

# GLOBAL FOREST RESOURCES ASSESSMENT 2015

## COUNTRY REPORT

# **Mongolia**

Rome, 2014

FAO, at the request of its member countries, regularly monitors the world's forests and their management and uses through the Global Forest Resources Assessment (FRA). This country report is prepared as a contribution to the FAO publication, the Global Forest Resources Assessment 2015 (FRA 2015).

The content and the structure are in accordance with the recommendations and guidelines given by FAO in the document Guide for country reporting for FRA 2015 (<http://www.fao.org/3/a-au190e.pdf>). These reports were submitted to FAO as official government documents.

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## Introductory Text

### FOREST OF MONGOLIA

Forested area includes natural forest, planted forest on purpose, forest that affected by forest fire, harmful insects and plant diseases and the area in which wood processing in accordance with the Law of Forest of Mongolia. The forest is divided into 2 types, including the deciduous and coniferous forests that grow in forest steppe, taiga and high mountains and the saxual forests that grow in south gobi and desert regions.

As of January 01, 2012, forest of Mongolia accounts for 11.89% or 18592.4 thousand hectares of total territories of Mongolia, covering 75.4% deciduous and coniferous forest and 24.6% saxual forest.

The forest indicator of our country is 8.03% that resulted in calculation to divide 156.4 million hectares /total territory of Mongolia/ by 12.5 million hectare/forested area/. The main original types of forests are divided into 2 types which are the coniferous forests /larch, pine, cedar, spruce and fir/ and deciduous forest /birch, aspen, poplar, elm, bush and scrub/.

The tree types in the total forest of Mongolia refer to larch and it accounts for 63.1% of the natural forest area and 78.6% of the total forest resources.

The forest of Mongolia is ecologically significant to regulate the river water resources, protect soil from soil erosion, mild climate, absorb the greenhouse gas, provide the growing environment of animals, plants and microorganisms and keep the permafrost.

Mongolia covers the vast territories between gobi and desert of Central Asia and Siberian cold taiga and is divided into 6 zones, including desert, desert steppe, steppe, forest steppe, taiga /forest/ of cold region and the high mountain.

We couldn't carry out the accurate forest inventory, covering the whole forest fund in the vast territories due to the investment problem, methodology and technology and has been making the forest inventory regarding to the administrative unit schedule with interval of 10 years.

We plan to implement the multi-purpose national forest inventory from 2014 on way to transfer the current forest inventory technologies with a decade interval into the statistic technology that covers the whole national forest fund with 5 year cycle, including the annual measurement.

It allows us to develop forest inventory technology in the new level, complied with the international requirements and Mongolia which is the participant of UN Framework Convention on Climate Change and its Kyoto Protocol to implement its obligations and determine and report the greenhouse gas absorption and emission at the method, complied with the international requirements.

Desk Study?

Check "yes" if this survey is a Desk Study, "no" otherwise	
Desk Study?	no

## 1. What is the area of forest and other wooded land and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 1.1 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 in situ. 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 ; 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".
...of which with tree cover ( <i>sub-category</i> )	Land considered as "Other land", that is predominantly agricultural or urban lands use and has patches of tree cover that span 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. It includes bothe forest and non-forest tree species.
Inland water bodies	Inland water bodies generally include major rivers, lakes and water reservoirs.
Forest expansion	Expansion of forest on land that, until then, was not defined as forest.
...of which afforestation ( <i>sub-category</i> )	Establishment of forest through planting and/or deliberate seeding on land that, until then, was not defined as forest.
...of which natural expansion of forest ( <i>sub-category</i> )	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).
Deforestation	The conversion of forest to other land use or the longterm reduction of the tree canopy cover below the minimum 10 percent threshold.
...of which human induced ( <i>sub-category</i> )	Human induced conversion of forest to other land use or the permanent reduction of the tree canopy cover below the minimum 10 percent threshold.
Reforestation	Natural regeneration or re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.
...of which artificial reforestation ( <i>sub-category</i> )	Re-establishment of forest through planting and/or deliberate seeding on land already in forest land use.

### 1.2 National data

#### 1.2.1 Data sources

References to sources of information	Variables	Years	Additional comments
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1	FAO. 1997. Forests and Forest Management in Mongolia. RAP Publication 1997/4. Regional Office for Asia and Pacific. Bangkok. Thailand.	Extent	1994	N/A
2	Enkhbayar, K. 1997. Protection Use and Restoration of Forest In Mongolia. A paper presented in “Reforestation Workshop 1997”. (Provides details of 1994 state of forests).	Extent	1994	N/A
3	GOM. 2004. Mongolian Forest. A country report submitted to Regional meeting of National Correspondents in November 2004. Bangkok. Thailand.	Extent	2002	N/A
4	GOM. 2009. State of Forest Resources in 2008. Report of Forestry Agency, Ministry of Nature, Environment and Tourism, 2009	Extent	2008	N/A
5	Unpublished Statistical data of reforestation and forestry, 1981-2007 by H. Ykhanbai	N/A	1973-2008	N/A
6	Law on forest by Parliament by Mongolia	Definition	2012	N/A
7	“law on forest by parliament of Mongolia	Definition	2010	N/A
8	“Brief description of forest term” Dorjsuren Ch.	Forest term	2009	N/A
9	Instruction of forest inventory work” Appendix 3, Decree 88 by the head of Forestry agency	Definition, Classification	2009	N/A
10	“Forest database registration, report form and reporting methods” decree 189 by the Ministry of nature, environment and Tourism	N/A	2009	N/A

### 1.2.2 Classification and definitions

National class	Definition
Natural Forest	All forest stands with an Relative Stock Density above 0.3 are registered as natural forests
Open Forest	All forest stands with an Relative Stock Density less than 0.3 are registered as natural forests



Non Forest Area in Forest Land	All forest land which does not support Natural forests and Open forests.
Note: No national classification and definitions related to forest expansion, deforestation, reforestation.	N/A

### 1.2.3 Original data

<b>Forest area</b>	
<b>A. 1994 Data</b>	
National Category	Area in 000 ha
Coniferous and Deciduous forest	11161
Saxual Forests (4512) + Shrub(460)	4972
Non Forest areas in Forest land	1383
Total Forest land	17516
(Enkhbayar, 1997 and FAO, 1997)	
<b>B. 2002 Data</b>	
National Category	Area in 000 ha
Forest	10500
Saxual and Shrubs Forests	2388
Non Forest areas in Forest land	5404
Total Forest land	18292
<b>C. 2008 Statistical Data (Reported in national report of 2009 )</b>	
National Category	Area in 000 ha

Natural Forest (Coniferous and deciduous)	11062.8
Natural Forest (Saxual and Shrubs Forests)	2238
Open forest	1238.9
Non Forest areas in Forest land	4309
Total Forest land	18849.3

#### **D. 2010 Statistical Data (Reported in national report of 2010 )**

National Category	Area in 000 ha
Natural Forest (Coniferous and deciduous)	10800.8
Natural Forest (Saxual and Shrubs Forests)	2238.4
Open forest	4550.8
Non forest area in forest land	1043.9
Total forest land	18633.9

#### **E. 2011 Statistical Data (Reported in national report of 2011 )**

National Category	Area in 000 ha
Natural Forest (Coniferous and deciduous)	10649.1
Natural Forest (Saxual and Shrubs Forests)	2238.9
Open forest	4721.1
Non forest area in forest land	935.9
Total forest land	18565.5

#### **F . 2012 Statistical Data (Reported in national report of 2012 )**

National Category	Area in 000 ha
Forest /coniferous and deciduous/	10755.3
Natural Forest (Saxual and Shrubs )	1797.5
Open forets	914.8
Non forest area in forest land	5124.8
Total forest land	18592.4

Forest area of Mongolia was estimated 18592.4 thousand.ha of the territory of Mongolia end of the last year.

### **Fig.1 Forest cover map**

Forest resources location none equally distributed and it impacted by steppe and desert ecosystems

### **Forest expansion, reforestation, deforestation**

Afforestation activities carried out till 1993 and after the approval of Government program on “Green Wall” in 2005, it was restored. The “Green Wall” national programme has 3 phases and will be implemented over a 30 year period. The “Green Wall” or “Eco-Strip” will be built, crossing the Gobi desert and steppe regions with a total length of up to 2,500 kilometres and a width of not less than 600 meters. The total area covered is 150,000 hectares. In addition, sub-stripe covering 50,000 hectares will also be planted in adjacent areas of the Gobi and steppe regions synchronously with the main eco-strip, with the purpose of preventing sand movement and desertification.

### **Afforested Area**

**(Unit: hectare)**

1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
125	200	198	105	50	30	0	0	0	0
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
0	0	0	0	0	0	0	351	430	265
2008	2009	2010	2011	2012					
587	272.4	256	365	612					

<b>Reforested Area</b>									
<b>(Unit: hectare)</b>									
1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
5540	6880	8080	4992	4487	4585	4934	3940	3211	5001
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
5299	5005	9030	8080	8275	9036	9861	4519	4596	6281
2008	2009	2010	2011	2012					
9512	7606	9167	10926	8399					

### 1.3 Analysis and processing of national data

#### 1.3.1 Adjustment

<b>Forest area</b>							
Total area of the country in the “Mongolia Forestry Sector Review 2004” is 156.412 million ha., which differs from FAOSTAT (156.650 million ha). Therefore, the difference in these two areas has been adjusted in the area of “Other land” so that total matches with the FAOSTAT figures.							
Land Categories	Area (1000 hectares)						
	1994	2002	2008	2009	2010	2011	2012
Forest (coniferous and deciduous)	11161	10500	11062.8	11062.8	10800.8	10679.1	10755.3
Saxual and Shrub	4972	2388	2238.4	2238.4	2238.4	2238.4	1797.5
Open forest	-	-	4309.2	4309.2	4550.8	4712.1	5124.7
Non forest areas in forest land	1383	5404	1238.9	1238.9	1043.9	935.9	914.8

Other land	138144.6	138119.6	137562.3	137562.3	137777.7	137846.1	137819.3
Inland water bodies	0	0	0	0	0	0	0
TOTAL	156411.6	156411.6	156411.6	156411.6	156411.6	156411.6	156411.6

### 1.3.2 Estimation and forecasting

#### Forest area

According to the original data, the trend of forest areas shows decreasing trend from 1994 to 2002, and increasing trend from 2002 to 2008. The increment of forest in 2008 is likely to happen due to the change of forest inventory as indicated in 1.5, and real trend of forest area after 2003 in Mongolia is considered as the same trend from 1994 to 2002. The original data in 2008 is used as the basis for the estimation of forest and of Saxual and Shrub forest, and apply the annual change rate from 1994 to 2002 to the data in 2008.

	2002	2012	Annual lose	Annual change rate
Forest covered area	13085.2	12552.9	53.23	-0.406%
Forest uncovered area	3951.9	5123.7	117.28	+2.967

Land Categories	Area (1000 hectares)			
	1990	2000	2005	2010
Forest	12536	11717	11308	10800.8
Saxual and Shrub	4855	3401	2674	2238.4
Other land	139020.6	141293.6	142427.6	143372.4
Inland water bodies	0	0	0	0
Total	156411.6	156411.6	156411.6	156411.6

**Expected year for completion of ongoing/planned national forest inventory and/or RS survey / mapping or other effort to assess forest area**

National forest inventory	
Remote sensing survey / mapping	Forest cover map by MODIS data, 2008
Other efforts	

“Forest cover map of Mongolia” of scale 1:500000 Environmental Information Center (EIC) was developed by processing NDVI data of duration from May to October 2008 from MODIS data, classifying forested area covered by coniferous forest, broadleaved forest, shrub which are spread grown in the territory of Mongolia.

