



Food and Agriculture
Organization of the
United Nations

Global Forest Resources Assessment 2020

Report

Yemen

Rome, 2020



FAO has been monitoring the world's forests at 5 to 10 year intervals since 1946. The Global Forest Resources Assessments (FRA) are now produced every five years in an attempt to provide a consistent approach to describing the world's forests and how they are changing. The FRA is a country-driven process and the assessments are based on reports prepared by officially nominated National Correspondents. If a report is not available, the FRA Secretariat prepares a desk study using earlier reports, existing information and/or remote sensing based analysis.

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Introduction

Report preparation and contact persons

The present report was prepared by the following person(s)

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Introductory text

Place an introductory text on the content of this report

1 Forest extent, characteristics and changes

1a Extent of forest and other wooded land

National data

Data sources

1993	References	Hunting Service Co. LTD National land and water conservation, project wood land resources mapping project. National symposium on Desertification
	Methods used	National Forest Inventory, Sample-based remote sensing assessment
	Additional comments	Analysis of forests and woodlands cover based on Landsat imagery supported by extensive field work and air photography

1996	References	National symposium on Desertification.
	Methods used	Other (specify in comments)
	Additional comments	Report (work paper) Understanding of Desertification, its Causes and Socio-Economic Impacts

2009	References	Hunting Service Co. LTD ,1992 National land and water conservation, project wood land resources mapping project, 1993 National symposium on Desertification, 1996. Land Degradation Project Study in Republic of Yemen, 2002 Jameel Al-Emad, 2009
	Methods used	National Forest Inventory, Sample-based remote sensing assessment, Registers/questionnaires
	Additional comments	- The source of data was Landsat imagery supported by extensive field work and air photography. - Understanding of Desertification, its Causes and Socio-Economic Impacts. - The data used is the remote sensing and field survey. - a set of data prepared for FRA 2010

Classifications and definitions

1993	National class	Definition
	Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. Mangrove forest, Hyphaene trees, Tihama Acacia forest, Acacia-Commiphora forest, Riverine/ Valleys Forest (Ficus spp, Acacia spp, Other Forest Trees), Juniperus spp forest.
	Other wood 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 in situ; or with a combined cover of shrubs, bushes and trees above 10 percent. Tihama Acacia woodland, Acacia-Commiphora woodland, Acacia- Commiphora woodland /shrubland, Acacia open woodland, Tamarix woodland, Anogeissus woodland, Commiphora -Acacia woodland.
	Other land	Includes all land not classified as “Forest” or “Other Woodland”. Range land, Agricultural land, Cities, Roads, bare hills, desert, etc..
	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. Agroforestry (Zizyphus orchards, Acacia spp, Ficus spp, ect.), and Date Palms

	National class	Definition
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	National class	Definition
2009	Forest	Land spanning more than 0.5 hectares with trees higher than 5 meters and a canopy cover of more than 10 percent, or trees able to reach these thresholds in situ. Mangrove forest, Hyphaene trees, Tihama Acacia forest, Acacia-Commiphora forest, Riverine/ Valleys Forest (Ficus spp, Acacia spp, Other Forest Trees), Juniperus spp forest.
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	Other land	Includes all land not classified as “Forest” or “Other Woodland”. Range land, Agricultural land, Cities, Roads, bare hills, desert, etc..
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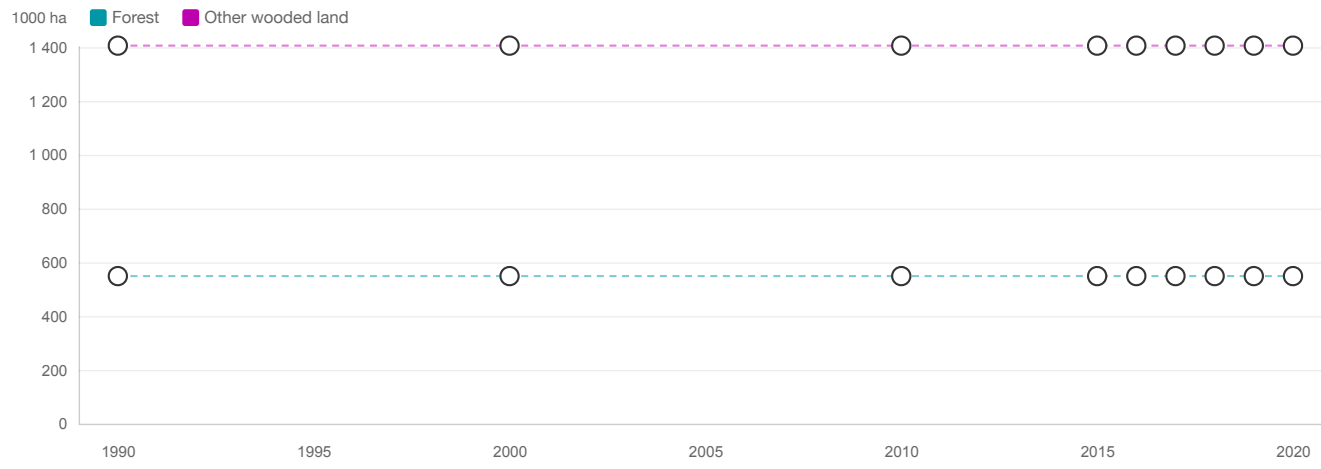
Original data and reclassification

