ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY
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COUNTRY REPORT - THE PHILIPPINES

by

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INFORMATION NOTE ON ASIA-PACIFIC FORESTRY SECTOR OUTLOOK STUDY

At its sixteenth session held in Yangon, Myanmar, in January 1996, the Asia-Pacific Forestry Commission, which has membership open to all governments in the Asia-Pacific region, decided to carry out an outlook study for forestry with horizon year 2010. The study is being coordinated by FAO through its regional office in Bangkok and its Headquarters in Rome, but is being implemented in close partnership with governments, many of which have nominated national focal points.

The scope of the study is to look at the main external and sectoral developments in policies, programmes and institutions that will affect the forestry sector and to assess from this the likely direction of its evolution and to present its likely situation in 2010. The study involves assessment of current status but also of trends from the past and the main forces which are shaping those trends and then builds on this to explore future prospects.

Working papers have been contributed or commissioned on a wide range of topics. They fall under the following categories: country profiles, selected in-depth country or sub-regional studies and thematic studies. Working papers are prepared by individual authors or groups of authors on their own professional responsibility; therefore, the opinions expressed in them do not necessarily reflect the views of their employers, the governments of the Asia-Pacific Forestry Commission or of the Food and Agriculture Organization. In preparing the substantive report to be presented at the next session of the Asia-Pacific Forestry Commission early in 1998, material from these working papers will be an important element but will be blended and interpreted alongside a lot of other material.

Working papers are being produced and issued as they arrive. Some effort at uniformity of presentation is being attempted but the contents are only minimally edited for style or clarity. FAO welcomes from readers any information which they feel would be useful to the study on the subject of any of the working papers or on any other subject that has importance for the Asia-Pacific forestry sector. Such material can be mailed to the contacts given below from whom further copies of these working papers, as well as more information on the Asia-Pacific Forestry Sector Study, can be obtained:

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1 THE CONTEXT IN WHICH THE FORESTRY SECTOR IS DEVELOPING

1.1 Highlights of Social and Economic Situation

1.1.1 Population

The Philippines has an estimated total population of 68 61 million in 1995, two thirds of which live in the rural area. The average population growth rate is among the highest in Asia at 2.4% per annum.

The people of the Philippines are diverse in origin but the majority are descendants of the Malays who started to arrive in the islands over 1,500 years ago. The Philippines is home to 10 major cultural groups and many ethnic minority groups. Nine of the major cultural groups are of Malay extraction, while the tenth is Chinese. Eight of the major Malay groups -- the Tagalogs, Cebuanos, Hilongos, Warays, llocanos, Bicolanos, Pangasinense, and the Pampangos have adopted Christianity. The ninth Malay group comprises the Muslim Filipinos or Moros, which is further-sub-divided in ten major groups, some of them regarded as cultural minorities.

1.1.2 A Background on the Economy

The agricultural sector plays a dominant role in the economy of the country. The average share of the sector in real gross domestic product (GDP) from 1987 to 1991 was 23%, compared with 35% for the industrial sector. The industrial sector derives a large portion of its raw materials from the agricultural sector.

The economy of the Philippines grew constantly during the 1 960s and 1970s, during which period internal structural imbalances remained unchanged. A combination of negative external factors, beginning with the second oil price shock of 1979, followed by falling commodity prices and rising interest rates, placed severe strain on the balance of payments. In 1983, commercial banks cut back on credit lines to the Philippines, and the Government was forced to declare a moratorium on principal payments on external debt supported by the International Monetary Fund (IMF). The Government undertook a comprehensive programme of structural reforms and stabilization and achieved stability with elimination of balance of payment deficits, a reduction in the inflation rate, and control of public sector deficits. However, GDP fell, unemployment rose and incomes declined to 1975 levels. A major consequence was civil unrest which led to the downfall of the Marcos Administration in 1986.

The Government under President Corazon C. Aquino accelerated the adjustment process and GDP grew by 4.7% in 1987 and 6.2% in 1988. While growth led by the private sector continued in 1989, further political uncertainty precipitated by coup attempts in 1987 and 1989 saw a deterioration of the fiscal situation and widening of the current account.

Infrastructure came under increased pressure resulting in breakdowns in transport and power supply.

These developments have continued until 1990, and were worsened by a series of exogenous shocks. First, a drought in early 1990 severely affected agricultural production which declined by 5% in the first semester. Second, an earthquake in July 1990 caused over 1,600 casualties and an estimated US$600 million in damages to public infrastructure. Third, the Gulf crisis dislocated about 50,000 Filipino workers and resulted in a significant decline in workers' remittances by about US$50 million and increased the oil import bill by about $500 million in 1990. Fourth, the eruption of Mt. Pinatubo in June 1991 resulted in substantial damages to public infrastructure of about US$332 million. The agriculture sector of the area (including forestry) was affected by the eruption resulting in damage of about US$426 million. The total agriculture loss from 1991 to 1994 is estimated at about US$890 million.

In 1991 the economy was in recession resulting in a sharp decline in investment activities and a fall in real terms of government spending. GDP has dropped 1% and the prospects for a resumption of early growth seem unlikely. In 1991 the economy was characterized by double digit inflation and restrictive government fiscal and monetary policies.

1.1.3 Recent Economic Performance

Starting 1992, however, the economy took a turnaround towards modest growth. The new government, under President Fidel V. Ramos, has committed itself to maintaining the stabilization programme agreed to with the IMF which calls for fiscal and monetary restraint including a reduction in public deficits. The Government is actively seeking to develop an economic framework that will create a more attractive investment climate and stimulate private sector business activities. The current policy attempts to establish a more deregulated and competitive economy with administrative and regulatory structures that widen the scope for foreign investment and lower tariff rates.

Under a more stable environment, the GDP grew consistently from zero growth in 1992 to 4.25% in 1995 and was projected to rise to 7% in 1996.

1.2 Highlights of Long-Term Objectives/Goals on Place of Forestry in National Development

1.2.1 Goals

The long term goals for the Philippine forestry sector is contained in the Master Plan for Forestry Development. The plan which has a time horizon of 25 years starting in 1990 seeks to attain in the long run the following general goals:

- Equitable access for all Filipinos to opportunities to develop and manage the forest and partake of benefits derived from it;

- Scientific management, conservation, and utilization of forest resources by a mix of managers from the private and the local communities in partnership with the government;
- In appropriate ways and on a sustainable basis, satisfaction of the needs of the people for forest-based commodities, services and amenities.