Forest covered area was divided into 4 main groups in the forest cover map:

1. Evergreen forest – marked by dark green color in the map
2. Evergreen forest and mixed forest of larch, leaved, deciduous – light green
3. Mixed forest with birch dominated by larch – bright green
4. Mixed forest of larch, birch, and sparse forest in the forest margin – orange color

General area was 108.0 thousand hectares less when comparing forest cover area classified by MODIS data with forest inventory data the

Comparison table of forest cover map with other data

Forest cover area by forest inventory data /thous. hectares/	Forest cover area classified by MODIS data /thous. hectares/	Difference
18592.4	14075.35	4517.05

### 1.3.3 Reclassification

**Forest area**

Forest is classified as forest. The Saxual and Shrub forests are classified as Other Wooded Lands.

### 1.4 Data

Table 1a

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015













	Forest	12536	11717	11308	13039.2	12552.8
	Other wooded land	4855	3401	2674	4550.8	5124.7
	Other land	137965	140238	141374	137766	137678.5
	... of which with tree cover	0	0	0	0	0
	Inland water bodies	1056	1056	1056	1056	1056
	TOTAL	156412.00	156412.00	156412.00	156412.00	156412.00

Table 1b

Categories		Annual forest establishment / loss (000 hectares per year)				...of which of introduced species (000 hectares per year)			
		1990	2000	2005	2010	1990	2000	2005	2010
	Forest expansion	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which afforestation	0.136	0	0.209	0.418	0	0	0	0
	... of which natural expansion of forest	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Deforestation	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	... of which human induced	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Reforestation	5.996	7.138	6.859	9167	N/A	N/A	N/A	N/A
	... of which artificial	5.996	7.138	6.859	9167	0	0	0	0

## Tiers

Category	Tier for status	Tier for reported trend
Forest	Tier 2	Tier 1
Other wooded land	Tier 2	Tier 1
Forest expansion	Tier 3	Tier 3
Deforestation	Tier 3	Tier 3
Reforestation	Tier 3	Tier 3

## Tier criteria

Category	Tier for status	Tier for reported trend
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<ul style="list-style-type: none"> <li>• Forest</li> <li>• Other wooded land</li> <li>• Afforestation</li> <li>• Reforestation</li> <li>• Natural expansion of forest</li> <li>• Deforestation</li> </ul>	<p><b>Tier 3</b> : Data sources: Either recent (less than 10 years ago) National Forest Inventory or remote sensing, with ground truthing, or programme for repeated compatible NFIs <b>Tier 2</b> : Data sources: Full cover mapping / remote sensing or old NFI (more than 10 years ago) <b>Tier 1</b> : Other</p>	<p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other</p>
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### 1.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trends
Forest	<p>The density measure used in Mongolia is Relative Stock Density (RSD). The RSD is the actual basal area of a stand divided by the normal basal area for a fully stocked stand. The normal basal area is read from a table using species and height as entries. All stands with an RSD above 0.3 are registered as natural forests in the Mongolian inventories. All stands with an RSD below 0.3 are registered as open forest. Translated to FRA definitions an RSD of 0.3 roughly corresponds approximately to 40% crown cover. There was no information of the minimum RSD for the Mongolian Open Forest category it includes fire damaged forest and logged over forest. According to the Mongolian Forest law of 1995 clear cutting is not permitted and selective cutting has to be used. This justifies placement of logged over areas and fire damaged areas in the forest category.</p>	<p>Main reason of the incensement of forest land between 2002 and 2008 was the improvement of forest inventory methods, as smaller forest cover areas in less than 3 ha previously, until 2002, was not included to the forest land, but in new inventory methods includes to the forest area smaller forest more than 0.5 ha forest cover and Stock Density more than 0.3. Secondly timber harvesting and forest fire, insect damaged areas stile included into forest area.</p>
Other wooded land	<p>Saxaul (<i>Haloxylon ammodendron</i>) forest does not grow above 4 meters in height and may thus correspond to other wooded land of FRA 2010. Estimation of area of Saxual Forest and Shrub for 2010 based on original data for 2008 is more appropriate. In our national data Saxual (<i>Haloxylon Bge</i>) forest reported differently than other shrub covered areas.</p>	<p>Climate change, decertification and pasture degradation with quick increase of animal numbers are main factor for the decrease of Saxual Forest and Shrub in Mongolia.</p>
Other land	N/A	N/A
Other land with tree cover	N/A	N/A
Inland water bodies	N/A	N/A
Forest expansion	N/A	N/A
Deforestation	N/A	N/A
Reforestation	N/A	N/A



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<b>Other general comments to the table</b>
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N/A
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## 2. What is the area of natural and planted forest and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 2.1 Categories and definitions

Term	Definition
Naturally regenerated forest	Forest predominantly composed of trees established through natural regeneration.
Naturalized introduced species	Other naturally regenerated forest where the tree species are predominantly non-native and do not need human help to reproduce/maintain populations over time.
Introduced species	A species, subspecies or lower taxon occurring <i>outside</i> 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).
Category	Definition
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.
...of which of introduced species ( <i>sub-category</i> )	Other naturally regenerated forest where the trees are predominantly of introduced species.
...of which naturalized ( <i>sub-sub category</i> )	Other naturally regenerated forest where the trees are predominantly of naturalized introduced species.
Planted forest	Forest predominantly composed of trees established through planting and/or deliberate seeding.
...of which of introduced species ( <i>sub-category</i> )	Planted forest where the planted/seeded trees are predominantly of introduced species.
Mangroves	Area of forest and other wooded land with mangrove vegetation.
...of which planted ( <i>sub-category</i> )	Mangroves predominantly composed of trees established through planting.

### 2.2 National data

#### 2.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	GOM. 1999. Plantation data 1971-1993. Unpublished data from registers provided for country information for FRA 2000..	Area of plantation	1993	N/A

2	GOM. 2000. Area of Saxual reforested. Estimation by Ministry of Nature and Environment. Environmental Protection Agency. Bureau of Forestry and Wildlife. June 2000. Mongolia.	Area of “Saxual plantations”	2000	N/A
3	GOM. 2004. Mongolian Forest. A country report submitted to Regional meeting of National Correspondent in November 2004. Bangkok.	Area of plantation	1991-2003	N/A
4	Mongolia forestry sector outlook study: the future of mongolian forests National Report , Submitted to FAO in 2008 , by H.Ykhanbai	Area of reforestation	2001-2007	N/A

## 2.2.2 Classification and definitions

National class	Definition
Note: No national classification and definitions related to this Question.	N/A
N/A	N/A
N/A	N/A
N/A	N/A

## 2.2.3 Original data

The country information for FRA 2000 records indicate that reforestation activities of *Larix sibirica* and *Pinus sylvestris* (66854 ha) and “other plantations” of *Haloxylon ammodendron* “Saxual” (8000 ha) have been raised from 1973 till 1999.

And reported figures on (artificially) reforested areas and afforested areas in Question 1.

Generally, 2 years old larch / *Larix sibirica* and pine / *Pinus sylvestris*/ seedlings are used for plantation. Some desert area, suitable species are used. It depend on area climate, soil characteristics and native tree species.

## 2.3 Analysis and processing of national data

### 2.3.1 Adjustment

This step is not necessary.

## 2.3.2 Estimation and forecasting

The Strictly Protected Forest in 3.3.2 B is considered as primary forest.

Reforested and afforested areas are considered as plantation forest.

	Years	1972	1973-1987	1988-1990	1991-1999	2000	2001-2005	2006-2007	2008-2010	2011-2012	2013-2015
Afforested areas (ha)		0	0	523	185	0	367	811	1115.4	977	1500
Reforested areas (ha)	Total area reforested	0	16974.4	11669.2	41745.1	9,030	39.723	10,878	26285	19325.5	24000
	...of which on areas previously planted	0	0	0	0	0	0	0	0		0
Conversion of planted forests to other uses (ha)		0	0	0	0	0	0	0	0	0	0
Planted forest (ha)	Area planted in period	0									
	Total area of planted forest	0			41930.1	9030	40093	11689	27400.4	20302.5	25500

## 2.3.3 Reclassification

## 2.4 Data

Table 2a







Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Primary forest	12534	11714.1	11305.3	13038.4	12551.6
	Other naturally regenerated forest	0	0	0	0	0
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
	... of which naturalized	N/A	N/A	N/A	N/A	N/A
	Planted forest	2	2.9	2.7	0.78	1.2
	... of which of introduced species	N/A	N/A	N/A	N/A	N/A
TOTAL		12536.00	11717.00	11308.00	13039.18	12552.80

Table 2b

Primary forest converted to (000 ha)								
1990-2000			2000-2010			2010-2015		
Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land	Other natural regeneration	Planted	Other land
0	0	0	0	0	0	0	0	0

Table 2c

Categories	Area (000 hectares)				
	1990	2000	2005	2010	2015
Mangroves (forest and OWL)	0	0	0	0	0
... of which planted	N/A	N/A	N/A	N/A	N/A

## Tiers

Category	Tier for status	Tier for reported trend
Primary forest	Tier 3	Tier 3

Other naturally regenerated forest	Tier 3	Tier 3
Planted forest	Tier 3	Tier 3
Mangroves	Tier 3	Tier 3

### Tier Criteria

Category	Tier for status	Tier for reported trend
Primary forest/Other naturally regenerated forest/Planted forest	<p><b>Tier 3</b> : Data sources: Recent (less than 10 years) National Forest Inventory or remote sensing with ground truthing or data provided by official agencies or programme for repeated compatible NFIs</p> <p><b>Tier 2</b> : Data sources: Full cover mapping/ remote sensing or old NFI (more than 10 years)</p> <p><b>Tier 1</b> : Other</p>	<p><b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status)</p> <p><b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status)</p> <p><b>Tier 1</b> : Other</p>

### 2.5 Comments

Category	Comments related to data definitions etc	Comments on reported trend
Primary forest	The forested area of strictly protected forest in 3.3.2. B is taken as primary forest.	N/A
Other naturally regenerating forest	N/A	N/A
Planted forest	N/A	N/A
Mangroves	N/A	N/A

#### Other general comments to the table

N/A
-----

### 3. What are the stocks and growth rates of the forests and how have they changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

#### 3.1 Categories and definitions

Category	Definition
Growing stock	Volume over bark of all living trees with a minimum diameter of 10 cm at breast height (or above buttress if these are higher). Includes the stem from ground level up to a top diameter of 0 cm, excluding branches.
Net Annual Increment (NAI)	Average annual volume of gross increment over the given reference period less that of natural losses on all trees, measured to minimum diameters as defined for "Growing stock".
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 2 mm 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.
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 soil depth of 30 cm.

