

GLOBAL FOREST RESOURCES

ASSESSMENT UPDATE 2005

PHILIPPINES

Country Report

On

BAMBOO RESOURCES

QUEZON CITY, PHILIPPINES, 2005

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
1. Rivera M.N. (undated) Philippine National Report on Bamboo & Rattan, ERDB, DENR, College, Laguna, Philippines	M	Forest, other lands	2000	There is still no definite extent of bamboo area in the country, however, reports from various consultants show that the area ranges from 39,211 to 52,711 hectares. The lower range was used in this report,
2. Forest Resources Assessment Project, 2002	M	Forest, other lands	2002	Data gathered by Field Inventory Teams of FRA

1.2.2 Classification and definitions

National class	Definition
1. Bamboo on forest land	Stands of bamboos in forest land either naturally grown or planted usually by government sector.
2. Bamboo in Alienable & Disposable Land	
a. Private plantation	Bamboo areas established by private sector in private lands
b. Natural stand	Existing bamboo stands found growing sporadically or in patches in the backyards and/or along riverbanks in private or A & D lands

1.2.3 Original data

	Area (1000ha)		
	1990	2000	2005
1.2.3.1 Bamboo in forestland			
1.2.3.1.1 Natural	NDA	20.5	NDA
1.2.3.1.2 Planted	NDA	2.236	NDA
1.2.3.1 Bamboo on A & D			
1.2.3.1.1 Natural	NDA	13.435	NDA
1.2.3.1.1 Planted	NDA	3.040	NDA

1.3 Data for National Reporting Table T1

GBRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
Bamboo on forest land	NDA		
Monopodial bamboo area	NDA		
Sympodial bamboo area	NDA	156.574	NDA
TOTAL		156.574	NDA

1.4 Comments to National Reporting Table T1

In the original data, the minimum area of 0.5 hectares defined as forest in GFRA was not adopted because there are bamboo stands which are found growing sporadically or in patches in backyards and along riverbanks in either public or private lands not covered by forest and established plantation which do not meet the 0.5 hectare threshold.

The National data on GBRA 2005 categories (T1) was derived from the data gathered from the Forest Resources Assessment Project conducted from 2002-2004. Data gathered by FRA shows that there are 3.634 hectares of bamboo areas that fall within the sample plots of the Project. The total area of 156,574 hectares was arrived using 43,086 as .blow-up factor

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
1. Rivera M.N. (undated) Philippine National Report on Bamboo & Rattan, ERDB, DENR, College, Laguna, Philippines	M	Forest, other lands	2002	
2. Forest Resources Assessment Project, 2002	M	Forest, other lands	2002	Data gathered by Field Inventory Teams of FRA

2.2.2 Classifications and definitions

National class (Bamboo)	Definition
1. Private ownership	Titled land within alienable and disposable land which are owned by individuals or families
2. Public ownership	Land within timberlands owned by the state or government
3. Other ownership	Land not classified as public ownership or private ownership

2.2.3 Original Data

National	Area (1000 hectares)		
	1990	2000	2005
Bamboo on natural stand	NDA	33.395	NDA
Bamboo on plantation stand	NDA	5.276	NDA
Government	NDA	2.236	NDA
Private	NDA	3.040	NDA

2.3 Data for National Reporting Table T2

GBRA 2005 Categories	Area (1000 ha)	
	1990	2000
Private ownership	NDA	3.447
Public ownership	NDA	153.127
Other ownership	NDA	NDA

2.4 Comments to National Reporting Table T2

The area derived from the Forest Resource Assessment project conducted by Regional Field Teams is apparently higher than the Philippine national report on Bamboo and Rattan prepared by Rivera (undated).
The FRA report shows that .08 hectare was found out to have fallen on bamboo plantation. This was multiplied by the blow-up factor of 43,086.

