

Know Your Philippine Forest Heritage

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INTRODUCTION

Our heritage, the forest resources, consist of the following:

(a) *Timber* which refers to the standing timber that produce wood for construction and for industries using wood as raw materials. It is the major product of the forest and it does not include firewood and charcoal.

(b) *Minor forest products* which include all other forest products of minor importance, such as firewood, charcoal, split and unsplit rattan, Manila copal, nipa, tanbarks and dyebarks, buri, bohos and bamboos, oleo resin, etc.

(c) *Wildlife* which includes game animals of the forest like deer, tamaraw, game birds like wild ducks, snipe, doves, pigeon, etc., and protected insect-eating birds and song birds.

(d) *Forest land use* which refers to forest land itself and its uses, such as for pasture, tree farms, sawmill site, log pond site, saltworks, timber depot, etc.

(e) *Indirect benefits* of the forest which include the influences of forest upon stream flow and erosion, the conservation and enrichment of the soil, shelter and habitats for wildlife and game animals, hunting grounds and fishing areas and healthful outdoor recreational opportunities for the people.

Exploration of Forest Resources.

The exploration of Philippine forests was started when the Philippines was under the sovereignty of Spain. Under a royal

order in 1863, constructive legislation and regulations were introduced and investigations were begun, laying the foundation for forestry work in this country. Handicapped though were the organizers, yet considerable information was gathered regarding our forest, particularly in the field of botany, natural history and utilization. The forest area was estimated in 1890 by Fernando Castro at about 48,112,920 acres (17,447,560 hectares). Unfortunately the Manila fire of 1897 destroyed the records and natural history collections.

When the Americans took the sovereignty over the Philippines in 1900, information regarding the forests had to be collected all over again. It was found that the Spanish laws embraced provisions of far reaching effect on the conservation and protection of the forests against destruction by men and against wasteful exploitation. The Forest Service organized under the American regime maintained in principle the Spanish laws. These Spanish laws were restated by an Act of 1902 of the United States Congress which defines the duties and jurisdiction of the Bureau of Forestry insofar as public timber lands are concerned. This Act of the United States Congress was adopted by the Commonwealth of the Philippines and, later, by the Republic. Under this law, the Bureau of Forestry is given priority of authority in determining what portion of the Philippine public domain shall be retained for forest usage, to be administered separately from lands declared for

agricultural or mining purposes. Under the Constitution of the Republic of the Philippines, ownership of natural resources, including forests, rests with the State. The protective laws of the Philippines accounts for the retention of a large part of public domain as forest lands under the administration of the National Government through the Bureau of Forestry.

From the time the Bureau of Forestry was organized in 1900 under the American regime, extensive explorations of forest areas were conducted to determine once again the extent of different types of forests, the species of trees found, the density of timber stands, logging possibilities, etc. Wood samples and botanical collections of trees were made and identified. Botanical specimens of minor forest products were also collected and identified and their distribution was recorded. From the results of explorations and studies, it was found that there are over 2,000 species of trees that attain a diameter

of one foot or more. Less than 60 species are, however, handled by wood users and lumbermen. It was further found that about 75 per cent of the standing timber is represented by Dipterocarp species. Minor forest products of economic value were found abundant in many forest areas.

TIMBER RESOURCES

Forests Top All Natural Resources.—

The forest resources of the Philippines is estimated to have an actual value of ₱27,860,611,000.00, or four times more than the combined value of the land, mineral, animal and fishery resources, according to a report on the evaluation of the country's five most important natural resources this year (1955) to President Magsaysay by Secretary Salvador Araneta of agriculture and natural resources.

