



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT 2010**

COUNTRY REPORTS

BAHRAIN

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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).

The Global Forest Resources Assessment process is coordinated by the Forestry Department at FAO headquarters in Rome. The contact person for matters related to FRA 2010 is:

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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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This report comprises only the reporting tables T1 to T4. For the remaining reporting tables there is no information available to support any estimates.

Report preparation and contact persons

No report has been received from Bahrain.

This report is the result of a desk study prepared by the FRA secretariats in Rome, which is based on the existing available information using the established format for FRA 2010 country reports

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
Ahmed, J. H and Ayoub, M. 1998. Rationalizing water Resources for greening of areas in Bahrain. Plant Wealth Directorate, Ministry of Agriculture.	M	Plantation area, annual planting rate	1998	
Al-Hindy, M. Ali and Ahmed, J. Habib. 2000 . Forest plantations in the State of Bahrain. National report prepared for FRA 2000 project. Plant wealth Directorate, Ministry of Agriculture. Bahrain.	M	Annual planting rate	2000	
FAO 2007 The world's mangroves 1980-2005 FAO Forestry Paper 153		Mangroves		Secondary source

1.2.2 Original data

Area of forest plantations, reference year: 1998

Type	Ownership	Area (ha)
Protective plantations	Public sector	340

Annual planting rate =15.5 ha.

1.3 Analysis and processing of national data

1.3.1 Calibration

Not needed.

1.3.2 Estimation and forecasting

Planted area in 1998 (ha)	Annual planting rate (ha)	Estimated area (ha)			
		1990	2000	2005	2010
340	15.5	216	371	448	526

Same planting rate has been considered for all the reference years.

1.3.3 Reclassification

Mangroves are classified as Other wooded land (tree height less than 5 m).

1.4 Data for Table T1

FRA 2010 categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	0.216	0.371	0.448	0.526
Other wooded land	0.100	0.090	0.090	0.090
Other land	70.684	70.539	70.462	70.384
...of which with tree cover	n.a.	n.a.	n.a.	n.a.
Inland water bodies	0	0	0	0
TOTAL	71	71	71	71

1.5 Comments to Table T1

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Forest	There is no natural forest cover in Bahrain. The woody cover present in the country is being planted by the government through an afforestation program.	Annual forest change rate refers to the afforestation provided by the Government. Since there is no other information available, the afforestation rate has been assumed to be constant.
Other wooded land	All mangrove forests.	
Other land		
Other land with tree cover		
Inland water bodies		

Other general comments to the table

Expected year for completion of ongoing/planned <u>national forest inventory and/or RS survey / mapping</u>	
Field inventory	
Remote sensing survey / mapping	

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 (sub-category of Private ownership)	Forest owned by individuals and families.
Private business entities and institutions (sub-category of Private ownership)	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 (sub-category of Private ownership)	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 (sub-category of Private ownership)	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
Ahmed, J. H and Ayoub, M. 1998. Rationalizing water Resources for greening of areas in Bahrain. Plant Wealth Directorate, Ministry of Agriculture.	M	Plantation area, annual planting rate	1998	
Al-Hindy, M. Ali and Ahmed, J. Habib. 2000. Forest plantations in the State of Bahrain. National report prepared for FRA 2000 project. Plant wealth Directorate, Ministry of Agriculture. Bahrain.	M	Annual planting rate	2000	

2.2.2 Classification and definitions

National class	Definition

2.2.3 Original data

The original data in section 1.2.2 were used for this reporting table.

2.3 Analysis and processing of national data

2.3.1 Calibration

Not needed.

2.3.2 Estimation and forecasting

The estimated and forecasted data as presented in chapter 1.3.2 were used.

2.3.3 Reclassification into FRA 2010 categories

In Bahrain, all forest plantations are publicly owned.