1.2.2 Objectives

Reflecting the thrust of the general goal, the objectives of the Plan are:

- To conserve the forest ecosystem and its diverse genetic resources;
- To promote social justice and equity;
- To meet the needs for wood and other forest products by placing all of the country's production forest under sustainable management;
- To protect the land and its resources against degradation such as disertification, soil erosion, floods and other ecological calamities through proper land management and practices;
- By properly managing the upland watersheds, to help in the production of food, water, energy and other basic needs;
- To contribute to employment and growth of the national and local economies.

1.2.3 Current Programmes

In pursuit of the above objectives, the government has thus far put in place through appropriate policies and legislation the following programmes:

- The National Forestation Programme
- The Industrial Forest Management Programme
- The Community-Based Forest Management Programme
- Forest Protection and Conservation Programmes
- Rationalization of the Wood Industry
- The National Integrated Protected Areas Systems

1.2.4 Accomplishments

As of 1995, the following had been accomplished:

- Reforested a total of 394 thousand ha. of denuded and open-lands from 1990-1994 (i.e. equivalent to 98,500 ha/year (editor)):;
- Boundary delineation: 109,262 ha. of old-growth forest for protection;
- Granted to the private sector some 632 thousand ha. for development under Industrial Forest Management Agreements (IFMA);
- Awarded 8,076 ha. under the Forest Land Management Agreements;
- Protection of 139,525 hectares of plantations for future turnover to FLMA holders;
- Implementation of 86 watershed rehabilitation projects nation-wide:

- Awarded 21 Community Forestry Management Agreements covering 58,021 ha. benefiting 5,500 families.

1.3 The Role of the Country in Forestry in a Regional Context

The Philippines, in departure of its previous role as a net exporter of traditional forest products e.g. logs, lumber, plywood and veneer not only in the Asia Pacific area but in other parts of the world as well, has now become an active importer of these products from other countries. In light of this situation, the country has begun exploring joint ventures and cooperation in forestry development with neighbouring countries such as Indonesia and Myanmar. Among the objectives of these cooperation efforts is to secure a steady supply of wood materials for the country's wood-based industries.

The Philippines is also an active member country of the International Tropical Timber Organization (ITTO), an organization of 26 tropical timber producing and 26 consuming countries. It abides to the underlying spirit and philosophy of the organization that is to strike a balance between utilization and conservation of tropical forests through sustainable forestry.

1.4. Major issues relevant to forestry development in the country

1.4.1 Lack of funding for forestry development programmes

Because of the huge financial requirements of funding various forestry development programmes, the country is beset with problems in this regard. The cost of the forestry aspect of the medium term Philippine Development Plan (1995-2000) has been estimated at PHP 4.30 billion annually. In this regard, the country can only prioritize its various programmes as far as providing funds is concerned.

1.4.2 Logging Ban Issue

To a large extent, some segments of the forestry sector has been on a point of uncertainty due to the logging ban bill now pending in the legislative branch of the government. The forest industry sector is specifically affected by this impasse as demonstrated by declining level of investments in the sector.

The logging ban bill has also affected the passage of the Philippine Forestry Code which seeks to improve on existing forestry rules and regulations towards forestry development.

1.4.3 Increasing Population

Because of a burgeoning population, the country's forest-lands are under constant pressure to be converted to other land-uses. Shifting cultivation remains to be a big problem with the presence of some 30% of the country's total population within and in the fringes of forest areas.

In some instances, forest areas have been covered by tenurial instruments issued by other government agencies other than the Department of Environment and Natural Resources such as the Department of Agrarian Reform. This results in land-use conflicts as forestry concerns in the management of these areas are given less importance in favour of agriculture.

1.4.4 Uncertainty Brought about by Changing Trends in Tropical Wood Products Trade

Increasingly, trade of wood products in the international market is being influenced by certain trends. Eco-labelling requirements imposed by major consuming countries in Europe is slowly gaining acceptance in other countries.

Unpreparedness to comply with rules of the World Trade Organization (WTO), which are still being formulated, and the possibilities of not being able to compete on an "imposed playing field" is another concern in the wood-based industry.

Lastly, the increasing adoption of a log export ban policies of log exporting countries may possibly interrupt continuous supply of wood products to the country's wood-based industries which are now relying partly on imported wood raw materials thus imperilling their viability.

2 THE STATE OF FORESTRY IN THE COUNTRY AND MAJOR TRENDS

2.1 Highlights of the Significance of the Sector, its Principal Characteristics, Key Recent Developments.

2.1.1 Environmental Significance

The Philippine forest is the centrepiece of its natural resource base and ecosystems. Forest lands are the main watersheds of rivers which provide water for irrigation, energy generation, industries, and households. It has been estimated that soil erosion and hydrological deterioration of these watersheds set the country back by about P6.7 billion per year in terms of losses in productivity and utility of infrastructures and off-site costs.

The country has 69 national parks with a total area of 470 thousand ha. If adequately protected, these areas can become important parts of planned and informal tourist flows. More important, these parks and other protected areas are sources of plant and animal genetic resources. The use of new genetic resources is increasing throughout the world for medicine, food, and other economic uses.

2.1.2 Economic Significance

Being a timber producing country, the Philippines saw the emergence of the forestry sector as one of the top contributors to the national economy. For several decades in the past, the country had become one of the most active producers and exporters of logs and other wood products in the Asia-Pacific Region. In fact, in the early sixties, the timber industry topped ail other industries in terms of foreign exchange earnings.

During the eighties, however, the industry's economic prominence started to wane. In 1970, primary resource-based activities such as agriculture, logging, mining, and fisheries together contributed P15.8 billion of gross value added, this figure almost doubling to P29.4 billion in real terms in 1988. Of these, the logging sector's share of GDP, which was 12.5% in 1970, went down to 1.3% in 1990. Forest-based outputs also contracted in real terms from P3.17 billion in 1970 to P1.18 billion in 1988. The value of wood-based manufactures grew slightly from P1.188 billion to P1.31 billion but their contribution fell from 10% of all manufactures in 1970 to 5% in 1988.

