



Forestry Department

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.

Contents

1	TABLE T1 – EXTENT OF FOREST AND OTHER WOODED LAND.....	5
2	TABLE T2 – FOREST OWNERSHIP AND MANAGEMENT RIGHTS.....	9
3	TABLE T3 – FOREST DESIGNATION AND MANAGEMENT.....	12
4	TABLE T4 – FOREST CHARACTERISTICS.....	15
5	TABLE T5 – FOREST ESTABLISHMENT AND REFORESTATION.....	17
6	TABLE T6 – GROWING STOCK.....	19
7	TABLE T7 – BIOMASS STOCK.....	22
8	TABLE T8 – CARBON STOCK.....	24
9	TABLE T9 – FOREST FIRES.....	26
10	TABLE T10 – OTHER DISTURBANCES AFFECTING FOREST HEALTH AND VITALITY.....	28
11	TABLE T11 – WOOD REMOVALS AND VALUE OF REMOVALS.....	30
12	TABLE T12 – NON-WOOD FOREST PRODUCTS REMOVALS AND VALUE OF REMOVALS.....	33
13	TABLE T13 – EMPLOYMENT.....	35
14	TABLE T14 – POLICY AND LEGAL FRAMEWORK.....	36
15	TABLE T15 – INSTITUTIONAL FRAMEWORK.....	38
16	TABLE T16 – EDUCATION AND RESEARCH.....	40
17	TABLE T17 – PUBLIC REVENUE COLLECTION AND EXPENDITURE.....	42

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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
National Action Programme To Combat Desertification (NAP) 2000: The Gambia . United Nations Convention to Combat Desertification (UNCCD). The government of The Gambia	M	Forest Cover	1982/1983 1993/1994	
Sillah J.S 1999, Forest resources and plantations of the Gambia. EC-FAO Partnership Programme (1998-2002)	H	Classification	1982/1983	

1.2.2 Classification and definitions

National class	Definition
Close woodland with more than 60% crown cover	Forest stands with more than 60% crown cover are included in this category. Mangrove forests were not included in this land use class. Gallery forest falls under this category.
Woodland Savannah	This category encompassed forest with tree cover of more than 20% and less

with crown cover of 20- 60%	than 60%. Only the over story of the forest stands was consider for this class.
Tree and shrub savannah with crown cover of 2-20%	This class includes all vegetation covers with less than 20% tree crown cover. This land use class also encompasses land that might have been used for agriculture at a certain time, but shows no clear evidence of human activities within the last ten years.
Agriculture with more than 10% trees cover	This category encompasses all agricultural lands that have more than 10% of tree cover on its area. Palm groves with agricultural land- use is included in this category, and not included in land use class I or II, since the primary utilisation of this land is agriculture.
Agriculture with less than 10% tree cover	All agricultural land with less than 10% tree cover, comprising also agriculture in swamps or former barren flats near rivers.
Fallow land	This land use class embraces former agricultural land that is either temporarily not used or has not being use for agriculture for the last rainy season. With the intention of distinguishing clearing tree and shrub savannah (class III) from Fallow Land, only land with clearly visible human traces is classified in this category, meaning agricultural activities within the last 10 (ten) years. On the other hand, only agricultural areas with encroaching bush vegetation was consider to be fallow land in order to avoid misinterpretation of not yet exploited fields as fallow land.
Mangrove	This distension of mangrove formation including low and high mangroves is relatively accurate to make since this type of vegetation is very typical.
Others	This category includes all land use types that are not described by the previous seven classes, especially water surface, settlements and roads.

1.2.3 Original data

Land use change in The Gambia (1980-1993)

Land use category	1982		1993		change	
	Ha	%	Ha	%	Ha	%
Woodland	14 400	1.27	12 000	1.06	-2 400	-0.21
Savannah woodland	121 600	10.74	88 800	7.84	-32 800	-2.90
Tree& shrub savannah	280 400	24.76	360 800	31.86	80 400	7.10
Agriculture with trees	84 000	7.42	85 200	7.52	1 200	0.11
Agriculture no trees	226 400	19.99	241 200	21.30	14 800	1.31
Fallow area	138 800	12.26	89 200	7.88	-49 600	-4.38
Mangroves	68 000	6.00	59 600	5.26	-8 400	-0.74
Others	198 800	17.56	195 600	17.27	-3 200	-0.28
Sum	1 132 400	100	1 132 400	100	0.00	0.00