1993	Classifications and definitions	FRA classes

	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Forest	549.00	100.00 %	%	%
	Other wood land	1 406.00	%	100.00 %	%
	Other land	50 842.00	0.00 %	0.00 %	100.00 %
	Other land with tree cover (Subordinated to "Other land").		%	%	%
	Total	52 797.00	549.00	1 406.00	50 842.00

1996	Classifications and definitions		FRA classes		
	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Forest	549.00	100.00 %	%	%
	Other wood land	1 406.00	%	100.00 %	%
	Other land	50 842.00	0.00 %	0.00 %	100.00 %
	Other land with tree cover (Subordinated to "Other land").		%	%	%
	Total	52 797.00	549.00	1 406.00	50 842.00

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	Class	Area (1000 ha)	Forest	Other wooded land	Other land
	Forest	549.00	100.00 %	%	%
	Other wood land	1 406.00	%	100.00 %	%
	Other land	50 842.00	0.00 %	0.00 %	100.00 %
	Other land with tree cover (Subordinated to "Other land").		%	%	%
	Total	52 797.00	549.00	1 406.00	50 842.00



FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest (a)	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00
Other wooded land (a)	1 406.00	1 406.00	1 406.00	1 406.00	1 406.00	1 406.00	1 406.00	1 406.00	1 406.00
Other land (c-a-b)	50 842.00	50 842.00	50 842.00	50 842.00	50 842.00	50 842.00	50 842.00	50 842.00	50 842.00
Total land area (c)	52 797.00	52 797.00	52 797.00	52 797.00	52 797.00	52 797.00	52 797.00	52 797.00	52 797.00

The FAOSTAT land area figure for the year 2015 is used for all reference years

Climatic domain	% of forest area 2015	Override value
Boreal	0.00	
Temperate	0.00	
Sub-tropical	0.00	
Tropical	100.00	

Comments

There are not available data to estimating changes over time for Forest and Other wooded land area for the reporting years from 2015 to 2020, therefor, Expert estimation based on figures of the table FRA 2010 and 2005 was necessary and required to reporting years of the FRA 2020 in table 1a and 1b.

1b Forest characteristics

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Hunting Service Co. LTD National land and water conservation, project wood land resources mapping project.	M	Wood Land Resources	1993	The source of data was Landsat imagery supported by extensive field work and air photography.
National symposium on Desertification.	M	Report (work paper)	1996	Understanding of Desertification, its Causes and Socio-Economic Impacts
Land Degradation Project Study in Republic of Yemen	M	Soil, Human Activities and Vegetation Cover	2002	The data used is the remote sensing and field survey.
Jameel Al-Emad	M	OWL and OLWTC	2009	a set of data prepared for FRA 2010