The important contributions of the industry to the economy were not sustained due to deforestation which, at its peak in the late 1960s, went up as high as 300 thousand hectares per annum. The rapid depletion of the country's forest brought about by various factors which include, among others, massive conversion to other land uses, forest fires and illegal logging, has severely affected and continued to affect the economic contribution of the forestry sector to the economy.

2.2 The Forest Resources (Status and Trends) - State of forest proper, forest/trees in the agricultural context and trees outside the forest, tree crops (rubber and palm wood)

2.2.1 Forest Resource Situation

In 1994, the Philippine land area of 30 million hectares was classified as follows: 15.9 million hectares (53%) forest land[1] and 14.1 million hectares (47%) alienable and disposable land. Meanwhile, the sub-classification of forest land into various forest categories is still incomplete. Only 15 million hectares were sub-classified as *established forest land, established timberland, national parks, game refuge and bird sanctuaries, wilderness areas, military & naval reservations, civil reservations and fishponds.*

The forest cover of the country in 1994 was estimated at 5.7 million hectares (19%), while brushland and other land use were estimated at 2.3 million hectares (8%) and 22.0 million

[1] Forest land is not necessarily under forest vegetation as can be seen from paragraph following (editor).

hectares (73%), respectively. The breakdown of the total forest cover by forest type was as follows:

Forest Type	Area (In million has.)
Dipterocarp	3.8
Old Growth	(0.8)
Residual	(3.0)
Pine	0.2
Mangrove	0.1
Sub-marginal	0.5
Mossy	1.1
TOTAL	5.7

Among the regions of the country, Cagayan Valley (Region 2), Southern Tagalog (Region IV) and Northern Mindanao (Region 10) consecutively topped in forest cover. Its area coverage was estimated at 1,503 thousand hectares, 1,029 thousand hectares and 843 thousand hectares, respectively.

The latest data available on volume of forest resources (timber and non-timber) were based on the results of the *Second National Forest Resources Inventory*. The result of this inventory, which was published in 1988, posted a total of 744.1 million cubic meters of timber in commercial forest. Its projected volume in 1994 was registered at 436.7 million cubic meters. Meanwhile, *rattan* resources and *bamboo* resources in dipterocarp forest were estimated at 4.6 billion lineal meters and 10.7 billion meters, respectively. Projections of these data, however, were not available.

2.2.2 Status of Other Tree Crops

Due to the dwindling supply of wood, lesser-used tree species have been utilized to substitute the common hardwood species that were in abundance before. Two such species are coconut and rubber. Unproductive trees of these species are currently being harvested in larger volumes during the past years. In 1994, 3.06 million ha. of coconut plantations and 85.60 thousand ha. of rubber plantations were in existence in the whole Philippines[2]. These areas have a potential volume of 1.53 billion cu.m and 12.84 million cu.m of coconut and rubber wood, respectively.

[2] The area under tree crop plantations is equivalent to over half the total remaining forest cover - it therefore has great potential as a supplement to forests (editor).

2.3 Protected Areas and Wildlife Resources

The alarming rates of forest denudation of the country during the twentieth century have become the focus of concern of both the national and international conservation and development organization to conserve the Philippine biological resources. It includes the wide variety of tropical rainforest floral species, a diverse range of endemis faunal species, and several important marine and coastal eco-types.

The Department of Environment and Natural Resources (DENR) is the main institution of the government for the management of national parks, reserves, and other protected areas. Currently, there are 69 terrestrial areas which has been designated as national parks, of which 59 are under the policy control of DENR - Protected Areas and Wildlife Bureau (PAWB). The remaining areas are under the control of the Philippine Tourism Authority (PTA) and other local government administration.

The conservation and protection of natural areas in the country are covered with several policies and legislation, as follows:

- Public Act 3915 - enacted on February 1932, known as "an Act for the establishment of National Parks, Declaring such Parks as Game Refuges and for Other Purposes". As a result of this Act, 59 national parks were established.
- Forestry Administrative Order No. 7-1934 - Known as the "National Park Regulations" provided for the supervision, procedures and special uses of national parks.
- Presidential Proclamations - Aside from the parks established under P.A. 3915, other protected areas were established through Presidential Proclamations. Six (6) of these proclamations are Nos. 1520, 1522, 1 551, 1653, 1 667A and 1801 .
- Tourist Zones - Other areas such as the tourist zones, including biosphere reserves, were also proclaimed and are now managed by the Philippine Tourism Authority.
- Presidential Decree 1559 - Conservation of game species and other wildlife, including birds and fishes. There are now 12 game refuges and bird sanctuaries in the country.
- Proclamation 753 - All watershed and lakes within watershed reservations were declared as game refuges and bird sanctuaries.
- Presidential Decree 04 - All streams, ponds, and waters within Game Refuges and Bird Sanctuaries and National Parks are declared as fish refuges and bird sanctuaries.
- LOI 917 - All mangrove forests essentially needed in foreshore marine life, including special forests which are exclusive habitats of rare and endangered Philippine flora and fauna, are likewise declared wilderness areas.
- Republic Act No. 7586 - known as the "NIPAS Act of 1992", An Act Providing for the Establishment and Management of National Integrated Protected Areas System, Defining its Scope and Coverage, and For Other Purposes.
- DENR Administrative Order No. 25-92 - provides the implementing rules and regulations of the NIPAS Law. In details the processes by which the DENR and other concerned institutions and agencies will established, administer and manage the NIPAS, focusing particularly on the twin objectives of biodiversity conservation and sustainable development.

2.4 Wood-Based Industries

2.4.1 Trends and Developments

The country's forest industry reached its peak in the 1960s and early 1970s. Based primarily on the export of logs and lumber, about $212 million worth of these products were exported in 1967, accounting for about 32% of the export earnings of the ten principal export earners. although the value of forest products exports rose to $339 million in 1973, their share declined to only 24% of the ten principal exports.

The Government's log and lumber export ban (1986 and 1989, respectively) attempted to stop illegal cutting and export of timber while also strengthening the national wood processing industry to increase foreign exchange receipts through export of value-added products.

The forestry sector remains the principal supplier of the country's wood-based industries. During 1994, however, log imports (404,065 cu.m) accounted for nearly 42% of legitimate domestic production. On the other hand, lumber imports (298,363 cu.m), accounted for 73% of local production.