#### 3.2 National data

##### 3.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	WB. 2004. Mongolia Forest Sector Review. The World Bank.	Growing Stock	1997	N/A
2	FAO. 1997. Forests and Forest Management in Mongolia. RAP Publication 1997/4. Regional Office for Asia and Pacific. Thailand.	Extent	1994	N/A
3	State of Environment, Mongolia, 2006-2007	Extent	2008	N/A

4	FRA 2010. Guidelines for country reporting to FRA 2010. FAO	BCEF, root-shoot ratio	N/A	N/A
5	FAO. 2008. Guidelines for Country Reporting to FRA 2005. Global Forest Resources Assessment 2010	Carbon fraction factor	N/A	N/A
6	Law on forest by parliament of Mongolia	Definition	2012	N/A
7	“Forest Statistics” by the Governmental Executive Agency, Forestry Agency	N/A	2012	N/A
8	Brief description of Forest term. 2012 Dorjsuren.Ch	Description	2012	N/A

### 3.2.2 Classification and definitions

National class	Definition
Note: Growing, biomass and carbon stock No information on national classes and definitions relevant to this Questions are available.	N/A
Forest resource	Refers to as the volume of all tree stems which growing in the forest.
Annual net growth of tree	Refers to as the changed size of forest resource within the last 1 year according to the tree age.
Dried tree	Refers to as dried standing tree

### 3.2.3 Original data

<b>Growing stock</b>			
<p>The forest sector review report (WB, 2004) quotes following 1997 information on growing stock by species. The exact year of information is not available. It has been grouped here by “forests” and “other wooded land” and per hectare volume has also been indicated to facilitate its use for development of this reporting table.</p>			
A.			
Species	Area	Volume (m <sup>3</sup> )	Volume (m <sup>3</sup> /ha)
<b>Forests</b>			
Siberian larch ( <i>Larix sibirica</i> )	7526899	1017149100	



Scotch pine ( <i>Pinus sylvestris</i> )	662113	90463600	
Siberian Pine ( <i>Pinus sibirica</i> )	984658	163498400	
Siberian Spruce ( <i>Picea obovata</i> )	27872	3633200	
Siberian Fir ( <i>Abies sibirica</i> )	2337	375500	
Betula( <i>Betula platyphylaa</i> )  Poplar ( <i>Populus diverifolia</i> ),  Aspen( <i>Populus tremula</i> ) and willow ( <i>Salix berberifolia</i> )	1236572	83954090	
<b>Sub total (Forests)</b>	<b>1198720</b>	<b>86254400</b>	
Other wooded land			
Haloxyton ammodendron (Saxual)	2028823	1400100	<b>1.1</b>
<b>Sub total (OWL)</b>	<b>2028823</b>	<b>1400100</b>	<b>0.69</b>

Enkhbayar (1977) provides information on growing stock of Betula, Poplar, Aspen and Willows but does not mention the year of information. Therefore, relative share of these broad leaved species in their growing stock is drawn from this report to apply to above information from World Bank review report.

B.

<b>Species</b>	<b>Relative composition within broadleaves</b>
Betula ( <i>Betula platyphylaa</i> )	95
Poplar ( <i>Populus spp</i> .)	4
Willow ( <i>Salix berberifolia</i> )	1

The forest sector review report (WB, 2004) quotes following 1997 information on growing stock by species. The percent species-wise composition of the growing stock will be drawn from the data given above.

## C.

Species	Volume (m3)
Forests	
Siberian larch ( <i>Larix sibirica</i> )	1017149100
Scots pine ( <i>Pinus sylvestris</i> )	90463600
Siberian pine ( <i>Pinus sibirica</i> )	163498400
Siberian Spruce ( <i>Picea obovata</i> )	3633200
Siberian Fir ( <i>Abies sibirica</i> )	375500
Betula ( <i>betula platyphylaa</i> ), Poplar ( <i>populus diversifolia</i> ), Aspen ( <i>Populus tremula</i> ), and Willow ( <i>Salix berberifolia</i> )	86254400

## D. for 2013

Forest	Area	Volume (m3)	Volume (m/ha)
Species			
Siberian Larch ( <i>Larix sibirica</i> )	7402267	103572801	139.8
Scotch pine ( <i>Pinus sylvestris</i> )	496544	63711811	128.3
Siberian pine ( <i>Pinus sibirica</i> )	684159	120848602	176.6
Siberian spruce ( <i>Picea obovata</i> )	26409	3592030	136.0
Siberian fir ( <i>Abies sibirica</i> )	1370	238800	174.3
Betula ( <i>Betula platyphylaa</i> )	1236572	83954090	67.9
Poplar ( <i>Populus spp</i> )	43708	2609903	59.7
Aspen ( <i>Populus tremula</i> )	21832	1290829	59.1
Ulmus ( <i>Ulmus</i> )	4064	94290	23.2
Willow ( <i>Salix</i> )	149616	3087567	20.6
Poplar ( <i>Populus diverifolia</i> )	225	15110	67.2

Haloxylon ammodendron (Saxual)	1659273	1787186	1.1
total	11726039	1316303019	average 112.3

### **Biomass stock**

Data on growing stock in this Question has been used as input.

### **Carbon stock**

Data on biomass stock has been used as input.

## **3.3 Analysis and processing of national data**

### **3.3.1 Adjustment**

#### **Growing and biomass stock (There is no data source due to enough research )**

This step is not necessary.

#### **Carbon stock (There is no data source due to enough research )**

The carbon conversion factor of 0.47 recommended in the FRA guidelines has been applied to the original data.

### **3.3.2 Estimation and forecasting**

#### **Growing stock**

The per ha figure of growing stock (130.87 for forests and 0.69 for Other Wooded lands) has been used for 1990, 2000, 2005 and 2010 with area figures from Question 1 to project growing stock in these years.

<b>Variables</b>	<b>1990</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2012</b>
Forest Area 000 ha	12.536	11.717	11.308	10.898	10.066
Per ha Growing Stock	130.87	130.87	130.87	130.87	130.58

Growing Stock (million m3)	1641.0	1533.0	1480.0	1426.0	1313.4
Other Wooded Lands 000 ha	6264	3034	2313	2238	1660.5
Per ha Growing Stock	0.69	0.69	0.69	0.69	1.07
Growing Stock (million m3)	4.32	2.09	1.60	1.54	1.78

For growing stock composition the relative share of species has been calculated from the growing stock detail of 1997 contained in the World Bank (2004) report. These ratios were applied to growing stock figures in Question 1. The World Bank report groups the growing stock figures of three broadleaved species. To segregate them, the figures of their relative share have been drawn from Enkbayar (1997).

## Biomass stock

### A. Above ground biomass:

Following recommendations from FRA guidelines the following assumptions and calculations have been made:

The ecological zone of forest is assumed to correspond to the boreal, and one of OWL is to the temperate. From appendix 5, table 5.4 page 6 of the FRA guidelines and considering an ecological zones, the Biomass Conversion and Expansion Factor (BCEF) of 0.50 (pines in forest), 0.77 (larch in forest), 0.53 (firs and spruces in forest), 0.55 (hardwoods in forest) and 3.0 (OWL) have been applied to the growing stock:

FRA 2010 category / Species name		Biomass (million metric tonnes oven-dry weight)				
Scientific name	Common name	1990	2000	2005	2010	
<i>Larix sibirica</i>	Siberian larch	914.0	854.3	824.5	794.6	
<i>Betula platyphylaa</i>	Betula	98.8	92.3	89.1	85.9	

<i>Pinus sibirica</i>	Siberian Pine	77.6	72.6	70.0	67.5	
<i>Pinus sylvestris</i>	Scots pine	52.2	48.8	47.1	45.4	
<i>Populus spp</i>	Poplar	3.8	3.5	3.4	3.3	
<i>Picea obovata</i>	Siberian Spruce	2.3	2.2	2.1	2.0	
<i>Salix berberifolia</i>	Willow	1.0	1.0	0.9	0.9	
<i>Abies sibirica</i>	Siberian Fir	0.2	0.2	0.2	0.2	
<b>TOTAL</b>		1,150.0	1,074.9	1,037.4	999.8	

### B. Below ground biomass:

From appendix 5, table 5.3 page 5 of the FRA guidelines, considering an above ground biomass > 75tonnes/ha in a boreal domain, the root-shoot ratio of 0.24 has been chosen for forest, and other broadleaf above-ground 75 tonnes/ha in temperate domain, the root-shoot ration of 0.46 has been chosen for OWL.

### C. Dead to live Ratio

Following the FRA 2010 Guidelines, since there are no national data on dead wood biomass.

### 3.3.3 Reclassification

#### Growing stock

This step is not necessary.

### 3.4 Data

Table 3a

Category	Growing stock volume (million m <sup>3</sup> over bark)									
	Forest					Other wooded land				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015




	Total growing stock	1641	1533	1480	1349	1406	4.32	2.09	1.6	1.54	1.78
	... of which coniferous	1537	1436	1386	1255	1309	N/A	N/A	N/A	N/A	N/A
	... of which broadleaved	104	97	94	94	97	N/A	N/A	N/A	N/A	N/A

Table 3b

Category/Species name			Growing stock in forest (million cubic meters)			
Rank	Scientific name	Common name	1990	2000	2005	2010
1 st	Larix sibirica	Siberian larch	1187.1	1109.5	1070.8	10351.1
2 nd	Betula platyphylaa	Betula	179.6	167.9	162	83.95
3 rd	Pinus sibirica	Siberian Pine	155.3	145.1	140.1	120.8
4 th	Pinus sylvestris	Scots pine	104.4	97.6	94.2	63.7
5 th	Populus spp	Poplar	7.6	7.1	6.8	3.92
6 th	Picea obovata	Siberian Spruce	4.4	4.1	4	3.59
7 th	Salix berberifolia	Willow	1.9	1.8	1.7	3.08
8 th	Abies sibirica	Siberian Fir	0.4	0.3	0.3	0.2
9 th	N/A	N/A	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A	N/A	N/A
Remaining			N/A	N/A	N/A	N/A
TOTAL			1640.70	1533.40	1479.90	10630.34

**THE PRE-FILLED VALUES FOR GROWING STOCK REFER TO THE FOLLOWING THRESHOLD VALUES (SEE TABLE BELOW)**

Item	Value	Complementary information
Minimum diameter (cm) at breast height of trees included in growing stock (X)	8-10	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)	Calculated	N/A
--	------------	-----

**PLEASE NOTE THAT THE DEFINITION OF GROWING STOCK HAS CHANGED AND SHOULD BE REPORTED AS GROWING STOCK DBH 10 CM INCLUDING THE STEM FROM GROUND LEVEL UP TO A DIAMETER OF 0 CM, EXCLUDING BRANCHES.**

Table 3c




Category		Net annual increment (m <sup>3</sup> per hectare and year)				
		Forest				
		1990	2000	2005	2010	2015
	Net annual increment	2	2	2	2	2.2
	... of which coniferous	1.2	1.2	1.2	1.2	1.3
	... of which broadleaved	0.8	0.8	0.8	0.8	0.9

Table 3d











Category		Biomass (million metric tonnes oven-dry weight)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Above ground biomass	1150	1074.9	1037.4	999.8	N/A	12.97	6.28	4.79	4.63	N/A
	Below ground biomass	276	258	249	239.9	N/A	5.97	2.89	2.2	2.13	N/A
	Dead wood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		1426.00	1332.90	1286.40	1239.70	.00	18.94	9.17	6.99	6.76	.00

Table 3e

Category		Carbon (Million metric tonnes)									
		Forest					Other wooded land				
		1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
	Carbon in above ground biomass	541	505	488	470	N/A	6.1	2.95	2.25	2.18	N/A

	Carbon in below ground biomass	130	121	117	113	N/A	2.81	1.36	1.03	1	N/A
	<i>Subtotal Living biomass</i>	671	626	605	583	N/A	8.91	4.31	3.28	3.18	N/A
	Carbon in dead wood	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Carbon in litter	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	<i>Subtotal Dead wood and litter</i>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Soil carbon	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TOTAL		671.00	626.00	605.00	583.00	.00	8.91	4.31	3.28	3.18	.00

## Tiers

Variable/category	Tier for status	Tier for trend
Total growing stock	Tier 2	Tier 1
Net annual increment	Tier 2	Tier 1
Above ground biomass	Tier 1	Tier 1
Below ground biomass	N/A	N/A
Dead wood	N/A	N/A
Carbon in above-ground biomass	N/A	N/A
Carbon in below ground biomass	N/A	N/A
Carbon in dead wood and litter	N/A	N/A
Soil carbon	N/A	N/A

## Tier criteria

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------



Total growing stock	Tier 3: Data sources Recent 10 years National Forest Inventory or remote sensing with ground truthing or programme for repeated compatible NFI 10 years Domestic volume functions Tier 2: Data sources/registers and statistics modelling or old NFI 10 years or partial field inventory Tier 1: Other data sources	Tier 3: Estimate based on repeated compatible tiers 3 (tier for status) Domestic growth functions Tier 2: Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 tier for status Tier 1: Other
Net annual increment	Tier 3: Scientifically tested national volume and growth functions Tier 2: Selection of volume and growth functions as relevant as possible Tier 1: Other	Tier 3: Confirmation/adjustment of functions used through scientific work Tier 2: Review work done to seek alternative functions Tier: 1 Other
Biomass	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied or other domestic or otherwise nationally relevant biomass studies Tier 2: Application of country specific national or sub-national biomass conversion factors from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
<ul style="list-style-type: none"> <li>• Carbon in above ground biomass</li> <li>• Carbon in below ground biomass</li> <li>• Carbon in dead wood and litter</li> <li>• Soil carbon</li> </ul>	Tier 3: Country-specific national or sub-national biomass conversion expansion factors applied Tier 2: Application of country specific national or sub-national biomass conversion factors form from other country with similar climatic conditions and forest types Tier 1: International/regional default biomass expansion factors applied	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

### 3.5 Comments on growing stock biomass and carbon

Category	Comments related to data definitions etc	Comments on the reported trend
Total growing stock	N/A	N/A
Growing stock of broadleaved coniferous	N/A	N/A
Growing stock composition	N/A	N/A
Net annual increment	N/A	N/A
Above-ground biomass	N/A	N/A
Below-ground biomass	N/A	N/A
Dead wood	N/A	N/A
Carbon in above-ground biomass	N/A	N/A
Carbon in below-ground biomass	N/A	N/A

Carbon in dead wood	N/A	N/A
Carbon in litter	N/A	N/A
Soil carbon	N/A	N/A

**Other general comments to the table**

The above data on growing stock composition is not based on actual inventory.

