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JUN 4 1962

# FORESTRY LEAVES

Organ of the Student Body and Alumni of the College of Forestry,  
College, Laguna



RECEIVED  
MAY 4 1962  
in  
Department  
Philippines

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## NOCTURNE

*.... The garden is deserted  
The avenues lead off to  
The uncertain penumbra  
Of far away foliage  
The twilight has consumed  
Its holocaust of scarlet  
And from fountain of sky —  
Founts of blossoming waters —  
Breezes from the counties  
Of slumber bear down to earth  
A fragrance of new lilies,  
A coolth of tenuous airs...*

*The trees are not moving  
Their calm is so human  
They seem more alive  
Than when their branches are waving.  
... And in transparent waves  
Of the green zenith wander  
Mysticisms of a sigh  
And a perfume of prayers —*

— Ramon Jimenez

**Office of the Vice President  
of the Philippines  
Malacañang**



February 28, 1962

M E S S A G E

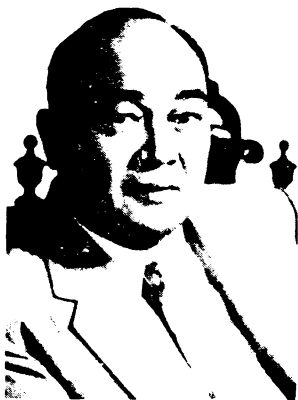
I wish to take this wonderful opportunity to greet the Faculty and student body of the College of Forestry of University of the Philippines. I hope you will all have a very fruitful celebration of Forestry Day.

Our country abounds with many beautiful gifts of nature. As a people we are fortunate to have a wonderful variety of trees and plants. They not only beautify our parks and other landscapes; they also give our people a continuous supply of lumber and fuel.

While our country is rich in these things, our people do not seem to appreciate their value. In many places, many of our people have resorted to indiscriminate cuttings of trees, thereby destroying their aesthetic value besides leaving us vulnerable to floods.

I do hope the celebration of Forestry Day will help our people to realize the importance of preserving our forests.

*Emmanuel Pelaez*  
EMMANUEL PELAEZ



H. R. No. 3

REPUBLIC OF THE PHILIPPINES  
HOUSE OF REPRESENTATIVES  
MANILA

OFFICE OF THE SPEAKER

M E S S A G E

I sincerely believe that instead of giving a message to the readers of FORESTRY LEAVES on the occasion of Forestry Day, I should turn the tables on them and ask them to send their messages to me — ideas on how we in Congress can provide the necessary legislation that will make the forest lover's dreams a reality.

This magazine of the College of Forestry, University of the Philippines, I feel sure, is edited, staffed and read by zealous youths who will not admit being second to anyone in their attachment to our forests, one of the most marvelous gifts which our people have received from the hands of God. I trust that they will not hesitate to give their Congress a piece of their mind regarding our forest problems. As a public servant, I will take it as a great privilege to receive any of these ideas.

Manila, February 1962.

  
DANIEL Z. ROMUALDEZ  
Speaker





Republic of the Philippines  
Department of Agriculture and Natural Resources  
**Office of the Secretary**  
Diliman, Quezon City

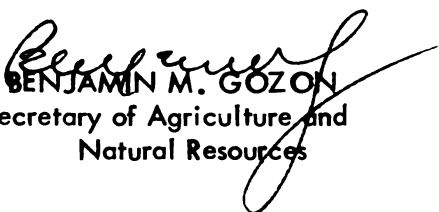
M E S S A G E

In behalf of the Department of Agriculture and Natural Resources, I wish to extend my cordial greetings and felicitations to the "Forestry Leaves" magazine staff on the occasion of their "Forestry Day" issue.

Since prewar days, this official organ of the U.P. College of Forestry has been the object of vocal, written and silent congratulations for publishing materials on forestry matters. Today, not only foresters, but also lumber men, writers, students and researchers have come to regard it as a reliable reference on forests.

At this period when our forests are being denuded at a rate faster than the pace of our reforestation work, the "Forestry Leaves" has a soft spot in the hearts of our country's leaders who need the right forestry information in order to formulate sound policies on the conservation of our rich heritage - the forest resources of the country.

Because of the variety and quality of its published contributions over the years, the "Forestry Leaves" stands on its own prestige as a magazine. More power to it!

