rather collaborative / joint under special memorandum of understanding.Concession arrangements are yet to be legally institutionalized in Tanzania. In cases where utilization of concession takes place the arrangements are under memorandum of understanding until regulations governing concession shall be made operational.	N/A
Private ownership	Forests dedicated to forestry by private owner, whether in village land or general land	It should be noted that private ownership of forests has been increasing in the recent years due to a rush by the Private investors investing in plantation forests and expansion of the existing investors by legalizing more land to their original land parcels due to good investment environment, peace and stability of the country. In Tanzania prior to Village Land act and Land Act of 1999, Communal and/ or individual forest ownership in public land were very risk, hence a decrease in private ownership to avoid risk and uncertainty, however since after 1999 up to FRA 2005 the Communal, Individual and Private ownership had been more secured by the two land acts.
Unknown ownership	N/A	N/A
Management rights	All stakeholders have management obligations on public forests through arrangements such as joint forest management, collaborative forest management, concession arrangements etc, however the rights are entrusted to the public administration.The area listed under “other” refers to areas which may be managed by the central or local governments or communities.	N/A

Other general comments to the table
The definition of “Indigenous” is not popular in Tanzania, all people are treated as equal, thus no any group should be treated as “Indigenous”. A large area of forest and OWL (around 3 534 000 ha) has came under participatory management between 1995 and 2008. However it is not possible to split this into forest and OWL.

19. How many people are directly employed in forestry?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

19.1 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment in forestry	Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

19.2 National data

19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Contribution of the forest sector to national economies"(FAO, 2008)	Employment in forestry, logging and related services	1990 - 2006	FAO estimates
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

19.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

19.2.3 Original data

A- Forest ownership

It is assumed that:

- Public ownership includes forest reserves and forests on public land.

- Private Ownership was 70 000 ha in 1990, 120 000 ha in 2000 and 150 000 ha in 2005.

B- Management of Public forest

It is known that the 13 millions hectares of forest reserves are managed by Public Administration. For the remaining, the management could be by the central or local governments or communities.

19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
CFRQ	Employment in forestry	4	4	3	3
CFRQ	... of which female	N/A	N/A	N/A	0.3

19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	It is believed that the data is, in fact, limited to the paid employment. Primary production is undertaken by the Private sector, it very difficult to get information on employment under the sector.	N/A

Other general comments to the table
N/A

20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

20.1 Categories and definitions

Category	Definition
Gross value added from forestry (at basic prices)	This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	940127.76	Tanzanian Shilling	2011

20.3 Comments

Category	Comments
Gross value added from forestry (at basic prices)	Forestry contributes 3.7% of the GDP

Other general comments

21. What is forest area likely to be in the future

Documents for this question:

- Guide for country reporting FRA 2015
- FRA 2015 Terms and Definitions

21.1 Categories and definitions

Category	Definition
Government target/ aspiration for forest area	Government target/aspiration for forest area for a specific year.
Forests earmarked for conversion	Forest area that is allocated/classified or scheduled to be converted into non-forest uses.

21.2 National data

21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Ministry of Natural Resources and Tourism 2010/2011 Annual Budget	Various	2011	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	47000	48000

Table 21b

Category	Forest area (000 ha)
	2013
Forests earmarked for conversion	372

21.4 Comments

Category	Comments

Government target/aspiration for forest area	Annual expansion of forest areas 20000 ha for plantations
Forests earmarked for conversion	Strict observation of approved management plans to ensure SFM

Other general comments