



Forestry Department

Food and Agriculture Organization of the United Nations



International Network for Bamboo and Rattan (INBAR)

**GLOBAL FOREST RESOURCES
ASSESSMENT 2005**

JAPAN

**COUNTRY REPORT
ON
BAMBOO RESOURCES**

TOKYO, MARCH 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 1st draft: | March 9 2005 |
| Date of submission of 2nd draft | |
| | |
| Date of submission of final report | |

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 |
|---|-----------------|---|----------------------|---|
| Forestry Agency "Survey on the State of Forest Resources" | H | Forest, Forest with standing trees, Forest without standing trees, Cut-over land, Under-stocked land, Bamboo forest | 1990 1995 2002 | As of 31 March of each year Data do not include figures for the Northern Territories (Habomai Islands, Shikotan Island, Kunashiri Island and Etorofu Island) |

1.2.2 Classification and definitions

| National class | Definition |
|----------------------------|--|
| Forest | <p>Land on which trees and/or bamboo grow collectively, together with those trees and bamboo, or any other land that are provided for collective growth of trees and/or bamboo. Lands that are utilized mainly for agriculture, residential use, or other similar purposes, are not included</p> <p>Forests are classified into the following two categories:</p> <p>(1) National forest: Forest where land is owned by the national government, or where land is owned by other party but the national government implements silviculture under a contract which defines the share of profit between the national government and landowner(s).</p> <p>(2) Private forest: Forest other than national forest, including forests that are owned publicly such as by local/prefectural governments but not by the national government.</p> <p>Lands with trees and/or bamboo are not included in forests if:</p> <p>a) Owned and managed by national government agencies other than the Forestry Agency (since the land is not provided mainly for growing trees and/or bamboo)</p> <p>b) Spanning not more than 0.3 hectares and isolated from adjacent forests</p> |
| Forest with standing trees | Forest that have canopy cover of 30 percent or higher. Young stands with the degree of stocking of 0.3 or higher are included. |
| Bamboo forest | Forest that does not fall under "forest with standing tree" and is |

| | |
|--|---|
| | dominated by bamboo (excluding bamboo grass). |
|--|---|

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 | 149 | 153 | 154 |
| Monopodial bamboo area | N.A. | N.A. | N.A. |
| Sympodial bamboo area | N.A. | N.A. | N.A. |
| TOTAL | 149 | 153 | 154 |

Methods used for deriving the above data from original national data are described in the main Country Report for FRA2005.

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

2.2.1 Data sources

| References | Quality (H/M/L) | Variable(s) | Year(s) | Additional comments |
|---|-----------------|---|----------------------|---|
| Forestry Agency “Survey on the State of Forest Resources” | H | National forest (managed by the Forestry Agency), Publicly-owned forest, Privately-owned forest | 1990 1995 2002 | As of 31 March of each year Data do not include figures for the Northern Territories (Habomai Islands, Shikotan Island, Kunashiri Island and Etorofu Island) |

2.2.2 Classification and definitions

| National class (Bamboo) | Definition |
|--|---|
| National Forest (managed by the Forestry Agency) | Forest managed by the Forestry Agency, where: (i) the land is owned by the national government, and (ii) the land is owned by other party but the national government implements silviculture under a contract which defines the share of profit between the national government and landowner(s). |
| Publicly-owned forest | Forest owned or possessed by local/regional public body as defined under the article 1-3 of the Local Autonomy Law, including Prefectural government, municipal government, special district, communal district, etc., and can be managed by the sole discretion of such public body. This includes land owned by other party (excluding the national government) but any of the above-mentioned public body implement silviculture under a contract which defines the share of profit between the said public body and landowner(s). |
| Privately-owned forest | Forest that does not fall under “National forest” and “Publicly-owned forest”. |

2.2.3 Original data

2.3 Data for National Reporting Table T2

| GBRA 2005 Categories | Area (1000 ha) | |
|----------------------|----------------|------|
| | 1990 | 2000 |
| Private ownership | 144 | 148 |
| Public ownership | 5 | 5 |
| Other ownership | 0 | 0 |
| Total | 149 | 153 |

Methods used for deriving the above data from original national data are described in the main Country Report for FRA2005.