The report which was prepared by the directors of five bureaus under the department of agriculture and natural resources shows the following:

EVALUATION OF NATURAL RESOURCES

(A)	Actual Values	Percentage
1. Forest Resources	₱27,860,611,000	— 80.02
2. Land Resources	4,387,733,000	— 12.60
3. Mineral Resources	1,409,990,000	— 4.05
4. Animal Resources	861,108,000	— 2.47
5. Fishery Resources	298,092,000	— .86
Total	₱34,817,574,000	— 100.00
(A)		
1. Timber	₱27,044,450,000	— 97.07
2. Minor forest products	758,769,000	— 2.72
3. Grazing land	49,523,000	— .18
4. Wildlife	7,869,000	— .03
Total	₱27,860,611,000	— 100.00
(B)	Potential Values	Percentage
1. Forest Resources	₱49,496,171,000	— 62.51
2. Mineral Resources	13,985,500,000	— 17.66
3. Land Resources	13,285,103,000	— 16.78
4. Animal Resources	2,220,651,000	— 2.80
5. Fishery Resources	798,451,000	— .25
Total	₱79,785,876,000	— 100.00
(B)		
1. Sawn lumber	₱48,680,010,000	— 98.35
2. Minor forest products	758,769,000	— 1.53
3. Grazing land	49,523,000	— .10
4. Wildlife	7,869,000	— .02
Total	₱49,496,171,000	— 100.00

Area of Forests.—The forests cover about 16,487,600 hectares or 55.4 per cent of the total land area of the Philippines, which is 29,740,972 hectares. The continuous conversion of forest areas into agricultural lands

Commercial forests	11,415,000 hectares — 38.38%
Non-commercial forests	4,459,900 ¹ hectares — 15.00%
Cultivated	8,180,072 hectares — 27.50%
Cogon and open lands	5,073,300 hectares — 17.06%
Swamps	612,700 ² hectares — 2.06%
Total	29,740,972 hectares — 100.00%

Forest Types:

The forests of the Philippines may be classified into six broad types based on the composition of the stands:

1. *Dipterocarp type.*—This is the principal forest type from the commercial standpoint. In this type the numbers of the Dipterocarp family form the predominating timber species and constituting about 75 per cent by volume. They thrive under varied conditions, from the moist valley bottoms to hilly or mountainous country in all parts of the Philippines except in areas of high altitude in Mountain Province. The composition of the forest is generally complex, consisting, as a rule, of several stories. They form the upper story in more or less pure stand. This forest type is the main source of lumber supply. About 70 per cent of the annual production of lumber is represented by the predominating seven species of the lauan family, namely, white lauan (*Pentacme contorta*), red lauan (*Shorea negrosensis*), tangile (*Shorea polysperma*), mayapis (*Shorea squamata*), apitong (*Dipterocarpus grandiflorus*), yakal (*Hopea sp.*) and guijo (*Shorea guiso*).

2. *Molave type.*—This type of forest is more open than the Dipterocarp type, and the volume of timber per unit area is much less. It occurs in regions where there are distinct wet and dry seasons. Local soil conditions intensify the effects of the dry season, thus, during this season there are places approaching desert conditions. Molave predominates on dry limestone ridges, hence such forests are designated as “Mo-

has considerably reduced the area of the forests. The table below shows the classification of the land surface of the Philippines, based on soil cover, as of June 30, 1953:

lave type.” Most of the species found in this type produce woods that are highly valuable for their natural beauty and durability. Among the most important ones are molave (*Vitex parviflora*), narra (*Pterocarpus indicus*), tindalo (*Pahudia rhomboidea*), ipil (*Intsia bijuga*), akle (*Albizzia acle*), banuyo (*Wallaceodendron celebicum*), etc.

3. *Pine type.*—This is the forest type found in the mountainous regions of high altitude of northern Luzon. As a rule, the stand is open and scattered, the principal species, the Benguet pine (*Pinus insularis*). Tapulao (*Pinus merkusii*) is found in the high mountains of Zambales and Mindoro. The pines practically grow in pure stands except in places of lower elevations where they are mixed with hardwoods. They are a potential source of turpentine.

4. *Mangrove Type.*—This type is found on tidal flats at the mouths of streams and on the shores of sheltered bays. Majority of the stand is composed of members of the family Rhizophoraceae, consisting of the following species: Bakauan, busain, pototan, langarai and tangal. Other species found in this type of forest are pagatpat, api-api, tabo, tabigi, piagau and dungonlate. The mangrove species are the principal sources of firewood, tanbark, catch, dyewood and charcoal. Nipa palms grow along streams in many parts of the tidal flats. In many places it grows in dense stand.

