



Forestry Department

Food and Agriculture Organization of the United Nations

**GLOBAL FOREST RESOURCES
ASSESSMENT**

COUNTRY REPORTS

IRAQ

FRA2005/176

Rome, 2005



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 2005 (FRA 2005), which is the most comprehensive assessment to date. More than 800 people have been involved, including 172 national correspondents and their colleagues, an Advisory Group, international experts, FAO staff, consultants and volunteers. Information has been collated from 229 countries and territories for three points in time: 1990, 2000 and 2005.

The reporting framework for FRA 2005 is based on the thematic elements of sustainable forest management acknowledged in intergovernmental forest-related fora and includes more than 40 variables related to the extent, condition, uses and values of forest resources. More information on the FRA 2005 process and the results - including all the country reports - is available on the FRA 2005 Web site (www.fao.org/forestry/fra2005).

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 2005 is:

Mette Løyche Wilkie
Senior Forestry Officer
FAO Forestry Department
Viale delle Terme di Caracalla
Rome 00100, Italy

E-mail: Mette.LoycheWilkie@fao.org

Readers can also use the following e-mail address: fra@fao.org

DISCLAIMER

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The Global Forest Resources Assessment 2005 Country Report Series is designed to document and make available the information forming the basis for the FRA 2005 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.

Report preparation and contact person

This report has been prepared by:

Dr Sabah Saleim Al-Kawaz (officially nominated National Correspondent to FRA)
Director General of Horticulture and Forestry
Ministry of Agriculture Republic of Iraq
Email (personal): kawazsabah@maktoob.com
Telephone number: +964 1 5111534
Mobile +964 7901922865
Address: Abou Gharib, Baghdad, Iraq

Contents

1	TABLE T1 – EXTENT OF FOREST AND OTHER WOODED LAND	5
1.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
1.2	NATIONAL DATA.....	5
1.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
1.4	DATA FOR NATIONAL REPORTING TABLE T1	5
1.5	COMMENTS TO NATIONAL REPORTING TABLE T1	5
2	TABLE T2 – OWNERSHIP OF FOREST AND OTHER WOODED LAND	5
2.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
2.2	NATIONAL DATA.....	5
2.3	DATA FOR NATIONAL REPORTING TABLE T2	5
2.4	COMMENTS TO NATIONAL REPORTING TABLE T2	5
3	TABLE T3 – DESIGNATED FUNCTION OF FOREST AND OTHER WOODED LAND	5
3.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
3.2	NATIONAL DATA.....	5
3.3	RECLASSIFICATION INTO FRA 2005 CLASSES	5
3.4	DATA FOR NATIONAL REPORTING TABLE T3	5
3.5	COMMENTS TO NATIONAL REPORTING TABLE T3	5
4	TABLE T4 – CHARACTERISTICS OF FOREST AND OTHER WOODED LAND	5
4.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
4.2	NATIONAL DATA.....	5
4.3	ANALYSIS AND PROCESSING OF NATIONAL DATA.....	5
4.4	RECLASSIFICATION INTO FRA 2005 CLASSES	5
4.5	DATA FOR NATIONAL REPORTING TABLE T4	5
4.6	COMMENTS TO NATIONAL REPORTING TABLE T4	5
5	TABLE T5 – GROWING STOCK	5
6	TABLE T6 – BIOMASS STOCK.....	5
7	TABLE T7 – CARBON STOCK.....	5
8	TABLE T8 – DISTURBANCES AFFECTING HEALTH AND VITALITY	5
9	TABLE T9 – DIVERSITY OF TREE SPECIES.....	5
9.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
9.2	NATIONAL DATA.....	5
9.3	DATA FOR NATIONAL REPORTING TABLE T9	5
9.4	COMMENTS TO NATIONAL REPORTING TABLE T9	5
10	TABLE T10 – GROWING STOCK COMPOSITION	5
11	TABLE T11 – WOOD REMOVAL	5
11.1	FRA 2005 CATEGORIES AND DEFINITIONS.....	5
11.2	NATIONAL DATA.....	5
11.3	DATA FOR NATIONAL REPORTING TABLE T11	5
12	TABLE T12 – VALUE OF WOOD REMOVAL.....	5
13	TABLE T13 – NON-WOOD FOREST PRODUCT REMOVAL.....	5
14	TABLE T14 – VALUE OF NON-WOOD FOREST PRODUCT REMOVAL	5
15	TABLE T15 – EMPLOYMENT IN FORESTRY.....	5

1 Table T1 – Extent of Forest and Other wooded land

1.1 FRA 2005 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
Sabah Saleim Al-Kawaz.	M	Forest area, ownership and Characteristics	2005	A set of tables prepared for FRA 2005 based on good estimates.
Ministry of forestry. 1999. Country submission to FRA 2000.	M	Forest area	1990	A set of tables prepared for FRA 2000.