## 4. What is the status of forest production and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 4.1 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.
Non wood forest product (NWFP)	Goods derived from forests that are tangible and physical objects of biological origin other than wood.
Commercial value of NWFP	For the purpose of this table, value is defined as the commercial market value at the forest gate.
Category	Definition
Production forest	Forest area designated primarily for production of wood, fibre, bio-energy and/or non-wood forest products.
Multiple use forest	Forest area designated for more than one purpose and where none of these alone is considered as the predominant designated function.
Total wood removals	The total of industrial round wood removals and woodfuel removals.
...of which woodfuel	The wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

### 4.2 National data

#### 4.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	WWF. 2004. Mongolian Forest Ecosystems. WWF Mongolia Programme Office.	Area by designation	2004	N/A
2	WB. 2004. Mongolia Forest Sector Review. The World Bank.	Area by designation	2002	N/A
3	GOM. 1995. Forest Law of Mongolia (1995). Government of Mongolia. 1995	Definitions	1995	N/A
4	Enkhbayar, K. 1997. Protection Use and Restoration of Forest In Mongolia. A paper presented in "Reforestation Workshop 1997".	Area	1994 to 1996	N/A

5	GOM. 1996. National Biodiversity Action plan. Mongolia	Area by designation	1993	N/A
6	“Booklet for forestry professionals”	N/A	2012	N/A
7	“Law on forest” by Parliament of Mongolia	N/A	2012	N/A
8	“Report of research on prevention from illegal logging and good forest management 2013. Forest survey and development center	N/A	2012	N/A
9	GOM.2012. Forest law of Mongolia. Government of Mongolia	Definition	2012	N/A
10	Annual report 2010 Forestry agency of the Mongolia	Definition	2010	N/A

#### 4.2.2 Classification and definitions

National class	Definition
Protected forest / Utilization Forests	According to the law on forest, forest area is divided into categories as protected zone forest and utilization zone forest depending on its ecological and economical value and usage type
Forest in the forest utilization zone	Unless forest egological importance is lost, forest in which commercial cutting is allowed at the same time. Cutting forest zone include all types of trees except for trees belong to protected zone.
Ecological and economic assessment	Ecology and economic assessment is a measure to transfer forest resource, size, quality and its ecology and economic return to the money amount.
Fire Wood	Fire wood will be produced by remaining wood which is not possible to reuse after wood processing.
Commercial wood	Commercial wood is selected wood from main stem that meet with requirement at size and quality level for sliced wooden materials.

#### 4.2.3 Original data

A. for 1993		
National Category	Area in 000 ha	Percentage
Strictly Protected Areas	8525	68
National Conservation Parks	3498	28

Nature Reserves	528	4
Natural and Historical Monuments	79	1
Total	12630	100

## B. All data

National Categories	Area in 000 ha			
	1993	1994 <sup>1</sup>	2002	2012
Strictly Protected Area	8525	8443	8443	-
Protected Area	4105 <sup>2</sup>	7877	8220	15404.6
Utilization forest		1196	1196	3187.7
Total Forest Land		17516	17859	18592.4

(Note: 1. The year of information is not clear. It can be for any year from 1994 to 1996. Hence assumed as 1994. 2. It is total of all protection areas excluding strictly protected areas.)

Information is not available on how much of the above area is forested and how much is not forested. It may therefore be reasonable to consider following percentage of forested and non-forested forest areas in Question 1.

Category	Percentage composition			
	1994	2002	2008	2012
Forest	63.72	57.40	62.81	54.1
Shrub and Saxual	28.38	13.06	12.79	13.4
Open forest				27.6
Non Forest in forest land	7.90	29.54	24.40	4.9
Total	100	100	100	100

### 4.3 Analysis and processing of national data

#### 4.3.1 Adjustment

The area for 2002 has been calibrated to that match the total area of forest land (18,292) in the original data in Question 1 by adjusting the area of “Utilization Forest” as by its definition it is the remainder area after providing for protected areas.

National Categories	Area in 000 ha		
	1994	2002	2012
Strictly Protected Area	8443	8443	
Protected Area	7877	8220	15404.6
Utilization forest	1196	1629	3187.7
Total Forest land	17516	18292	18592.4

#### 4.3.2 Estimation and forecasting

##### A. Forest and Non-forested Areas

Applying percentage of forest and non-forested as well as forest and shrubs from Question 1.

Category	1994			2002		
	SPA	PA	UTF	SPA	PA	UTF
Forest	5380	5019	762	4847	4718	935
Shrub and Saxual	2397	2236	339	1101	1074	213
Non Forest in forest land	666	622	95	2495	2428	481
Total	8443	7877	1196	8443	8220	1629

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### B. Strictly Protected Areas, Protected Areas, Utilization Forests

Applying relative percentage of Strictly Protected Areas, Protected Areas, Utilization “Forests” and in “Shrub and Saxual” in 1994 data to 1990 and 2002 data to 2000, 2005 and 2010.

Category	Forest Area in 000 ha				Shrub and Saxual Area in 000 ha			
	1990	2000	2005	2010	1990	2000	2005	2010
SPA	6043	5539	5346	5152	2183	1608	1264	921
PA	5638	5393	5205	5016	2515	1793	1410	1317.4
UTF	856	785	757	632.8				
Total	12536	11717	11308	10800.8	4698	3401	2674	2238.4

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

#### 4.3.3 Reclassification

### A. Primary Function

National Categories	Percentage allocation of National Categories – Primary Function				
	Production	Protection of Soil and water	Conservation of Biodiversity	Social Services	Multiple Purpose
Strictly Protected Areas					
Protection Areas		27.8	41.9	13.2	
Utilization Forests	17.2				

## 4.4 Data

Table 4a



Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Production forest	856	785	757	2722.9	3187.7
	Multiple use forest	0	0	0	0	0

Table 4b

Rank	Name of product	Key species	Commercial value of NWFP removals 2010 (value 1000 local currency)	NWFP category
1 st	Nuts of siberian cedar	N/A	87300	N/A
2 nd	berries	N/A	21450	N/A
3 rd	N/A	N/A	N/A	N/A
4 th	N/A	N/A	N/A	N/A
5 th	N/A	N/A	N/A	N/A
6 th	N/A	N/A	N/A	N/A
7 th	N/A	N/A	N/A	N/A
8 th	N/A	N/A	N/A	N/A
9 th	N/A	N/A	N/A	N/A
10 th	N/A	N/A	N/A	N/A
TOTAL			108750.00	

2010

Name of local currency

Tugrik (MNT) 1 USAD=1781 MNT

### Category

**Plant products / raw material**

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
<b>Animal products / raw material</b>
9 Living animals
10 Hides skins and trophies
11 Wild honey and beeswax
12 Wild meat
13 Raw material for medicine
14 Raw material for colorants
15 Other edible animal products
16 Other non-edible animal products

Table 4c Pre-filled data from FAOSTAT

Year	FRA 2015 category (1000 m <sup>3</sup> u.b.)	
	Total wood removals	...of which woodfuel
1990	1500	694
1991	996	365
1992	957	354
1993	958	354
1994	873	331
1995	737	292
1996	737	292
1997	737	292

1998	737	292
1999	737	292
2000	644	553
2001	717	632
2002	744	704
2003	756	704
2004	769	704
2005	765	704
2006	796.1	747
2007	800	751
2008	804.1	755.1
2009	808.2	759.2
2010	812.3	763.3
2011	812.3	763.3

## Tiers

Category	Tier for status	Tier for reported trend
Production forest	Tier 3	Tier 3
Multiple use forest	Tier 1	Tier 1

## Tier Criteria

Category	Tier for status	Tier for reported trend
Production forest Multiple use forest	Tier 3: Updated including field verifications national forest maps including functions Tier 2: Forest maps older than 6 years including forest functions Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

## 4.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
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Production forest	this includes coniferous and deciduous forest area that is used for timber and fuel wood <sup>8</sup> and other non wood product	According to the law on forest, "utilizing forest" means timber and non timber forest product can be used if the practice is sustainable and followed relevant regulation and guideline
Multiple use forest	N/A	N/A
Total wood removals	N/A	N/A
Commercial value of NWFP	Only berries and nuts of Siberian cedar of non wood forest product is commercially used. Therefore commercial value of berries and nuts are evaluated . The price of 1 kg of nuts and berries are multiplied by the number of total kg of collected nuts and berries in order to estimate the commercial value.	N/A

**Other general comments to the table**

N/A

## 5. How much forest area is managed for protection of soil and water and ecosystem services?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 5.1 Categories and definitions

Category	Definition
Protection of soil and water	Forest area designated or managed for protection of soil and water
...of which production of clean water ( <i>sub-category</i> )	Forest area primarily designated or managed for water production, where most human uses are excluded or heavily modified to protect water quality.
...of which coastal stabilization ( <i>sub-category</i> )	Forest area primarily designated or managed for coastal stabilization.
...of which desertification control ( <i>sub-category</i> )	Forest area primarily designated or managed for desertification control.
...of which avalanche control ( <i>sub-category</i> )	Forest area primarily designated or managed to prevent the development or impact of avalanches on human life assets or infrastructure.
...of which erosion, flood protection or reducing flood risk ( <i>sub-category</i> )	Forest area primarily designated or managed for protecting communities or assets from the impacts of erosion riparian floods and landslides or for providing flood plain services.
...of which other ( <i>sub-category</i> )	Forest area primarily designated or managed for other protective functions.
Ecosystem services, cultural or spiritual values	Forest area primarily designated or managed for selected ecosystem services or cultural or spiritual values.
...of which public recreation ( <i>sub-category</i> )	Forest area designated or managed for public recreation.
...of which carbon storage or sequestration ( <i>sub-category</i> )	Forest area designated or managed for carbon storage or sequestration.
...of which spiritual or cultural services ( <i>sub-category</i> )	Forest area designated or managed for spiritual or cultural services.
...of which other ( <i>sub-category</i> )	Forest area designated or managed for other ecosystem services.

