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Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
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The Forest Resources Assessment Programme

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

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Forest Resources Assessment Programme. This country report forms part of the Global Forest Resources Assessment 2010 (FRA 2010).

The reporting framework for FRA 2010 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes variables related to the extent, condition, uses and values of forest resources, as well as the policy, legal and institutional framework related to forests. More information on the FRA 2010 process and the results - including all the country reports - is available on the FRA Web site (www.fao.org/forestry/fra).

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The Global Forest Resources Assessment Country Report Series is designed to document and make available the information forming the basis for the FRA reports. The Country Reports have been compiled by officially nominated country correspondents in collaboration with FAO staff. Prior to finalisation, these reports were subject to validation by forestry authorities in the respective countries.

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Introduction

Somali forest and woodland resources represent small percentage of land area. It suffered badly from recurrent droughts and serious tree cutting practiced recently. Irrespective to charcoal exports, it can hardly to meet the local demands for wood-fuel, charcoal, building materials, feed, furniture etc. Absence of law and order for nearly two decades has worsened the situation. No forest inventory has been produced since for close follow up of those resources. Government documents have been destroyed or lost during the chaos period and no reference data is available. The available data are product of derivatives originated from estimates of previous reports from FAO and other international organizations on forest and other wooded land. On the other hand, satellite maps and data are not available to us.

For FRA2010 report, due to lack of any facilities and coordination, its preparation has become very difficult. Consequently very few tables have been filled with expert estimates coupled with some data available in the websites and reports mentioned.

In light of the international concern on the protection of the natural and forest resources and the series of planned global meetings in this regard, hopeful to secure some support for Somali forests.

1. Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2010 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 <i>in situ</i> . 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 <i>in situ</i> ; or with a combined cover of shrubs, bushes and trees above 10 percent. It does not include land that is predominantly under agricultural or urban land use.
Other land	All land that is not classified as “Forest” or “Other wooded land”.
Other land with tree cover (Subordinated to “Other land”)	Land classified as “Other land”, spanning more than 0.5 hectares with a canopy cover of more than 10 percent of trees able to reach a height of 5 meters at maturity.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.

1.2 National data

1.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
FAO. 1988. Interim Report. FAO	M	Forestry Cover	1980	

1.2.2 Classification and definitions

National class	Definition
Closed Forest	Closed Forest defined by FAO FRA 1980 (Formation where trees in the various storeys and the undergrowth cover a high proportion (> 40%) of the ground and do not have a continuous dense grass layer (cf. following the definition). They are either managed or unmanaged forests , primary or in advanced state of reconstitution and may have been logged-over one or more times, having kept their characteristics of forest stands, possibly with modified structure and composition. Typical examples of tropical closed forest formations include tropical rain forest and mangrove forest.
Open Forests	Formations with discontinuous tree layer but with a coverage of at least 10% and less than 40%. Generally there is a continuous grass layer allowing grazing and spreading of fires. (example are various forms of cerrado, and chaco in Latin America, wooded savannahs and woodlands in Africa

1.2.3 Original data

1980 Data

National Class	Area in 1000 ha
Closed Forest	1 537
Open Forests	7 510
Plantations	3
Total Forests	9 050
Other land	54 716
Total Country Area	63 766

1.3 Analysis and processing of national data

1.3.1 Calibration

1.3.2 Estimation and forecasting

The annual deforestation rate of 76 757 ha previously used FRA 2000 has been applied to estimate the forest cover for 1990 and 2000. Figures for 2005 and 2010 were extrapolated.

FRA Categories	Area in hectares				
	1980	1990	2000	2005	2010
Forest	9 050 000	8 282 429	7 514 858	7 131 073	6 747 287
Other land (including inland water bodies)	54 716 000	55 483 571	56 251 142	56 634 928	57 018 713
Total	63 766 000	63 766 000	63 766 000	63 766 000	63 766 000

1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	8 282	7 515	7 131	6 747
Other wooded land	0	0	0	0
Other land	54 452	55 219	55 603	55 987
...of which with tree cover				
Inland water bodies	1 032	1 032	1 032	1 032
TOTAL	63 766	63 766	63 766	63 766