1.2.2 Classification and definitions

National class	Definition
Forest	It corresponds FRA 2005

1.2.3 Original data

Reference year 2005.

Area of forest: 781 682 ha

Area of other wooded land: 850 686 ha

These estimates do not include the area of forest and other wooded land in the Sulimania Province.

An estimated 70 000 hectares of orchards and date palms (Other land with tree cover) exist.

Reference year 1990.

National Classes	Amadiya	Aqra	Chwarta	Dohuk	Halabja	Koisanjak	Qaladiza	Raniya	Rawanaduz	Riparin forest of the plains	Shaikhan	Shaqlawar-Arbil	Sinjar	Sulaimaniya	Zakho	Zibar	TOTAL of rows
Closed forests	139.5	64.3	11.6	40	42.8	1.7	4.6	13.6	130.3	0	0.6	10.2	0	14	39.1	39.6	551.9
Open forests	28.6	9.4	14.2	29.5	12.6	2.8	3.3	23.8	18.4	0	6.7	26.4	10.9	13.7	28.2	8.6	237.1
Shrubs Forest fallow system	29.6	1.6	6.4	0	14.1	0	10.6	51	120.4	4	0	0.3	0	4.4	4.2	12.7	259.3
TOTAL	307.8	101.4	149.9	131.4	143.1	25.6	61.6	167.5	542.9	15	16.9	59.5	10.9	103.4	108	89.4	2,034.30

Source: Ministry of forestry. 1999. Country submission to FRA 2000.

Forest plantations

The area of plantations is estimated to be

	Area (000 ha)		
	1990	2000	2005
Protective plantation	14.5	15.289	13.00

Source: Sabah Saleim Al-Kawaz.

1.3 Analysis and processing of national data

Since no information is available for Sulimania province the estimates of forest and other wooded land for this province for 1990 (27 700 ha of forest and 75 700 ha of other wooded land) have been added to the 2005 estimates giving the following results:

Area of natural forest: 809 382 ha

Area of other wooded land: 926 386 ha.

The 1990 estimates gave the following summary results:

Area of natural forest (= open and closed forest) : 789 000 ha

Area of other wooded land (=shrubs and fallow) : 1245 300 ha.

The plantation areas have been added to the forest area to obtain the total forest area:

National classes	Area (1000 hectares)	
	1990	2000
Natural forest	789	809.382
Plantations	14.5	13.00
Total forest area	803.4	822.382

The 2000 estimate has then been calculated based on linear interpolation of the natural forests and other wooded land and adding the actual area of forest plantations.

National classes and FRA 2005 classes	Area (1000 hectares)		
	1990	2000	2005
Natural forest	789	803	809
Plantations	14.5	15.3	13.0
Total forest area	804	818	822
Other wooded land	1245	1033	927

1.4 Data for National reporting table T1

FRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Forest	804	818	822
Other wooded land	1 245	1 033	927
Other land	41 688	41 886	41 988
...of which with tree cover ¹⁾	70	70	70
Inland water bodies	95	95	95
TOTAL	43 832	43 832	43 832

1.5 Comments to National reporting table T1

The estimate for 2005 includes an estimate from 1990 for Sulimania province due to lack of more recent information.

The area of forest has increased during the period 1990 to 2005, mainly due to planting.

2 Table T2 – Ownership of Forest and Other wooded land

2.1 FRA 2005 Categories and definitions

Category	Definition
Private ownership	Land owned by individuals, families, private co-operatives, corporations, industries, religious and educational institutions, pension or investment funds, and other private institutions.
Public ownership	Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities, villages and communes.
Other ownership	Land that is not classified either as “Public ownership” or as “Private ownership”.

2.2 National data

2.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Sabah Saleim Al-Kawaz.	M	Forest area , ownership and Characteristics	2005	A set of tables prepared for FRA 2005 project based on good estimates.
Agricultural governorates	M		1990 and 2000	

2.2.2 Classification and definitions

National class	Definition
Private ownership	Land owned by individuals, families, private co-operatives, corporations, industries, religious and educational institutions, pension or investment funds, and other private institutions.
Public ownership	Land owned by the State (national, state and regional governments) or government-owned institutions or corporations or other public bodies including cities, municipalities, villages and communes.