### 5.2 National data

#### 5.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	WWF. 2004. Mongolian Forest Ecosystems. WWF Mongolia Programme office	Area by designation	2004	N/A

2	WB. Mongolian Forest Sector Review. The world bank	Area by designation	2002	N/A
3	GOM.1995 Forest law of Mongolia. Government of Mongolia.1995	Definition	1995	N/A
4	Enkhbayar, K. 1997. Protection Use and Restoration of Forest in Mongolia A paper presented in Reforestation Workshop 1997.	Area	1994 to1996	N/A
5	GOM .1996. National Biodiversity Action plan. Mongolia	Area by designation	1993	N/A
6	“Law on protected area” by Parliament of Mongolia	Definiation	1995	N/A
7	“Law on forest “by Parliament of Mongolia	Definiation	2012	N/A
8	Forest statistics by Forestry agency	N/A	2010	N/A
9	Brief description of Forest terms by Dorjsuren Ch.	N/A	2010	N/A
10	“Law on border by Parliament of Mongolia	N/A	1993	N/A

### 5.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

### 5.2.3 Original data

National category	Forest area 000 ha	%
Green zone forest	1282.0	12.4
Thicket up to 100 ha	779.9	7.5
Forest (above 30 C slope)	2229.5	21.5
Forest along to state border	788.7	7.6

Prohibited stripe forest	2737.1	26.4
Local protected zone	374.4	3.6
Tsarma range of forest	201.7	1.9
Saxual forest	1962.1	18.9
Total	10355.6	100

### 5.3 Analysis and processing of national data

#### 5.3.1 Adjustment

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#### 5.3.2 Estimation and forecasting






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#### 5.3.3 Reclassification

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### 5.4 Data

Table 5a

Categories		Forest area (1000 hectares)				
		1990	2000	2005	2010	2015
	Protection of soil and water	N/A	N/A	N/A	N/A	5168.3
	... of which production of clean water	N/A	N/A	N/A	N/A	N/A
	... of which coastal stabilization	N/A	N/A	N/A	N/A	N/A
	... of which desertification control	N/A	N/A	N/A	N/A	N/A
	... of which avalanche control	N/A	N/A	N/A	N/A	N/A

	... of which erosion, flood protection or reducing flood risk	N/A	N/A	N/A	N/A	N/A
	... of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

**Other**

N/A

Table 5b

Categories	Forest area (1000 hectares)				
	1990	2000	2005	2010	2015
Ecosystem services, cultural or spiritual values	N/A	N/A	N/A	N/A	2445.2
...of which public recreation	N/A	N/A	N/A	N/A	N/A
...of which carbon storage or sequestration	N/A	N/A	N/A	N/A	N/A
...of which spiritual or cultural services	N/A	N/A	N/A	N/A	N/A
...of which other (please specify in comments below the table)	N/A	N/A	N/A	N/A	N/A

Tiers

Category	Tier for reported trend	Tier for status
Protection of soil and water	Tier 3	Tier 3
Ecosystem services, cultural or spiritual values	Tier 3	Tier 3

Tier criteria

Category	Tier for status	Tier for reported trend
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Protection of soil and water	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations or legislation relating to soil and water protection. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
<ul style="list-style-type: none"> <li>• Cultural or spiritual values</li> <li>• Public recreation</li> <li>• Spiritual or cultural services</li> <li>• Other</li> </ul>	Tier 3: High reliability data derived either from high intensity sample survey or data obtained from national or state agencies responsible for regulations. Tier 2: Approaches based on low intensity or incomplete sample-based surveys or studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates. Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

## 5.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Protection of soil and water	N/A	N/A
Production of clean water	N/A	N/A
Coastal stabilization	N/A	N/A
Desertification control	N/A	N/A
Avalanche control	N/A	N/A
Erosion, flood protection or reducing flood risk	N/A	N/A
Other protective functions	N/A	N/A
Ecosystem services, cultural or spiritual values	N/A	N/A
Public recreation	N/A	N/A
Carbon storage or sequestration	N/A	N/A
Spiritual or cultural services	N/A	N/A
Other ecosystem services	N/A	N/A

**Other general comments to the table**



N/A
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## 6. How much forest area is protected and designated for the conservation of biodiversity and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 6.1 Categories and definitions

Category	Definition
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.
Forest area within protected areas	Forest area within formally established protected areas independently of the purpose for which the protected areas were established.

### 6.2 National data

#### 6.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	WWF. 2004. Mongolian Forest Ecosystems. WWF Mongolia Programme Office.	Area by designation	2004	N/A
2	WB. 2004. Mongolia Forest Sector Review. The World Bank.	Area by designation	2002	N/A
3	GOM. 1995. Forest Law of Mongolia (1995). Government of Mongolia. 1995	Definitions	1995	N/A
4	Enkhbayar, K. 1997. Protection Use and Restoration of Forest In Mongolia. A paper presented in “Reforestation Workshop 1997”.	Area	1994 to 1996	N/A
5	GOM. 1996. National Biodiversity Action plan. Mongolia	Area by designation	1993	N/A
6	Law on protected area” by Parliament of Mongolia	Definition	1995	N/A
7	Law on forest by parliament of Mongolia	Definition	2012	N/A

#### 6.2.2 Classification and definitions

National class	Definition
----------------	------------

Forest within Special zones	It consists of sub-alpine forests, virgin zones, and protected zones within National Conservation Parks.
Forest within Protected zones	It includes forests of the specially protected areas, the green zone, prohibited strip, Saxual forests, oases, forests areas covering up to 100 ha, small tree groupings, scrub, sun-exposed forest areas and forests at slopes greater than 30 degrees. They exclude forests in special zones.
Special Protection Area	It is an area to regulate relations concerning to utilization of and taking areas under special protection, preservation and protection of natural landscape in order to keep particular features of natural zones and belts, their peculiar formation, forms of rare and rarest fauna and flora, historical and cultural sites and natural sightseeing as well as studying and identifying their evolution. The special protected area is classified as under, a. national conservation park; b. natural complex area; c. natural reserve; d. national monument area.
National Conservation Park	National conservation park means an area taken under special protection of the State in order to ensure the ecological balance for peculiar features of natural zone and belt, its state of originality and outstanding scientific significance.
Natural Complex Area	Natural complex area means an area taken under special protection of the State which has relatively conserved its natural original state and importance for historical, cultural and scientific knowledge, ecological education
Nature Reserves	The Nature Reserves are areas set aside to protect or restore natural features or natural resources. There are four types of Nature Reserves a. Ecosystems or
Natural and Historical Monuments	The Natural and Historical Monuments are intended to protect Mongolia's historical and cultural heritage. They include natural landscape formations such as waterfalls, caves and volcanic formations, as well as archaeological and religious sites.
Strictly Protected Areas	Strictly Protected Areas are ecologically importance for science and civilization,

### 6.2.3 Original data

A. for 1993		
National Category	Area in 000 ha	Percentage
Strictly Protected Areas	8525	68
National Conservation Parks	3498	28
Nature Reserves	528	4
Natural and Historical Monuments	79	1
Total	12630	100

## B. For 2012

National Category	Area	Percentage
Protected forest zone	7618433	49.4
Prohibited stripe forest	2737138	17.7
Strictly Protected Areas	2734964	17.7
National Conservation Parks	2031095	13.1
Nature Reserves	249054	1.6
Natural and Historical Monuments	33991	0.2
Total	15404.68	100

## C. All data

National Categories	Area in 000 ha			
	1993	1994 <sup>1</sup>	2002	2012
Strictly Protected Area	8525	8443	8443	-
Protected Area	4105 <sup>2</sup>	7877	8220	15404.7
Utilization forest		1196	1196	3187.7
Total Forest Land		17516	17859	18592.4

(Note: 1. The year of information is not clear. It can be for any year from 1994 to 1996. Hence assumed as 1994. 2. It is total of all protection areas excluding strictly protected areas.)

Information is not available on how much of the above area is forested and how much is not forested. It may therefore be reasonable to consider following percentage of forested and non-forested forest areas in Question 1.

Category	Percentage composition			
	1994	2002	2008	2012
Forest	63.72	57.40	62.81	54.1
Shrub and Saxual	28.38	13.06	12.79	13.4

Open forest	-	-	-	27.6
Non Forest in forest land	7.90	29.54	24.40	4.9
Total	100	100	100	100

### 6.3 Analysis and processing of national data

#### 6.3.1 Adjustment

The area for 2002 has been calibrated to that match the total area of forest land (18,292) in the original data in Question 1 by adjusting the area of “Utilization Forest” as by its definition it is the remainder area after providing for protected areas.

National Categories	Area in 000 ha		
	1994	2002	2012
Strictly Protected Area	8443	8443	
Protected Area	7877	8220	15404.7
Utilization forest	1196	1629	3187.7
Total Forest land	17516	18292	18592.4

#### 6.3.2 Estimation and forecasting

##### A. Forest and Non-forested Areas

Applying percentage of forest and non-forested as well as forest and shrubs from Table T1.

Category	1994			2002		
	SPA	PA	UTF	SPA	PA	UTF

Forest	5380	5019	762	4847	4718	935
Shrub and Saxual	2397	2236	339	1101	1074	213
Non Forest in forest land	666	622	95	2495	2428	481
Total	8443	7877	1196	8443	8220	1629

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### B. Strictly Protected Areas, Protected Areas, Utilization Forests

Applying relative percentage of Strictly Protected Areas, Protected Areas, Utilization “Forests” and in “Shrub and Saxual” in 1994 data to 1990 and 2002 data to 2000 ,2005 and 2010.

Category	Forest Area in 000 ha					Shrub and Saxual Area in 000 ha				
	1990	2000	2005	2010	2015	1990	2000	2005	2010	2015
SPA	6043	5539	5346	5152	1736.6	2183	1608	1264	921	179
PA	5638	5393	5206	5016	7054.7	2515	1793	1410	1317.4	1618.5
UTF	856	785	757	632.8	1936.9					-
Total	12536	11717	11308	10800.8	10755.3	4698	3401	2674	2238.4	1797.5

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### 6.3.3 Reclassification

#### A. Primary Function



National Categories	Percentage allocation of National Categories – Primary Function				
	Production	Protection of Soil and water	Conservation of Biodiversity	Social Services	Multiple Purpose

Strictly Protected Areas					
Protection Areas		42.5	27.0	13.3	
Utilization Forests	17.2				

\*The area of Natural and Historical Monuments

## 6.4 Data

Table 6

Categories		Forest area (000 hectares)				
		1990	2000	2005	2010	2015
	Conservation of biodiversity	6043	5539	5346	5152	5049.1
	Forest area within protected areas	6043	5539	5346	5152	5049.1

### Tiers

Category	Tier for status	Tier for reported trend
Conservation of biodiversity	Tier 3	Tier 3
Forest area within protected areas	Tier 3	Tier 3

### Tier criteria

Category	Tier for status	Tier for reported trend
<ul style="list-style-type: none"> <li>Conservation of biodiversity</li> <li>Forests within protected areas</li> </ul>	Tier 3: Data obtained from national or state agencies responsible for conservation and protected area or legislation relating to area protection. Tier 2: Studies that provide data for specific areas that is extrapolated through statistical analysis to national level estimates Tier 1 Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

## 6.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Conservation of biodiversity	N/A	N/A
Forest area within protected areas	Figures of "Strictly Protected Forest" in 3.3.2 b are used for this category.	N/A

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<b>Other general comments to the table</b>
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N/A
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## 7. What is the area of forest affected by woody invasive species?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 7.1 Categories and definitions

Category	Definition
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.

### 7.2 National data

#### 7.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	n.a	n.a	n.a	n.a
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

#### 7.2.2 Classification and definitions

National class	Definition
n.a	n.a
N/A	N/A
N/A	N/A
N/A	N/A

#### 7.2.3 Original data

There is no concept about it

### 7.3 Analysis and processing of national data

#### 7.3.1 Adjustment

## 7.3.2 Estimation and forecasting

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## 7.3.3 Reclassification

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## 7.4 Data

Table 7

Scientific name of woody invasive species	Forest area affected (000 ha)	
	2005	2010
n.a	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
N/A	N/A	N/A
Total	N/A	N/A

## Tiers

Category	Tier for status	Tier for reported trend
Invasive species	N/A	N/A

## Tier Criteria

Category	Tier for status	Tier for reported trend
----------	-----------------	-------------------------

Invasive species	Tier 3: Systematic assessment in forest inventory or other survey (e.g. by conservation department) within the last 5 years) Tier 2: Systematic assessment in forest inventory or other survey (e.g. by conservation department conducted more than 5 years ago) Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
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### 7.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Invasive species	N/A	N/A

Other general comments to the table
N/A

## 8. How much forest area is damaged each year?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 8.1 Categories and definitions

Category	Definition
Number of fires	Number of fires per year
Burned area	Area burned per year
Outbreaks of insects	A detectable reduction in forest health caused by a sudden increase in numbers of harmful insects.
Outbreaks of diseases	A detectable reduction in forest health caused by a sudden increase in numbers of harmful pathogens, such as bacteria, fungi, phytoplasma or virus.
Severe weather events	Damage caused severe weather events, such as snow, storm, drought, etc.