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
1. Rivera M.N. (undated) Philippine National Report on Bamboo & Rattan, ERDB, DENR, College, Laguna, Philippines	M	Forest, other lands	2000	
2. Forest Resources Assessment Project, 2002	M	Forest, other lands	2002	Data gathered by Field Inventory Teams of FRA

2.2.2 Classification and definitions

National class	Definition
1. Natural bamboo stands	Bamboo formation which are naturally grown whether in timberland or alienable & disposable land
2. Bamboo plantations	Bamboo areas planted by private sector or government initiated projects whether in timberland or in private lands

3.2.3 Original data

National Categories	Area (1000 hectares)		
	1990	2000	2005
Natural bamboo forest	NDA	33.395	NDA
Plantation	NDA	5.276	NDA
TOTAL		38.671	NDA

3.3 Data for National Reporting Table T 3

GBRA 2005 Categories	Area (1000 hectares)		
	1990	2000	2005
1. Natural bamboo forest	NDA	153.127	NDA
2. Plantation	NDA	3.447	NDA
Total		156.574	

3.4 Comments to National Reporting Table T3

The area derived from the Forest Resource Assessment project conducted by Regional Field Teams is apparently higher than the Philippine national report on Bamboo and Rattan prepared by Rivera (undated).

4 Table 4 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
Philippine Forestry Statistics, Department of Environment and Natural Resources (2001)	M	Commercial growing stock; growing stock	1990; 2000	

4.2.2 Classification and definitions

Category	Definition
Bamboo growing stock	Number of poles which are of three years of age after planting wherein they are usually considered as mature.
Commercial growing stock	Number of poles of commercial bamboo species which are generally harvested at the minimum age of 4 years after planting when they are considered mature.

4.2.3 Original data

	Total No. of Poles (1,000)	
	1990	2000
1. Bamboo growing stock	NDA	89,554.5
2. Commercial growing stock	984	29,851.5
3. Growing stock of common bamboo species	NDA	NDA

4.3 Data for National Reporting Table T4

GBRA 2005 Categories	Total weight (tons)		
	1990	2000	2005
1. Bamboo growing stock	NDA	6,059,413.8	NDA
2. Commercial growing stock of bamboos	NDA	2,019,804.6	NDA
3. Growing stock of common bamboo spp	NDA		NDA

4.4 Comments to national reporting T4

The original data of growing and commercial growing stock was derived from the study of Tiongco 1997 in his ms thesis with the following findings : average culm per clump= 15 ; total aggregate number of clumps=5,970,300 ; number of harvestable culm/clump=5

The data on the GBRA was derived from FRA result (area) however, the findings of Tiongco was adapted.

The threshold as to how much is the diameter of bamboo ready for harvesting does not hold true in the Phil. The approximate age of culm for harvesting is the determination of the minimum age of a culm that maybe considered mature for a given end use.

The multifarious uses of bamboo require different culm ages for cutting. This poses some special consideration in relating an optimal culm age to utilization and harvesting. For example, the culm of a given species must be younger when used for making baskets and other items than when used for construction or manufacture of products that require the species strength properties. Oftentimes, however, a 3-year old culm is already being cut for harvesting.

The matured bamboos are usually cut or harvested at the base of the stem to avoid clump congestion and enhances the emergence of new culm to effect clump yield sustainability.

Computation of GBRA growing and commercial stock in tons :

Number of clumps per hectare at 10 m. x 10 m. spacing	=100 clumps
Average number of culm per clump	= 15
Total area (FRA)	= 156,574 ha.
Total number of culms growing stock	= 234,861,000
Per study of tiongco:	= 25.8 kg./culm
Total growing stock in tons	= 6,059,413.8
Total number of culms commercial growing stock	=78,287,000
Total commercial growing stock in tons	= 2,019,804.6

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 2 mm 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	Variable(s)	Year (s)	Additional comments

5.2.2 Classification and definitions

Category	Definition
Above ground biomass	All living biomass above the soil including stem, stump, branches, bark, seeds and foliage.
Below ground biomass	All living biomass of live roots below the ground.