National classification and definitions

National class	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> . Mangrove forest, <i>Hyphaene</i> trees, Tihama Acacia forest, Acacia-Commiphora forest, Riverine/ Valleys Forest (<i>Ficus</i> spp, <i>Acacia</i> spp, Other Forest Trees), <i>Juniperus</i> spp forest.
Other wood 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. Tihama Acacia woodland, Acacia-Commiphora woodland, Acacia- Commiphora woodland /shrubland, Acacia open woodland, Tamarix woodland, Anogeissus woodland, Commiphora -Acacia woodland.
Other land	Includes all land not classified as "Forest" or "Other Woodland". Range land, Agricultural land, Cities, Roads, bare hills, desert, etc..
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. Agroforestry (<i>Zizyphus</i> orchards, <i>Acacia</i> spp, <i>Ficus</i> spp, ect.), and Date Palms

Original data

1993 data

National Classes	Area (1000 ha)
P1 - Mangrove woodland	0.927
P2 - Cultivated date palm	5.181
P3 - Hyphaene woodland	5.016
P4 - Salvadora thicket	10.796
P5 - Tihama Acacia woodland	17.561
P6 - Tihama Acacia woodland and agriculture	13.698
P7 - Plains agriculture	0.0
P8 - Acacia-Commiphora woodland on gravel plains	108.168
P9 - Range/bare land	0.0
E1. Acacia- Commiphora woodland /shrubland	1243.015

E1a. Acacia- Commiphora woodland /shrubland	32.265
E2. Terraced Agriculture with Acacia shrubland	124.096
E3. Riverine Forest	0.300
E4 - Riverine agriculture with forest trees	6.146
E5 - Agriculture with trees on field margins	374.918
E6 - Agriculture predominantly terraced	0.0
E7. Riverine Acacia woodland.	5.359
E8 - Agriculture and bare lands	0.0
E9 - Range/bare land	0.0
C1. Acacia open woodland.	332.116
C3 - Date palm agriculture	34.526
C4. Tamarix woodland	42.747
C5 - Zizyphus orchards	2.418
C6 - Agriculture	0.0
C7 - Range/bare land	0.0
J - Juniper woodland remnant	2.132
M1. Anogeissus woodland.	5.618
M2. Anogeissus Parkland.	0.678
M3. Anogeissus woodland with clearings	0.31
M4. Commiphora -Acacia shrubland	5.053
M5. Commiphora -Acacia woodland	5.15
M6 - Range/bare land	0.0
TOTAL MAPPED AREA	2378.194

Analysis and processing of national data

Estimation and forecasting

Available data is for 1993. Estimation and forecasting is based on expert estimations after reclassification.

There is reduction in forest and OWL due to charcoal making and overal cutting As a result of the lack of gas and increased poverty and using fuelwood instead of gas

There is, however, no detailed information / data on the areas of reduction/natural regeneration, or deforestation

Reclassification into FRA 2020 categories

The above estimates are based on information from 1993, the reclassification and definitions and update for data original are based on information from 2002 and

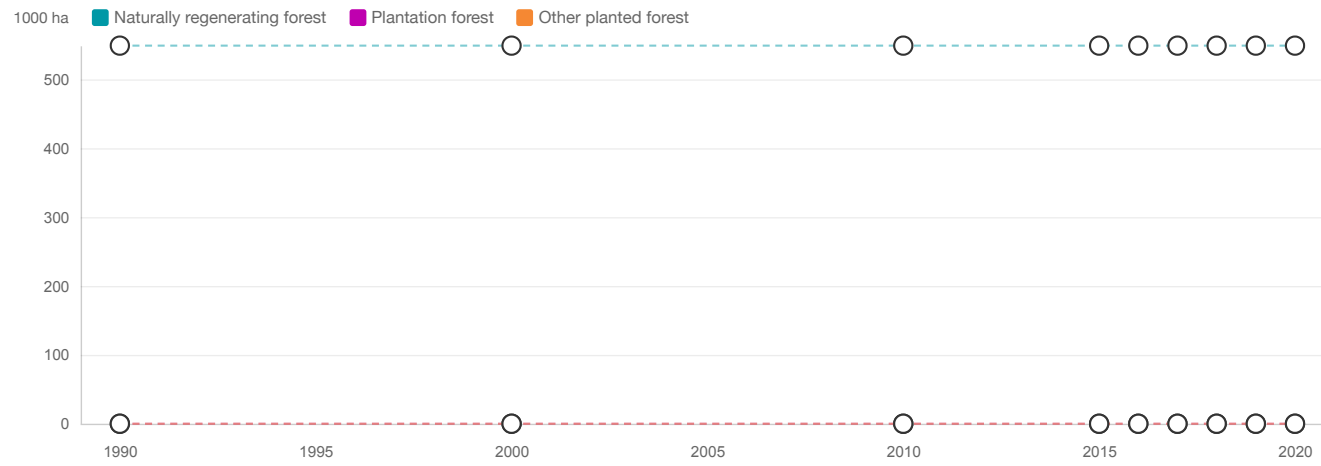
interpretation plus expertise views. In addition to dependence FRA 2020 Categories and definitions