### 8.2 National data

#### 8.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Forest pest insects reports data by forest survey and development center	N/A	2012	N/A
2	Statistics review of Mongolia 2005, 2012	N/A	2012	N/A
3	Protection Mongolian forest from forest fire 2012. Ulaanbaatar. p 160	N/A	2012	N/A
4	Report of research on forest pest insect. 2003-2013	N/A	2013	N/A

#### 8.2.2 Classification and definitions

National class	Definition
Forest pest insect	Forest are damaged by harmful insects species
Forest disease	Forest health caused by harmful pathogens such a bacteria, fungi phytoplasma or virus
N/A	N/A
N/A	N/A

### 8.2.3 Original data

## 8.3 Analysis and processing of national data

### 8.3.1 Adjustment

Decrease of forest indicator and growing volume in the 1 ha area refers that Mongolian forest is facing with degradation and its importance on ecology are getting down. The following factors are main reasons for degradation of the forest:

Majority part of the Mongolia locates in remote or lonely place but infrastructure that reaches to the main part of resource in the forest have not been developed yet. Thus, there is no possibility to implement or conduct main silviculture activities such as thinning, cleaning cutting, regeneration in the forest. Because of that, forest fire occurs for long time and its result would be a huge damage. In addition, ecological importance of forest has been going down and getting old naturally due to the no thinning, cleaning cutting.

### 8.3.2 Estimation and forecasting

Currently, 55.7% of the forest area and 76.3% of the forest resource are matured and old. In moreover, there is 1190.4 thousand.ha forest that has not ability to generate because of affection of the forest fire and 95.6 thousand.ha forest is dried forest that affected by harmful insects; and 249.1 thousand.ha area is area in which wood processing has been done, and 0.9 thousand.ha forest is forest that affected by natural disaster and strong wind respectively.

For 2013 (Truth data by ground)

	Area in million/ ha				
	2003	2004	2005	2006	2007
Total forest area burned	0.32	0.023	0.31	0.3	0.5
	2008	2009	2010	2011	2012
Total forest area burned	0.491	0.161	0.039	0.02	0.34

### 8.3.3 Reclassification

## 8.4 Data

Table 8a

Category		000 ha, number of fires									
		2003		2004		2005		2006		2007	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	0.32	N/A	0.023	N/A	0.31	N/A	0.34	N/A	0.53	N/A
	... of which forest area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Category		2008		2009		2010		2011		2012	
		000 ha	#	000 ha	#	000 ha	#	000 ha	#	000 ha	#
	Total land area burned	0.49	N/A	0.161	N/A	0.039	N/A	0.02	N/A	0.34	N/A
	... of which forest area burned	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 8b

Outbreak category	Description/name	Year(s) of latest outbreak	Area damaged (000 hectares)
Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2003	32.5
Insects	Lumantria dispar L	2004	0.3
Insects	Orgyia antique L, Erannis jacobsoni Djak	2005	17
Insects	Erannis jacobsoni Djak, Dendrolimus sibiricus	2006	518.2
Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2007	115.1
Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2008	172.5

Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2010	223.2
Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2011	210.3
Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2012	199.2
Insects	Dendrolimus sibiricus, Lumantria dispar L, Orgyia antique L, Erannis jacobsoni Djak	2013	173.4

### Outbreak category

1 Insects
2 Diseases
3 Severe weather events

### Tiers

Category	Tier for status	Tier for trend
Area affected by fire	Tier 3	Tier 3
<ul style="list-style-type: none"> <li>• Insects</li> <li>• Diseases</li> <li>• Severe weather events</li> </ul>	Tier 3	Tier 3

### Tier criteria

Category	Tier for status	Tier for reported trend
Burned area	<b>Tier 3</b> : National fire monitoring routines <b>Tier 2</b> : Remote sensing surveys <b>Tier 1</b> : Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other
<ul style="list-style-type: none"> <li>• Insects</li> <li>• Diseases</li> <li>• Severe weather events</li> </ul>	<b>Tier 3</b> : Systematic survey (e.g. via inventory or aerial damage assessment) <b>Tier 2</b> : Management records <b>Tier 1</b> : Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

### 8.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
----------	---	--------------------------------

Burned area	N/A	N/A
Insects	N/A	N/A
Diseases	N/A	N/A
Severe weather events	N/A	N/A

**Other general comments to the table**

N/A



## 9. What is the forest area with reduced canopy cover?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

Category	Definition
Reduction in canopy cover	Forest that has undergone a reduction of canopy cover of more than 20% between the years 2000 and 2010 within the forest canopy cover range of 30-80% as detected by the MODIS VCF sensor.

Table 9

Category	Area of forest with reduced canopy cover (000 ha)
Reduction in canopy cover	N/A

Tiers

Category	Tier for reported trend
Reduction in canopy cover	N/A

Tier criteria

Category	Tier for reported trend
Reduction in canopy cover	<b>Tier 3</b> : Remote sensing with ground truthing and/or Landsat imagery <b>Tier 2</b> : Remote sensing using Modis (using pre-filled data provided by FAO) <b>Tier 1</b> : Expert opinion

Comments

Category	Comments related to data definitions etc
Reduction in canopy cover	there is no data

Other general comments

--

## 10. What forest policy and regulatory framework exists to support implementation of sustainable forest management SFM?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 10.1 Categories and definitions

Category	Definition
Policies supporting sustainable forest management	Policies or strategies that explicitly encourage sustainable forest management.
Legislation and regulations supporting sustainable forest management	Legislation and regulations that govern and guide sustainable forest management, operations and use.

### 10.2 National data

#### 10.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Mongolian law on forest. 2012, 2013. Government of Mongolia	N/A	2012, 2013	N/A
2	Draft of forest policy.2013	N/A	2013	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

#### 10.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

#### 10.2.3 Original data

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**10.3 Data**

Table 10

Category				
	National	Sub-national		
		Regional	Provincial/State	Local
Policies supporting sustainable forest management	yes	yes	yes	yes
... of which, in <u>publicly</u> owned forests	yes	yes	no	yes
... of which, in <u>privately</u> owned forests	no	no	yes	no
Legislation and regulations supporting sustainable forest management	yes	yes	yes	yes
... of which, in <u>publicly</u> owned forests	yes	yes	yes	yes
... of which, in <u>privately</u> owned forests	yes	no	no	yes

**10.4 Comments**

Variable / category	Comments related to data definitions etc
Policies supporting sustainable forest management	N/A
Legislation and regulations supporting sustainable forest management	N/A

Other general comments

--

## 11. Is there a national platform that promotes stakeholder participation in forest policy development?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 11.1 Categories and definitions

Category	Definition
National stakeholder platform	A recognized procedure that a broad range of stakeholders can use to provide opinions, suggestions, analysis, recommendations and other input into the development of national forest policy.

### 11.2 National data

#### 11.2.1 Data sources

	References to sources of information	Years	Additional comments
1	Draft of forest policy	2013	This draft will approved by government
2	Law on forest by Parliament of Mongolia	2010	N/A
3	N/A	N/A	N/A
4	N/A	N/A	N/A

Table 11

<b>Is there a national platform that promotes or allows for stakeholder participation in forest policy development?</b>	yes
---	-----

### 11.3 Comments

Category	Comments related to data definitions etc
National stakeholder platform	Understanding of Forestry User Group (FUG) has been stated in the Forestry Law of Mongolia (2008) at first time. Now FUGs are leasing a certain part of forest on contract basis. For example, about 3000 ha forestry area is accounted for a FUG. Decision for giving right to lease a forest is being made by the Citizens Representative Khural at Soum level. Participatory Forestry Management is main concept of Mongolia.

Other general comments

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## 12. What is the forest area intended to be in permanent forest land use and how has it changed over time?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 12.1 Categories and definitions

Category	Definition
Forest area intended to be in permanent forest land use	Forest area that is designated or expected to be retained as forest and is highly unlikely to be converted to other land use.
...of which permanent forest estate ( <i>sub-category</i> )	Forest area that is designated by law or regulation to be retained as forest and may not be converted to other land use.

### 12.2 National data

#### 12.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	WWF. 2004. Mongolian Forest Ecosystems. WWF Mongolia Programme Office.	Area by designation	2004	N/A
2	WB. 2004. Mongolia Forest Sector Review. The World Bank.	Area by designation	2002	N/A
3	GOM. 1995. Forest Law of Mongolia (1995). Government of Mongolia. 1995	Definitions	1995	N/A
4	Enkbayar, K. 1997. Protection Use and Restoration of Forest In Mongolia. A paper presented in "Reforestation Workshop 1997".	Area	1994 to 1996	N/A
5	GOM. 1996. National Biodiversity Action plan. Mongolia	Area by designation	1993	N/A

#### 12.2.2 Classification and definitions

National class	Definition
Forest within Special zones	It consists of sub-alpine forests, virgin zones, and protected zones within National Conservation Parks.

Forest within Protected zones	It includes forests of the specially protected areas, the green zone, prohibited strip, Saxual forests, oases, forests areas covering up to 100 ha, small tree groupings, scrub, sun-exposed forest areas and forests at slopes greater than 30 degrees. They exclude forests in special zones.
Special Protection Area	It is an area to regulate relations concerning to utilization of and taking areas under special protection, preservation and protection of natural landscape in order to keep particular features of natural zones and belts, their peculiar formation, forms of rare and rarest fauna and flora, historical and cultural sites and natural sightseeing as well as studying and identifying their evolution. The special protected area is classified as under, a. national conservation park; b. natural complex area; c. natural reserve; d. national monument area.
National Conservation	National conservation park means an area taken under special protection of the State
Park	National conservation park means an area taken under special protection of the State in order to ensure the ecological balance for peculiar features of natural zone and belt, its state of originality and outstanding scientific significance.
Natural Complex Area	Natural complex area means an area taken under special protection of the State which has relatively conserved its natural original state and importance for historical, cultural and scientific knowledge, ecological education
Nature Reserves	The Nature Reserves are areas set aside to protect or restore natural features or natural resources. There are four types of Nature Reserves a. Ecosystems or
Natural and Historical Monuments	The Natural and Historical Monuments are intended to protect Mongolia's historical and cultural heritage. They include natural landscape formations such as waterfalls, caves and volcanic formations, as well as archaeological and religious sites.
Strictly Protected Areas	Strictly Protected Areas are ecologically importance for science and civilization,

### 12.2.3 Original data

A. for 1993		
<b>National Category</b>	<b>Area in 000 ha</b>	<b>Percentage</b>
Strictly Protected Areas	8525	68
National Conservation Parks	3498	28
Nature Reserves	528	4

Natural and Historical Monuments	79	1
Total	12630	100

## B. All data

National Categories	Area in 000 ha		
	1993	1994 <sup>1</sup>	2002
Strictly Protected Area	8525	8443	8443
Protected Area	4105 <sup>2</sup>	7877	8220
Utilization forest		1196	1196
Total Forest Land		17516	17859

(Note: 1. The year of information is not clear. It can be for any year from 1994 to 1996. Hence assumed as 1994. 2. It is total of

all protection areas excluding strictly protected areas.)

Information is not available on how much of the above area is forested and how much is not forested. It may therefore be reasonable to consider following percentage of forested and non-forested forest areas in Question 1.