2.4 Comments to National Reporting Table T2

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 |
|------------|-----------------|-------------|---------|---------------------|
| | | | | |

3.2.2 Classification and definitions

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

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 | | | |
| TOTAL | | | |

3.4 Comments to National Reporting Table T3

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 |
|------------|-----------------|-------------|---------|---------------------|
| | | | | |

4.2.2 Classification and definitions

| Category | Definition |
|----------|------------|
| | |

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 | | | |
| | | | |

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

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 |
|----------|------------|
| | |

5.2.3 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 | | | |
| Below-ground biomass of Bamboo | | | |
| Total of living biomass | | | |
| TOTAL | | | |

5.4 Comments to National Reporting Table T5

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 |
|---|-----------------|--|---------|---|
| Yoshisuke Satake et al. “Japan’s Wild Flora, Tree Species” Volumes I and II | H | Total number of native species of bamboo | 1989 | ISBN4-582-53504-6 Published in 1989 Number of species cited on this publication was counted. |
| “Globally threatened tree species of Japan” | H | Species of bamboo that are threatened | 1997 | www.unep-wcmc.org/trees/Background/ap2.doc A list of threatened species of bamboo drawn from 1997 Red List of Japanese Vascular Plants. |
| Ministry of the Environment “Red List for Plants” | H | Number of species of bamboo that are classified as extinct in the wild (EW), critically endangered (CR), endangered (EN) and vulnerable (VU) | 1997 | Issued in 1997. Research had been carried out since 1993. The list of threatened species of bamboo provided in “Globally threatened tree species of Japan” cited above was cross-referenced with this “Red List for Plants” to count the number of species that fall under respective categories of EW, CR, EN and VU. |

6.2.2 Classification and definitions

| Category | Definition |
|-------------------|---|
| EW, CR, EN and VU | Classification of EW, CR, EN and VU was based on the new IUCN Red List Categories adopted in December 1994. |

6.3 Data for National Reporting Table T6

| GBRA 2005 Categories | Number of species (Year 2000) |
|--------------------------------------|--------------------------------------|
| Native Bamboo species | 139 |
| Introduced Bamboo species | N.A. |
| Critically endangered Bamboo species | 0 |
| Endangered Bamboo species | 0 |
| Vulnerable Bamboo species | 0 |

6.4 Comments to National Reporting Table T6

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 |
|--|-----------------|----------------------|----------------------------------|---------------------|
| Forestry Agency “Basic Information on Special Forest Products” | H | Production of Bamboo | 1988 - 1992 1998 - 2002 | |

7.2.2 Classification and definitions

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

7.2.3 Original data

7.3 Data for National Reporting Table T7

| GBRA2005 | Bamboo removal (million ton) | | |
|-------------------------|------------------------------|------|------|
| | 1990 | 2000 | 2005 |
| Bamboo wood removal | N.A. | N.A. | N.A. |
| Bamboo woodfuel removal | N.A. | N.A. | N.A. |
| Total | 0.20 | 0.06 | 0.04 |

Methods used for deriving the above data from original national data are described in the main Country Report for FRA2005.

7.4 Comments to National Reporting Table T7

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 |
|---|-----------------|-----------------------------------|----------------------------------|---------------------|
| Ministry of Agriculture, Forestry and Fisheries Statistics Department "Production Forestry Income Statistics Report" | H | Value of wood production (bamboo) | 1988 - 1992 1998 - 2002 | |

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 | N.A. | N.A. | N.A. |
| Bamboo woodfuel removal | N.A. | N.A. | N.A. |
| Total | 53 | 20 | 12 |

Methods used for deriving the above data from original national data are described in the main Country Report for FRA2005.

8.4 Comments to National Reporting Table T8

9 Table 9 – Non Wood Bamboo Product Removal

9.1 GBRA2005 Categories and Definitions

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

9.4 Comments to National Reporting Table T9

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 |
|--------------------------------------|-----------------|-------------|---------|---------------------|
| | | | | |

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 |
| 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 | | | |
| 5. Other plant products | | | |
| | | | |

10.4 Comments to National Reporting Table T10

11 Map of country's bamboo resources distribution

12 List of bamboo species in the country

MADAKE Bamboo *Phyllostachys bambusoides*

MOSO Bamboo *Phyllostachys pubescens*

- Bamboo shoot for food
- Bamboo wood for handicrafts, ornamentation, and as poles
- Bamboo wood for making charcoals and condensed liquid made from smoke when making charcoal (used for sterilization, soil improvement, insect and animal repellent, etc.)