1.3 Analysis and processing of national data

1.3.1 Calibration

Country Area	1 132 400
FAO Stats	1 130 000
Calibration Factor	0.997880608

Land use category	Calibrated area in hectare	
	1982	1993
Woodland	14 369	11 975
Savannah woodland	121 342	88 612
Trees and Shrub Savannah	279 806	360 035
Agriculture with trees	83 822	85 019
Agriculture no trees	225 920	240 689
Fallow area	138 506	89 011
Mangroves	67 856	59 474
Others	198 379	195 185
Total	1 130 000	1 130 000

1.3.2 Reclassification into FRA 2010 categories

Land use category	Forest	OWL	OL (+ Inland Water)	OLWTC
Woodland	100%			
Savannah woodland	100%			
Tree and shrub savannah (1)	80%	20%		
Agriculture with trees			100%	100%
Agriculture no trees			100%	
Fallow area (1)		50%	50%	
Mangroves	100%			
Others			100%	

Note: 50% of the fallow area has been classified under OWL, considering its composition of shrubs and bushes. The remaining has been classified under OL.

FRA	Area in hectare	
	1982	1993
Forests	427 412	448 088
OWL	125 214	116 513
OL	447 374	435 399
Total	1 000 000	1 000 000

1.3.3 Estimation and forecasting

FRA category	Area in hectares			
	1990	2000	2005	2010
Forests	442 449	461 246	470 644	480 042
OWL	118 886	110 976	107 021	103 066
OL	438 665	427 778	422 335	416 892
Total	1 000 000	1 000 000	1 000 000	1 000 000

1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	442	461	471	480
Other wooded land	119	111	107	103
Other land	439	428	422	417
...of which with tree cover				
Inland water bodies	130	130	130	130
TOTAL	1 130	1 130	1 130	1 130

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	Data is obtained from the monitoring of Land-use change between the periods 1982 to 1993	The overall tendency of land use changes in the Gambia between the years 1980 and 1993 seems to continue between the years 2005 and 2010.
Other wooded land		There is a decrease of other wooded land due to heavy pressure on the tree resources thus resulting to severe degradation.
Other land		The change in savannah woodland is mainly attributed to a conversion to tree and shrub savannah. Agriculture with trees is mostly transformed to agriculture no trees and the fallow land shows two main trends i.e. transforming into tree and shrub savannah or agriculture with trees.
Other land with tree cover		
Inland water bodies		

Other general comments to the table

The data and definitions are consistent with national data and national definitions. Forests of The Gambia face high risk of degradation. Even if they are considered "Forest" under FRA definition, 70% of them are (more or less) degraded.

Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping

Field inventory	2009
Remote sensing survey / mapping	(2009)

2 Table T2 – Forest ownership and management rights

2.1 FRA 2010 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.
Private ownership	Forest owned by individuals, families, communities, private co-operatives, corporations and other business entities, private religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
Individuals (<i>sub-category of Private ownership</i>)	Forest owned by individuals and families.
Private business entities and institutions (<i>sub-category of Private ownership</i>)	Forest owned by private corporations, co-operatives, companies and other business entities, as well as private non-profit organizations such as NGOs, nature conservation associations, and private religious and educational institutions, etc.
Local communities (<i>sub-category of Private ownership</i>)	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area. The community members are co-owners that share exclusive rights and duties, and benefits contribute to the community development.
Indigenous / tribal communities (<i>sub-category of Private ownership</i>)	Forest owned by communities of indigenous or tribal people.
Other types of ownership	Other kind of ownership arrangements not covered by the categories above. Also includes areas where ownership is unclear or disputed.
Categories related to the holder of management rights of public forest resources	
Public Administration	The Public Administration (or institutions or corporations owned by the Public Administration) retains management rights and responsibilities within the limits specified by the legislation.
Individuals/households	Forest management rights and responsibilities are transferred from the Public Administration to individuals or households through long-term leases or management agreements.
Private institutions	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities, private co-operatives, private non-profit institutions and associations, etc., through long-term leases or management agreements.
Communities	Forest management rights and responsibilities are transferred from the Public Administration to local communities (including indigenous and tribal communities) through long-term leases or management agreements.
Other form of management rights	Forests for which the transfer of management rights does not belong to any of the categories mentioned above.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forest act, 1998	H	Definitions	1998	Latest on the sector

2.2.2 Classification and definitions

National class	Definition
Public forest	Includes all forests which are administered by the state and excluded community and private forest
Private	Forest privately owned and/or leased by an individual or group of individuals
Community forest	Forest which is owned and managed by a designated community(ies)

2.2.3 Original data

Based on expert knowledge.