Assumption: the existing OWL is included in the Forest FRA 2010 category

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	Unfortunately the country has not so far set national definitions for the said variables; but on language terms our definitions could be very close to that of FAO*	<p>From 2000 to 2005, the annual area loss resulting from deforestation and other factors have been estimated at 76 757 ha/y. The same trend has been applied for 2010.</p> <p>The extrapolation figures should be cross-checked with possible changes on the ground, positive or negative. Compared to the previous years, the charcoal activities have been restricted and its exportation banned in some parts of the country.</p> <p>Updating the trend requires some measurements and assessment. But there are no financial and technical facilities for that in Somalia.</p>
Other wooded land	Unfortunately the country has not so far set national definitions for the said variables; but on language terms our definitions could be very close to that of FAO	
Other land	Unfortunately the country has not so far set national definitions for the said variables; but on language terms our definitions could be very close to that of FAO	
Other land with tree cover	Unfortunately the country has not so far set national definitions for the said variables; but on language terms our definitions could be very close to that of FAO	
Inland water bodies	Unfortunately the country has not so far set national definitions for the said variables; but on language terms our definitions could be very close to that of FAO	

* This is applicable to all definitions in the report

Other general comments to the table
<p>Since 1980, there has been no forest inventory in Somalia. All of government documents have been destroyed during the civil war. According to a study on charcoal production conducted in some northern regions showed that 50% of the trees used for charcoal production in these areas are live trees. These areas are known for low and highly fluctuated rainfall, what may cause a delay in regeneration and the recovering process of the forest resources.</p>

Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping	
Field inventory	n/a
Remote sensing survey / mapping	n/a

2 Table T2 – Forest ownership and management rights

Data is not available for this table.

It should be noted that Communities consider the natural resources in their locations as theirs. Some people buy thousands of hectares of woodland for community graveyard (on free of charge) or as enclosures for harvesting animal feed. These areas are close to large cities and towns. But no detailed information is available.

3 Table T3 – Forest designation and management

3.1 FRA 2010 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.
Protected areas	Areas especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.
Categories of primary designated functions	
Production	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Protection of soil and water	Forest area designated primarily for protection of soil and water.
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.
Social services	Forest area designated primarily for social services.
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function.
Other	Forest areas designated primarily for a function other than production, protection, conservation, social services or multiple use.
No / unknown	No or unknown designation.
Special designation and management categories	
Area of permanent forest estate (PFE)	Forest area that is designated to be retained as forest and may not be converted to other land use.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.
Forest area under sustainable forest management	To be defined and documented by the country.
Forest area with management plan	Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, which is periodically revised.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Experts of The Ministry of Livestock, Forest and Range	M	All	1987	T1 is used as an input.

3.2.2 Original data

The plantation area in 1980 (3 300 ha) is considered to have remained constant. In addition *P. Justiflora* has dominated large area along the coasts. Its seeds were introduced by the National Range Agency prior to the outbreak of the civil conflict to be used for sand dune fixation.

3.3 Analysis and processing of national data

3.3.1 Reclassification into FRA 2010 categories

Plantations are assumed to be for production purpose and any other forests area multipurpose, giving the following results:

	Area in hectares			
	1990	2000	2005	2010
Productive plantations	3 300	3 300	3 300	3 300
Multipurpose	8 279 129	7 511 558	7 127 773	6 743 987
Total	8 282 429	7 514 858	7 131 073	6 747 287

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	3	3	3	3
Protection of soil and water	0	0	0	0
Conservation of biodiversity	0	0	0	0
Social services	0	0	0	0
Multiple use	8 279	7 512	7 128	6 744
Other (please specify in comments below the table)	0	0	0	0
No / unknown	0	0	0	0
TOTAL	8 282	7 515	7 131	6 747

Table 3b – Special designation and management categories

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

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production	Since the forest resources are of multiple uses this definition has no place in our terminology. Pilot projects for community forestation have been introduced in some areas	
Protection of soil and water	There were small sand dune fixation projects along the coast of lower and middle Shabelle regions. The shrubs and trees of the project are still growing. In addition new shrubs, like <i>Prosopis justiflora</i> , a very competitive shrub has covered very large area of the projects.	
Conservation of biodiversity	Although major tree cuttings are practiced in Jubba and Shabelle regions, but no follow up activity has been done since the outbreak of the civil conflict.	
Social services	This type of forest does not exist, except some woodland of WAAMO tourism hotels in Kismayo city suburbs.	
Multiple use	Somali forest and OWL is of this type.	
Other		
No / unknown designation		
Area of permanent forest estate	Due to the prevalent insecurity situation, all of the regulations have been violated.	
Forest area within protected areas	Due to the prevalent insecurity situation, all of the regulations have been violated	
Forest area under sustainable forest management	Due to the prevalent insecurity situation, all of the regulations have been violated	
Forest area with management plan	Due to the prevalent insecurity situation, all of the regulations have been violated	

