

Food and Agriculture Organization of the United Nations,

Forestry Department **and**



International Network for Bamboo and Rattan (INBAR)

**GLOBAL FOREST RESOURCES
ASSESSMENT UPDATE 2005**

TURKEY

**COUNTRY REPORT
ON
BAMBOO RESOURCES**

TRABZON, 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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Date of submission of final report	May 1 2005

1. Introduction

Bamboos are members of *Bambusoideae*, a subfamily of *Poaceae*. Bamboo form includes fernlike, herbaceous plants, perennial ground covers, delicate, vining climbers, shrubs and arborescent timber bamboos.

At least 90 genera and 1200 species of bamboos are distributed throughout the world's temperate, tropical and subtropical regions. Description and classification of bamboos have been attempted by various researchers, but not satisfactory classification has yet been developed.

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 Resources

In Turkey, there are no native bamboo species. However, *Arundo donax* and *Phragmites* species, which are considered in bamboo family by some, are very common nearly all over the country. On the other hand, these species have not been employed in this report as bamboo because of that indefiniteness.

Bamboo species have been brought to Turkey for more than 100 years from several countries, Georgia firstly. Some *Phyllostachys* species, which cover no significantly large areas, and *Pleioblastus* and *Sasa* species, which were introduced within last 30-40 years, are known in Turkey.

Under the light of my studies upon especially *Phyllostachys heterocycla* cv. *Pubescens* and *Phyllostachys bambusoides* Sieb. & Zucc. in both Japan and Turkey, some bamboo species have been considered to contribute rural development being used for erosion control, which has been one of the most important environmental problems of Turkey. *Phyllostachys* species are supposed to be used for erosion control especially in the northern Turkey in the near future.

The forest survey of Turkey (FST) is a government organization under Ministry of Environment and Forestry. Since 1914, it has been carrying out regular assessment of forest resources. According to these studies, there are no bamboo species in forest areas of Turkey. This is the main reason that it is not that easy to find enough data about bamboos. The data of bamboos in Turkey are:

- 1- Some data we have collected since 1995 and a research study, Var,M(2004-2005-Ongoing study) Bamboos in Turkey,
- 2- Data having been received from Management of Environment and Forestry belonging to some cities
- 3- Tubives (Turkish Plants Data Service)
- 4- Davis ,P.H,1965-1985 Flora of Turkey and Aegean islands. Vol.IX ,Edinburgh.

1.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Var,M(2004...Ongoing study) Bamboos in Turkey,	H	Extent	2005	
Data having been received from Management of Environment and Forestry belonging to some cities	M	Extent	2005	
Tubives (Turkish Plants Data Service)	H	Extent	2005	

1.3 Data for National Reporting Table T1

GBRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Bamboo on forest land			
Monopodial bamboo area	0.007	0.008	0.011
Sympodial bamboo area			
TOTAL	0.007	0.008	0.011

1.4 Comments to National Reporting Table T1

Including information on the minimum area on which information is collected

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

Bamboos are very limited and not on forest areas in Turkey. Private bamboo areas have been determined by the study that we started at 2004 and these data have been confirmed by Management of Environment and Forestry in 81 cities through Turkey.

2.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Var,M(2004...Ongoing study) Bamboos in Turkey,	H	Extent	2004	Ongoing study
Management of Environment and Forestry	H	Extent	2005	

2.2.2 Classification and definitions

National class (Bamboo)	Definition
Private ownership	Owned by individuals and families

2.3 Data for National Reporting Table T2

GBRA 2005 Categories	Area (1000 ha)		
	1990	2000	2005
Private ownership	0,007	0,008	0,011
Public ownership			
Other ownership			
Total	0,007	0,008	0,011

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 and Other Wooded lands

3.2.1 Data sources

References	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Var,M(2004...Ongoing study) Bamboos in Turkey,	H	Extent	2005	Ongoing study
Management of Environment and Forestry	M	Extent	2005	

3.2.2 Classification and definitions

National class	Definition
Plantation	Bamboo area established through planting

3.3 Data for National Reporting Table T3

GBRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Natural bamboo forest	-	-	-
Plantation	0,007	0,008	0,011
TOTAL	0,007	0,008	0,011

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
Var,M(2004...Ongoing study) Bamboos in Turkey,	M	Tons	2004	

4.2.2 Classification and definitions

Category	Definition
Bamboo Growing Stock	Fresh weight of total culms growing in a research plots
Growing stock of <i>P. bambusoides</i>	Volume of <i>P. bambusoides</i> , which is the widely distributed exotic species in Turkey

4.3 Data for National Reporting Table T4

4.3.1. Forecasting: $\text{Volume}(2005) = \text{Area}(2005) \times \text{Density}$

Density = Average volume of bamboo stands per hectares = 14,3 tons/ ha

GBRA 2005 Categories	Total weight (tons)		
	1990	2000	2005
Bamboo Growing stock	-	110,4	157,3
<i>Phyllostachys</i> species	-	85,2	127,5
Remainder of species	-	25,2	29,8

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

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

5.2.2 Classification and definitions

Category	Definition

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			
Below-ground biomass of Bamboo			
Total of living biomass			
TOTAL			

5.4 Comments to National Reporting Table T5

There is no data about Bamboo Biomass stock in Turkey. We are planning a research on biomass stock in the beginning of 2006.

