



Food and Agriculture Organization of the United Nations,
Forestry Department

and



International Network for Bamboo and Rattan (INBAR)

GLOBAL FOREST RESOURCES
ASSESSMENT UPDATE 2005

<ALGERIA>

COUNTRY REPORT
ON
BAMBOO RESOURCES

ALGIERS, 25 MAY 2005

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General Guidelines:

The main purpose of the Country Thematic Report on Bamboo Resources (CTRB) is to develop a Global Bamboo Resources Assessment (GBRA) and to integrate it in the global UN FAO FRA. The approach is to create sub-category on Bamboo in the framework of FRA 2005

(www.fao.org/forestry/fra) to provide supplementary information on bamboo resources. This document provides format for compiling information on Bamboo resources and should be treated as a supplement to the basic documents of FRA 2005 including Specification of National Reporting tables, FRA Working Paper No. 81; Guidelines for Country Reporting, FRA Working Paper No. 82 and Terms and Definitions, FRA Working Paper No. 83.

The country Bamboo Resources Thematic Study Report should clearly and concisely document all data sources that have been selected and used for this reporting process and assign quality rating to the data sources.

Comment on any problems encountered in finding relevant data sources.

The Report should also indicate if no data sources have been found which meet the requirements. Similarly all the relevant national classification and definitions should be documented clearly and concisely. Comments on any problems or incompatibilities in classification and definitions should also be provided, if necessary. Please email the Bamboo Thematic Report directly

to the focal point at INBAR (mlobovikov@inbar.int) with the copy to FAO (kailash.govil@fao.org) as a part of GFRA.

General information

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Introduction

The updating of global bamboo resources assessment for 2005 has been in demand by FAO and INBAR0.

This country report will permit to yield data and informations on the bamboo according to their availability.

For Algeria it is the first national report on the bamboo that to give a large general idea with the maximum data on bamboo.

The bamboo in Algeria has been introduced in 1832 and many species are very acclimatized, but unfortunately his plantation has not developped.

The area planted is very minimal (10 ha) while the capacity are very important. The area take on inventory of humid zone who constituted the potential for plantation bamboo is superior to two million and five hundred thousand ha (2 790 000 ha).

By this area there is at least 30% very favourable to grow bamboo.

1 Table T1 – Extent of Bamboo Forest

1.1 GBRA 2005 Categories and definitions

Category	Definition
Bamboo on forest land	Bamboo on lands defined as "Forest" in FRA 2005.

1.2 National Data on Bamboo Resources

1.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
- Inventory of species in Hamma Gardeen National Agency for conservation of nature Algiers	M		2000	
- characteristic and location of bamboo tree species cultured Dr. Maire			1954	

1.2.2 Classification and definitions

National class	Definition
Parcel of bamboo	Plantation carried on area superior to 5 ha whose height is superior to 5 m

1.2.3 Original data

1.3 Data for National Reporting Table T1

GBRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Bamboo on forest land			
Monopodial bamboo area	0,010	0,09	0,010
Sympodial bamboo area	0,001	0,001	0,001
TOTAL	0,011	0,010	0,011

1.4 Comments to National Reporting Table T1

This informations are collected in the site .We have measure the area with a map

2 Table T2 – Ownership of Bamboo Forest

2.1 GBRA 2005 Categories and definitions

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

2.2 National Data on Bamboo Resources

2.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
- National land register	F		1914	
- Order n° 67-281 of 20december 1967	F		1967	

2.2.2 Classification and definitions

National class (Bamboo)	Definition
Domaine public	Public ownership of state only including all government institutions
Private ownership	Ownership by way personal

2.2.3 Original data

2.3 Data for National Reporting Table T2

GBRA 2005 Categories	Area (1000 ha)	
	1990	2000
Private ownership	-	-
Public ownership	0,011	0,010
Other ownership	-	-
Total	0,011	0,010

2.4 Comments to National Reporting Table T2

originaly it's a matter of marsh

3 Table T3 – Characteristics of Bamboo Forest

3.1 GBRA 2005 Categories and definitions

Category	Definition
Natural bamboo forest	Bamboo area of naturally regenerated native bamboo species.
Plantation	Bamboo area of native or introduced species, established through planting, seeding or assisted natural regeneration.

3.2 National data on Bamboo in Forest

3.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Inventory of species in Hamma Gardeen National Agency for conservation of nature Algiers	M		2000	

3.2.2 Classification and definitions

National class	Definition
Natural bamboo	Area where bamboo grow naturally and self to regenerate naturally
Artificial plantation	Area where bamboo is introduced by plantation

3.2.3 Original data

3.3 Data for National Reporting Table T3

GBRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Natural bamboo forest	-	-	-
Plantation	0,011	0,010	0,011
TOTAL	0,011	0,010	0,011

3.4 Comments to National Reporting Table T3

The plantations achieved in the years 1832 have got acclimatized so that they naturalized themselves and regenerate normally, especially with regard to the species *Bambusa Vulgaris* variety *Genuina*, but to the origin are introduced species.