Other general comments to the table

4 Table T4 – Forest characteristics

4.1 FRA 2010 Categories and definitions

Term / category	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Introduced species	A species, subspecies or lower taxon, occurring <u>outside</u> its natural range (past or present) and dispersal potential (i.e. outside the range it occupies naturally or could occupy without direct or indirect introduction or care by humans).
Characteristics categories	
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.
Other naturally regenerated forest of introduced species (sub-category)	Other naturally regenerated forest where the trees are predominantly of introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
Planted forest of introduced species (sub-category)	Planted forest, where the planted/seeded trees are predominantly of introduced species.
Special categories	
Rubber plantations	Forest area with rubber tree plantations.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
Bamboo	Area of forest and other wooded land with predominant bamboo vegetation.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
The world's mangrove 1980-2005, FAO	M	Mangrove	1980-2005	.

4.2.2 Original data

From table T1, the plantation area in 1980 (3 300 ha) is considered to have remained constant.

4.3 Analysis and processing of national data

4.3.1 Estimation and forecasting

- On mangrove :

Year	1990	2000	2005	2010
Mangroves (Forest and OWL)	8.6	7.8	7.3	6.8

Linear extrapolation has been made for 2010.

4.4 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	0	0	0	0
Other naturally regenerated forest	8 279	7 512	7 128	6 744
...of which of introduced species	n/a	n/a	n/a	n/a
Planted forest	3	3	3	3
...of which of introduced species	n/a	n/a	n/a	n/a
TOTAL	8 282	7 515	7 131	6 747

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	8.6	7.8	7.3	6.8
Bamboo (Forest and OWL)	n/a	n/a	n/a	n/a

4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest	It may remain some small pockets of primary forest in Jubba region, but it is impossible to really know their status. Therefore, it is assumed that primary forest is considered to be nil.	
Other naturally regenerating forest		
Planted forest	Small pilot community wood-fuel projects have been established in late 80's. Some of those trees are still growing; but under the control of the communities close to them.	

Rubber plantations		
Mangroves		Data have been extracted from The world's mangrove 1980-2005, FAO. Linear extrapolation has been made for 2010.
Bamboo	It is grown along the rivers banks, used for building and decorations; but the area not recorded.	

Other general comments to the table

5 Table T5 – Forest establishment and reforestation

5.1 FRA 2010 Categories and definitions

Term	Definition
Afforestation	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not classified as forest.
Reforestation	Re-establishment of forest through planting and/or deliberate seeding on land classified as forest.
Natural expansion of forest	Expansion of forests through natural succession on land that, until then, was under another land use (e.g. forest succession on land previously used for agriculture).

5.2 Data for Table T5

FRA 2010 Categories	Annual forest establishment (hectares/year)			...of which of introduced species ¹⁾ (hectares/year)		
	1990	2000	2005	1990	2000	2005
Afforestation	0	0	0	0	0	0
Reforestation	0	0	0	0	0	0
...of which on areas previously planted	0	0	0	0	0	0
Natural expansion of forest (see comments)	n/a	n/a	n/a	n/a	n/a	n/a

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

5.3 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation	Nothing has been done during this period in this regard.	
Reforestation	No step has been taken in this regard	
Natural expansion of forest	This is impossible under the current condition, except <i>P. justiflora</i> , which is very competitive weed.	

Other general comments to the table
No reforestation and the exact afforestation area is not available currently; but it is in the range of 3-4thousand hectares. Natural expansion of forest exists where <i>P. Justiflora</i> dominates this area.

6 Table T6 – Growing stock

6.1 FRA 2010 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees more than X cm in diameter at breast height (or above buttress if these are higher). Includes the stem from ground level or stump height up to a top diameter of Y cm, and may also include branches to a minimum diameter of W cm.
Growing stock of commercial species	Growing stock (see def. above) of commercial species.