5. *Beach Type.*—Above the high tide line are found sandy beaches where the original form of vegetation has been kept.

This is a distinct type known as the "Beach type." The frontal zone usually has a tangle of vegetation, of which pandan is conspicuous. The principal trees in this type are talisai, dapdap, dungon-late, palomaria, ago-ho, bani and tawalis.

6. *Mid-mountain and Mossy Type*.—This type is found on high and very rough mountainous regions, and as such, they are essentially protection forests. The topography of the regions where this type is found is characterized by steep main ridges rising to peaks whose sides are cut into similar ridges by deep canyons. The soil is shallow or

nearly absent. The climatic conditions are very moist. The trees are mostly dwarf because they are greatly exposed to strong winds. Their trunks and branches are generally covered with mosses, liverworts, ferns and orchids. The principal species are *Dacrydium* spp., *Podocarpus* spp., *Eugenia* spp., *Myristica* spp., *Symplocos* spp. and *Tristania decorticata*.

The volume of standing timber which includes trees 40 centimeters and over in diameter is estimated, as of June 30, 1953, at about 1,081,778,000 cubic meters or 458,673,872,000* board feet, as shown below:

Commercial forests:		
Accessible forests	707,482,680 Cu. M. —	65.40%
Inaccessible (Protection) forests	272,220,600 Cu. M. —	25.17%
Non-commercial forests (accessible)	95,021,913 Cu. M. —	8.78%
Mangrove	7,052,770 Cu. M. —	.65%
Total	1,081,777,963 Cu. M. —	100.00%

Table I shows the approximate area and volume of standing timber in public forests as of June 30, 1953.

About 75 per cent of the stand of high-land forests is composed of Dipterocarp spe-

cies, namely, yakal, guiyo, red lauan, tangile, mayapis, apitong, palosapis, white lauan, bagtican and almon.

The following shows the stand of timber by groups:*

First group	73,020,013 Cu. M. —	6.75%
Second group	119,969,176 Cu. M. —	11.09%
Third group	518,279,822 Cu. M. —	47.91%
Fourth group	370,508,952 Cu. M. —	34.25%
Total	1,081,777,963 Cu. M. —	100.00%

Value of Standing Timber.—The Government is collecting forest charges and reforestation fund charges on timber cut from

public forests. At present, the rates of forest charges and reforestation fund charges are given below:

	<i>Forest Charges</i>	<i>Reforestation Fund</i>
For each cubic meter of first group timber ...	₱3.50	₱0.50
For each cubic meter of second group timber .	2.00	0.50
For each cubic meter of third group timber ...	1.25	0.40
For each cubic meter of fourth group timber .	0.60	0.40

Based on forest charges and reforestation fund charges alone, the estimated value of the standing timber is ₱1,834,022,000.00.

The standing timber has a commercial value estimated at ₱27,044,450,000.00 based on an average price of ₱25.00 per cubic

meter for logs. Sawn into lumber this timber will yield around 270,444,500,000 board feet which at the present average price of ₱180.00 per 1,000 board feet, F.O.B. Philippine ports, gives a commercial value of ₱48,680,010,000.00. This gives an insight of potential contributions that the timber resources can give to our national economy.

Distribution of Important Commercial Forests.—At the beginning of the American administration, the Philippines had extensive commercial forests of fine timber. In many places, the forest edges were along river banks and along coast lines. With the advent of American administration, development in agriculture, commerce and industry enhanced the cutting of timber. Following the law of least resistance, the lumbermen concentrated their operations in easily accessible areas. Illegal kaingin making accounted also for the opening of wide timbered areas in many accessible places. As a result, the large blocks of important commercial forests that remain today are located far in the interior of unsettled regions, in areas of rough topography or in areas bordering the Pacific coasts where transportation and loading are periodically difficult. Specifically, they are located in the interior of Agusan and Davao, Cotabato, Lanao, Camarines Sur, Samar and Negros Island, along the Pacific coasts of Surigao, Davao, Quezon and Cagayan, and in the rough sections of the provinces of Cotabato, Zamboanga del Sur, Zamboanga del Norte, Misamis Oriental, Camarines Norte, Mountain Province, Basilan Island and Leyte. Palawan Island has also wide area of commercial forests. Concentrations of operations employing modern sawmill equipment and heavy machinery for logging are at present found in these provinces except Palawan where timber stands are of the species other than Philippine mahogany and where the high cost of transportation detracts the interest of investors.