2.3 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	442	442	442
Private ownership	0	19	29
...of which owned by individuals	0	0	0
...of which owned by private business entities and institutions	0	0	0
...of which owned by local communities	0	19	29
...of which owned by indigenous / tribal communities	0	0	0
Other types of ownership	0	0	0
TOTAL	442	461	471

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

Does ownership of trees coincide with ownership of the land on which they are situated?	<input type="checkbox"/>	Yes
	<input checked="" type="checkbox"/>	No
If No above, please describe below how the two differ:		
Is a common practice for people to plant trees on communal lands or even borrowed lands. In this situation, ownership of trees does not coincide with ownership of trees		

Table 2b - Holder of management rights of public forests

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public Administration	442	442	442
Individuals	0	0	0
Private corporations and institutions	0	0	0
Communities	0	0	0
Other	0	0	0
TOTAL	442	442	442

2.4 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership	By the Forest laws of the Gambia all Natural Forests and established plantations belong to the State.	There was a policy shift from plantation Forestry to natural forest management in The Gambia after 1990. At the time only 1 300 ha of Gmelina plantation was established.
Private ownership	The only private (individual) plantation of 100 ha was established in 1994 while the only natural forest of 25 ha privately owned legally (individual) was established in 2006. (source : Forestry Department). Community ownership of forest is legislated in The Gambia through the community forestry programme where by a step-wise transfer of natural forest owned by the State to a community or communities.	Legal transfer of natural forest to private(s) is done through a process as contained in the forest laws of the Gambia. The land tenure system is a limiting factor. Stead increase of communities and hectare is noticed since the launching of the programme in 1990 to date.
Other types of ownership		
Management rights	Management rights go with ownership rights.	Forest management techniques and skills are being transferred to the local communities and individuals (for the private forest).

Other general comments to the table

A lot of communities and individuals in the Gambia have demonstrated very good skills in forest management.

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
Forest Act, 1998	M	Definitions	1998	

Also based on information from the Forestry Department and expert knowledge.

3.2.2 Classification and definitions

National class	Definition
Protected forest	Includes all mangroves areas and riverine forests.
Protection forest	An area wholly or partly cover with woody growth, managed primarily to regulate stream flow, maintain water quality, minimise erosion, stabilise drifting sand or extend any other forest beneficiary influences.
Gambian forest management concept	Means the forest management concept as approved and implemented by the secretary of state.
Forest management	Means the practical application of scientific, economic, legal and social forestry principles to the administration of forest for specific objectives.
Sustainable use	Means to use forest produce in a way and a rate that does not lead to the long term decline of the forest, thereby maintaining its potential to meet the need and aspiration of present and future generation.

3.3 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	1.3	1.3	1.4	1.4
Protection of soil and water	59.6	59.6	59.6	59.6
Conservation of biodiversity	35.8	35.8	41.8	43.0
Social services	0	0	0	0
Multiple use	24.7	24.7	24.7	24.7
Other (please specify in comments below the table)				
No / unknown	320.6	339.6	343.5	351.3
TOTAL	442	461	471	480

Table 3b – Special designation and management categories

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Area of permanent forest estate	33.7	33.7	33.7	33.7
Forest area within protected areas	35.8	35.8	41.8	43.0
Forest area under sustainable forest management	23.7	23.7	23.7	23.7
Forest area with management plan	1.2	27.4	35.4	75.4

3.4 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production	Forest crop or stand raise artificially and managed for production purpose.	Artificial plantation of mainly Gmelina with few other exotic species falls under this category in the Gambia and the area is

		constant over the years.
Protection of soil and water	An area wholly or partly cover with woody growth, managed primarily to regulate stream flow, maintain water quality, minimise erosion, stabilise drifting sand or extend any other forest beneficiary influences. This mainly refers to the mangroves forest which is under severe stress due to climate change and human activities.	Assumed to be constant.
Conservation of biodiversity	Area set aside for the purpose of conservation of fauna and flora. The management responsibility falls under park and wildlife management. According to their policy 7% of the total land area of the Gambia should be managed for this purpose.	
Social services	This falls under multiple use purpose. Social service such as eco-tourism and cultural activities are gaining greater recognition.	
Multiple use	Forest area designated primarily for more than one purpose and where none of these alone is considered as the predominant designated function. It is known that 24 700 ha of forest have been designated for a multiple use function. In fact, a majority of the Gambian forests may fall under this category even if their designation is not clearly established.	Assumed to be constant
Other		
No / unknown designation	Remainder no designated to any of the categories above.	
Area of permanent forest estate	Forest area that is designated to be retained as forest and may not be converted to other land use. In the Gambia state, private and community forest falls under this category, however, community forests are increasing steadily.	
Forest area within protected areas	Protected areas are reserve forest areas under parks and wildlife management. Conservation of biodiversity is part of it.	
Forest area under sustainable forest management	Means to use forest produce in a way and a rate that does not lead to the long term decline of the forest, thereby maintaining its potential to meet the need and aspiration of present and future generation	
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	