2.4.2 Domestic Demand

Lumber and plywood remains to be the main wood products in the country in terms of demand. In 1994, it was estimated that the domestic demand for lumber was 990 thousand cu.m while that of plywood was 232 thousand cu.m.. The most important consumer is the construction industry absorbing about 86% of total lumber and 92% of total plywood domestic consumption. The demand for lumber is expected to grow at an overall rate of 3.5% per annum achieving a predicted consumption of 1.17 million cu.m in year 2000. On the other hand, domestic consumption of plywood is predicted to increase by 32% to 306 thousand cu.m from its 1994 level.

The total roundwood equivalent of the domestic demand for lumber, plywood and other wood panel products between 1994 to 2000 is projected to increase by 20% from 2.35 million cu.m in 1994 to 2.83 million cu.m in year 2000.

2.4.3 Status of Wood-Based Industries

Wood-based industries are important in terms of their products but also of employment. Wood processing other than pulp and paper manufacturing employs 20,5000 people in the primary sector and 31,000 in the secondary and tertiary sectors, as indicated below.

a. Logging

There was a significant decrease in the number of timber concessions from 1990 to 1994. From a count of 97 in 1990, the total number of timber concessions went down to 46, or by 52.58%, in 1994. Similarly, the aggregate annual allowable cut (AAC) declined by 77.39%.

This downtrend was mainly due to the government's stiff conservation policies in response to the rapid decline in the country's forests resources.

These policies include the following: 1) the ban on logging in the remaining virgin forests and in areas over 50% in slope as well as 1,000 meters in elevation; 2) suspension/cancellation of a number of timber licenses for violation of forestry laws and regulations; 3) expiration and non-renewal of several timber licenses; 4) non-issuance of new TLAs; and 5)the imposition of logging moratorium in certain parts of the country.

The 1994 log production was reported equal to 957 thousand cubic meters.

In terms of employment, there were roughly eight thousand (8,000) individuals who were employed in 1994, by various logging companies in the country.

b. Sawmilling

In 1994, there were 93 active regular sawmills in operation with an aggregate daily rated capacity (DRC) of 4,279 cubic meters and a total annual log requirement (ALR) of 1.6 million cubic meters. Out of the 93 sawmills, 30 operated with timber concessions, while 63 operated without back up concessions.

The number of active sawmills gradually decreased from 1990 to 1994 at a rate equal to 11.04% per annum. The main reason for this decline is the closure of sawmills brought about by the insufficient supply and high cost of raw materials which has affected their viability.

The average recovery rate of Philippine sawmills was estimated at 60%. Lumber production in 1994 totalled to 407 thousand cubic meters which would indicate a capacity utilization rate of 30%.

The sawmill industry employed about 6,500 individuals in 1994, or an average of 70 employees per sawmill.

c. Veneer and Plywood Manufacturing

The country had a total of 6 veneer plants and 40 plywood plants in 1994. Veneer manufacturing plants had an aggregate daily rated capacity (DRC) of 208 cubic meters and a total annual log requirement (ALR) of 114 thousand cubic meters. On the other hand, plywood mills had an aggregate DRC of 5,450 cubic meters and a total ALR of 3.7 million cubic meters.

The production recovery rates of veneer and plywood plants were estimated at 50% and 43%, respectively.

In 1994, the country produced a total of 39 thousand cubic meters of veneer and 258 thousand cubic meters of plywood.

Based on these production figures, the average capacity utilization rate for veneer plants was 63% while that of plywood plants was 16%.

The 1994 estimate for the total number of employees in both plywood and veneer manufacturing plants was five thousand (5,000).

d. Secondary and Tertiary Wood-Based Industries

Based on the latest data gathered from the National Statistics Office (1993), there were 824 manufacturing establishments that were engaged in secondary and tertiary wood processing such as the making of wood furniture, wooden doors and other wood-based articles. These establishments employed a total of 31 thousand employees and paid the amount of P 1.2 billion for their compensation (salaries and other benefits). It also registered an aggregate of P 7.9 billion for its total output value for the year.

e. Pulp and Paper Manufacturing

The pulp and paper industry caters mostly to meet domestic demand which can only be satisfied by importation of additional pulp and paper. it is made up of 29 pulp and/or paper mills with a total production capacity of 274,075 t/annum of pulp and 544,175 t/annum of paper and paperboards. Only one plant, that of Paper Industries of the Philippines (PICOP), utilizes wood as raw materials for pulp production. Its production capacity is 167,600 t/annum of pulp of which 80% is virgin pulp consuming 670,400 cu m/annum of wood raw materials, mostly from industrial plantations.

2.4.4 Wood Products Trade

a. Exports

The export trade structure of Philippine forest-based products has undergone a massive transformation in terms of product composition. Before, export earnings from traditional wood products such as logs, lumber, plywood and veneer made up a major bulk of the total export earnings of the forestry sector. As of 1994, these have been overtaken by the export earnings from value-added products such as wood furniture and other wood-based manufactured articles e.g. doors, door jambs, windows, window frames, tableware and kitchenware, etc.

Table 1 shows a comparison of forest-based products exports between 1984 and 1994. It shows that the volume and value of logs, lumber and veneer have drastically decreased during this period. The volume of exported logs, lumber veneer and plywood in 1994 were just 0.40%, 6.85%, 42.25% and 1.38%, of the respective products' volume level in 1984. In terms of aggregate value, the export earnings from these products in 1994 comprised a mere 7.5% of the level in 1984.

In sharp contrast, the export FOB value of wood-based manufactured articles registered an increase of 150% from $52.34 million to $130.05 million from 1984 to 1994. On the hand, forest-based furniture earned $280.16 million in 1994 from zero earnings in 1984.

As for the percentage share to the total export earnings in wood and wood-based products, those from logs, lumber, veneer and plywood comprised a mere 4.33% of said earnings in 1994 as against the 83% in 1984. In a reversal of roles, the export value of wood-based manufactured articles and furniture comprised a hefty 87% of the total export figure in 1994 from only 16% in 1984.