Development of Lumber Industry.—One of the first tasks of the Bureau of Forestry

when it was organized under the American regime was to develop the lumber industry. For this purpose, it conducted studies on the best ways the Philippine woods could be manufactured into articles of commerce. Another step taken was to popularize the Philippine woods by exhibiting samples in international expositions abroad and in local carnivals and town fairs. Our red lauan, tangile, mayapis, bagtican, almon and white lauan, which are known in foreign markets as Philippine mahogany, easily found acceptance abroad. Various species were tested in the laboratory for tensile and cross-bending strengths. Kiln drying and air-drying studies were also conducted to test the seasoning qualities of the various woods. Durability test was also conducted to determine their resistance when in contact with the ground.

Simultaneously the exploitation of commercial forests was started by American technicians with American capital. Modern logging and sawmill equipment capable of mass production following the American pattern of timber exploitation in the Pacific Northwest were introduced, replacing in a large extent the slow, primitive method of logging and milling. Techniques in logging and milling were also introduced by American technicians. Since then the lumber industry progressed rapidly as shown by the fact that timber production increased from 46,398,960 board feet in 1902 to the highest pre-war figure of 1,093,218,704 board feet in 1937. At the outbreak of the last world war, there were 163 sawmills having aggregate daily capacity of 1,693,000 board feet. Actual production of lumber amounted to 348 million board feet annually. Lumber and timber exports increased from 87,000 board feet in 1903 to 251,694,880 board feet in 1937. The principal foreign markets for Philippine woods were: United States, Canada, Japan, Australia, China, South Africa, England, Germany and other European countries.

The lumber industry was almost completely destroyed during the war. However, it rehabilitated itself very remarkably in spite of the difficulties that confronted it. Logging and sawmill plants were rapidly rehabilitated. During the fiscal year 1952-1953, there were 446 sawmills with aggregate daily capacity of 3,322,700 board feet. Actual lumber production during the year amounted to 429,139,547 board feet. During the same fiscal year, timber production of 1,206,114,589 board feet surpassed the highest annual production figure before the war. Lumber and timber exports, which amounted to 427,114,905 board feet, almost doubled the highest annual export figure before the war. Until at present, the lumber industry largely depends on the local market where about 85 per cent of the lumber and timber produced is disposed of annually. It may be said that in the field of lumber industry, the Philippines is the most advanced of all the Southeast Asian countries in point of production, mechanization and efficiency developed by the men employed.

Plywood Industry.

The plywood industry marked a new development in the lumber industry. Its expansion dates back from the close of the last world war, although this industry was introduced by the Americans over 30 years ago. At the outbreak of the war, there were only two plywood mills operating in the Islands but these were destroyed during the war. Today, there are seven modern plywood mills operating in the Philippines with investment of about ₱5,000,000.00. One of these mills has only recently started operation. In addition to these plywood mills, a veneer mill had been put up in Basilan Island. The expansion of plywood industry after the last world war may be gleaned from the following annual production of plywood:

<i>Fiscal year</i>	<i>Production (Sq. Ft.)</i>
1947 —	425,610
1948 —	2,405,340
1949 —	3,980,612
1950 —	10,936,994
1951 —	22,306,290
1952 —	38,233,044
1953 —	56,832,653

The importation of plywood dropped rapidly from 11,382,326 square feet in 1949 to 262,276 square feet in 1953 due to increased production of the local producers.

The use of plywood in many types of building construction has so rapidly gained popularity that almost all the plywood produced are consumed locally. The prospect of exporting plywood is faced with the problems of how to improve the quality of manufacture and to reduce the cost of production so as to enable the producers to place their products in highly competitive markets abroad.

Investment in the Lumber Industry.