Other general comments to the table

The Mangrove are remains at 59 600 and is very important for protection of Soil and Water. A large percentage of our forest are managed as multipurpose forest.

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
Forest Act, 1998	H	Definition	1998	

4.2.2 Classification and definitions

National class	Definition
Regeneration	Means the renewal of a tree crop whether by natural or artificial means and includes coppices, shoots. Tree generation is any tree that is less than 10cm diameter at Breast height.
Natural forest	Means forest growth, either from local or exotic species, that has come up naturally and which constitute more than or equals to 25% of the total tree cover of a said forest and exclude and plantation area.

4.2.3 Original data

Based on the Forestry Department expert knowledge.

4.3 Data for Table T4

Table 4a

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Primary forest	1.2	1.2	1	0.8
Other naturally regenerated forest	439.5	458.4	468.6	477.8
...of which of introduced species	n/a	n/a	n/a	n/a
Planted forest	1.3	1.4	1.4	1.4
...of which of introduced species	n/a	n/a	n/a	n/a
TOTAL	442	461	471	480

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	59.6	59.6	59.6	59.6
Bamboo (Forest and OWL)	0	0	0	0

4.4 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest	It is the close canopy forest with no evidence of human activities. In the Gambia, less than 1% remains thanks to the taboos and cultural beliefs.	The primary forest has been stable between 1990 and 2000. However, after 2000 it started to decline as a result of human interference
Other naturally regenerating forest	This forest type is highly degraded.	
Planted forest		The total area remains the same since 2000 due to shift in policy for natural forest management.
Rubber plantations		
Mangroves		Total areas under mangroves seem unchanged though massive dieback as well as localised dieback has being recorded.
Bamboo		

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 National data

5.2.1 Data sources

Based on the knowledge of the national correspondent.

5.2.2 Classification and definitions

National class	Definition
Afforestation	Same as above
Reforestation	Same as above
Natural expansion of forest	Same as above

5.3 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	n/a	n/a	n/a	0	0	0
...of which on areas previously planted	n/a	n/a	n/a	0	0	0
Natural expansion of forest	0	0	0	0	0	0

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

5.4 Comments to Table T5

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Afforestation	Currently in the Gambia afforestation is limited to only the establishment of wood lots mainly supported by NGOs.	Not much success recorded
Reforestation	Reforestation by enrichment planting in the community forests is going on a large scale. But no detailed information is available.	Adopted management principle for natural forest.
Natural expansion of forest		

Other general comments to the table
<p>Since the policy shift from plantation forestry to Natural forest management afforestation is limited to only woodlot establishment of 1ha. At selected places, this is very limited to be quantified as not much success is recorded.</p> <p>The last year of plantation establishment in The Gambia was 1980.</p>

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
Forest resources and plantations of the Gambia. Data Collection and Analysis for Sustainable Forest Management in ACP Countries - Linking National and International Efforts. EC-FAO Partnership Programme (1998-2002)	H	Vol/ha for Forests and OWL	1993	

6.2.2 Classification and definitions

National class	Definition
Growing stock	No national definition
Growing stock of commercial species	No national definition

6.2.3 Original data

Vol/ha is original data from the above source. Area in hectares is from T1

FRA 2005	Vol/ha	Area in hectares			
		1990	2000	2005	2010
Forest	37.4	442 449	461 244	470 644	480 042
OWL	19.6	118 886	110 976	107 021	103 066

6.3 Analysis and processing of national data

6.3.1 Estimation and forecasting

FRA 2005	Volume (cubic meters over bark)			
	1990	2000	2005	2010
Forest	16 547 593	17 250 526	17 602 086	17 953 571
OWL	2 330 166	2 175 130	2 097 612	2 020 094