There is no information available for estimating changes over time.

Below is the reclassification matrix used:

National Classes	Forest	Other wooded land	Other land	Other land with tree cover	Inland water
P1 - Mangrove woodland	100%				
P2 - Cultivated date palm				100%	
P3 - Hyphaene woodland	100%				
P4 - Salvadora thicket		100%			
P5 - Tihama Acacia woodland	60%	40%			
P6 - Tihama Acacia woodland	100%				
P7 - Plains agriculture					
P8 - Acacia-Commiphora woodland on gravel plains	50%	50%			
P9 - Range/bare land					
E1. Acacia- Commiphora woodland /shrubland	20%	80%			
E1a. Acacia- Commiphora woodland /shrubland	20%	80%			
E2. Terraced Agriculture with Acacia shrubland		100%			
E3. Riverine Forest	100%				
E4 - Riverine agriculture with forest trees				100%	
E5 – Agriculture with trees on field margins				100%	
E6 – Agriculture predominantly terraced					
E7. Riverine Acacia woodland.	100%				
E8 – Agriculture and bare lands					
E9 - Range/bare land					
C1. Acacia open woodland.	60%	40%			
C3 - Date palm agriculture				100%	
C4. Tamarix woodland		100%			
C5 - Zizyphus orchards				100%	
C6 - Agriculture					
C7 - Range/bare land					
J - Juniper woodland remnant	100%				
M1. Anogeissus woodland.		100%			
M2. Anogeissus Parkland.		100%			
M3. Anogeissus woodland with clearings		100%			
M4. Commiphora -Acacia shrubland		100%			

M5. Commiphora -Acacia woodland	50%	50%			
M6 - Range/bare land					
Other land			100%		



FRA categories	Forest area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Naturally regenerating forest (a)	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00
Planted forest (b)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which introduced species	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total (a+b)	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00
Total forest area	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00	549.00

Comments

No data is available since the survey of 1993. The lack of any estimates or trends makes it difficult for extrapolation of figures for the years until assessments 2020.

1c Primary forest and special forest categories

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Hunting Service Co. LTD National land and water conservation, project wood land resources mapping project.	M	Wood Land Resources	(1993)	The source of data was Landsat imagery supported by extensive field work and air photography.
Forestry Department, Food and Agriculture Organization of the United Nations Mangroves of Asia 1980-2005: country reports	M	Mangroves (Forest and OWL)	2007	Forest Resources Assessment Programme Working Paper 136 Rome

National classification and definitions

National class	Definition
Other naturally regenerated forest	Naturally regenerated forest where there are clearly visible indications of human activities.

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Primary forest	0.00	0.00	0.00	0.00	0.00
Temporarily unstocked and/or recently regenerated	0.00	0.00	0.00	0.00	0.00
Bamboos	0.00	0.00	0.00	0.00	0.00
Mangroves	0.95	0.90	0.90	0.90	0.90
Rubber wood	0.00	0.00	0.00	0.00	0.00

Comments

(The estimates for 1990, 2000 and 2005 are expert estimates based on the information currently available (Ref FAO 2007

1d Annual forest expansion, deforestation and net change

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Forest expansion (a)				
...of which afforestation				
...of which natural expansion				
Deforestation (b)				
Forest area net change (a-b)	0.00	0.00	0.00	0.00