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
Tubives (Turkish Plants Data Service)	M		2005	
Davis ,P.H,1965-1985 Flora of Turkey and Aegean islands. Vol .IX ,Edinburgh	H		1965-1985	
Var,M(2004...Ongoing study) Bamboos in Turkey,	H		2005	

6.2.2 Classification and definitions

Category	Definition
Number of introduced Bamboo species	The total number of introduced tree species that have been identified within the country.

6.3 Data for National Reporting Table T6

GBRA 2005 Categories	Number of species (Year 2000)
Native Bamboo species	
Introduced Bamboo species	5
Critically endangered Bamboo species	
Endangered Bamboo species	
Vulnerable Bamboo species	

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

7.3 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

There is no enough data about Table 7

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

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

8.3 Data for National Reporting Table T8

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

8.4 Comments to National Reporting Table T8

There is no enough production to be able to get income

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
Var,M(2004...Ongoing study) Bamboos in Turkey,				

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					
4. Ornamental plants		Number	-	2500	3500
5. Other plant products					
Animal products / raw material (if any)					
1. Living animals					
2. Other edible animal products					
3. Other non-edible animal products					

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

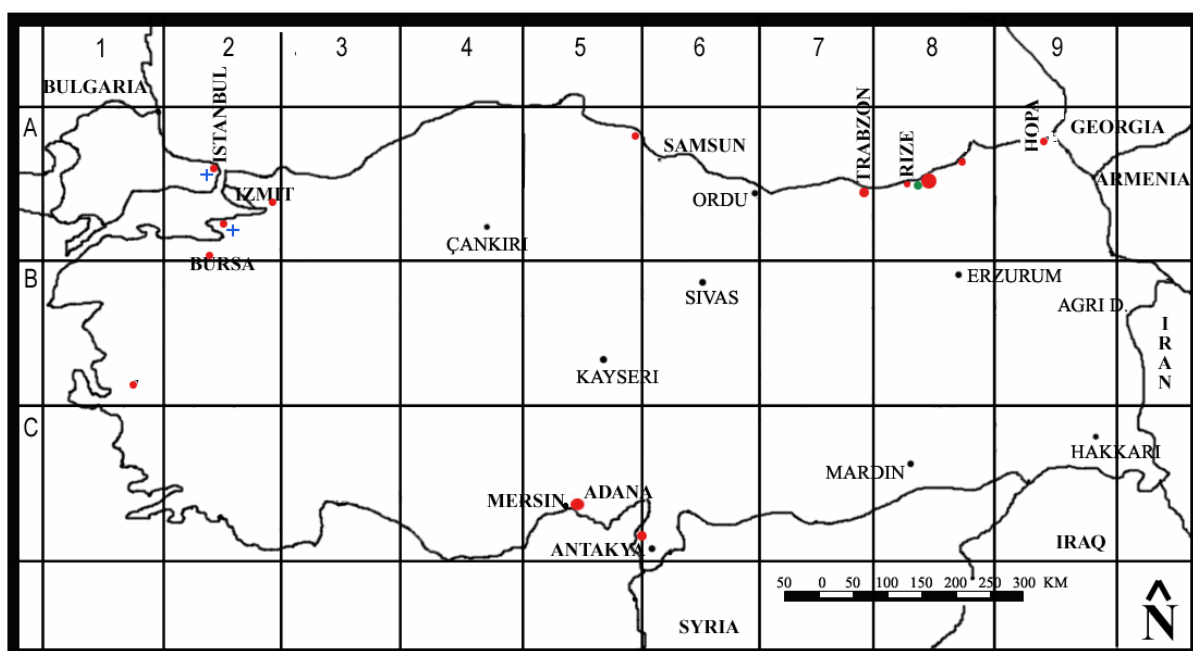
References to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Var,M(2004...Ongoing study) Bamboos in Turkey,				

10.3 Data for National Reporting Table T10

GBRA 2005 Categories	Value of the other than culms removal (Million USD)		
	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			
4. Ornamental plants	-	0,025	0,035
5. Other plant products			

11 Map of country's bamboo resources distribution

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



- *Phyllostachys bambusoides* Sieb. & Zucc. (A2,A5,A7,A8,A9)
- *Phyllostachys pubescens* Mazel ex H de leh (A8)
- *Pleioblastus simonii* Nakai (A8)
- *Phyllostachys nigra* var. *Henonis* Muroi. (A7,A2)
- ✚ *Sasa veitchii* Rehd. (A2)

12 List of bamboo species in the country

A few bamboo taxa being in Turkey are especially in coast areas, which have warm climates, and usually monopodial ones. These are:

1. *Phyllostachys bambusoides* Sieb. & Zucc. – Ornamental use
2. *Phyllostachys heterocyela* cv. *Pubescens* Muroi
(Syn: *Phyllostachys pubescens* Nakai.)- Ornamental use
3. *Pleioblastus simonii* Nakai – Ornamental use
4. *Phyllostachys nigra* var. *Henonis* Muroi. - Ornamental use
5. *Sasa veitchii* Rehd. -Ornamental use