At the outbreak of the last world war the lumber industry was already highly developed with estimated investment of ₱46,000,000.00. Most of the investment was represented by the cost of machinery and equipment used in logging and milling. The amount of capital invested in the lumber industry, as of June 30, 1953, is approximately ₱117,595,000.00. Of this amount, about ₱63,273,00.00 represents investment in sawmills alone. It is on account of the enormous investment it absorbs that the lumber industry is given considerable attention in our program of national economic development.

Revenue Derived from the Lumber Industry.

Forest charges and reforestation fund charges due on timber cut from public forests are the principal revenue that the lumber industry contributes to the government. Collection of reforestation fund by the Bureau of Forestry was started only on June 7, 1947, in accordance with Republic Act

No. 115. During the fiscal year 1952-1953, the Bureau of Internal Revenue actually collected ₱3,450,956.00 of forest charges on timber alone and the Bureau of Forestry collected ₱1,025,694.52 of reforestation fund. Including lumber inspection fees of ₱581,253.00, sawmill permit fees of ₱98,875.00 and license fees, license bond deposits forfeited by the government amounting to ₱240,440.00, the lumber industry contributed to the government a total revenue of ₱5,397,218.00 during the year. This excludes indirect taxes derived from the lumber industry, such as sales tax, income tax, foreign exchange tax, etc.

During the fiscal year 1952-1953, there were about 90,000 persons employed in the lumber industry. Due to the wide geographical distribution of lumbering operations, big number of workers find employment in logging or in sawmill in their respective provinces. It is noticeable that many workers in thickly populated provinces, like Ilocos Provinces, Cebu and Bohol, move to active lumbering districts for work. Labor is not a problem in the lumber industry, the supply being in excess of the need of the industry.

It is significant that, as in other major industries, the workers in the lumber industry have learned to assert their right to have due share of the fruits of their labor and to have a better standard of living. As a result, the lumbermen are now incurring greater expense for better wage payment and for the protection of health and security of their men. Progressive lumber companies provide free light and water, good hospitals, schools, playgrounds, theaters, churches and other conveniences for logging and sawmill camp communities. They also give their men vacation leave and other privileges. All these mean increased cost of production.

Problems of Lumber Industry.—There are now many Filipinos who are considered technicians in the production of logs and lumber. Technical "know how" is, therefore,

not a problem of big capitalists who can afford to employ high-salaried technicians. The small capitalists, on the other hand, generally suffer the consequences of lack of technical "know-how."

Lack of capital is another problem that confronts not only the small operators but also some of the big operators. Several big operators stopped their operation or withdrew from the lumber industry due to financial difficulties. But the worst hit are the small operators whose failure is caused more by lack of capital than by any other cause. They have to be extended financial assistance by some means.

Freight rates on logs and lumber are quite high. It is an item of cost that the lumbermen have always complained of. Freight on each 1,000 board feet of logs from the Philippines to Hawaii and the Pacific Coast ports of the United States and Canada is \$45.00, to Atlantic and Gulf ports, \$56.50, to Hongkong, ₱54.00, to Bangkok and Singapore, ₱54.00, to Djakarta, ₱59.00, to Rangoon, Colombo, Calcutta and Bombay, ₱74.00. For lumber shipment to Hawaii and the Pacific Coast ports of the United States and Canada, \$42.50, to the Atlantic and Gulf ports, \$54.00, to Hongkong, ₱24.50, to Japan, ₱54.00, to Saigon and Bangkok and Singapore, ₱39.50, to Djakarta, ₱43.00 and to Rangoon, Colombo, Calcutta and Bombay, ₱46.50. As the United States is the premier market for Philippine lumber, the high freight charges on shipment to that market should be reasonably reduced in order to induce the expansion of our lumber export trade.

The heavy tax burden borne by the lumber industry is strongly objected to by the lumbermen. The 17% exchange tax on imported machinery and equipment for logging and sawmilling should be eliminated if the lumber industry is to be given any relief at all. As the agricultural machinery imported to the Philippines is exempted from payment of 17% exchange tax, the imported machinery for logging and sawmilling which

also produce commodities of commerce should also be exempted from payment of 17% exchange tax.