The change in the export situation of these forest-based products can be explained by the log and lumber export bans, imposed in 1986 and 1989, respectively, which have limited the exports of these products to those coming from tree plantations. Consequently, these policies have encouraged the development of value-added products for the export market.

b. Imports

As the export level of the country's major forest products declined during the period 1984-1994, importation of the same, on the other hand, increased to unprecedented levels. In 1994 the country imported some 404 thousand cu.m of logs valued at US$56.22 million as compared to zero imports in 1984. Similarly, a significant volume of lumber (298 thousand cu.m), plywood (605 thousand cu.m.) and veneer (899 thousand cu.m) with an aggregate value of $68.60 million were imported in 1994. In 1984, the total import value for these products was only US$160 thousand (Table 2).

Trade figures also showed that the import value of other wood and wood-based products e.g. particleboard, fibreboard, wood-based furniture and other wood-based manufactured articles, paper and paperboard, pulp and waste paper increased from 1984 to 1994. In 1994, the Philippines spent US$341.98 million in the importation of these products, a 755% increase from the 1984 level which stood at total US$ 40.28 million.

c. Trade Balance

A comparison of the trade balance (Exports-imports) of wood and wood-based products between 1984 and 1994 balance (exports-imports) presented an alarming trend. From a value of US$286.78 million, F.O.B. in 1984, the trade balance declined to only US$ 1.79 million, F.O.B. or a decline of 99%. Whereas in 1984 the country had a wood and wood products export to import ratio of 91:11, this changed to 51:49 in 1994. If this trend continues, it is expected that the country will become a net importer of wood and-wood-based products in the near future.

Table 1 - Comparison of 1984 and 1994 Exports of Logs and Wood-based Products (Value in '000 US Dollars)

Products	Unit	1984		1994	
		Volume	Value	Volume	Value
1. Logs	'000 cu.m	996	93,729	4	202
2. Lumber	'000 cu.m	540	106,970	37	6,116
3. Veneer	'000 cu.m	71	14,069	30	11,891
4. Plywood	'000 cu.m	290	57,314	4	2,101
5. Plywood and Veneered Panel and Semi-Laminated Wood	'000 cu.m	9	1,876	6	2,300
6. Particleboard	'000 kg.			3,319	2,535
7. Paper and Paperboard	'000 kg.	1,294	930	12,530	33,233
8. Wood-based Manufactured Articles			52,339		130,049
9. Forest-based Furniture	'000 pcs.			4,461	188,606
10. Selected Forest Based Furniture	'000 pcs.			2,387	91,552
Total Value			327,227		468,585

2.5 Wood Energy

Biomass fuels, mainly charcoal and firewood, from forest-lands, provide a large part of the country's energy needs, particularly for private households in rural areas. It is estimated that close to seven million households use biomass fuels for cooking. It is estimated that more than 31 million cu.m of fuelwood is consumed per annum in households and more than 8.0 million cu.m in industries.

2.6 Non-Timber Forest-Products (NTFP)

The country's natural forest yields a variety of commercial non-timber forest products (NTFP). These include rattan, bamboo, various resins and latexes, beeswax and variety of medicinal plants. In addition, locally used materials such as *nipa anahaw, burl, nito, hagnaya* and *salago* are important for rural communities and the handicraft industry. Wild game, especially pigs, deer, monkeys and a variety of birds are important protein supplements for upland dwellers. The loss of natural forest has resulted in reduction in the availability of all these products.

Rattan is commercially the most important NTFP. Prior to the mid-1970s, rattan was used mainly for furniture for the domestic market with some exports of unprocessed poles. Between 1976 and 1988, the real value (in 1985 prices) of rattan furniture exports increased from $8.4 million to $96.1 million but decreased to $74.8 million by 1992. The industry is characterized by a large number of micro and cottage-type firms scattered throughout the country; however large export-based manufacturers are located predominantly in Cebu where about 200 firms employ about 1,500 workers. The most important rattan species throughout the 1970s and early 1980s was the large-diameter cane *palasan (Dendrocalamus merrilli).*

The reduction in forest area, combined with over-cutting led to its severe depletion and the industry has shifted to other species. Rattan gathering, whether for local industry or export, is labour intensive and generally carried out by upland dwellers. Accordingly, 55% of all rattan cutting area is allocated to small entrepreneurs and special provisions are made for access to the resource by indigenous cultural communities (ICC).

Bamboo, comprising several species, is also an important NTFP although statistics as to its use are not fully available. Its major uses are as a local building materials, scaffolding for construction, raw material in the furniture and handicraft industries, banana props and fish pens.

Table 2 - Comparison of 1984 and 1994 Imports of Logs and Wood-based Products (Value in '000 US Dollars)

Products	Unit	1984		1994	
		Volume	Value	Volume	Value
1. Logs	'000 cu.m	-	-	404	56,216
2. Lumber	'000 cu.m	0.12	159	298	66,589
3. Veneer	'000 cu.m	-	-	899	473
4. Plywood	'000 cu.m	-	-	605	1,541
5. Plywood and Veneered Panel and Semi-Laminated Wood	'000 cu.m	0.003	1.28	6	2,696
6. Particleboard	'000 kg.	0	-	19,033	4,488
7. Paper and Paperboard	'000 kg.	0	-	34,849	7,492
8. Wood-based Manufactured Articles		17,871	10,458	423,106	260,840
9. Forest-based Furniture	'000 pcs.	111,874	29,703	322,009	62,536
10. Selected Forest Based Furniture	'000 pcs.	-	121	-	59
11. Wood-based Furniture	'000 pcs.	-	-	137	3,866
Total Value			40,442		466,796

Source: Philippine Forestry Statistics

Other Non-Timber Products that are being harvested in commercial quantities from the forests include almaciga resin, anahaw leaves and nipa shingles.

In 1994, recorded production for these NTFPs are as follows: rattan - 19.09 million lineal meters; almaciga resin - 1.20 million kilograms; anahaw leaves - 10 thousand pieces; bamboo - 360 thousand pieces; nipa shingles - 6.28 thousand pieces.

2.7 Forestry Institutions

2.7.1 The Department of Environment and Natural Resources (DENR)

The Department of Environment and Natural Resources (DENR) is the primary government agency responsible for the conservation, management, development, and proper use of the country's natural resources. It was crested under Executive Order No. 192 in June 1987 and is entrusted with the administration of forest lands, grazing lands, mineral resources and lands of the public domain.