2.2.3 Original data

No survey exists. All forest areas are publicly owned and all other wooded land has been classified as other ownership.

2.3 Data for National reporting table T2

FRA 2005 Categories	Area (1000 hectares)			
	Forest		Other wooded land	
	1990	2000	1990	2000
Private ownership	0	0	0	0
Public ownership	804	818	0	0
Other ownership	0	0	1245	1033
TOTAL	804	818	1245	1033

2.4 Comments to National reporting table T2

No forest survey was done.

3 Table T3 – Designated function of Forest and Other wooded land

3.1 FRA 2005 Categories and definitions

Types of designation

Category	Definition
Primary function	A designated function is considered to be primary when it is significantly more important than other functions. This includes areas that are legally or voluntarily set aside for specific purposes.
Total area with function	Total area where a specific function has been designated, regardless whether it is primary or not.

Designation categories

Category / Designated function	Definition
Production	Forest / Other wooded land designated for production and extraction of forest goods, including both wood and non-wood forest products.
Protection of soil and water	Forest / Other wooded land designated for protection of soil and water.
Conservation of biodiversity	Forest / Other wooded land designated for conservation of biological diversity.
Social services	Forest / Other wooded land designated for the provision of social services.
Multiple purpose	Forest / Other wooded land designated to any combination of: production of goods, protection of soil and water, conservation of biodiversity and provision of social services and where none of these alone can be considered as being significantly more important than the others.
No or unknown function	Forest / Other wooded land for which a specific function has not been designated or where designated function is unknown.

3.2 National data

3.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Sabah Saleim Al-Kawaz.	M	Forest area, ownership and Characteristics	2005	A set of tables prepared for FRA 2005 based on good estimates.
Agricultural governorates	M		1990 and 2000	

3.2.2 Classification and definitions

National class	Definition
Production	Same as FRA
Protection of soil and water	Same as FRA
Conservation of biodiversity	Same as FRA

3.2.3 Original data

No original data are available for this table. Information from Table T1 has been used with the following assumptions based on expert estimates:

80 percent of all forests are designated for the protection of soil and water and the remaining 20 percent for conservation of biodiversity.

10 percent of other wooded land area designated for the protection of soil and water. Another 10 percent is designated for conservation of biodiversity and the remaining area is designated for multiple purposes.

There is no information available to fill in the section with total area with function.

3.3 Reclassification into FRA 2005 classes

3.4 Data for National reporting table T3

FRA 2005 Categories / Designated function	Area (1000 hectares)					
	Primary function			Total area with function		
	1990	2000	2005	1990	2000	2005
Forest				NDA	NDA	NDA
Production				NDA	NDA	NDA
Protection of soil and water	643	654	658	NDA	NDA	NDA
Conservation of biodiversity	161	164	164	NDA	NDA	NDA
Social services				NDA	NDA	NDA
Multiple purpose				not appl.	not appl.	not appl.
No or unknown function				not appl.	not appl.	not appl.
Total - Forest	804	818	822	not appl.	not appl.	not appl.
Other wooded land						
Production				NDA	NDA	NDA
Protection of soil and water	125	103	93	NDA	NDA	NDA
Conservation of biodiversity	125	103	93	NDA	NDA	NDA
Social services				NDA	NDA	NDA
Multiple purpose	996	826	742	not appl.	not appl.	not appl.
No or unknown function				not appl.	not appl.	not appl.
Total – Other wooded land	1 245	1 033	927	not appl.	not appl.	not appl.

3.5 Comments to National reporting table T3

Forests are primarily used for protection and conservation of biodiversity.

It is difficult to record each function separately for the forest and other wooded land because data is not available. The figures above are, therefore, based on expert estimates.

4 Table T4 – Characteristics of Forest and Other wooded land

4.1 FRA 2005 Categories and definitions

Category	Definition
Primary	Forest / Other wooded land of native species, where there are no clearly visible indications of human activities and the ecological processes are not significantly disturbed.
Modified natural	Forest / Other wooded land of naturally regenerated native species where there are clearly visible indications of human activities.
Semi-natural	Forest / Other wooded land of native species, established through planting, seeding or assisted natural regeneration.
Productive plantation	Forest / Other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non wood goods.
Protective plantation	Forest / Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services.