5.2.3 Original data

National	Bamboo Biomass (million metric ton dry weight)	
	1990	2000
Above ground biomass	NDA	NDA
Below ground biomass	NDA	NDA

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	NDA	NDA	NDA
Below-ground biomass of Bamboo	NDA	NDA	NDA
Total of living biomass	NDA	NDA	NDA
TOTAL	NDA	NDA	NDA

5.4 Comments to National Reporting Table T5

There are still no data on the subject matter in the country.

6 Table T6 – 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 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
1. Sotalbo E (2001) Trees, Palms, and Bamboos, UP Diliman, Quezon City	H	Number of native & introduced bamboo spp.	2000	

6.2.2. Classification and definitions

Category	Definition
Number of native bamboo	The total number of endemic Bamboo species that have been identified in the Philippines
Number of introduced Bamboo species	The total number of introduced Bamboo species identified in the Philippines
Number of critically endangered Bamboo spp	The number of endemic Bamboo species in the Philippines that are critically endangered in the IUCN red list
Number of endangered Bamboo species	The number of endemic Bamboo species classified as “endangered” in the IUCN red list.
Number of vulnerable Bamboo species	The number of endemic bamboo species that are classified in the IUCN red lists

6.3 Data for National Reporting Table T6

GBRA 2005 Categories	Number of Species (Year 2000)
Native Bamboo species	21
Introduced Bamboo species	32
Critically endangered Bamboo species	NDA
Endangered Bamboo species	NDA
Vulnerable Bamboo Species	NDA

6.4 Comments to National Reporting Table T6

The list of introduced species in the Philippines including place of origin is presented in Annex A while the list of economically important Philippine Bamboo species is presented in Annex B.

There are about 70 bamboo species belonging to 18 genera in the country. Twenty one (21) of these are endemic and are categorized into 13 climbers and 8 erect.

Annex A. List of introduced Bamboo Species in the Philippines

Common Name	Scientific Name	Place of Origin
1. Wamin Bamboo	<i>Bambusa vulgaris</i> cv. wamin	China
2. Fishpole; Running Bamboo	<i>Phyllostachys aurea</i>	China; Japan
3. Houshou-chiku	<i>Bambusa multiplex</i> f. variegata	Indochina; China
4. Toukin cane; Tea Stick Bamboo	<i>Arundinaria amabilis</i>	Guangdong, China
5. Taiwan Bamboo	<i>Bambusa delichomerithalla</i>	China; Taiwan
6. Kanchuku	<i>Chimonobambusa marmorea</i>	China, Japan
7. Yellow Bamboo	<i>Bambusa vulgaris</i> var. striata	Tropical Asia
8. Black Bamboo	<i>Phyllostachys nigra</i>	China, Japan
9. Oroshima-chiku	<i>Pleioblastus distichus</i>	Japan
10. Edible Bamboo; Moso	<i>Phyllostachys pubescens</i>	China
11. Senchiku	<i>Fargesia nitida</i>	China
12. Thailand Bamboo	<i>Thyrostachys siamensis</i>	Myanmar, Thailand
13. Japanese Bamboo	<i>Shibataea kumusaca</i>	Japan
14. India Bamboo	<i>Bambusa arundinacene</i>	India
15. Loleba	<i>Bambusa atra</i>	New guinea, Sangiheis, Moluccas
16. Chinese Bamboo	<i>Bambusa dolichoclada</i> hayata	China, Taiwan, Hainan Island
17. Tiger/spotted bamboo	<i>Bambusa maculata</i>	Java, Moluccas and Sundra island
18. Kawayan-Tsina	<i>Bambusa multiplex</i>	China, Japan
19. Oldham Bamboo	<i>Bambusa oldhamii</i>	China
20. Spineless India Bamboo	<i>Bambusa Tulda</i>	India, Bangladesh, Thailand, Myanmar
21. Buddha Bamboo	<i>Bambusa tuldoides</i>	China
22. Taiwan Useful Bamboo	<i>Bambusa utilis</i>	Taiwan
23. Brandio Bamboo	<i>Dendrocalamus brandisii</i>	Thailand, India, Myanmar, China
24. Giant Bamboo	<i>Dendrocalamus giganteus</i>	Myanmar
25. Machiku	<i>Dendro latifloros</i>	Myanmar, Thailand, China, Taiwan
26. Waya	<i>Dendrocalamus embranaceus</i>	Thailand, Laos, Myanmar
27. Solid Bamboo	<i>Dendrocalamus strictus</i>	India, Nepal, Thailand, Bangladesh, Myanmar
28. Bamboo hitam	<i>Gigantochloa astroviolacea</i>	Java
29. Kayali	<i>Gigantochloa atter</i>	Unknown
30. Spiny American Bamboo	<i>Guadua angustifolia</i>	S. America, Panama
31. Mule	<i>Melocauna baccifera</i>	India, Bangladesh, Myanmar