4 Table T4 – Bamboo Growing Stock

4.1 GBRA 2005 Categories and definitions

Category	Definition
Bamboo Growing stock	Weight (tons) of all bamboo forest more than X cm in diameter at breast height.
Commercial growing stock of Bamboo	The part of the growing stock of bamboo species that are considered as commercial or potentially commercial under current market conditions, and with a diameter at breast height of Z cm or more.
Growing stock of Common bamboo species	Weight (tons) of the most common bamboo species.

4.2 National data on Bamboo Resources

4.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Estimation to make on basing available data			2005	The calculation of weight bamboo growing stock has been made on basing of data collected on the site

4.2.2 Classification and definitions

Category	Definition
Weight on stock	Weight of all trees living
Weight on stock commercial	The part of the growing stock of bamboo species that are considered as commercial

4.2.3 Original data

4.3 Data for National Reporting Table T4

GBRA 2005 Categories	Total weight (tons)		
	1990	2000	2005
Bamboo Growing stock	2500	2000	2100
Commercial growing stock of Bamboo	1200	1000	1050

Note: if possible, please (1) breakdown by species groups (2) include information on the minimum diameter used as thresholds and (3) provide coefficient of number of culms per a ton of weight

4.4 Comments to National Reporting Table T4

The calculation has been made of the following manner:

Knowing that the weight of a stem of Bamboo of 6 to 8 meters of height weighs about 30 kg and that the number of stem by m² is estimated to 5, it has been deducted that the weight on foot of 1 m² of bamboo is of 150 kg..

it is clear that the occupied surface doesn't include stems of 6 to 8 meters of height, but that some smaller stems also exist and therefore of a smaller weight (about 50 kg), what brought us to take an average of 200 kgs/m²

Knowing that the tufts of Bamboo are spaced and that it has some emptiness, we estimated the real surface occupied by the horizomes to 10000 m² on a total of 10 Ha for the year 2000 that is the year of reference. What gives us a weight of: $200 \times 10000 = 2000000$ kg so, 200 tons.

For what is the commercial weight, it represents about the half of the weight on foot.

5 Table T5 – Bamboo Biomass stock

5.1 GBRA 2005 Categories and definitions

Category	Definition
Above-ground biomass of Bamboo	All living biomass above the soil including stem, stump, branches, bark, seeds, and foliage.
Below-ground biomass of Bamboo	All living biomass of live roots. Fine roots of less than 2mm diameter are excluded because these often cannot be distinguished empirically from soil organic matter or litter.

5.2 National Data on Bamboo Resources

5.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year (s)	Additional comments
Without references	H		2005	Calculation of the living biomass The biomass has been calculated while being based on instructions of the Department of the Forests of the FAO relative to the national report establishment destined to FRA 2005. It is there about a held estimation, account held the parameters that we used as they have been presented have been determined in an uncertain manner.

5.2.2 Classification and definitions (same classification and definitions that GBRA 2005)

Category	Definition
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5.2.3 Original data

5.3 Data for National Reporting Table T5

GBRA 2005 Categories	Bamboo Biomass (million metric ton dry weight)		
	1990	2000	2005
Above-ground biomass of Bamboo	-	227 500	-
Below-ground biomass of Bamboo	-	59 150	-
Total of living biomass	-	286 650	-

5.4 Comments to National Reporting Table T5

The biomass has been calculated of the following manner:

We, first of all, calculated the volume of the stem by m^2 knowing that the middle diameter of a stem is of 10 cm and its height of 8 meters what gives us a middle volume of 7 m^3 by stem is on average 35 m^3 by m^2 .

For the whole surface occupied by Bamboo, the volume is of $35 \times 10000 = 350000m^3$.

This data permitted us to calculate the biomass of the stem, the aerial biomass and the underground biomass in applicant the formulas contained in instructions of the FAO (GIEC)

Biomass of the stem (BT) = volume x density = $350000 \times 0.5 = 175000$

Aerial biomass (BA) = BT x BEF = $175000 \times 1.3 = 227500$

Underground biomass = BA x R (root - shot ratio) = $227\ 500 \times 0.26 = 59\ 150$

For the years 1990 and 2005, the difference is minimal and one can consider that the numbers of 2000 apply to them.

6 Table 6 – Diversity of bamboo tree species

6.1 GBRA 2005 Categories and definitions

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

6.2 National Data on Bamboo Resources

6.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Inventory of species in Hamma Gardeen National Agency for conservation of nature Algiers	M		2000	

6.2.2 Classification and definitions

Category	Definition
Species introduced	Species introduced and planted artificialy without that the original country is not to be identified
Species acclimatized	Species introduced who to regenerat naturally

6.3 Data for National Reporting Table T6

GBRA 2005 Categories	Number of species (Year 2000)
Native Bamboo species	0
Introduced Bamboo species	07
Critically endangered Bamboo species	02
Endangered Bamboo species	02
Vulnerable Bamboo species	01

6.4 Comments to National Reporting Table T6

On a total of 15 species introduced since 1832, it remains 07 species of which 05 are threatened to disappear; only the *Bambusa Vulgaris*, *Bambusa macroculmis* and *Phyllostachys Castillonis* are, currently, out of danger of part their presence on a big surface and their capacity of regeneration.