Comments

No data is available

1e Annual reforestation

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha/year)			
	1990-2000	2000-2010	2010-2015	2015-2020
Reforestation				

Comments

No data and information is available

1f Other land with tree cover

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Hunting Service Co. LTD National land and water conservation, project wood land resources mapping project.	M	Wood Land Resources	1993	The source of data was Landsat imagery supported by extensive field work and air photography.
Jameel Al-Emad	M	OWL and OLWTC	2009	a set of data prepared for FRA 2010

National classification and definitions

National class	Definition
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. Agroforestry (Zizyphus orchards, <i>Acacia</i> spp, <i>Ficus</i> spp, ect.), and Date Palms

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)				
	1990	2000	2010	2015	2020
Palms (a)					
Tree orchards (b)					
Agroforestry (c)	423.00	423.00	500.00	500.00	500.00
Trees in urban settings (d)					
Other (specify in comments) (e)					
Total (a+b+c+d+e)	423.00	423.00	500.00	500.00	500.00
Other land area	50 842.00	50 842.00	50 842.00	50 842.00	50 842.00

Comments

The data available on Agroforestry is from 1993. 2002; 2009-

. (But no data is available on (b) Tree orchard, (d)Trees in urban settings and (e) Other (specify in comments -

Agroforestry, Includes areas palms, with agricultural crops.

2 Forest growing stock, biomass and carbon

2a Growing stock

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Hunting Service Co. LTD National land and water conservation, project wood land resources mapping project.	M	Wood Land Resources	(1993)	The source of data was Landsat imagery supported by extensive field work and air photography.
Inventory of natural forest in Yemen, Consultant .	M	Management of forestry (Parts).	1988	Saad Allah, Jamal, Project development of forestry – Yemen.

National classification and definitions

National class	Definition
Growing stock	Volume over bark of all living trees more than 7 cm in diameter at breast height. Includes the stem from the ground level up to a top diameter of 5 cm, It does not include branches.

Original data

National class	Volume (million cubic meters over bark)	
	Forest + Woodland	
	1993	1995
Growing stock	16.8	16.8

National class (Broad classes of forest types)	Volume (m3/ha)
Forest	9.2
OWL	8.5

Analysis and processing of national data

Estimation and forecasting

The above average volumes per hectare were applied to the area of forest and other wooded land from Table 1.

Reclassification into FRA 2020 categories

-

FRA categories	Growing stock m ³ /ha (over bark)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020	
Naturally regenerating forest	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19
Planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forest	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19	9.19
Other wooded land	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50	8.50

FRA categories	Total growing stock (million m ³ over bark)									
	1990	2000	2010	2015	2016	2017	2018	2019	2020	
Naturally regenerating forest	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05
Planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which plantation forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
...of which other planted forest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Forest	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05	5.05
Other wooded land	11.95	11.95	11.95	11.95	11.95	11.95	11.95	11.95	11.95	11.95

Comments

As no growing stock data are available. but growing stock for fra 2020 has been estimated by Expert based on figures of the table FRA 2010

2b Growing stock composition

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Scientific name	Common name	Growing stock in forest (million m ³ over bark)				
			1990	2000	2010	2015	2020
Native tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
#6 Ranked in terms of volume							
#7 Ranked in terms of volume							
#8 Ranked in terms of volume							
#9 Ranked in terms of volume							
#10 Ranked in terms of volume							
Remaining native tree species							
Total volume of native tree species			-	-	-	-	-
Introduced tree species							
#1 Ranked in terms of volume							
#2 Ranked in terms of volume							
#3 Ranked in terms of volume							
#4 Ranked in terms of volume							
#5 Ranked in terms of volume							
Remaining introduced tree species							
Total volume of introduced tree species			-	-	-	-	-
Total growing stock			-	-	-	-	-

Comments

There are no national data available,

2c Biomass stock

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Hunting Service Co. LTD National land and water conservation, project wood land resources mapping project.	M	Wood Land Resources	1993	The source of data was Land sat imagery supported by extensive field work and air photography.
inventory of natural forest in Yemen, Consultant .	M	Management of forestry (Parts).	1988	Saad Allah, Jamal, Project development of forestry – Yemen.
FAO. Working Paper 82. 2004. FAO/Forestry Department	M	Biomass expansion factor. Root-shoot ratio.	2004	
FAO. Working Paper 81. 2004.FAO/ Forestry Department	H	Biomass Expansion factor. Root-shoot ratio	2004	

National classification and definitions

National class	Definition
Above-ground biomass	It corresponds to FRA 2020 definition.
Below-ground biomass	It corresponds to FRA 2020 definition.
Dead wood	It corresponds to FRA 2020 definition.