Common Name	Scientific Name	Place of Origin
32. Madake	Phyllostachys bambusoides	China

Annex B. List of Economically Important Philippine Bamboo species

Common Name	Scientific Name
1. Kawayan tinik	Bambusa blumeana
2. Kauyan kiling	Bambusa vulgaris
3. Bayog	Bambusa merrillianus
4. Machiku	Dendrocalamus latiflorus
5. Bolo/Botong	Gigantochloa levis
6. Buho	Schizostachyum lumampao
7. Anos	Schizostachyum lima
8. Bulo Padi	Schizostachyum brachycladum
9. Kayali	Gigantochloa atter
10. Laak	Bambusa dolichoclada
11. Moroku-chiku	Bambusa oldhami
12. Giant Bamboo	Dendrocalamus asper

7 Table 7 T7 – Bamboo Removal

7.1 GBRA Categories and Definition

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
Philippine Forestry Statistics, Forest Management Bureau, Department of Environment and Natural (2001)	M	Bamboo, wood	1990, 2000	

7.2.2 Classification and Definitions

National Class	Definition
Bamboo wood removal	The number of bamboo poles removed for production
Woodfuel Bamboo removal	The bamboo wood removed and utilized as fuelwood

7.2.3 Original Data

National	Bamboo removal (1000 Poles)	
	1990	2000
Bamboo wood removal	984	2,337
Woodfuel Bamboo removal	NDA	NDA

Data on bamboo wood removal for year 2005 was estimated using the quadratic fit of the linear regression.
The figure in the GBRA was taken from the Non-Timber Forest Products exported sourced from the Philippine Forestry Statistics 2001.

7.3 Data for National Reporting Table T7

GBRA 2005	Bamboo Removal (million ton)		
	1990	2000	2005
Bamboo wood removal	.016	.019	.0205
Bamboo woodfuel removal	NDA	NDA	NDA
TOTAL			

7.4 Comments to National Reporting Table 7 (T7)

8. Table 8 - Value of Wood Removal

8.1 GBRA 2005 Categories and Definitions

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

8.2 National Data

8.2.1 Data Sources

Reference to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Philippine Forestry Statistics, Department of Environment & Natural Resources , Forest Mgt Bureau, 2001 pp. 119	M	Bamboo, Wood removal	1990, 2000	

8.2.2 Classification & Definitions

National Class	Definition
Bamboo wood production	The export value in US dollars of number of poles removed for production purposes
Woodfuel Bamboo Production	The value of Bamboo wood removed for energy or utilized as fuelwood

8.2.3 Original Data

National Data	Bamboo removal (in 1,000 poles)		
	1990	2000	2005
Bamboo wood production	0.015	0.039	0.051
Woodfuel Bamboo production	NDA	NDA	NDA
TOTAL	0.015	0.039	0.051

8.3 Data for National Reporting Table T8

GBRA 2005	Value (in Million \$ US Dollars)		
	1990	2000	2005
Bamboo wood removal	0.015	0.039	0.051
Bamboo woodfuel removal	NDA	NDA	NDA
TOTAL	0.015	0.039	0.051

8.4 Comments

Data for year 2005 on bamboo wood removal are projected using the linear fit regression.