The DENR, with manpower resources of about 25,000 personnel, has the following responsibilities:

- ensure the availability and sustainability of the country's natural resources;
- increase the productivity of natural resources to meet the demands of a growing population;
- enhance the contribution of natural resources; and conserve specific terrestrial and marine areas for present and future generations.

The DENR composition include the Office of the Secretary, staff offices, six (ó) sectoral staff bureaux, and regional, provincial and community natural resources offices. The Forest Management Bureau (FMB) plays the most vital role regarding forest management in the national level, while its counterpart in the 16 regional offices is the FMS headed by an RTD for forestry.

2.7.2 Forestry Research

Forestry and related natural environment research is headed by the DENR through the Ecosystems Research and Development Bureau (ERDB). It is supported by the 16 regional offices having a forestry research section and headed by a Regional Technical Director for Research. ERDB is responsible with the following tasks:

- formulation of a comprehensive and integrated ecosystem research programme for the whole country;
- assist the DENR secretary in determining priorities for the allocation of resources to various technological research programmes of the Department;
- provide scientific assistance in the implementation and monitoring of the research programmes; and
- coordinate all research undertaken by the regional offices and disseminate findings to other users and clients.

Research pertaining to the development and use of forest products is carried out by the Forest Products Research and Development Institute (FPRDI). This institution generates information and technologies relevant to the present needs and anticipated problems of the forest-based industries and the general public with regards to the utilization of forest products.

State colleges and universities also undertake researches in forestry. However, researches made by these institutions generally focuses local concerns except for the University of the Philippines at Los Bazos, College of Forestry (UPLB-CF) which touches national concerns.

The private sector such as the Paper Industries Corporation of the Philippines (PICOP), Nasipit Lumber Company, Aras-asan Timber Corporation and the Provident Farms Inc. also undertake significant research in forestry. Studies undertaken focuses on the management of the natural dipterocarp forest, plantation establishment both for timber and non-timber species and products utilization, particularly pulp and paper, veneer and plywood manufacture.

All forestry researches conducted by these institutions are coordinated and monitored by the Philippine Council for Agriculture, Forestry, and Natural Resources Research and Development (PCARRD) of the Department of Science and Technology (DOST).

PCARRD provides the central leadership in identifying national priorities consistent with those set by the National Economic and Development Authority (NEDA) and with the sectoral priorities of the Department of Agriculture and DENR. The council has the authority to recommend to the Department of Budget Management research proposals to be funded and has to ensure that research is not duplicated.

2.7.3 Forestry Education

As of 1994, there are 31 schools offering course in forestry either on the technician, baccalaureate, or graduate degree level. There is also an estimated 3,740 students enrolled in forestry or an average of 120 students per schools.

The University of the Philippines at Los Banos - College of Forestry, the oldest forestry university in the country, always have the most number of enrolees. The College is divided into five sub-departments, namely: Department of Forest Biological Sciences, Department of Forest Resources Management, Department of Silviculture and Forest Influences, Department of Social Forestry and Department of Wood Science and Technology.

The following are several problems identified that affect the quality of graduates from many schools.

- proliferation of schools offering forestry degrees;
- high cost of academic programmes compared with the schools' financial capability especially in relation to equipment and library materials;
- low quality of faculty due to poor remuneration;
- low quality of students since forestry has come to be a viewed course of last resort with more qualified students going to other professions; and
- substandard curricula which are not being developed to meet the changing and more complex demands placed on the profession.

2.7.4 Forest Policies and Programmes

In the past, access to forest resources has been mainly through license agreements or permits which was dominated mostly of large-scale operations involving thousands of hectares of forest lands.

Undoubtedly, this practice favours only those who have capital whereby limiting the participation of the local communities to labour for logging and processing. As a result, upland farmers and the indigenous cultural communities have received relatively little benefit from the use of the resource and, accordingly, little incentive to protect it.

The 1990 Philippine Master Plan for Forestry Development have cited long term policy recommendations. Whereby all of the forest resources will be under efficient and equitable management, conservation, and utilization, satisfying in appropriate ways and sustainable basis the needs of the people for forest-based commodities and services. Among the significant policy reforms recommended by the Master Plan are the people-oriented forestry programmes and forest plantations development programmes.

a. People-Oriented Forestry Programmes

Under the people-oriented forestry programme are several components such as the integrated Social Forestry Programme (ISFP), Forest Land Management Agreement (FLMA) and Community Based Forest Management (CBFM).

- *Integrated Social Forestry Programme (ISFP):* The ISFP was launched with the issuance of LOI 1260 in 1982 and has been the banner programme of the Department of Environment and Natural Resources (DENR) in 1990. The programme recognizes the needs of the forest occupants or the kaingeneros to the land they till by granting them with an Certificate of Stewardship Contract (CSC) which provide them with a maximum of seven (7) hectares of land with a security of tenure for 25 years, renewable for another 25 years based on performance. The beneficiaries are obliged to plant trees on at least 20% of the area and are allowed to cultivate agricultural crops, using appropriate sloping land technologies.

  Upland farmers will then be provided with on-site and off-site training’s on agroforestry and other livelihood activities coupled with a training designed to reorient their values and attitudes toward forestry and the environment.

  With the passage of Republic Act 7160, known as the Local Government Code of 1991, the monitoring and supervision of all ISF Projects has been devolved to the Local Government Units. The Law aims to strengthen the participation of the LGUs with the national government the responsibility in the management and maintenance of ecological balance within their territorial jurisdiction, subject to the provisions of existing national policies.

  However, the DENR has retained one ISF model site for every province and declared it as a Centre for People Empowerment in the Uplands (CPEU).

- *Forest Land Management Agreement (FLMA):* FLMA is a production-sharing contract entered into by the government and a family, community, or corporation for the management of plantation areas that has been established under the contract reforestation scheme. The deserving FLMA holder is entitled to harvest, process, utilize or sell the wood and other commodities produced from the plantation. In return, they (FLMA holder) are mandated to protect, maintain, and manage the plantation covered by the contract. This programme is essentially a 25-year lease, renewable for a period of 25 years if proper management practices have been followed.

- *Community-Based Forest Management (CBFM):* The Community-Based Forestry Management is implemented by the DENR following the mandate of the Philippine Constitution (Sec. I, Art. XII) for a more equitable distribution of opportunities, income and wealth to the Filipino people. This programme intend to uplift the socio-economic well being of the people in the upland including those displaced workers of the expired/cancelled timber licensees.