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	16.5	17.3	17.6	17.9	2.33	2.18	2.10	2.02
... 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>Terminalia macroptera</i>		n/a	4.35	n/a
2 nd	<i>Daniella oliveiri</i>	West Africa Copal	n/a	1.96	n/a
3 rd	<i>Combretum glutinosum</i>	-	n/a	1.25	n/a
4 th	<i>Khaya senegalensis</i>	African Mahogany	n/a	1.19	n/a
5 th	<i>Parkia biglobosa</i>	African Locust Bean	n/a	1.18	n/a
6 th	<i>Elaeis Guinness</i>	Oil Palm	n/a	1.16	n/a
7 th	<i>Combretum nigrans</i>	-	n/a	0.83	n/a
8 th	<i>Pterocarpus erinaceus</i>	African Rosewood	n/a	0.39	n/a
9 th	<i>Cordyla africana</i>	Bush Mango	n/a	0.00	n/a
10 th			n/a	n/a	n/a
Remaining			n/a	4.99	n/a
TOTAL			16.50	17.30	17.60

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)	n/a	
Minimum diameter (cm) at the top end of stem for calculation of growing stock (Y)	n/a	
Minimum diameter (cm) of branches included in growing stock (W)	n/a	
Volume refers to “above ground” (AG) or “above stump” (AS)	n/a	

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

The anticipated Forest Resources assessment planned for 2009 will take care of the above data requirement.

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 Original data

No original data exists. T6 will be used as an input.

FRA 2005	Volume (cubic meters over bark)			
	1990	2000	2005	2010
Forest	16 547 593	17 250 526	17 602 086	17 953 571
OWL	2 330 166	2 175 130	2 097 612	2 020 094

7.3 Analysis and processing of national data

7.3.1 Calibration

The following conversion factors were used:

FRA 2005 Categories	Density	BEF	R/S ratio
	ton/m ³		
Forest	0.58	5.2	0.24
OWL	0.58	7.3	0.48

The factors have been used in the FRA 2005 national report

7.3.2 Estimation and forecasting

Applying conversion factors to growing stock from T5 gives:

Forest	Biomass in tonnes			
	1990	2000	2005	2010
Aboveground biomass	49 907 540	52 027 586	53 087 891	54 147 970
Belowground biomass	11 977 810	12 486 621	12 741 094	12 995 513
Living biomass	61 885 350	64 514 207	65 828 985	67 143 483

OWL	Biomass in tonnes			
	1990	2000	2005	2010
Aboveground biomass	9 865 923	9 209 499	8 881 288	8 553 076
Belowground biomass	4 735 643	4 420 559	4 263 018	4 105 477
Living biomass	14 601 566	13 630 058	13 144 306	12 658 553

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	49.91	52.03	53.09	54.15	9.87	9.21	8.88	8.55
Below-ground biomass	11.98	12.49	12.74	13.00	4.74	4.42	4.26	4.11
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		
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 Original data

No original data exists. T7 will be used as an input.

8.3 Analysis and processing of national data

8.3.1 Estimation and forecasting

A/- Carbon stock is calculated by multiplying the biomass by 0.47. Carbon stocks of litter and soil have not been estimated.

B/- Carbon in the litter has been estimated, based on the standard factor of 2.1 (Tropical, broadleaves), and
 - Soil carbon has been estimated, based on the factor of 31 (Tropical, dry with sandy soils).

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

Year	1990	2000	2005	2010
Total Forest (1000 ha)	442	461	470	480
Carbon in the litter (1000 t.)	928	968	987	1008
Soil carbon (1000 t.)	13702	14291	14570	14880

Year	1990	2000	2005	2010
Total OWL area (1000 ha)	119	111	107	103
Carbon in the litter (1000 t.)	250	233	225	216
Soil carbon (1000 t.)	3 689	3 441	3 317	3 193

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	23.46	24.45	24.95	25.45	4.64	4.33	4.17	4.02
Carbon in below-ground biomass	5.63	5.87	5.99	6.11	2.23	2.08	2.00	1.93
Sub-total: Living biomass	29.09	30.32	30.94	31.56	6.87	6.41	6.18	5.95
Carbon in dead wood	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Carbon in litter	0.93	0.97	0.99	1.01	0.25	0.23	0.23	0.22
Sub-total: Dead wood and litter	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Soil carbon	13.70	14.29	14.57	14.88	3.69	3.44	3.32	3.19
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	30
------------------------------------------------	----