7 Table T7 – Bamboo Removal

7.1 GBRA 2005 Categories and Definitions

Category	Definition
Bamboo Wood removal	The Bamboo wood removed (volume) for production of goods and services other than energy production (woodfuel).
Woodfuel Bamboo removal	The Bamboo wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

7.2 National Data on Bamboo Resources

7.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Personal investigations			2005	

7.2.2 Classification and definitions

Only one class exists because Bamboo is not used for needs of heating nor in the industry of transformation because of the very weak production of wood.

National class	Definition
Bamboo Wood removal	Bamboo wood removal for the handicraft

7.2.3 Original data

7.3 Data for National Reporting Table T7

GBRA2005	Bamboo removal (million ton)		
	1990	2000	2005
Bamboo wood removal			
Bamboo woodfuel removal			
Total			

7.4 Comments to National Reporting Table T7

The withdrawals of Bamboo wood are so petty that it is difficult to report on the table. Only some stems are cut to air the cluster, or because they underwent some deteriorations because of bad weather.

The number of stems sampled is variable of one year to another. we can advance an average of 20 stems cut per year. This absence of production is also justified by the fact that Bamboo is a rare species that must be preserved.

8 Table 8 – Value of Wood Removal

8.1 GBRA 2005 Categories and Definitions

Category	Definition
Bamboo Wood removal	The Bamboo wood removed (volume) for production of goods and services other than energy production (woodfuel).
Woodfuel Bamboo removal	The Bamboo wood removed for energy production purposes, regardless whether for industrial, commercial or domestic use.

8.2 National Data

8.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Personal investigations	H		2005	

8.2.2 Classification and definitions

National class	Definition

8.2.3 Original data

8.3 Data for National Reporting Table T8

GBRA2005	Value (million USD)		
	1990	2000	2005
Bamboo wood removal		0,001	
Bamboo woodfuel removal			
Total		0,001	

8.4 Comments to National Reporting Table T8

The value of bamboo has been calculated of following manner:

The price of one stem is 53 USD .the number of stem who is market in the year is 20, so $20 \times 53 = 1060$ USD. In local money ,the cost is 4000 DA by stem

9 Table 9 – Non Wood Bamboo Product Removal

9.1 GBRA2005 Categories and Definitions

Category
Plant products / raw material
1. Food
2. Raw material for medicine and aromatic products
3. Raw material for utensils, handicrafts & construction
4. Ornamental plants
5. Other plant products
Animal products / raw material
1. Living animals
2. Other edible animal products
3. Other non-edible animal products

9.2 National Data on Bamboo Resources

9.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments

9.2.2 Classification and definitions

9.2.3 Original data

9.3 Data for National Reporting Table T9

GBRA 2005 Categories	Scale factor	Unit	NWFP removal		
			1990	2000	2005
Plant products / raw material					
1. Food (bamboo shoots)					
2. Raw material for medicine and aromatic products					
3. Raw material for utensils, handicrafts & construction		stem		20	
4. Ornamental plants					
5. Other plant products					
Animal products / raw material (if any)					
1. Living animals					
2. Other edible animal products					
3. Other non-edible animal products					

9.4 Comments to National Reporting Table T9

The wood bamboo removal is used for manufacturing furnished room and window box. It is very appreciate in Algeria for handcrafts and other ustensils.

10 Table T10– Value of Non Wood Bamboo Product

10.1 GBRA 2005 Categories and Definitions

10.2 National Data on Bamboo Resources

10.2.1 Data sources

References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Personal investigations	H		2005	

10.2.2 Classification and definitions

10.2.3 Original data

10.3 Data for National Reporting Table T10

GBRA 2005 Categories	Value of the other than culms removal (Million USD)		
	1990	2000	2005
<u>Plant products / raw material</u>			
1. Food (bamboo shoots)			
2. Raw material for medicine and aromatic products			
3. Raw material for utensils, handicrafts & construction		0,001	
4. Ornamental plants			
5. Other plant products			

10.4 Comments to National Reporting Table T10

The value of wood bamboo used for raw materielfor ustensils,handicrafts and construction is the same that wood removal

11 Map of country's bamboo resources distribution

Please attach a map of bamboo distribution in the country with explanatory notes

12 List of bamboo species in the country

the main bamboo species in the country are :

the 07 species who exist at present :

- *Bambusa macroculmis*
- *Bambusa vulgaris*
- *Phyllostachy viridi glaucescens*
- *Phyllostachys nigra*
- *Phyllostachys aurea*
- *Phyllostachys castillonis*
- *Arundinari simoni*

the species who are disparue during this last years are :

- *Bambusa tulda*
- *Bambusa spinosa*
- *Bambusa multiplex*
- *Bambusa gracilis*
- *Phyllostachys quilioi*
- *Phyllostachys flexuosa*
- *Pseudosasa japonica*
- *Arundinaria fortunei*

Localisation of Algeria