CBFM works on the concept of allocating a portion of the public forest to a given community to manage. Of which, the community enters into an agreement with the government through a CBFM agreement.

The CBFM approach was strengthened when the President identify the programme as the national strategy for attaining sustainable forest management in his Executive Order No. 263. Even the Department of Interior and Local Government in their Memorandum Circular No. 96-143, have instructed the Local Government Units to extend support to the implementation of community forestry programmes.

The private sector also plays a significant role in the people-oriented forestry programmes. The government tap the services of individual or group of professionals (NGOs) in community organizing and by providing technical knowledge in agroforestry, plantation establishment, maintenance, and product marketing. NGO's have also been contracted, under DENR guidelines, to undertake monitoring and evaluations of reforestation projects. This laid down the basis of a monitoring mechanism and has helped unreconciling the statistics from DENR held reports.

b. Industrial Forest Plantations

The implementation of logging ban within the virgin forest and areas above 1000 meters asl and 50% slope in 1991, have drastically decreased the timber production of the country. Timber licensees have to sort-out the remaining harvestable timber in the residual forest.

With this scenario, the government encourages private investors to engage in industrial forest plantations. The Industrial Forest Management Agreement (IFMA), which combines natural forest management and industrial forest plantation establishment was developed as part of the ADB's policy requirements for the Industrial Forest Plantation Loan. The IFMA aims to ensure a sustainable supply of wood and other industrial forest products from both natural and plantation forests by devolving to qualified investors the responsibility for managing and protecting remaining residual natural forests and for converting deforested and degraded areas into plantations which may include rattan, rubber and bamboo as well as timber species.

Incentives available for investment in plantations include among others:

- income tax exemption for three years after the start of commercial harvest;
- tax and duty-free importation of capital equipment;
- tax credit on domestic capital;
- deduction for labour expenses after tax holiday;
- exemption from wharfage dues and export taxes and duties; and
- exemption from contractor's tax.

The most recent development regarding industrial forest plantations is the launching of the Socialized Industrial Forest Management Programme (SIFMP) in August 1996. The programme recognized the individual rights of equitable access to natural resources development and utilization. The programme intends to provide Filipino individual, family, cooperative or corporations to engage in plantation establishment ranging from one (1) hectare to 500 hectares. Qualified individuals/groups would be given the following incentives:

- the right to harvest, sell and utilized plantation crops;
- export of logs, lumber and other forest products harvested from the SIFMA in accordance with government allocation system;
- exemption from payment of forest charges;
- entitlement to appropriate and reasonable compensation for the developments in the area, in case of cancellation of the SIFMA without cause or for public interest; and technical assistance should SIFMA holders wish to confederate into a larger organization.

3. FUTURE DIRECTIONS

Under Executive Order No. 263, the Philippine Government adopts Community-Based Forest Management (CBFM) as the national strategy to ensure the sustainable development of the country's forest-lands resources.

Here, the importance of the holistic and system approach to forest land management shall be emphasized. The management therefore of CBFM areas shall follow and shall be consistent with the overall strategy for development of a larger and/or entire watershed area.

The People-Oriented Forestry as community-based approach envisions that the sustained, effective and efficient management of forest-lands shall be undertaken by empowered local communities with strong, viable community organizations working in close coordination with DENR and other organizations such as Local Government Units (LGUs), Other Government Agencies (OGAs), Non-Government Organizations (NGOs), Assisting Organizations (AOs), Research Institutions (Rls), and People Organizations (POs).

In this regard, a Community-Based Forest Management Office (CBFMO) has been created within the regular structure of the Forest Management Bureau - DENR per DENR Administrative Order 96-30, to oversee the implementation of various People Oriented Forestry Programmes. The functions of CBFMO include among others;

- Review all CBFMS and POF programmes and projects to identify issues and lessons learned;
- Draft policies, guidelines and procedures on CBFMS and POF;
- Prepare and monitor implementations of national CBFMS and POF programme of action;
- Serve as the repository of data/information on CBFMS and POF;
- Link with resources institutions within and outside the Forest Management Bureau to gain support for the implementation of CBFMS and POF;
- Assist the Foreign-Assisted Special Projects Office (FASPO) in packaging and monitoring projects supporting CBFMS and POF;
- Handle new CBFMS and POF programmes and projects as may be initiated; and
- Serve as Secretariat to the inter-agency CBFM Steering Committee.