Category	Percentage composition		
	1994	2002	2008
Forest	63.72	57.40	62.81
Shrub and Saxual	28.38	13.06	12.79
Non Forest in forest land	7.90	29.54	24.40
Total	100	100	100

## 12.3 Analysis and processing of national data

### 12.3.1 Adjustment

The area for 2002 has been calibrated to that match the total area of forest land (18,292) in the original data in Question 1 by adjusting the area of “Utilization Forest” as by its definition it is the remainder area after providing for protected areas.

National Categories	Area in 000 ha	
	1994	2002
Strictly Protected Area	8443	8443
Protected Area	7877	8220
Utilization forest	1196	1629
Total Forest land	17516	18292

### 12.3.2 Estimation and forecasting

#### A. Forest and Non-forested Areas

Applying percentage of forest and non-forested as well as forest and shrubs from Question 1.

Category	1994			2002		
	SPA	PA	UTF	SPA	PA	UTF
Forest	5380	5019	762	4847	4718	935
Shrub and Saxual	2397	2236	339	1101	1074	213



Non Forest in forest land	666	622	95	2495	2428	481
Total	8443	7877	1196	8443	8220	1629

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### B. Strictly Protected Areas, Protected Areas, Utilization Forests

Applying relative percentage of Strictly Protected Areas, Protected Areas, Utilization “Forests” and in “Shrub and Saxual” in 1994 data to 1990 and 2002 data to 2000 ,2005 and 2010.

Category	Forest Area in 000 ha				Shrub and Saxual Area in 000 ha			
	1990	2000	2005	2010	1990	2000	2005	2010
SPA	6043	5539	5346	5152	2183	1608	1264	921
PA	5638	5393	5205	5016	2515	1793	1410	1317.4
UTF	856	785	757	632.8				
Total	12536	11717	11308	10800.8	4698	3401	2674	2238.4

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### 12.3.2 Estimation and forecasting

#### 12.3.2 Estimation and forecasting

##### A. Forest and Non-forested Areas

Applying percentage of forest and non- forested as well as forest and shrubs from Question 1.

Category	1994	2002
----------	------	------

	<b>SPA</b>	<b>PA</b>	<b>UTF</b>	<b>SPA</b>	<b>PA</b>	<b>UTF</b>
Forest	5380	5019	762	4847	4718	935
Shrub and Saxual	2397	2236	339	1101	1074	213
Non Forest in forest land	666	622	95	2495	2428	481
Total	8443	7877	1196	8443	8220	1629

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### **B. Strictly Protected Areas, Protected Areas, Utilization Forests**

Applying relative percentage of Strictly Protected Areas, Protected Areas, Utilization “Forests” and in “Shrub and Saxual” in 1994 data to 1990 and 2002 data to 2000 ,2005 and 2010.

Category	Forest Area in 000 ha				Shrub and Saxual Area in 000 ha			
	1990	2000	2005	2010	1990	2000	2005	2010
SPA	6043	5539	5346	5152	2183	1608	1264	921
PA	5638	5393	5205	5016	2515	1793	1410	1317.4
UTF	856	785	757	632.8				
Total	12536	11717	11308	10800.8	4698	3401	2674	2238.4

(Note SPA = Strictly Protected Areas, PA= Protected Areas, UTF= Utilization Forests)

### 12.3.3 Reclassification



#### **A. Primary Function**

National Categories	Percentage allocation of National Categories – Primary Function				
	Production	Protection of Soil and water	Conservation of Biodiversity	Social Services	Multiple Purpose
Strictly Protected Areas					
Protection Areas		27.8	41.9	13.2	
Utilization Forests	17.2				

\*The area of Natural and Historical Monuments

## 12.4 Data

Table 12

Categories		Forest area 2010 (000 ha)
	Forest area intended to be in permanent forest land use	5152
	... of which permanent forest estate	5152

### Tiers

Category	Tier for status
Forest area intended to be in permanent forest land use	Tier 2
Permanent forest estate	Tier 2

### Tier Criteria

Category	Tier for status
Forest area intended to be in permanent forest land use	<b>Tier 3</b> : National or sub-national land use plans strategy documents or other reports within the past 10 years <b>Tier 2</b> : National or sub-national land use plans strategy documents or other reports within the past 20 years <b>Tier 1</b> : Other
Permanent forest estate	<b>Tier 3</b> : National or sub-national land use plans strategy documents or other reports within the past 10 years <b>Tier 2</b> : National or sub-national land use plans strategy documents or other reports within the past 20 years <b>Tier 1</b> : Other

## 12.5 Comments

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<b>Category</b>	<b>Comments related to data definitions etc</b>
Forest area intended to be in permanent forest land use	Strictly protected areas are included
Permanent forest estate	N/A

Other general comments

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### 13. How does your country measure and report progress towards SFM at the national level?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

#### 13.1 Categories and definitions

Category	Definition
Forest area monitored under a national forest monitoring framework	Forest area monitored by a national monitoring framework or systems that provide measurement based periodic monitoring of forest extent and quality.
Forest reporting at national scale	National reporting of forest extent and characteristics that includes some measure of progress toward sustainable forest management.

#### 13.2 National data

##### 13.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Law on forest by parliament of Mongolia	N/A	2013	N/A
2	Aimaks(provinces) forest managment plan.2011	N/A	2011	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

##### 13.2.2 Classification and definitions

National class	Definition
Forest management plan	“Forest management plan” means a plan defining comprehensive and phase-by-phase forestry silvicultural measures towards protection, sustainable use and restoration of forests on a given territorial-administrative unit or a tenure forest
N/A	N/A
N/A	N/A
N/A	N/A

#### 13.3 Data

Table 13a

Category	% of total forest area	Most recent year	Check all boxes that apply					
			Continuous	Periodic	Permanent ground plots	Temporary ground plots	Aerial/remote sensing sample based	Aerial/remote sensing full coverage
Forest inventory	N/A	N/A	no	yes	no	yes	yes	yes
Other field assessments	N/A	N/A	no	no	no	no	no	no
Updates to other sources	N/A	N/A	no	no	no	no		no
Expert estimate	N/A	N/A						

Table 13b

Type of forest reporting used at national scale	Check boxes that apply
1 Criteria and Indicators reporting	no
2 Periodic national state of the forest report	yes
3 Other (please document)	no
4 None	no

Other type of forest reporting
N/A

## 13.4 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

--

## 14. What is the area of forest under a forest management plan and how is this monitored?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 14.1 Categories and definitions

Category	Definition
Forest area with management plan	Forest area that has a long-term documented management plan, aiming at defined management goals which is periodically revised
...of which for production ( <i>sub-category</i> )	Forest management plan mainly focused on production
...of which for conservation ( <i>sub-category</i> )	Forest management plan mainly focused on conservation
Monitoring of forest management plans	Government monitoring of forest management plan implementation conducted through field visits or audits of forest management plan performance

### 14.2 National data

#### 14.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	WWF. 2004. Mongolian Forest Ecosystems. WWF Mongolia Programme Office.	Area by designation	2004	N/A
2	WB. 2004. Mongolia Forest Sector Review. The World Bank.	Area by designation	2002	N/A
3	GOM. 1995. Forest Law of Mongolia (1995). Government of Mongolia. 1995	Definitions	1995	N/A
4	Enkbayar, K. 1997. Protection Use and Restoration of Forest In Mongolia. A paper presented in "Reforestation Workshop 1997".	Area	1994 to 1996	N/A
5	GOM. 1996. National Biodiversity Action plan. Mongolia	Area by designation	1993	N/A
6	Aimaks /province/ forest management plan. 2011	N/A	2011	N/A

### 14.3 Data

Table 14a

Forest plan type	Forest area 2010 (000 ha)
Forest area with management plan	400
... of which for production	N/A
... of which for conservation	N/A

Table 14b

Indicate which (if any) of the following are required in forest management plans in your country	
1 Soil and water management	yes
2 High conservation value forest delineation	yes
3 Social considerations community involvement	

Table 14c

Percent of area under forest management plan that is monitored annually	10
---	----

## Tiers

Category	Tier for status
Forest area with management plan	Tier 3
Percent of area under forest management plan that is monitored annually	Tier 3

## Tier criteria

Category	Tier for status
Forest area with management plan	<b>Tier 3</b> : Reports that describe national records 5 years old or less that contain long-term forest monitoring plans <b>Tier 2</b> : Industry or other records indicating the presence of a long-term forest management plan <b>Tier 1</b> : Other
Percent of area under forest management plan that is monitored annually	<b>Tier 3</b> : Government documentation of monitoring extent <b>Tier 2</b> : Reports from forest managers or other documental sources <b>Tier 1</b> : Other

## 14.4 Comments

Category	Comments
Forest area with management plan	According to the Forest Law Forest Management Plan (FMP) of communities and companies is approved by local district governments, district plans by Forest agency, provincial FMP by the Ministry and National FMP by the Government of Mongolia.



<p>Forest management plan from 2011-2015</p>	<p>In 2011, National Forest management plan approved by Government of Mongolia. There are 15 aimaks forest management plan was approved by Ministry of Nature and tourism of Mongolia. In the Gobi zone, FMP of some aimaks FMP will necessary to approve by ministry of nature and development.</p>
<p>N/A</p>	<p>N/A</p>

Other general comments

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## 15. How are stakeholders involved in the management decision making for publicly owned forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 15.1 Categories and definitions

Category	Definition
Stakeholder involvement	Stakeholder involvement is defined as significant inputs into at least one aspect of forest management at the operational scale

Table 15

Please indicate the type of stakeholder involvement in forest management decision making required in your country	
1. Planning phase	yes
2. Operations phase	yes
3. Review of operations	yes

Tiers

Category	Tier for status
Type of stakeholder inputs	Tier 3

Tier criteria

Category	Tier for status
Type of stakeholder inputs	<b>Tier 3</b> : Government (national or sub-national) documentation of stakeholder inputs <b>Tier 2</b> : Government (national or subnational) requirement but stakeholder inputs not documented <b>Tier 1</b> : Other

### 15.2 Comments

Category	Comments
N/A	N/A
N/A	N/A
N/A	N/A

Other general comments

--

## 16. What is the area of forest under an independently verified forest certification scheme?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 16.1 Categories and definitions

Category	Definition
FSC certification	Forest area certified under the Forest Stewardship Council certification scheme
PEFC certification	Forest area certified under the Programme for the Endorsement of Forest Certification scheme
Other international forest management certification	Forest area certified under an international forest management certification scheme with published standards and is independently verified by a third-party, excluding FSC and PEFC certification.
Certified forest area using a domestic forest management certification scheme	Area certified under a forest management certification scheme with published standards that are nationally recognized and independently verified by a thirdparty

### 16.2 Data

Table 16a













International forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	FSC	0	0	0	0	0	0	0
	PEFC	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0
		2007	2008	2009	2010	2011	2012	
	FSC	0	0	0	0	0	0	
	PEFC	0	0	0	0	0	0	
	Other	0	0	0	0	0	0	

Table 16b

Domestic forest management certification		Forest area (000 ha)						
		2000	2001	2002	2003	2004	2005	2006
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0
	N/A	0	0	0	0	0	0	0

		2007	2008	2009	2010	2011	2012	
		0	0	0	0	0	0	
		0	0	0	0	0	0	
		0	0	0	0	0	0	

## Tier criteria

Category	Tier for status
<b>International</b> forest management certification	Tier 3: International forest management scheme records maintained by the certifying organization for the reporting year Tier 2: International forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other
<b>Domestic</b> forest management certification	Tier 3: National registry reports for domestic forest management certification maintained by the certifying organization for the reporting year Tier 2: Domestic forest management scheme records reported by the certifying organization for a period 2 years prior to the reporting year Tier: 1 Other

## Tiers

Category	Tier for status
<b>International</b> forest management certification	N/A
<b>Domestic</b> forest management certification	N/A

## 16.3 Comments

Category	Comments related to data definitions etc
Certified forest area using an international forest management certification scheme	N/A
Domestic forest management certification	N/A

## Other general comments

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## 17. How much money do governments collect from and spend on forests?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 17.1 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 revenue include: <ul style="list-style-type: none"> <li>• <u>Goods</u> : roundwood; sawnwood; biomass; woodbased panels; pulp and paper and non-wood forest products.</li> <li>• <u>Services</u> : including concession fees and royalties, stumpage payments, public timber sales revenue taxes and charges based on forest area or yield, taxes on domestic trade and export of forest products, special levies on forestry activities and payments into forest related funds, other miscellaneous inspection, licence and administrative fees levied by forest administrations, permit and licence fees for recreation and other forest related activities.</li> </ul>
Public expenditure on forestry	All government expenditure on forest related activities.