8.5 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

9.1 FRA 2010 Categories and definitions

Category	Definition
Number of fires	Average number of vegetation fires per year in the country.
Area affected by fire	Average area affected by vegetation fires per year in the country.
Vegetation fire (supplementary term)	Any vegetation fire regardless of ignition source, damage or benefit.
Wildfire	Any unplanned and/or uncontrolled vegetation fire.
Planned fire	A vegetation fire regardless of ignition source that burns according to management objectives and requires limited or no suppression action.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Department regional reports	M	Forest fires	1988-2007	

9.2.2 Classification and definitions

National class	Definition
Number of fires	No national definition
Area affected by fire	No national definition
Vegetation fire (supplementary term)	No national definition
Vegetation fire (supplementary term)	No national definition
Planned fire	No national definition

9.3 Data for Table T9

Table 9a

FRA 2010 category	Annual average for 5-year period					
	1990		2000		2005	
	1000 hectares	number of fires	1000 hectares	number of fires	1000 hectares	number of fires
Total land area affected by fire	392	n/a	401	n/a	405	n/a
... of which on forest	n/a	n/a	n/a	n/a	n/a	n/a
... of which on other wooded land	n/a	n/a	n/a	n/a	n/a	n/a
... of which on other land	n/a	n/a	n/a	n/a	n/a	n/a

Table 9b

FRA 2010 category	Proportion of forest area affected by fire (%)		
	1990	2000	2005
Wildfire	100	100	100
Planned fire	0	0	0

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

9.4 Comments to Table T9

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Area affected by fire	Forest area burnt by bushfire irrespective of the intensity. Estimates based on Forestry Department regional reports. <u>Data given include together forest and OWL.</u>	By the 1990s about 80% of the forests in the Gambia are affected by annual bushfires then it slowed down gradually to 70%. What was observed was that as long as there is a forestry project there is reduction of fires at that location site and immediately the project is gone the fires increase both in frequency and area coverage. Generally fires are not going down below the 70% mark.
Number of fires	There is no good record on the number of fires occurrence	
Wildfire / planned fire	Almost all the fires that affected our forests are wildfire.	

Other general comments to the table

The only time we have any planned forest fires are times of early burning or forest clearing. No systematic records are available but from field observations about 70% of the total woodland of the country is affected annually by fire.

10 Table T10 – Other disturbances affecting forest health and vitality

10.1 FRA 2010 Categories and definitions

Term	Definition
Disturbance	Damage caused by any factor (biotic or abiotic) that adversely affects the vigour and productivity of the forest and which is not a direct result of human activities.
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.
Category	Definition
Disturbance by insects	Disturbance caused by insect pests.
Disturbance by diseases	Disturbance caused by diseases attributable to pathogens, such as bacteria, fungi, phytoplasma or virus.
Disturbance by other biotic agents	Disturbance caused by biotic agents other than insects or diseases, such as wildlife browsing, grazing, physical damage by animals, etc.
Disturbance caused by abiotic factors	Disturbances caused by abiotic factors, such as air pollution, snow, storm, drought, etc.

10.2 National data

Based on the expert knowledge.

10.3 Data for Table T10

Table 10a – Disturbances

FRA 2010 category	Affected forest area (1000 hectares)		
	1990	2000	2005
Disturbance by insects	0	0	0
Disturbance by diseases	0	0	0
Disturbance by other biotic agents	265	277	283
Disturbance caused by abiotic factors	n/a	n/a	n/a
Total area affected by disturbances			

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

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

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

Description / name	Tree species or genera affected (scientific name)	Year(s) of latest outbreak	Area affected (1000 hectares)	If cyclic, approx. cycle (years)
No major outbreak of insect or disease recorded in the Gambia.				

Note: Area affected refers to the total area affected during the outbreak.

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

Scientific name of woody invasive species	Forest area affected 2005 (1000 hectares)
<i>No woody invasive species recorded in the Gambia.</i>	
Total forest area affected by woody invasive species	n/a

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

10.4 Comments to Table T10

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Disturbance by insects		
Disturbance by diseases		
Disturbance by other biotic agents	Savannah woodland and tree and shrub savannah categories are important grazing areas for livestock in the Gambia. Livestock coming from Senegal for grazing into the Gambia is a common practise. About 60 % of forest (and OWL) are affected annually.	
Disturbance caused by abiotic factors	Draught affects all the forest ecosystems especially the mangrove ecosystem. The massive dieback of the mangroves is attributed to the persistent draught experienced in the Gambia, in the 70s and 80s. No data is available on affected area.	
Major outbreaks		
Invasive species		

Other general comments to the table

No reliable national data is available. However climate change in combination with other factors has negatively impacted on the growth of our forest ecosystems.