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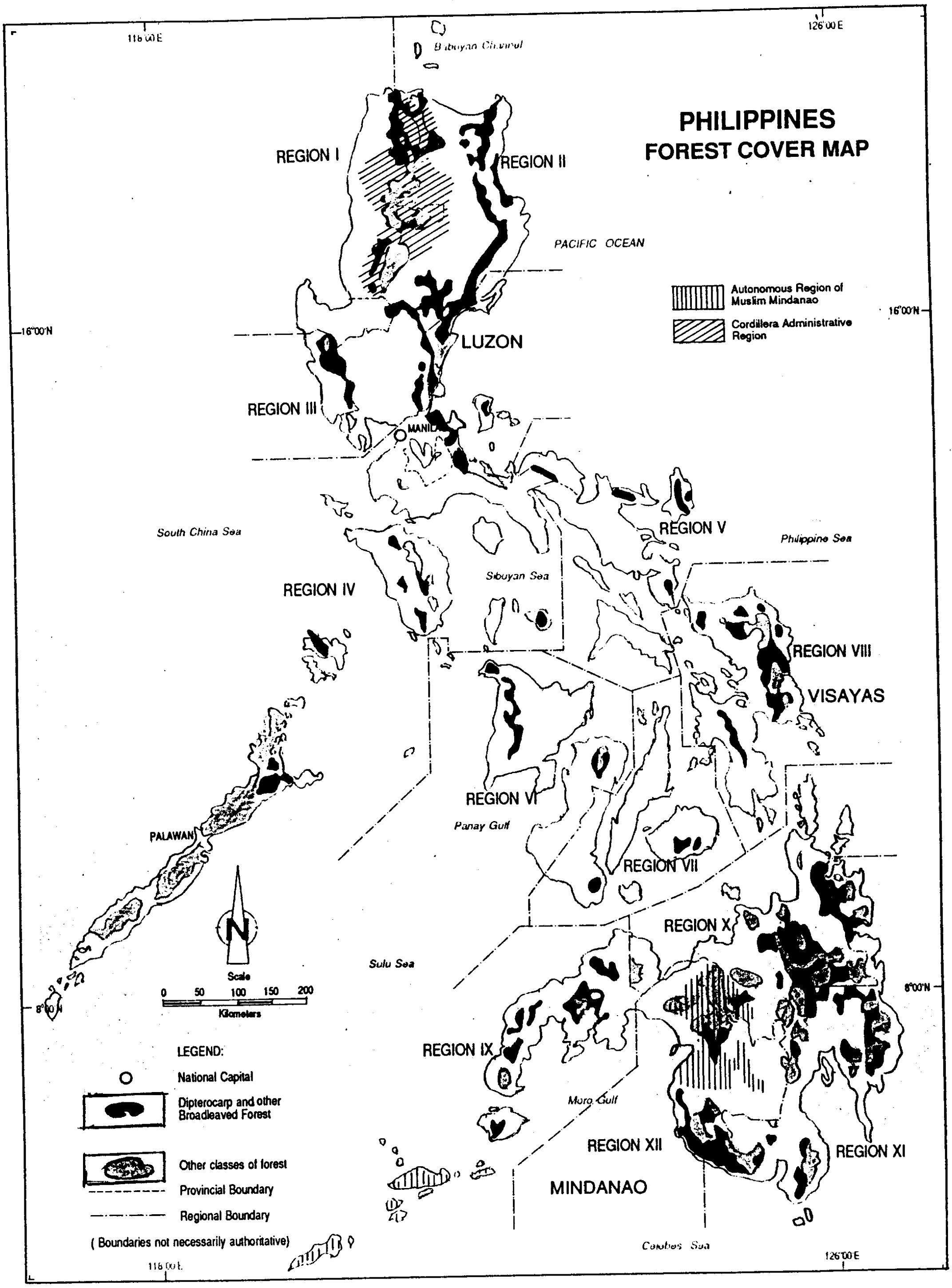
BASIC DATA SHEET - PHILIPPINES

Area					
	Total Land Area			30 million ha.	
	Classified as Forestland			15.88 million ha.	
	Forest Cover			5.590 million ha.	
	Population		1970	1980	1995
	Total (in million		36.6	48.1	6861
	Density (Person/sq. km.)		122	160	228.70
	Annual Growth Rae (%)		1994 estimate	2.21	
	GNP Per Capita		1990	1994	1995
	(Million Pesos)		11,933	11,728	12,090
	Social/Development Indicators		1970	1980	1994
	Life Expectancy at birth (years)		56	62	68
	Infant mortality (per 1,000 live births)		60	45	54
	Access to Safe Water (no. Of families)				11,975,441
	in urban areas		NA	65	50
	in rural areas		NA	43	50
	Daily Per Capita Calorie Supply (gms/day)		1,960	2,380	2,501
	Daily Per Capita Protein Supply (gms/day)		47	53	68
	Adult Literacy Rate (%)		83	83	93.53
	Energy Consumption per capita (Kg. Of coal equivalent)		267	346	272
	Income Distribution			1984	
	% of Total Income Received by:				
	Highest 10% of HH			37.80	
	Highest 20% of HH			53.90	
	Highest 50% of HH			81.10	
	Lowest 50% of HH			18.90	
	Lowest 20% of HH			4.70	
	Lowest 10% of HH			1.80	
	Average Annual Family Income (P)			83,161	
	Labour Force in Thousands	1992	1993	1994	1995
	Total	26,180	26,822	27,483	28,040
	Employed	23,917	24,443	25,166	25,698
	Agriculture, Forestry & Fishery	10,870	11,194	11,249	11,324
	Mining & Mftg.	2,689	2,683	2,609	2,666
	Others	12,621	12,945	13,625	14,050
	Employment Rate (%)	91.4	91.1	91.6	91.6
	Unemployed	2,263	2,379	2,317	2,.342
	Unemployment Rate (%)	8.6	8.9	8.4	8.4
	Gross Domestic Product			1994	1995
	GDP at Current Market Price (Mil.. Peso)			1,693.278	1,906,430
	GDP at Constant 1985 (Mil. Peso)			766,450	803,450
		1985	1988	1992	1994
	Growth Rate (%)	-7.3	6.3	0.0	4.425
	GDP at constant 1985 market price (% share by industry)			1994	
	Agriculture, Forestry & Fishery			22.37	
	Mining & Mftg.			26.24	
	Construction			5.45	
	Electricity & Water			3.01	
	Transportation & Communications			5.84	
	Trade			15.26	
	Others			21.83	
Leading Export Commodities (Percentage Share)					
	Electronics & Components			19.09	
	Articles of Apparel & Clothing Accessories			17.61	
	Coconut Oil			3.52	
	Ignition Wiring and other wiring sets used in vehicles			3.18	
	Aircrafts and ships				
	Other Product Manufactures, Aircrafts & Ships from Materials Imported on consignment basis			2.12	
Leasing Import Commodities (Percentage share)					
	Machinery other than electric			12.42	
	Transport Equipment			6.26	
	Base Metals			6.10	
	Electric Machinery			6.74	

Map


PHILIPPINES
FOREST COVER MAP
REGION I
REGION II
PACIFIC OCEAN
Autonomous Region of Muslim Mindanao
Cordillera Administrative Region
LUZON
REGION III
MANILA
South China Sea
REGION V
Philippine Sea
Sibuyan Sea
REGION IV
REGION VIII
VISAYAS
PALAWAN
REGION VI
Panay Gulf
REGION VII
REGION X
Sulu Sea
Scale
0 50 100 150 200
Kilometers
LEGEND:
National Capital
Dipterocarp and other Broadleaved Forest
Other classes of forest
Provincial Boundary
Regional Boundary
(Boundaries not necessarily authoritative)
REGION IX
Moro Gulf
REGION XII
REGION XI
MINDANAO
16°00'N
8°00'N
126°00E

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APFSOS/WP/31	Country Report - Vietnam
APFSOS/WP/32	Country Report - Nepal
APFSOS/WP/33	Country Report - The Philippines