  
BENJAMIN M. GOZON  
Secretary of Agriculture and  
Natural Resources

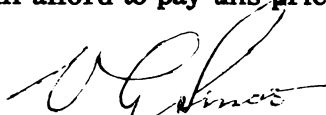


UNIVERSITY OF THE PHILIPPINES  
QUEZON CITY

OFFICE OF THE PRESIDENT

M E S S A G E

There is a grim warning in the devastation, and the suffering, in the wake of the recent floods in Mindanao. This is the appalling price we have to pay for the reckless and insensate manner we have denuded our forests in that fertile island to feed a hungry market abroad. Time and again we have been warned that our forest resources are not unlimited, that without the protective mantle of our forests, the rich soil will not hold, the wind will tear out its flesh, and the floods will wash this priceless treasure into the sea. But careless, and grasping, hands have been too prodigal with the country's patrimony. We can ill afford to pay this price.

  
V. G. SINCO  
President

February 16, 1962

# THE STATE OF AND TRENDS IN SCIENCE AND TECHNOLOGY IN THE FIELD OF FORESTRY AND FOREST CONSERVATION\*

By

TIBURCIO S. SEREVO  
*Acting Director of Forestry*

About 3/5 of the total area of the Philippines is still under the jurisdiction of the Bureau of Forestry temporarily. The goal is to keep under permanent control of the Bureau of Forestry about 42% or 12.5 million hectares of the total land area of the country for forest purposes, such as, wood production, watershed protection, grazing, etc. The forest resources support the wood industries which now rank third among the major industries of the Philippines. Science and technology in the field of forestry and forest conservation have done much to make possible the development of the forest resources and the wood industry.

The permanent forests will be proclaimed as forest reserves under R.A. No. 3092 as prerequisite of sound management. The laying of their clear boundaries on the ground has been started.

The extent, content and condition of the forests by inventory are vitally needed in forest management. Data already gathered were used in improving the regulation of cut and encouraged entrepreneurs to invest in the utilization of virgin forests. Owing to the slow pace of ground inventory, aerial forest inventory will be undertaken.

In the field of forest research, for the studies on growth, yield and mortality which are vital to forest management, there were established 360 growth plots and 139 continuous inventory plots. One hundred eighty two (182) plots were remeasured, and from the data, basal growth of 1.8%, 5.16%, 2.10% and 5.19% for the first, second, third and fourth climatic types, respectively, were determined. These growth percentages were the bases of setting

tentatively the corresponding cutting cycles of 45, 35, 40 and 30 years for the first, second, third and fourth climatic types, respectively, for determining the allowable annual cuts for some concessions so that such forest tracts are worked on a sustained yield basis. This is an improvement over the 1.5 growth per cent used before, which was based on meager studies. Diameter increment tables have also been developed for better regulations of timber harvesting under management plans.

Continuous inventory plots to serve both for growth study and sampling are being established in logged-over areas of each concession-working circle, because growth plots heretofore established widely by regions will not serve the specific needs of management units.

Silvicultural studies, such as, levels of growing stock, thinning, effect of injuries, girdling, etc., essential to scientific management of the forests were started recently. This particular field of forestry will be expanded and intensified to cope with the needed silvicultural practices in the logged-over areas which will be the source of the wood materials needed by the industry after all the virgin forests will have undergone primary logging.

In the field of forest management, regulation has been much improved during the last 5 years. Restocking by natural means is the policy. The selection system of silviculture for dipterocarp forest was adopted as a result of scientific observations. Emphasis is given to saving adequate stands of young trees from injury and destruction. Areas marked up to June 30, 1961 for the leaving of young uninjured trees, cover 88,580 hectares of which 50,740 hectares were inventoried after logging for healthy residual growing stock and seed trees. Techniques in felling and skidding to minimize injury to young trees have been developed. To date four timber management plans are in effect for the sys-

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\* Submitted for the Interdisciplinary Symposia in connection with the National Science and Technology Week, November 20-26, 1961.

tematic and orderly harvesting of timber and development of the forest concessions embraced by the plans. These plans cover only about 3% of the number of big concessions, hence, a greater number of plans will have to be undertaken to place all the timber production forests under sustained yield management. The logged-over areas are being treated to improve the growth and quality of timber. The killing of standing big defective trees, in order to release without injury, poles, saplings and seedlings of the useful species is being done extensively. About 21,270 hectares of logged-over areas have been improved including restocking of badly cut-over bare areas by planting useful species. Timber stand improvement work will be expanded and intensified as results of studies become available. This will become one of the big projects of forestry.

Converting badly cut-over stands to pure pulpwood stands will be tried.