2.4 Data for Table T2

Table 2a - Forest ownership

FRA 2010 Categories	Forest area (1000 hectares)		
	1990	2000	2005
Public ownership	0.216	0.371	0.448
Private ownership	0	0	0
...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	0	0
...of which owned by indigenous / tribal communities	0	0	0
Other types of ownership	0	0	0
TOTAL	0.216	0.371	0.448

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 type="checkbox"/>	No
If No above, please describe below how the two differ:		

Table 2b - Holder of management rights of public forests

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

2.5 Comments to Table T2

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Public ownership		
Private ownership		
Other types of ownership		
Management rights		

Other general comments to the table
It is not known whether the ownership of the trees coincides with the ownership of the land.

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
Ahmed, J. H and Ayoub, M. 1998. Rationalizing water Resources for greening of areas in Bahrain. Plant Wealth Directorate, Ministry of Agriculture.	M	Plantation area, annual planting rate	1998	
Al-Hindy, M. Ali and Ahmed, J. Habib. 2000 . Forest plantations in the State of Bahrain. National report prepared for FRA 2000 project. Plant wealth Directorate, Ministry of Agriculture. Bahrain.	M	Annual planting rate	2000	

3.2.2 Classification and definitions

National class	Definition
Protection of soil and water	Same as FRA

3.2.3 Original data

The original data provided in chapter 1.2.2 were used for this reporting table.

3.3 Analysis and processing of national data

3.3.1 Estimation and forecasting

The estimated and forecasted data as presented in chapter 1.3.2 were used.

3.3.2 Reclassification into FRA 2010 categories

All forests are designated for protection of soil and water.

3.4 Data for Table T3

Table 3a – Primary designated function

FRA 2010 Categories	Forest area (1000 hectares)			
	1990	2000	2005	2010
Production	0	0	0	0
Protection of soil and water	0.216	0.371	0.448	0.526
Conservation of biodiversity	0	0	0	0
Social services	0	0	0	0
Multiple use	0	0	0	0
Other (please specify in comments below the table)	0	0	0	0
No / unknown	0	0	0	0
TOTAL	0.216	0.371	0.448	0.526

Table 3b – Special designation and management categories

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

3.5 Comments to Table T3

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Production		
Protection of soil and water		
Conservation of biodiversity		
Social services		
Multiple use		
Other		
No / unknown designation		
Area of permanent forest estate		
Forest area within protected areas		
Forest area under sustainable forest management		
Forest area with management plan		

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
Ahmed, J. H and Ayoub, M. 1998. Rationalizing water Resources for greening of areas in Bahrain. Plant Wealth Directorate, Ministry of Agriculture.	M	Plantation area, annual planting rate	1998	
Al-Hindy, M. Ali and Ahmed, J. Habib. 2000 . Forest plantations in the State of Bahrain. National report prepared for FRA 2000 project. Plant wealth Directorate, Ministry of Agriculture. Bahrain.	M	Annual planting rate	2000	
FAO 2007 The world's mangroves 1980-2005 FAO Forestry Paper 153		Mangroves		Secondary source

4.2.2 Classification and definitions

National class	Definition
Protective plantation	

4.2.3 Original data

The original data provided in chapter 1.2.2 were used for this reporting table.

4.3 Analysis and processing of national data

4.3.1 Estimation and forecasting

The estimated and forecasted data as presented in chapter 1.3.2 were used.

4.3.2 Reclassification into FRA 2010 categories

All the plantations were classified as planted forest.

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	0	0	0	0
...of which of introduced species	0	0	0	0
Planted forest	0.216	0.371	0.448	0.526
...of which of introduced species	n.a.	n.a.	n.a.	n.a.
TOTAL	0.216	0.371	0.448	0.526

Table 4b

FRA 2010 Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Rubber plantations (Forest)	0	0	0	0
Mangroves (Forest and OWL)	0.100	0.090	0.090	0.090
Bamboo (Forest and OWL)	0	0	0	0

4.5 Comments to Table T4

Variable / category	Comments related to data, definitions, etc.	Comments on the reported trend
Primary forest		
Other naturally regenerating forest		
Planted forest		
Rubber plantations		
Mangroves		
Bamboo		

Other general comments to the table