6.2 National data

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Tropical Forest Resources Assessment Project FAO, 1981	M	Vol/ha		

6.2.2 Classification and definitions

National class	Definition
Growing stock	Similar as that of FAO
Growing stock of commercial species	Similar as that of FAO

6.2.3 Original data

According to Tropical Forest Resources Assessment Project FAO, 1981 - country briefs, it was said that, in Somalia, unproductive forests has 50 m³/ha.

6.3 Analysis and processing of national data

6.3.1 Estimation and forecasting

Considering the fact that forest and OWL area faces strong degradation, it is assumed that the GS (from 1990 to 2010) could be estimated at half the original figure, which is : 25 m³/ha

Total area of forests for 1990, 2000, 2005 and 2010 is multiplied by vol/ha (which is 25 m³/ha) to obtain growing stock for each respective year.

FRA Categories	Growing stock in 1000 cubic meters			
	1990	2000	2005	2010
Forest	207050	187875	178275	168675

6.4 Data for Table T6

Table 6a – Growing stock

FRA 2010 category	Volume (million cubic meters over bark)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Total growing stock	207	188	178	169	n/a	n/a	n/a	n/a
... of which coniferous	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... of which broadleaved	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Growing stock of commercial species	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

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

FRA 2010 category / Species name			Growing stock in forest (million cubic meters)		
Rank	Scientific name	Common name	1990	2000	2005
1 st	<i>Acacia species.</i>		n/a	n/a	n/a
2 nd	<i>Diospyros cornii</i>		n/a	n/a	n/a
3 rd	<i>Azelia quanzensis</i>		n/a	n/a	n/a
4 th	<i>Cecchia somalensis</i>		n/a	n/a	n/a
5 th	<i>Terminalia</i>		n/a	n/a	n/a
6 th	<i>Avecennia marina</i>		n/a	n/a	n/a
7 th	<i>Juniperus olea</i>		n/a	n/a	n/a
8 th	<i>Rhozophora mucronata</i>		n/a	n/a	n/a
9 th	<i>Ceriops somalensis</i>		n/a	n/a	n/a
10 th	<i>Balanits glabra</i>		n/a	n/a	n/a
Remaining			n/a	n/a	n/a
TOTAL			n/a	n/a	n/a

Note: Rank refers to the order of importance in terms of growing stock, i.e. 1st is the species with the highest growing stock. Year 2000 is the reference year for defining the species list and the order of the species.

Table 6c – Specification of threshold values

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

6.5 Comments to Table T6

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total growing stock		
Growing stock of broadleaved / coniferous		
Growing stock of commercial species		
Growing stock composition		

Other general comments to the table

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

7 Table T7 – Biomass stock

7.1 FRA 2010 Categories and definitions

Category	Definition
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 2mm 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.

7.2 National data

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
From table 5				

7.2.2 Classification and definitions

National class	Definition
Above-ground biomass	As FAO
Below-ground biomass	As FAO
Dead wood	As FAO

7.2.3 Original data

Source : from table T6:

Forest	Volume (million cubic meters over bark)			
	1990	2000	2005	2010
Total growing stock	207	188	178	169

7.3 Analysis and processing of national data

7.3.1 Estimation and forecasting

The following conversion factors were used and applied directly to the growing stock data in table T6:

Density (ton/m ³)	BEF	Root/Shoot ratio
0.58	6.9	0.24

(1) Wood density: Average for Africa (FAO Forestry Paper 134)

(2) BEF calculated using formula from FAO Forestry Paper 134

(3) R/S ratio: Appendix 5 of Guidelines (as in FRA 2005)

(4) D/L ratio: Appendix 5 of Guidelines (as in FRA 2005)

with the following formula:

AGB = GS x WD x BEF

BGB = AGB x R/S ratio

Deadwood = D/L ratio (AGB + BGB)

7.4 Data for Table T7

FRA 2010 category	Biomass (million metric tonnes oven-dry weight)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Above-ground biomass	828	752	712	676	n/a	n/a	n/a	n/a
Below-ground biomass	199	181	171	162	n/a	n/a	n/a	n/a
Dead wood	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

7.5 Comments to Table T7

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Above-ground biomass	We have no distinct definitions for the said; but in language terms, ours are similar to that of FAO.	
Below-ground biomass		
Dead wood		

Other general comments to the table

8 Table T8 – Carbon stock

8.1 FRA 2010 Categories and definitions

Category	Definition
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 specified depth chosen by the country and applied consistently through the time series.