The original and the GBRA reporting was both taken in the 2001 Philippine Forestry Statistics.

Table 9 – Non Wood Bamboo Product Removal

9.1 GBRA 2005 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
Philippine Forestry Statistics, Forest Management Bureau, Department of Environment and Natural Resources (1990) pp.107 and (2000) pp. 96	M	Furniture, handicrafts	1990, 2000	There are no data on the other plant product/raw material.

9.2.2 Classification and definitions

Classification	Definition
Category	
Plant products / raw material	
1. Food	Bamboo shoots
2. Raw material for medicine and aromatic products	
3. Raw material for utensils, handicrafts & construction	Furniture, chairs and other seats of bamboo
4. Ornamental plants	
Animal products / raw material	
1. Living animals	
2. Other edible animal products	
3. Other non-edible animal products	

9.2.3 Original Data

National Data	Scale factor	Unit	NWFP removal		
			1990	2000	2005
Plant products / raw material					
1. Food			NDA	NDA	NDA
2. Raw material for medicine and aromatic products			NDA	NDA	NDA
3. Raw material for utensils, handicrafts & construction		Pcs.	45,331 pcs	71,585 pcs	NDA
4. Ornamental plants			NDA	NDA	NDA
Animal products / raw material					
1. Living animals			NDA	NDA	NDA
2. Other edible animal products			NDA	NDA	NDA
3. Other non-edible animal products			NDA	NDA	NDA

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			NDA	NDA	NDA
2. Raw material for medicine and aromatic products			NDA	NDA	
3. Raw material for utensils, handicrafts & construction		Pcs.	45,531	71,585	NDA
4. Ornamental plants			NDA	NDA	NDA
Animal products / raw material					
1. Living animals			NDA	NDA	NDA
2. Other edible animal products			NDA	NDA	NDA
3. Other non-edible animal products			NDA	NDA	NDA

9.4 Comments to National Reporting Table T9

The figures on both the national and GBRA reporting was taken on the Philippine Forestry Statistics (1990 & 2000).

There are no available data on the other plant products / raw materials.

10 Table 10 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

Reference to sources of information	Quality (H/M/L)	Variable(s)	Year(s)	Additional comments
Philippine Forestry Statistics, Forest Management Bureau, Department of Environment and Natural Resources (2000)	M	Value of furniture and handicrafts	1990, 2000	

10.2.2 Classification and definitions

Classification	Definition
Category	
Plant products / raw material	
1. Food	
2. Raw material for medicine and aromatic products	
3. Raw material for utensils, handicrafts & construction	Value of furniture, chairs, and other seats made of bamboo
4. Ornamental plants	
Animal products / raw material	
1. Living animals	
2. Other edible animal products	
3. Other non-edible animal products	