Benguet pine management in the Mountain Province is by the seed-tree system, geared to supplying the needs of the mining industry and harmonized with watershed protection and conservation due to big hydro-electric installations therein.

In forest products utilization, extraction of timber and its manufacture into lumber and plywood are highly mechanized. Processes have been greatly improved through technology, thus increasing production. Considerable basic research had been undertaken. Information is now available for industrial application, such as, on pulp and paper manufacture. Much remains yet to be done in the field of basic and applied research.

In the field of watershed management, the conservation of important watershed is being taken care of along with practice of selective logging and seed tree systems. So far practically no studies had been undertaken along this line by the Bureau of Forestry. Much remains to be done for a more scientific management of the watersheds.

While more than 50% of the estimated one million hectares of grazing lands are utilized, most of the pastures are not scientifically managed. Greater attention and efforts will be dedicated to this field of forest land use, because this country is very short of meat and dairy products vital to the health of our people.

Concerning reforestation, about 54,000 hectares of plantations have been established. Most of these areas are in critical watersheds of important rivers. With the creation and operation of the Reforestation Administration much is expected to be done in converting about 1.3 million hectares of denuded lands into forested areas for useful watersheds and as supplementary sources of wood materials needed by industry.

Private enterprises are getting more and more interested in short rotation wood crops such as pulpwood.

Kaingin making, especially in logged-over areas, is still the number one problem of forest conservation, because it has political, social and economic aspects. Research is being undertaken by the Colleges of Forestry and Agriculture to find out the peculiar, social and economic features of kaingin agriculture. This study will be useful in formulating a more effective program of forest protection. Punitive action is being intensified by the Bureau of Forestry and Philippine Constabulary. Concessionaires are urged to participate more actively in this job. The concerted efforts of various agencies to implement socio-economic measures, such as resettlement, plus effective information campaign, has great promise of success to control forest destruction because it strikes at the very root cause — ignorance and survival of the Kainginero.

The remaining forests are still sufficient to sustain indefinitely the wood needs of the country, provided that enough uninjured young trees of the commercial species are left during logging and the commercial forests and logged-over areas will not be further destroyed by kaingineros, and that these logged-over areas are improved by silvicultural measures.

The 12.5 million hectares of forest lands that will be eventually set aside and demarcated for the permanent national patrimony, afford immense possibilities for the application of science and technology in the practice of forestry and utilization of forest products to attain the objective of maximum productivity and utility of forest lands.

More wood materials that are allowable to be removed other than for lumber and plywood await the hands of science, technology, capital and enterprise to convert them into useful commodities for the good of our people. The National Science Board, the National Economic Council and private enterprise are now focusing their attention towards fuller utilization of our forest lands consistent with conservation.

### *Introduction*

The forest resource is a sinew of the Nation's life, because of its extent, value and role in the economy. The forest supports the wood industries which now rank third among the major industries of the Philippines. Latest estimates placed the value of our forests at about ₱25 billion. The 9.3 million hectares of commercial forest

contain about 982,121,320 cubic meters (416 billion bd. ft.) of timber, 30 centimeters and over in diameter, as per rough estimates in 1957. Besides producing the timber needs of the country, the forest resource also supplies the logs, lumber and other processed wood products in the export trade. In fiscal year 1960-1961, our wood export brought in about ₱185.3 million. Logging and lumbering and other wood using industries give direct employment for more than 135,000 persons in the lumber industry with about 800,000 dependents besides indirect and partial employment to several times more people in other allied businesses.

Forestry must be practiced in order that it will render for all time benefits and services to the people, because forestry is a science, an art and a business.

#### *Land-use Plan*

About 59%, close to 3/5 of the total area of the Philippines, is still under the jurisdiction of the Bureau of Forestry temporarily. The goal is to keep under permanent control of the Bureau of Forestry about 42% or 12.5 million hectares of the total land area of the country, for forest purposes, such as, wood production, watershed protection grazing, etc. A large part of the 12.5 million hectares or about 9.3 million hectares, will be devoted to wood and minor forest products production, 1 million hectares to grazing, and 1.3 million hectares of open lands to reforestation to safeguard watersheds and to produce wood and other economic trees. Those at high elevations would be protection forests, home for wild life and for recreation. The mangrove swamps which cover about 2.4 per cent of the forest lands are devoted to firewood and tanbark production and for saltworks.

About 5 million (17%) hectares may be classified to the category of alienable and disposable although all of these may not be available for disposition to home-steaders as some of these areas are already occupied.