8.2 National data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
See table 6 and 7				

8.2.2 Original data

See table 6 and 7

8.3 Analysis and processing of national data

A conversion factor of 0.47 for converting biomass to carbon has been used as suggested by IPCC 2006 good practice guidelines for 1990, 2000, 2005 and 2010 figures.

Carbon in the litter has been estimated, based on the standard factors of 2.1 C ha⁻¹ for broadleaf deciduous (Based on the Appendix 5, table 5.9, FRA 2010 Guidelines), and

8.4 Data for Table T8

FRA 2010 Category	Carbon (Million metric tonnes)							
	Forest				Other wooded land			
	1990	2000	2005	2010	1990	2000	2005	2010
Carbon in above-ground biomass	389	354	335	318	n/a	n/a	n/a	n/a
Carbon in below-ground biomass	93	85	80	76	n/a	n/a	n/a	n/a
Sub-total: Living biomass	483	438	415	394	n/a	n/a	n/a	n/a
Carbon in dead wood	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Carbon in litter	17	16	15	14	n/a	n/a	n/a	n/a
Sub-total: Dead wood and litter	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Soil carbon	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
TOTAL	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Soil depth (cm) used for soil carbon estimates	n/a
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Comments to Table T8

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Carbon in above-ground biomass		
Carbon in below-ground biomass		
Carbon in dead wood		
Carbon in litter		
Soil carbon		

Other general comments to the table

9 Table T9 – Forest fires

Data is not available for this table.

10 Table T10 – Other disturbances affecting forest health and vitality

Data is not available for this table.

11 Table T11 – Wood removals and value of removals

11.1 FRA 2010 Categories and definitions

Category	Definition
Industrial roundwood removals	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removals	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

11.2 National data

11.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Expert knowledge		Woodfuel	2005	

11.3 Analysis and processing of national data

11.3.1 Estimation and forecasting

- Woodfuel removal in 2005 (based on expert knowledge)

- Average population of the country for 2003-2007 = 10 266 000, and number of families about : 1 419 713.
- Annual consumption of wood-fuel per household per year =3 240 kg, which means 5.58 m³ (using the density (ton/m³) of 0.58).
- Total woodfuel consumption (= woodfuel removals) = 1 419 713 x 5.58 = 7 921 998 m³
- Unit value
 - The average price of 1meter cube of wood-fuel (charcoal converted into wood-fuel) = 15USD
 - Exchange rate 2005: 1USD = Somali Shilling 20 000

11.4 Data for Table T11

FRA 2010 Category	Industrial roundwood removals			Woodfuel removals		
	1990	2000	2005	1990	2000	2005
Total volume (1000 m ³ o.b.)	n/a	n/a	n/a	n/a	n/a	7 922
... of which from forest	n/a	n/a	n/a	n/a	n/a	n/a
Unit value (local currency / m ³ o.b.)	n/a	n/a	n/a	n/a	n/a	300 000
Total value (1000 local currency)	n/a	n/a	n/a	n/a	n/a	2 376 600 000

	1990	2000	2005
Name of local currency	Somali Shilling	Somali Shilling	Somali Shilling

11.5 Comments to Table T11

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total volume of industrial roundwood removals	Base on a consumption study.	
Total volume of woodfuel removals		
Unit value		
Total value		

Other general comments to the table

12 Table T12 – Non-wood forest products removals and value of removals

12.1 FRA 2010 Categories and definitions

Term	Definition
Non-wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Value of NWFP removals	For the purpose of this table, value is defined as the market value at the site of collection or forest border.

NWFP categories

Category
<p><u>Plant products / raw material</u></p> <ol style="list-style-type: none"> 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 <p><u>Animal products / raw material</u></p> <ol style="list-style-type: none"> 9. Living animals 10. Hides, skins and trophies 11. Wild honey and bee-wax 12. Wild meat 13. Raw material for medicine 14. Raw material for colorants 15. Other edible animal products 16. Other non-edible animal products

12.2 National data

12.2.1 Original data

All data are estimates as accurate data on these products are very difficult to be collected.