4.2 National data

4.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Sabah Saleim Al-Kawaz.	M	Forest area , ownership and Characteristics	2005	A set of tables prepared for FRA 2005 project based on good estimates.
Agricultural governorates	M		1990 and 2000	

4.2.2 Classification and definitions

National class	Definition
Productive plantation	Forest / Other wooded land of introduced species, and in some cases native species, established through planting or seeding mainly for production of wood or non wood goods.
Protective plantation	Forest / Other wooded land of native or introduced species, established through planting or seeding mainly for provision of services.

Note: If different national data sources use different classes and definitions, a table such as above is needed for each relevant data source.

4.2.3 Original data

Table T1 has been used as input to this table.

4.3 Analysis and processing of national data

4.3.1 Calibration

4.3.2 Estimation and forecasting

4.4 Reclassification into FRA 2005 classes

All plantations are classified as protective plantations. All other forests and other wooded land have been classified as modified natural forests.

4.5 Data for National reporting table T4

FRA 2005 Categories	Area (1000 hectares)					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Primary	0	0	0	0	0	0
Modified natural	789	803	809	1 245	1 033	927
Semi-natural	0	0	0	0	0	0
Productive plantation	0	0	0	0	0	0
Protective plantation	15	15	13	0	0	0
TOTAL	804	818	822	1 245	1 033	927

*It is difficult to record each category for the forest and other wooded land

4.6 Comments to National reporting table T4

5 Table T5 – Growing stock

No data available for this reporting table

6 Table T6 – Biomass stock

No data available for this reporting table

7 Table T7 – Carbon stock

No data available for this reporting table

8 Table T8 – Disturbances affecting health and vitality

No data available for this reporting table

9 Table T9 – Diversity of tree species

9.1 FRA 2005 Categories and definitions

Category	Definition
Number of native tree species	The total number of native tree species that have been identified within the country.
Number of critically endangered tree species	The number of native tree species that are classified as “Critically endangered” in the IUCN red list.
Number of endangered tree species	The number of native tree species that are classified as “Endangered” in the IUCN red list.
Number of vulnerable tree species	The number of native tree species that are classified as “Vulnerable” in the IUCN red list.

9.2 National data

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Sabah Saleim Al-Kawaz.	M	Forest area , ownership and Characteristics	2005	A set of tables prepared for FRA 2005 project based on good estimates.
Red Book	H	endangered tree species, vulnerable tree species	2004	Research Institute on Forests and Range Lands
IUCN Red list		Vulnerable and endangered species		

9.2.2 Classification and definitions

National class	Definition
Native tree species	Species that have been identified within the country.
Critically endangered tree species	Native tree species that are classified as “Critically endangered” in the IUCN red list.
Endangered tree species	Native tree species that are classified as “Endangered” in the IUCN red list.
Vulnerable tree species	Native tree species that are classified as “Vulnerable” in the IUCN red list.

9.2.3 Original data

There are no species in the IUCN redlist for Iraq that are listed as Critically endangered, Endangered or Vulnerable

9.3 Data for National reporting table T9

FRA 2005 Categories	Number of species (year 2000)
Native tree species	20
Critically endangered tree species	0
Endangered tree species	0
Vulnerable tree species	0

9.4 Comments to National reporting table T9

According to national information, there is one critically endangered tree species (poplar) and two vulnerable tree species (*Populus* sp and *Platanus* sp)

10 Table T10 – Growing stock composition

No data available for this reporting table

11 Table T11 – Wood removal

11.1 FRA 2005 Categories and definitions

Category	Definition
Industrial wood removal	The wood removed (volume of roundwood over bark) for production of goods and services other than energy production (woodfuel).
Woodfuel removal	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
Sabah Saleim Al-Kawaz.	M	Forest area , ownership and Characteristics	2005	A set of tables prepared for FRA 2005 project based on good estimates.
Agricultural directorates	M		2000	

11.2.2 Classification and definitions

National class	Definition
Industrial wood removal	Same as FRA

11.3 Data for National reporting table T11

FRA 2005 Categories	Volume in 1000 cubic meters of roundwood over bark					
	Forest			Other wooded land		
	1990	2000	2005	1990	2000	2005
Industrial roundwood	0	7.7	0	0	0	0
Woodfuel	0	0.9	0	0	0	0
TOTAL for Country	0	8.6	0	0	0	0

12 Table T12 – Value of wood removal

No data available for this reporting table

13 Table T13 – Non-wood forest product removal

No data available for this reporting table

14 Table T14 – Value of non-wood forest product removal

No data available for this reporting table

15 Table T15 – Employment in forestry

No data available for this reporting table