Original data

The final data of table 2a was used as input for the biomass estimations

Analysis and processing of national data

Estimation and forecasting

The following conversion factors were used (tropical Asia, deciduous and broad leaved forests)

Basic wood density for acacias is 0.76

R = 0.43

BEF = 2

Dead-live ratio = 0.14

Reclassification into FRA 2020 categories

-

FRA categories	Forest biomass (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass	13.99	13.99	13.99	13.99	13.99	13.99	13.99	13.99	13.99
Below-ground biomass	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01	6.01
Dead wood	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81	2.81

Comments

2d Carbon stock

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Intergovernmental Panel on Climate Change (WMO; UNEP) 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Volume (4) Agriculture, Forestry and Other Land Use – Chapter (4) Forestry Land	M	Carbon Fraction of Above and below- ground Forest Biomass, Carbon in dead wood = 0.47 of the biomass in 6.5 table.	2006	http://www.ipcc-nggip.iges.or.jp

National classification and definitions

National class	Definition
Carbon in above-ground biomass	It corresponds to FRA 2020 definition.
Carbon in below-ground biomass	It corresponds to FRA 2020 definition.
Carbon in dead wood biomass	It corresponds to FRA 2020 definition.
Carbon in litter and Soil carbon.	It corresponds to FRA 2020 definition.

Original data

The final data of table 2c was used as input for the carbon estimations for forest

Analysis and processing of national data

Estimation and forecasting

The default factor of 47 % was used to convert biomass stock from table 2c to carbon stock

(The soil carbon was calculated for LAC soils (35 ton/ha

The default value for carbon stock of litter in tropical forests (2.1 ton C/ha) has been used

Reclassification into FRA 2020 categories

-

FRA categories	Forest carbon (tonnes/ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Carbon in above-ground biomass	6.58	6.58	6.58	6.58	6.58	6.58	6.58	6.58	6.58
Carbon in below-ground biomass	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83	2.83
Carbon in dead wood	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
Carbon in litter	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09	2.09
Soil carbon	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01	35.01

Soil depth (cm) used for soil carbon estimates	30.00
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Comments

3 Forest designation and management

3a Designated management objective

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

Primary designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production (a)					
Protection of soil and water (b)					
Conservation of biodiversity (c)					
Social Services (d)					
Multiple use (e)					
Other (specify in comments) (f)					
None/unknown (g)	549.00	549.00	549.00	549.00	549.00
Total forest area	549.00	549.00	549.00	549.00	549.00

Total area with designated management objective

FRA 2020 categories	Forest area (1000 ha)				
	1990	2000	2010	2015	2020
Production					
Protection of soil and water					
Conservation of biodiversity					
Social Services					
Other (specify in comments)					

Comments

Yemen's forests have multiple functional roles, But there are no Designated Management Objectives, or plans therefor.

3b Forest area within protected areas and forest area with long-term management plans

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)								
	1990	2000	2010	2015	2016	2017	2018	2019	2020
Forest area within protected areas			31.00	31.00	31.00	31.00	31.00	31.00	31.00
Forest area with long-term forest management plan									
...of which in protected areas									

Comments

Forests area spanning 31000 hectare within formally established protected areas (National classification), It does not include IUCN categories I - IV. this areas for conservation of biodiversity and also used by communities for other purposes.

There are no Forest areas has a long-term documented management plan in Yemen, aiming at defined management goals.

There are no Forest area within protected areas that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised.

4 Forest ownership and management rights

4a Forest ownership

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
National symposium on Desertification.	L	Report (work paper)	1996	Yemen Traditions in Natural Conservation

National classification and definitions

National class	Definition
Public ownership	Forest owned by the State (by institution of the public administration).
Private ownership	Forest owned by individuals, families, private religious and educational institution
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 religious and educational institution.