12.3 Data for Table T12

Rank	Name of product	Key species	Unit	NWFP removals 2005		NWFP category
				Quantity	Value (1000 local currency)	
1 st	Fodder		ton	6 098 000	184 800	2
2 nd	Food		ton	2 619 000	131	1

3 rd	Utensils, handcrafts, construction materials		m3	66 000	5 780	5
4 th	Bush meat		ton	8 729	4 365	12
5 th	Hides, skins and trophies		ton	2 800	14	10
6 th	Medicines and aromatic products		ton	1 746	52	3
7 th	Colorants and dyes		ton	873	13	4
8 th	Other edible animal products		ton	873	218	15
9 th	Ornamental plants		ton	436	22	6
10 th	Exudates		ton		n/a	7
All other plant products					n/a	
All other animal products					n/a	
TOTAL					n/a	

	2005
Name of local currency	Somali Shilling

12.4 Comments to Table T12

Variable / category	Comments related to data, definitions, etc.
10 most important products	
Other plant products	
Other animal products	
Value by product	
Total value	

Other general comments to the table
All data are estimates as accurate data on these products are very difficult to be collected.

13 Table T13 – Employment

13.1 FRA 2010 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment	Includes all persons in paid employment or self-employment.
Paid employment	Persons who during a specified reference period performed some work for <u>wage or salary</u> in cash or in kind.
Self-employment	Persons who during a specified reference period performed some work for <u>profit or family gain</u> in cash or in kind (e.g. employers, own-account workers, members of producers' cooperatives, contributing family workers).

13.2 National data

13.2.1 Original data

Information provided on the employment is rough estimates.

13.3 Data for Table T13

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods	1.94	2.43	3.13
...of which paid employment	0.17	0.22	0.26
...of which self-employment	1.77	2.21	2.87
Employment in management of protected areas	n/a	n/a	n/a

13.4 Comments to Table T13

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Employment in primary production of goods		
Paid employment / self-employment		
Employment in management of protected areas		

Other general comments to the table

Information provided on the employment is rough estimates.

14 Table T14 – Policy and legal framework

No comprehensive information is available for this table.

Historically the forest department was established before the independence (1960) under the Ministry of Agriculture and later on transferred to the Ministry of Livestock, Forest and Range. National Range Agency was established under the mandate of this Ministry in early 80s. Forestry policies and programs were set while forest and range projects were implemented. But, after the outbreak of civil conflict in the last week of 1990, unfortunately government documents were destroyed. Nearly all of the trained staff has already fled to abroad for security and economic reasons. So, forest policy, programs did exist but no data is available now.

15 Table T15 – Institutional framework

15.1 FRA 2010 Categories and definitions

Term	Definition
Minister responsible for forest policy-making	Minister holding the main responsibility for forest issues and the formulation of the forest policy.
Head of Forestry	The Head of Forestry is the Government Officer responsible for implementing the mandate of the public administration related to forests.
Level of subordination	Number of administrative levels between the Head of Forestry and the Minister.
University degree	Qualification provided by University after a minimum of 3 years of post secondary education.

15.2 Data for Table T15

Table 15a

FRA 2010 Category	2008
Minister responsible for forest policy formulation : please provide full title	Ministry of Livestock, Forestry and Range (since 2009)
Level of subordination of Head of Forestry within the Ministry	1 st level subordination to Minister
	X 2 nd level subordination to Minister
	3 rd level subordination to Minister
	4 th or lower level subordination to Minister
Other public forest agencies at national level	n/a
Institution(s) responsible for forest law enforcement	n/a

Table 15b

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff	n/a	n/a	n/a	n/a	n/a	n/a
...of which with university degree or equivalent	n/a	n/a	n/a	n/a	n/a	n/a

Note: Excludes people employed in State-owned enterprises, education and research, as well as temporary / seasonal workers.

15.3 Comments to Table T15

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Minister responsible for forest policy formulation	<p>Nothing has been done for nearly 2 decades. The mandate of forestry department was transferred from one Ministry to another. These include Ministry of Tourism, Ministry of Environment, and Ministry of Rural Development. But since the start of TFG, 2009, forestry department comes again under the Ministry of Livestock, Forestry and Range.</p> <p>But due to the situation on the ground, no activities have been carried out, except the starting unit, the admin with a few staff. According to the current structure, the Ministry of Livestock, Forestry and Range composes of:</p> <p>a- Minister b- Vice Minister C- Director General</p> <ul style="list-style-type: none"> • Department of Admin and Finance • Department of Animal Health and development • Department of Forestry and Range 	
Level of subordination of Head of Forestry within the Ministry		
Other public forest agencies at national level	No agency, like NRC was set up yet.	
Institution(s) responsible for forest law enforcement		
Human resources within public forest institutions		

Other general comments to the table

The technical departments have not fully been set up due to lack of facilities and funds. So the very few technical experts work as general staff for all activities of the Ministry.