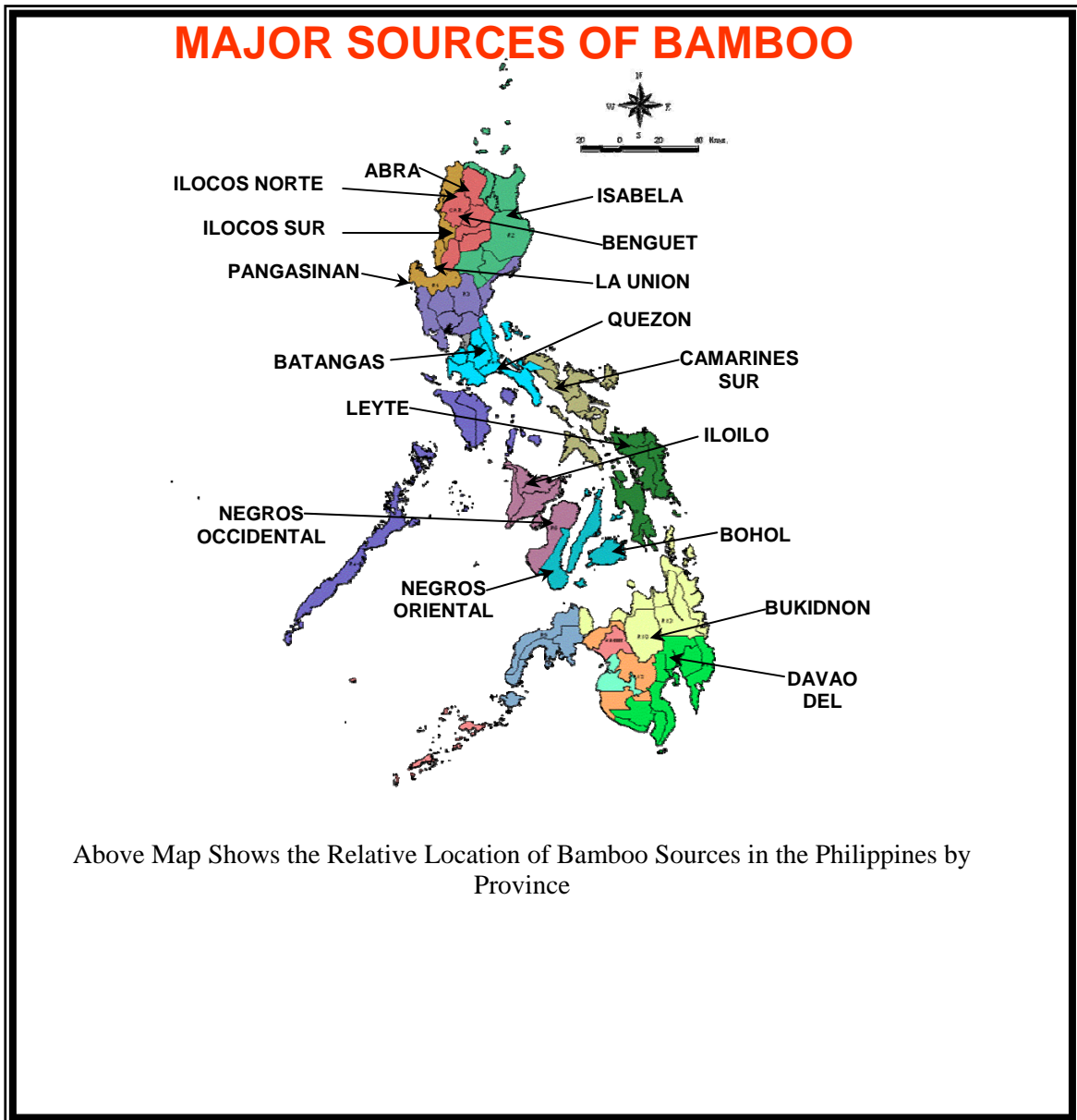
10.2.3 Original data

National Data	Scale factor	Unit	Value of the other culms removal in thousand US dollarsl		
			1990	2000	2005
Plant products / raw material					
1. Food			NDA	NDA	NDA
2. Raw material for medicine and aromatic products			NDA	NDA	NDA
3. Raw material for utensils, handicrafts & construction			1,666	3,181	NDA
4. Ornamental plants			NDA	NDA	NDA
Animal products / raw material					
1. Living animals			NDA	NDA	NDA
2. Other edible animal products			NDA	NDA	NDA
3. Other non-edible animal products			NDA	NDA	NDA

10.3 Data for National Reporting Table T10

GBRA 2005 Categories	Scale factor	Unit	Value of the other culms removal in thousand US dollarsl		
			1990	2000	2005
Plant products / raw material					
1. Food			NDA	NDA	NDA
2. Raw material for medicine and aromatic products			NDA	NDA	NDA
3. Raw material for utensils, handicrafts & construction		Pcs.	45,531	71,585	NDA
4. Ornamental plants			NDA	NDA	NDA
Animal products / raw material					
1. Living animals			NDA	NDA	NDA
2. Other edible animal products			NDA	NDA	NDA
3. Other non-edible animal products			NDA	NDA	NDA