Original data

National class	Definition
Public ownership	Land owned by the government. It represents about 5 %.
Private ownership	Land owned by individuals and families. It represents about 80 %.
Other ownership	Land owned by corporations and institutions. It represents about 15 %.

Analysis and processing of national data

Estimation and forecasting

The figures for 1996 have been used for all reporting years, due to lack of data and information for the other years.

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Private ownership (a)	521.60	521.60	521.60	521.60
...of which owned by individuals	439.20	439.20	439.20	439.20
...of which owned by private business entities and institutions	82.40	82.40	82.40	82.40
...of which owned by local, tribal and indigenous communities	0.00	0.00	0.00	0.00
Public ownership (b)	27.40	27.40	27.40	27.40
Unknown/other (specify in comments) (c)	0.00	0.00	0.00	0.00
Total forest area	549.00	549.00	549.00	549.00

Comments

The main weakness in the national data is the uncertainty of the forest area for the private and public ownership. Besides no data is available since the survey of 1996. The lack of any estimates or trends makes it difficult for extrapolation of figures for the other years assessments.

4b Holder of management rights of public forests

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Forest area (1000 ha)			
	1990	2000	2010	2015
Public Administration (a)				
Individuals (b)				
Private business entities and institutions (c)				
Local, tribal and indigenous communities (d)				
Unknown/other (specify in comments) (e)	27.40	27.40	27.40	27.40
Total public ownership	27.40	27.40	27.40	27.40

Comments

Public Administration, individuals and communities retains management rights and responsibilities within the limits specified by the traditional (martial law).

5 Forest disturbances

5a Disturbances

National Data

Data sources + type of data source eg NFI, etc

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
field survey reports , General Directorate of forestry and desertification control, Ministry of Agriculture and Irrigation	M	Forests	2000 -2011	information on state forests vegetation are gathered from surveys without quantitative data

National classification and definitions

National class	Definition
Disturbance by insects	Same as FRA 2020
Disturbance by diseases	Same as FRA 2020
Severe weather events	Same as FRA 2020

Original data

No quantitative data is available for this table. However, there are of important insects and diseases that affect forest health and vitality .

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Insects (a)																		
Diseases (b)																		
Severe weather events (c)																		
Other (specify in comments) (d)																		
Total (a+b+c+d)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total forest area	549.00	-	-	-	-	-	-	-	-	549.00	549.00	-	-	-	-	549.00	549.00	549.00

Comments

No quantitative data is available. However, disturbances by insects and diseases are common in all forests, OWL and agroforestry systems of Yemen. For example: Juniper diseases are currently widely spread in the northern boundaries between Yemen and Saudi Arabia in addition to the insects and dieback. Also, Some other species suffer from insects, especially acacias in mountain regions. In some years, disturbances by different factors happen, but unfortunately there is no inventory or reliable and systematic recorded data available.

Most forest and other wooded land areas are severely affected by domestic animals (camels, goats) through overgrazing.

All forest and other wooded land areas are severely affected by drought.

The invasive species cause harm to the forest ecosystem (Prosopis juliflora)

5b Area affected by fire

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Analysis and processing of national data

Estimation and forecasting

-

Reclassification into FRA 2020 categories

-

FRA categories	Area (1000 ha)																	
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total land area affected by fire																		
...of which on forest																		

Comments

No data are available for this reporting table

The fires in the country are surface fires but is no recorded and are not reported it

5c Degraded forest

Does your country monitor area of degraded forest		
If "yes"	What is the national definition of "Degraded forest"?	
	Describe the monitoring process and results	

Comments

there are no national definition for Degraded forest and No data are available for that.