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
FAO Stat	M	Industrial roundwood and fuelwood	1988-2007	

11.2.2 Classification and definitions

National class	Definition
Industrial roundwood removals	No national definition
Woodfuel removals	No national definition

11.2.3 Original data

From FAOStat
 ub = under bark
 ob = over bark

Industrial Round Wood

Year	1988	1989	1990	1991	1992
Vol cum ub	46600	56600	66600	81600	96600
	Average 1990 ub		69600		
	Average 1990 ob		80040		

Year	1998	1999	2000	2001	2002
Vol cum ub	112700	112700	112700	112700	112700
	Average 1990 ub		112700		
	Average 1990 ob		129605		

Year	2003	2004	2005	2006	2007
Vol cum ub	112700	112700	112700	112700	112700
	Average 1990 ub		112700		
	Average 1990 ob		129605		

Fuel wood

Year	1988	1989	1990	1991	1992
Vol cum ub	416569	432623	454133	467683	498014
	Average 1990 ub		453804		
	Average 1990 ob		521875		

Year	1998	1999	2000	2001	2002
Vol cum ub	500000	505000	602682	611239	619975
	Average 1990 ub		567779		
	Average 1990 ob		652946		

Year	2003	2004	2005	2006	2007
Vol cum ub	628894	638001	647300	656321	665500
	Average 1990 ub		647203		
	Average 1990 ob		744284		

11.3 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.)	80	130	130	522	653	744
... of which from forest	80	130	130	522	653	744
Unit value (local currency / m ³ o.b.)	n/a	n/a	n/a	n/a	n/a	n/a
Total value (1000 local currency)	n/a	n/a	n/a	n/a	n/a	n/a

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

	1990	2000	2005
Name of local currency	Dalasi	Dalasi	Dalasi

11.4 Comments to Table T11

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Total volume of industrial roundwood removals		
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 Data sources

Based on expert knowledge

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	<i>Parkia biglobosa</i>			n/a	n/a	1
2 nd	<i>Parkia biglobosa</i>			n/a	n/a	3
3 rd	<i>Moringa oleifera</i>			n/a	n/a	3
4 th	<i>Moringa oleifera</i>			n/a	n/a	1
5 th	<i>Detarium senegalensis</i>			n/a	n/a	1
6 th	<i>Detarium senegalensis</i>			n/a	n/a	3
7 th	<i>Elasis guinersis</i>			n/a	n/a	1
8 th	<i>Elasis guinersis</i>			n/a	n/a	5
9 th	<i>Parinari excelsa</i>			n/a	n/a	1
10 th	<i>Borassus aethiopum</i>			n/a	n/a	1
11 th	<i>Borassus aethiopum</i>			n/a	n/a	5
All other plant products						
All other animal products						
TOTAL						

Note : Based on expert knowledge.

	2005
Name of local currency	Dalasi

12.4 Comments to Table T12

Variable / category	Comments related to data, definitions, etc.
10 most important products	Other important NWFP should be names, such as <i>Vitex grandiflora</i> for Food and timber, <i>Zizipus mauritana</i> (jujube) for Food and Medicine, <i>Saba senegalensis</i> for Drink and Medicine, and <i>Spondias mombin</i> for Food and Medicine.
Other plant products	
Other animal products	
Value by product	
Total value	

Other general comments to the table
It is very difficult to get the monetary value of the non wood forest products in the Gambia due to lack of market information.

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 Data sources

Based on the knowledge of the Forestry Department.

13.3 Data for Table T13

FRA 2010 Category	Employment (1000 years FTE)		
	1990	2000	2005
Employment in primary production of goods	0.15	0.17	0.18
...of which paid employment	0.15	0.17	0.18
...of which self-employment	n/a	n/a	n/a
Employment in management of protected areas	0.04	0.05	0.05

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	Includes only paid employment	
Paid employment / self-employment		
Employment in management of protected areas		

Other general comments to the table

Protected areas are under the department of Parks and Wildlife, a relatively small fewer staff.