11 Map of country's bamboo resources distribution



12 List of economically important Philippine bamboo species in the country

Species	Scientific name	Main uses	Value of the bamboo removal
1.Kauayan Tinik	<i>Bambusa blumeana</i>	Multi-purpose: edible shoots, household uses, basic construction material	NDA
2.Kauayan Kiling	<i>Bambusa vulgaris</i>	The most used of all bamboos except for construction purposes as it is prone to powder post beetle attack	NDA
3.Bayog	<i>Bambusa merrillianus</i>	Used as building materials, furniture, basketry, mats, agricultural implements, rafts, and wares	NDA
4.Machiku	<i>Dendrocalamus latiflorus</i>	Most important for its young shoot which is considered delicious, also household use and construction purposes.	NDA
5.Bolo / Botong	<i>Gigantochloa levis</i>	Construction of rural houses, furniture, rafts, fish traps, fish pens, outriggers, edible shoots	NDA
6.Buho	<i>Schizostachyum lumampao</i>	Used in making bamboo matting known as “sawali”, baskets, fences, spears, fish corals, flutes, and other articles for cottage industries. Also prevent soil erosion.	NDA
7.Anos	<i>Schizostachyum lima</i>	Used in smoothing bronze. Used also	NDA

Species	Scientific name	Main uses	Value of the bamboo removal
		as housing material, in making “sawali” matting, woven wares, musical instruments, and as fishing rods.	
8.Bulo Padi	<i>Schizostachyum brachycladum</i>	Used as “sawali” matting and housing material	NDA
9.Kayali	<i>Gigantochloa atter</i>	Building materials, household utensils, basketry, handicrafts	NDA
10.Laak	<i>Bambusa dolichoclada</i>	General purpose, banana props, used as kauayan-kiling	NDA
11.Moroku-chiku	<i>Bambusa oldhami</i>	Used for construction, furniture making, farm tools, papermaking and weaving, and as food.	NDA
12.Giant bamboo	<i>Dendrocalamus asper</i>	Construction material, edible shoots,	NDA

Pests and Diseases Observed on seven species of Bamboo in the Philippines

Bamboo species	Disease	Pest
1. Kauayan tinik (<i>Bambusa blumeana</i> schultes)	Tar spot (<i>Phyllachora shenana</i> complex) (<i>Eriosporelia</i>)	Mite (<i>Schizotetranyeus fiorest</i>)
2. Kiling (<i>B. vulgaris</i> Schrad)	Leaf rust (<i>phakosora louditiae</i> Cumm.)	Mealy bugs (<i>Plenococcus litacinus</i> cockerel)
3. Bayog (<i>Bambusa</i> sp. 1)	Tar spot (<i>Phyllachora shiriana</i> complex) <i>Eriosporelia</i> leaf spot <i>Eriosporelia calami</i> (Neissel) Hohn	Mite (<i>Schizotetrany fiorest</i>) Rimando
3. Machiku (<i>Dendrocalamus latiflorus</i> Munro)	Leaf rust (<i>Phakopsora louditiae</i>) Cumm.	
4. Bolo (<i>Gingantocholoa levis</i> (Blanco) Merr.)	<i>Leptostroma</i> leaf spot (<i>Leptostoma</i> sp.) Leaf rust <i>Phakopsora louditiae</i> Cumm.	
5. Buho (<i>Schizostachyum lumampao</i> Kurz)	Tip blight <i>Ascoshyla</i> sp.	
6. Laak (<i>Bambusa</i> sp.2)	<i>Leptostroma</i> leaf spot <i>Leptostroma</i> sp.	Seals insect (<i>Asterolecenium bambusae</i>) Biosdival