6 Forest policy and legislation

6a Policies, Legislation and national platform for stakeholder participation in forest policy

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

Indicate the existence of	Boolean (Yes/No)	
	National	Sub-national
Policies supporting SFM	No	No
Legislations and regulations supporting SFM	No	No
Platform that promotes or allows for stakeholder participation in forest policy development	No	No
Traceability system(s) for wood products	No	No

Comments

Regarding the above elements, the main challenges are the financial issues, technical knowledge and capacity building, respectively,

6b Area of permanent forest estate

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Forest area (1000 ha)					
	Applicable?	1990	2000	2010	2015	2020
Area of permanent forest estate	No					

Comments

7 Employment, education and NWFP

7a Employment in forestry and logging

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Full-time equivalents (1000 FTE)											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Employment in forestry and logging												
...of which silviculture and other forestry activities												
...of which logging												
...of which gathering of non wood forest products												
...of which support services to forestry												

Comments

National data are not available to fill in the requested information for Table 7a relates to the Employment in forestry and logging (Full-Time Equivalents (1000 FTE)).

During the period from 1989 to 2010, definitely there were some changes in the forests staff, but the absence of inventories make it very difficult to estimate any changes occurred within the public forest institutions at the sub-national level, Also the last 6 years since 2011 the country entered in period of instability, therefor no national data available to fill the requested information for Table 7a.

7b Graduation of students in forest-related education

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

FRA 2020 categories	Number of graduated students											
	1990			2000			2010			2015		
	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male
Doctoral degree												
Master's degree												
Bachelor's degree												
Technician certificate / diploma												
Total												

Comments

There are not national data available to reporting categories of forest education in the table 7 b.

Until the present time Yemen have not forests-related education institutions or Post-secondary education programme with focus on forests and related subjects, But the education and training of staff in this field before 2011 mainly carried out in other countries within and outside the sub-region.

7c Non wood forest products removals and value 2015

National Data

Data sources + type of data source eg NFI, etc

-

National classification and definitions

-

Original data

-

	Name of NWFP product	Key species	Quantity	Unit	Value (1000 local currency)	NWFP category
#1						
#2						
#3						
#4						
#5						
#6						
#7						
#8						
#9						
#10						
All other plant products						
All other animal products						
Total					-	

Name of currency	
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Comments

No national data available to fill Table 7c relates to the removals and value of Non wood forest products.

Considerable number of local communities are depending on Non wood forest products (NWFP) for their livelihood, source of food, fodder, Raw material for medicine, honey, wild meat, and providing direct and indirect source of employment for rural and sub-urban communities. But No quantitative information is available on the removals of NWFP and value.

8 Sustainable Development Goal 15

8a Sustainable Development Goal 15

SDG Indicator 15.1.1 Forest area as proportion of total land area 2015

Indicator	Percent							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area as proportion of total land area 2015	1.04	1.04	1.04	1.04	1.04	1.04	1.04	1.04

Name of agency responsible	General Directorate of Forests, Rangelands and Desertification Control, Ministry of Agriculture and Irrigation
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SDG Indicator 15.2.1 Progress towards sustainable forest management

Sub-Indicator 1	Percent						
	2000-2010	2010-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Forest area annual net change rate	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Name of agency responsible	General Directorate of Forests, Rangelands and Desertification Control, Ministry of Agriculture and Irrigation
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Sub-Indicator 2	Forest biomass (tonnes/ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Above-ground biomass stock in forest	13.99	13.99	13.99	13.99	13.99	13.99	13.99	-

Name of agency responsible	General Directorate of Forests, Rangelands and Desertification Control, Ministry of Agriculture and Irrigation
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Sub-Indicator 3	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area located within legally established protected areas	–	5.65	5.65	5.65	5.65	5.65	5.65	5.65

Name of agency responsible	Environment Protection Authority, Ministry of Water and Environment/ And General Directorate of Forests, Rangelands and Desertification Control, Ministry of Agriculture and Irrigation
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Sub-Indicator 4	Percent (2015 forest area baseline)							
	2000	2010	2015	2016	2017	2018	2019	2020
Proportion of forest area under long-term forest management plan	–	–	–	–	–	–	–	–

Name of agency responsible	General Directorate of Forests, Rangelands and Desertification Control, Ministry of Agriculture and Irrigation
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Sub-Indicator 5	Forest area (1000 ha)							
	2000	2010	2015	2016	2017	2018	2019	2020
Forest area under independently verified forest management certification schemes	0.00	0.00	0.00	0.00	0.00	0.00	–	–