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

Term	Definition
Annual graduation of students	Number of students that have successfully completed a Bachelor's or higher degree in forest science or achieved a certificate or diploma as forest technician.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
Master's degree (MSc) or equivalent	University (or equivalent) education with a total duration of about five years.
Bachelor's degree (BSc) or equivalent	University (or equivalent) education with a duration of about three years.
Technician certificate or diploma	Qualification issued from a technical education institution consisting of 1 to 3 years post secondary education.
Publicly funded forest research centers	Research centers implementing research programmes on forest matters. Funding is public or channelled through public institutions.

16.2 Data for Table T16

FRA 2010 Category	Annual graduation of students within the country					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree in Forest Science	0	0	0	0	0	0
Bachelor's degree in Forest Science	0	0	0	0	0	0
Forest technician certificate / diploma	0	0	0	0	0	0
FRA 2010 Category	Professionals working in public forest research centres					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Doctor's degree (PhD)	0	0	0	0	0	0
Master's degree (MSc) or equivalent	0	0	0	0	0	0
Bachelor's degree (BSc) or equivalent	0	0	0	0	0	0

16.3 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Annual graduation of students within the country		
Professionals working in public forest research centres		

Other general comments to the table
The technical secondary schools and the university faculties on these disciplines are absent.

17 Table T17 – Public revenue collection and expenditure

17.1 FRA 2010 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, forest products include: roundwood; sawnwood; wood-based panels; pulp and paper; and non-wood forest products. As far as possible, this should include revenue collected by all levels of government (i.e. central, regional/provincial and municipal level), but it should exclude the income of publicly owned business entities.
Public expenditure	All government expenditure on forest related activities (further defined below).
Operational expenditure (sub-category to Public expenditure)	All government expenditure on public institutions solely engaged in the forest sector. Where the forest administration is part of a larger public agency (e.g. department or ministry), this should only include the forest sector component of the agency's total expenditure. As far as possible, this should also include other institutions (e.g. in research, training and marketing) solely engaged in the forest sector, but it should exclude the expenditure of publicly owned business entities.
Transfer payments (sub-category to Public expenditure)	All government expenditure on direct financial incentives paid to non-government and private-sector institutions, enterprises communities or individuals operating in the forest sector to implement forest related activities.
Domestic funding	Public expenditure funded from domestic public financial resources, including: retained forest revenue; forest-related funds; and allocations from the national budget (i.e. from non-forest sector public revenue sources).
External funding	Public expenditure funded from grants and loans from donors, non-governmental organisations, international lending agencies and international organisations, where such funds are channelled through national public institutions.

17.2 Data for Table T17

Table 17a - Forest revenues

FRA 2010 Categories	Revenues (1000 local currency)	
	2000	2005
Forest revenue	0	0

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

FRA 2010 Categories	Domestic funding (1000 local currency)		External funding (1000 local currency)		Total (1000 local currency)	
	2000	2005	2000	2005	2000	2005
Operational expenditure	n/a	n/a	0	0	n/a	n/a
Transfer payments						
Total public expenditure						
If transfer payments are made for forest management and conservation, indicate for what specific objective(s) - Please tick all that apply.	<input type="checkbox"/>	Reforestation				
	<input type="checkbox"/>	Afforestation				
	<input type="checkbox"/>	Forest inventory and/or planning				
	<input type="checkbox"/>	Conservation of forest biodiversity				
	<input type="checkbox"/>	Protection of soil and water				
	<input type="checkbox"/>	Forest stand improvement				
	<input type="checkbox"/>	Establishment or maintenance of protected areas				
	<input type="checkbox"/>	Other, specify below				

17.3 Comments to Table T17

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest revenue		
Operational expenditure		
Transfer payments		

Other general comments to the table

Due to the situation in the country, no revenue is currently collected.
No information is available on the public expenditure in forest sector.