The wharfage tax of ₱0.60 per cubic meter of export logs and flitches should also be eliminated for the reason that all logs that are exported do not pass any government wharf. Export flitches are almost invariably loaded at the private wharves of lumber companies.

Mismanagement is often the cause of failure of the small operators. This problem cannot be well remedied unless the small operators are extended financial assistance to enable them to employ experienced men to gather their business efficiently.

MINOR FOREST PRODUCTS

Aside from timber, Philippine forests have abundant minor products that are of economic value. In the upland forests there

are firewood, charcoal, rattan, palms, vines, bohos and bamboos, and orchids. Many trees yield nuts, resins, oils, gums and tanning or dye barks. Almaciga trees yield resin known as Manila copal and Benguet pine trees yield turpentine. The predominant trees in mangrove swamps produce firewood, charcoal, tannin and dye barks. Nipa palms growing in thick stands in most mangrove swamps areas produce leaves valuable for thatching houses and yield sap that is converted into fermented beverage or manufactured into alcohol. Minor forest products gathered from public forests are generally consumed locally. A few of them constitute commodities for export.

Estimated Quantities of Minor Forest Products in Public Forests.—The estimated quantities of different minor forest products in public forests are shown below as of June 30, 1954:

Firewood:		
Upland species	118,259,000	cubic meters
Mangrove species	2,831,000	cubic meters
Rattan:		
Unsplit rattan	777,111,000	linear meters
Split rattan	114,250,000	kilos
Nipa shingles	196,221,000	pieces
Nipa sap	39,246,000*	liters
Bohos and Bamboos	220,450,000	pieces
Manila copal	24,577,000	kilos
Manila elemi	322,000*	kilos
Dipterocarp resins	8,852,000	kilos
Oleo resin	50,001,000*	liters
Tanbark and dyebark	1,542,433,000	kilos
Diliman and other Vines	3,057,000	kilos
Buri leaves	2,463,000	kilos
Buri fibers	135,000	kilos
Charcoal	7,878,000	cubic meters
Lumbang nuts and Kernels	1,792,000	kilos

Estimated Value of Minor Forest Products.—The forest charges on the above minor forest products are estimated at ₱66,216,000.00. Their commercial value is estimated at ₱758,769,000.00.

Revenue from Minor Forest Products.—Considerable amount of forest charges is collected by the Bureau of Internal Revenue annually. During the fiscal year 1952-1953, there were collected by the Bureau

of Internal Revenue ₱183,606.34 representing forest charges on different minor forest products cut and collected from public forests.

WILDLIFE

The forests of the Philippines are havens of wildlife which includes game animals like deer, tamaraw, wild pigs, etc., game birds like wild ducks, snipe, doves, pigeons, etc., and protected insect and song birds. Unlike

the forests of Malaya, India and Africa, there are no fierce wild animals in Philippine forests. There is no inventory of the number of game animals and birds found in Philippine forests. It is estimated, however, that for every hectare of forest land there is ₱0.50 worth of game and wildlife. This will give us a total value of ₱7,869,000.00.

FOREST LANDS

The wise use of forest lands is a source of government revenue. Under Section 1838 of the Revised Administrative Code, the Director of Forestry may lease or grant permits for the best use of forest lands or vacant public lands not declared alienable disposable land.

INDIRECT BENEFITS

The indirect or intangible benefits derived from the forests are its influences on stream flow, soil and climate. Such benefits cannot be evaluated in terms of pesos but in general well-being of the country. Forests act as water reservoirs and as such, they regulate stream flow, prevent flood in a large degree and minimize the silting of streams. The supply of water for water power and for irrigation depends upon good forest cover. It is for this reason that the watersheds of streams supplying water for water power have to be kept under adequate forest cover and must be reforested when necessary. The importance of this matter must be well recognized in view of the fact that water powers are now being developed in various parts of the country. The Ambuklao Hydroelectric plant is a very typical example of the project.

Forest cover minimizes soil erosion and enriches the soil fertility content. Forests provide excellent hunting grounds, healthful recreational opportunities, food, and shelter and habitats for wildlife and game animals. They ameliorate climate and make it healthful for man. They also enhance the natural beauty of landscapes.