### 17.2 National data

#### 17.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Working papers and sectoral data by Forest and Water Inventory Centre	N/A	N/A	N/A
2	National statistical office of Mongolia. Mongolian statistical year book 2011. 2012	N/A	2012	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

### 17.3 Data

Table 17

Category	Revenues / expenditures (000 local currency)		
	2000	2005	2010
Forest revenue	568000	793300	1981000
Public expenditure on forestry	560000	808000	5228000
	2000	2005	2010

Name of Local Currency	Tugrik	N/A	N/A
------------------------	--------	-----	-----

### 17.4 Comments

Category	Comments related to data definitions etc
Forest revenue	The payment of timber and fuel wood is the only revenue that support central state budget. Payment of non timber forest product weighs significantl small amount. Therefore there is no data
Public expenditure on forestry	The parliament and the government are paying significant attention on forestation and forest conservation. For example, it is proved by the increase of allocation of budget on forest conservation. Information on income generated from forest for the national central budget and expenditure from forest was used from the National statistic report.
Other general comments	N/A

Other general comments

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## 18. Who owns and manages the forests and how has this changed?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 18.1 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.
...of which owned by the state at national scale ( <i>sub-category</i> )	Forest owned by the State at the national scale or administrative units of the public administration or by institutions or corporations owned by the public administration.
...of which owned by the state at the sub-national government scale ( <i>sub-category</i> )	Forest owned by the State at the sub-national government scale 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 cooperatives corporations and other business entities, private, religious and educational institutions, pension or investment funds, NGOs, nature conservation associations and other private institutions.
...of which individuals ( <i>sub-category</i> )	Forest owned by individuals and families.
...of which private business entities and institutions ( <i>sub-category</i> )	Forest owned by private corporations cooperatives companies and other business entities as well as private nonprofit organizations such as NGOs nature conservation associations, and private religious and educational institutions etc.
...of which local tribal and indigenous communities ( <i>sub-category</i> )	Forest owned by a group of individuals belonging to the same community residing within or in the vicinity of a forest area or forest owned by communities of indigenous or tribal people The community members are coowners that share exclusive rights and duties and benefits contribute to the community development.
Unknown ownership	Forest area where ownership is unknown includes areas where ownership is unclear or disputed.
Categories related to management rights of public forests	Definition
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 companies	Forest management rights and responsibilities are transferred from the Public Administration to corporations, other business entities private cooperatives, private nonprofit 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.

### 18.2 National data

## 18.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	FAO. 1997. Forests and Forest Management in Mongolia. RAP Publication 1997/4. Regional Office for Asia and Pacific. Bangkok. Thailand.	Ownership	1994	N/A
2	FAO , 2008 , Forestry Sector Outlook study for Mongolia National Report	Forest Tenure	2008	N/A
3	Bush and Shrubs in Mongolia, Enkhsaihan. D Ulaanbaatar 2010	N/A	2010	N/A
4	Training Handout on Community-Based forest fire management, 2011. Forestry agency	N/A	2011	N/A
5	Teachers' handout on Environmental education through "Citizen's Education	N/A	N/A	N/A
6	Forest User Group (FUG)'s business plan. FAO. 2011	N/A	2011	N/A
7	Handout on micro loan for FUG, The ministry of Nature, Environment and Tourism of Mongolia	N/A	2008	N/A
8	Marketing training for FUGs	N/A	N/A	N/A
9	Community based participatory forest management 2010	N/A	2010	N/A
10	Law on forest by parliament of Mongolia	N/A	2013	N/A

## 18.2.2 Classification and definitions

National class	Definition
Note: No national classification or definitions are available.	N/A
Forest user group	"Forest user group" means a voluntary association of citizens organized pursuant to Article 481.1 of the Civil Code and Article 3.2.8 of the Law on Environmental Protection and running their joint efforts
N/A	N/A



N/A	N/A
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### 18.2.3 Original data

The report on “Forests and Forest Management in Mongolia” (FAO, 1997) mentions that all forests in Mongolia are state owned and that there are no plans to privatize forest land.

Mongolian Forestry Law (2007) indicates significant progress, since an important paradigm shift from state forest management towards private and community-based forest management has been advocated. However, the necessary by-laws are currently in the formulation process.

After the Law enactment, forest resources are allocated to the private companies and communities, however before 2005 forest resources were not yet allocated to the local communities.

Presently, total 1082 forest user groups ( community groups ) have leased 3 million ha forest fund while 106 private enterprises entities have leased 601,7 thousand.ha forest fund. In further, volume of leasing forest fund will be increased in order to improve capacity building of existing FUGs and economic entity as a result of creation of legal environment that accepts leasing of forest fund in some areas of Special Protected zone.

#### Stakeholder Share in Forest Tenure Type (2008)

<i>Stakeholders</i>	<i>Forestfund estimation (ha)</i>	<i>Foresttenure management</i>	<i>Duration</i>
NPA	3,087,772		Unspecified
Private Enterprices	160,000	Contracting	Up to 60years
Community groups	343,691	Contracting	Up to 60years
Total	3,591,463		

NPA:

#### Stakeholder Share in Forest Tenure Type (2013)

Stakeholders	Forest fund estimation/ha	Forest tenure management	Duration
Private enterprices	601704	Contracting	up to 60 years
community group	3074744	Contracting	up to60 years

total	3 676 448		
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### 18.3 Analysis and processing of national data

#### 18.3.1 Adjustment

This step is not necessary.

#### 18.3.2 Estimation and forecasting







This step is not necessary.



#### 18.3.3 Reclassification

This step is not necessary.

### 18.4 Data

Table 18a

Categories		Forest area (1000 hectares)			
		1990	2000	2005	2010
	Public ownership	12536	11717	11308	13039.2
	... of which owned by the state at national scale	N/A	N/A	N/A	N/A
	... of which owned by the state at the sub-national government scale	N/A	N/A	N/A	N/A
	Private ownership	0	0	0	0
	... of which owned by individuals	0	0	0	0
	... of which owned by private business entities and institutions	0	0	0	0

	... of which owned by local, tribal and indigenous communities	0	0	0	0
	Unknown ownership	0	0	0	0
TOTAL		12536.00	11717.00	11308.00	13039.20

## Tiers

Category	Tier for status	Tier for reported trend
Public ownership	Tier 3	Tier 3
Private ownership	Tier 3	Tier 3
Unknown ownership	N/A	N/A

## Tier criteria

Category	Tier for status	Tier for reported trend
Ownership	Tier 3: National forestry statistics registers of land titles or maps on land ownership or all forest area under one ownership category that is five years old or less. Tier 2: National forestry statistics registers of land titles or maps on land ownership or questionnaires that are more than five years old. Tier 1: Other	<b>Tier 3</b> : Estimate based on repeated compatible tiers 3 (tier for status) <b>Tier 2</b> : Estimate based on repeated compatible tier 2 or combination tier 3 and 2 or 1 (tier for status) <b>Tier 1</b> : Other

Table 18b - Holder of management rights of public forests

Categories	Forest area (000 hectares)			
	1990	2000	2005	2010
Public Administration	12536	11717	11008	9364.2
Individuals	0	0	0	0
Private companies	0	0	80	601
Communities	0	0	220	3074
Other	0	0	0	0
TOTAL	12536.00	11717.00	11308.00	13039.20

Category	Tier for reported trend	Tier for status
Public Administration	Tier 3	Tier 3

Individuals	N/A	N/A
Private companies	Tier 3	Tier 3
Communities	Tier 3	Tier 3
Other	N/A	N/A

### 18.5 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Public ownership	N/A	N/A
Private ownership	N/A	N/A
Unknown ownership	N/A	N/A
Management rights	General CBNRM was permitted to communities in 2005.	N/A

#### Other general comments to the table

N/A

## 19. How many people are directly employed in forestry?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 19.1 Categories and definitions

Category	Definition
Full-time equivalents (FTE)	A measurement equal to one person working full-time during a specified reference period.
Employment in forestry	Employment in activities related to production of goods derived from forests. This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

### 19.2 National data

#### 19.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Performance report on capacity building of forest department and forest unit specialists. 2011. Ministry of Environment and tourism	N/A	2011	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

#### 19.2.2 Classification and definitions

National class	Definition
N/A	N/A
N/A	N/A
N/A	N/A
N/A	N/A

#### 19.2.3 Original data



Category	Employment 000 years FTE			
	1990	2000	2005	2010

Employment in forestry	267	77	61	64
of which female	93	27	22	29

There are 21 aimaks (province ) in Mongolia. Table shows 13 aimaks (provinces) and two research institute's employment in forestry. Data collected from Dundgovi, Hovd, Orhon, Baynhongor, Sukhbaatar, Darhan-uul, Bayanulgii, Umnugovi, Zavhan, Dornod, Dornogovi and Bylgan aimak.

### 19.3 Data

Table 19

Category		Employment (000 years FTE)			
		1990	2000	2005	2010
	Employment in forestry	267	77	61	64
	... of which female	93	27	22	29

### 19.4 Comments

Category	Comments related to data definitions etc	Comments on the reported trend
Employment in forestry	N/A	N/A

Other general comments to the table
N/A

## 20. What is the contribution of forestry to Gross Domestic Product (GDP)?

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 20.1 Categories and definitions

Category	Definition
Gross value added from forestry (at basic prices)	This category corresponds to the ISIC/NACE Rev. 4 activity A02 (Forestry and logging).

### 20.2 Data

Table 20 (Pre-filled data from UNdata/EUROSTAT)

Category	Million	Currency	Year for latest available information
Gross value added from forestry (at basic prices)	666359.3	Tugrik	2011

### 20.3 Comments

Category	Comments
Gross value added from forestry (at basic prices)	contribution of forestry role is less for GDP recently

Other general comments

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## 21. What is forest area likely to be in the future

Documents for this question:

- [Guide for country reporting FRA 2015](#)
- [FRA 2015 Terms and Definitions](#)

### 21.1 Categories and definitions

Category	Definition
Government target/aspiration for forest area	Government target/aspiration for forest area for a specific year.
Forests earmarked for conversion	Forest area that is allocated/classified or scheduled to be converted into non-forest uses.

### 21.2 National data

#### 21.2.1 Data sources

	References to sources of information	Variables	Years	Additional comments
1	Draft of forest policy.2013	N/A	2013	it will be approve by government
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

### 21.3 Data

Table 21a

Category	Forest area (000 ha)	
	2020	2030
Government target/aspiration for forest area	13337.4	14122.1

Table 21b

Category	Forest area (000 ha)
	2013
Forests earmarked for conversion	N/A

### 21.4 Comments

Category	Comments
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Government target/aspiration for forest area	In order to implement plantation activity, seedlings should have prepared. Currently, there are total 238 tree nurseries under operational and total 35,1 million seedling and seeds are growing on 830 ha land. Of which, 15 million trees are being met with standard for forestation and forest strip. In further, 30 million seedlings and 5 million seeds will be planted in each year by means of using cartridge and protected or artificial soil.
Forests earmarked for conversion	N/A

Other general comments

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