14 Table T14 – Policy and legal framework

14.1 FRA 2010 Categories and definitions

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

14.2 Data for Table T14

Indicate the existence of the following (2008)			
Forest policy statement with national scope	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Year of endorsement	1995	
	Reference to document	National Forest Policy	
National forest programme (nfp)	<input checked="" type="checkbox"/>	Yes	
	<input type="checkbox"/>	No	
If Yes above, provide:	Name of nfp in country	Gambia National Action Plan	
	Starting year	2000	
	Current status	<input type="checkbox"/>	In formulation
		<input type="checkbox"/>	In implementation
		<input checked="" type="checkbox"/>	Under revision
<input type="checkbox"/>		Process temporarily suspended	
Reference to document or web site	-		
Law (Act or Code) on forest with national scope	<input checked="" type="checkbox"/>	Yes, specific forest law exists	
	<input type="checkbox"/>	Yes, but rules on forests are incorporated in other (broader) legislation	
	<input type="checkbox"/>	No, forest issues are not regulated by national legislation	
If Yes above, provide:	Year of enactment	1998	
	Year of latest amendment	-	
	Reference to document	National Forest Act, 1998	

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

14.3 Comments to Table T14

Variable / category	Comments related to data, definitions, etc.
Forest policy statement with national scope	30% of the total land area of the Gambia should be under forest cover, and 75% of this should be under one form of management or the other by the end of the policy period.
National forest programme (nfp)	Decentralise forest development and management using participatory approach.
Law (Act or Code) on forest with national scope	National Forest Act and Regulation as the legal instrument for forest policy implementation.
Sub-national forest policy statements	Not available, the national use of the national forest policy.
Sub-national Laws (Acts or Codes) on forest	.

Other general comments to the table
By laws, communities are participating to forest management and development

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 (Director) 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 – Institutions

FRA 2010 Category	2008	
Minister responsible for forest policy formulation : please provide full title	Secretary of state responsible for forestry.	
Level of subordination of Head of Forestry within the Ministry	X	1 st level subordination to Minister
		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	No (NGOs and CBOs)	
Institution(s) responsible for forest law enforcement	Forestry department and all security agencies.	

Table 15b – Human resources

FRA 2010 Category	Human resources within public forest institutions					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Total staff	185	1	185	1	194	3
...of which with university degree or equivalent	5	0	7	0	9	0

Notes:

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

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		
Level of subordination of Head of Forestry within the Ministry		
Other public forest agencies at national level		
Institution(s) responsible for forest law enforcement		
Human resources within public forest institutions		

Other general comments to the table
Staff retention is a problem in the department just as in all other public institutions.

16 Table T16 – Education and research

16.1 FRA 2010 Categories and definitions

Term	Definition
Forest-related education	Post-secondary education programme with focus on forests and related subjects.
Doctor's degree (PhD)	University (or equivalent) education with a total duration of about 8 years.
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 primarily implementing research programmes on forest matters. Funding is mainly public or channelled through public institutions.

16.2 National data

16.2.1 Data sources

Based on information from the National correspondent.

16.3 Data for Table T16

FRA 2010 Category	Graduation ¹⁾ of students in forest-related education within the country					
	2000		2005		2008	
	Number	%Female	Number	%Female	Number	%Female
Master's degree (MSc) or equivalent	0	0	0	0	0	0
Bachelor's degree (BSc) or equivalent	0	0	0	0	0	0
Forest technician certificate / diploma	10	0	10	0	10	0
FRA 2010 Category	Professionals working in publicly funded forest research centres ²⁾					
	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

Notes:

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

16.4 Comments to Table T16

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Graduation of students in forest-related education	No institution of higher for forestry in the Gambia.	
Professionals working in public forest research centres	No public forest research centre available.	

Other general comments to the table
Gambia recently has its own University but no faculty for forestry is yet. <u>Overseas training</u> is very expensive for us. In 2008, there were 3 MSc and 5 BSc.

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 National data

17.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Forestry Department: Forestry Taxation systems, 2006	M	forest revenues	2001 and 2005	
Annual Budget for 2000 & 2005	M	Domestic funding,	2000 and 2005	
CRD-FP, PN 200065961, report No.8., Addendum No.1 February 2000, CRD-FP	M	External funding	2000 and 2005	

17.2.2 Original data

- Total revenue for 2000 was not available; therefore the total indicated for 2000 is for 2001. This is acceptable as the annual revenue figures do have significant difference.

17.3 Data for Table T17

Table 17a - Forest revenues

FRA 2010 Categories	Revenues (1000 local currency)	
	2000	2005
Forest revenue	2673.79	2561.82

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	2961.67	4,876.16	7500.00	229587.2	10461.7	234463.4
Transfer payments	0	0	0	0	0	0
Total public expenditure	2961.67	4876.16	7500.00	229587.2	10461.7	234463.4
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				

17.4 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

From the table above it is clear that Forestry operations for the year 2000 & 2005 were mostly funded through external funding. The domestic funding was limited and this is true for all years.