CONSERVATION OF FOREST RESOURCES

In forestry, the concept of conservation does not mean accumulation of forest wealth. Rather, it refers to systematic cutting of timber and other forest growths in such a manner that the forest capital is kept in its present condition, if not better, so that it can provide a sustained supply of raw materials for the need of the people. Unlike mining in which the ores removed from the bosom of the earth are not replaced at all, lumbering, if carried on scientifically, can be kept on indefinitely because the timber or other forest growths cut and removed are being replaced. Obviously the enemies of forest conservation are the destruction of forest growths by illegal kaingin making, the unregulated cutting by illegal forest users and the wasteful method of forest extraction. The responsibility of conserving the forests rests on the Bureau of Forestry. At present we have adequate laws for conserving the forests. These laws are well implemented by forest regulations of the Bureau of Forestry. In the granting of forestry license, the Bureau of Forestry is guided by the principle that the one who is most qualified to protect the forest is given the preference to get the license. The allowable annual cut granted in the license is calculated not to exceed the estimated annual growth of the forest and, at the same time, it is based on the volume of over-mature trees in the area which have to be cut to save them from deterioration. The method of cutting, gathering and removing the forest products is prescribed in the licenses to avoid wastes of raw materials and unnecessary damage to the forest. The cutting of trees below the prescribed limit is prohibited. The purpose is to avoid the cutting of trees that have not reached their economic age. Such are the regulations of the Bureau of Forestry designed to conserve the forest but, the perennial problem of lack of fund and personnel has made it impossible for the Bureau of Forestry to stop the illegal kaingin making, the un-

regulated extraction by illegal cutters and the wasteful cutting of timber and other forest products by forestry licenses.

It is significant to state that the Bureau of Forestry is now starting a more effective measure towards forest conservation. Steps are now being undertaken to reforest the logged-over areas so as to supplement by artificial planting the natural regeneration of such areas. This is a much cheaper method of restoring forest areas than by reforesting them after they have been reduced to grassland by illegal kaingin makers.

A movement is presently being started by the Bureau of Forestry for effective forest conservation. The step being taken is to require the timber licensees to practice selective logging. By this measure, destructive method of logging will be greatly minimized, if not entirely stopped, and the necessary stocking of timber in the area for succeeding cuts would be provided so as to maintain continuous supply of timber for the present and future needs of the people.

A REMINDER

The Philippines still has abundant forest resources. The standing timber is estimated at 1,081,777,963 cubic meters of which 707,482,680 cubic meters under the accessible commercial forests are suitable for commercial exploitation. Our annual cut of about 1 billion board feet can be increased considerably without depleting the forest provided that the illegal kaingin making or the shifting method of cultivation and the illegal and destructive cutting of timber are controlled. In almost all Dipterocarp forests, overmature trees constitute considerable volume of the stand. This overmature timber must be cut and utilized properly as fast as possible in order to save it from deterioration.

The lumbermen have machinery and equipment adequate to increase lumber and timber production. So as to make maximum use of these investments, they should have additional capital and good markets

for their products. A corollary to the expansion of lumber and timber production is the expansion of lumber markets. The foreign markets should be developed much further in order to stimulate increased production.

Forest conservation should be given proper attention in the planning of accelerated industrial development of the country in order that there could be a continuity of supply of timber and other forest products. In order to reach this objective, the Bureau of Forestry must be given adequate funds and personnel.

Every work creation is threefold . . . First, there is the creative idea, passionless, timeless, beholding the whole work complete at once . . . Second, there is the creative energy begotten of that idea, working in time from the beginning to the end, with sweet and passions . . . Third, there is the creative power, the meaning of the work and its response to the living soul . . . And these three are one, each equally in itself the whole mark.

—Dorothy L. Sayers

Compliments

of

**Mayor Isabelo
Abeleda**

Timber Licensee

Specialty:

Railroad Ties (Molave)
(Under contract
w/MRR)

Posts (Molave, Tindalo,
Ipil, Bansalaguin, etc.)

Address:

San Jose, Occidental Mindoro