#### *Establishment of Permanent Forests*

Areas classified as timberland will be proclaimed under Republic Act 3092 as forest reserves which will be our permanent forests. Presently, there are about 105 forest reserves which are permanent forests for various purpose but mainly for timber production, covering about 2.3 million hectares which are about 19% of the 12.5 million hectares for permanent forests. Priority of establishment are timber production forests under big concessions. The establishment of permanent forest boundaries by setting up durable and distinct corners, clear and visible lines between the corners is now being undertaken and will be intensified for effective forest protection and for sound management and development. The NEC and ICA had extended some financial help along this line.

#### *Forest Inventory*

Once the permanent forest areas for timber production are definitely delineated it is necessary to have information on the extent and content of the operable areas, composition, reproduction, stand structure (size classes), forest types, soil condition, topography and condition of residual stands. This data is one of the fundamental bases for the formulation of workable program of sustained yield management and for economic development plans. Ground inventory by six (6) inventory parties since 1954 covered up to June 30, 1961, a period of seven years, 1,654,700 hectares mostly in Mindanao which is only 13% of the goal of 12.5 million hectares so that about 87% remains to be inventoried.

Data already gathered had been used in a few timber management plans for concession working circles, for policy statements or improving regulation for other concessions and for adjusting allowable cuts of concessions previously regulated by the crude growth per cent method. It has encouraged entrepreneurs to engage in the utilization of



hitherto virgin forests by having sound basis for profitable investment and for planning operations.

Owing to the slow pace of ground inventory and the getting obsolete of present statistics, the forestry bureau has decided to avail of the modern system of inventory by the use of aerial photography or photogrammetry. The present system of inventory work which would require of from 45 to 70 years could be shortened to only 5 to 8 years. The United States government will help the Philippines in this work with adequate funds and technicians. A more reliable data and maps are expected to be available.

### *Forest Research*

Forest research is very vital as it furnishes the guide for the sound management of forests. Production of wood materials for various ends so that the supply is harmonized with the demand in kind, quantity and quality of wood manufactured products, and the regulation for the removal of wood materials so that there will be a continuous supply, require the results of research.

With forest inventory, growth information is indispensable to forest management. Gathering of data on growth, yield and mortality of stands of broad-leaved trees which mainly comprise tropical forest stands requires the establishment of permanent samples plots and periodic measurements of the trees thereon.

Forest research has been set-back due to the last war which caused the destruction of the records and most of the growth plots.

Since the past seven years, forest research, especially on growth, has been accelerated.

Before World War II and up to 1952 there were no systematic establishment and measurement of growth plots in the Philippines. However, the studies conducted from 1905 to 1939, although meager, were the basis of setting 1.5% annual volume growth

and this growth per cent has been used for determining the allowable annual cut granted to timber licenses in public forests. This was found to be conservative and appears to have been suited to that period for crude regulation as there were meager information on the condition, extent and content of the forest. The status of the public forest then was not yet stable. This growth per cent regulation is still being used where inventory and growth data are not sufficient.

In 1953, growth measurements were modified such that four climatic types were to be represented. The organization and techniques of establishment and measurement were improved. The sample plots were distributed at random in the logged-over areas at least one each for bottom, middle slope and brow of mountain within the logging set-up. The plots were rectangular in shape, 20 x 25 meters or 50 x 100 meters, depending on the density of vegetation, variation as to diameter and height, number of crown sizes, and condition of the site. Priority of establishment in cut-over areas was given as the next harvest will be from this area. Growth in virgin forest becomes less and less important and considered not significant in regulation calculation because such forest diminishes while residual stands increase.

There were 360 growth plots and 139 continuous inventory plots established up to June 30, 1961. One hundred eighty-two growth plots were remeasured. The available basal area growth (Pressler's formula) for light and medium dipterocarps as derived from the data so far gathered from the re-measurements for each of the four climatic types throughout the country are as follows:

First climatic type (two pronounced seasons; dry from November to April; wet during the rest of the year) .. 1.87%

Second Climatic type (no dry season; with a very pronounced maximum rainfall from November to January) ... 5.16%

Third Climatic type (seasons not very pronounced; relatively dry from November to April; with a short dry season lasting from one to three months) ..... 2.10%

Fourth Climatic type (rainfall more or less distributed throughout the year) ..... 5.19%

(Above are applicable to dipterocarp species).

Along with the studies of volume and diameter growth, the figures were the basis of setting-up the tentative cutting cycles of 45 years for the first climatic type, 35 years for the second climatic type, 40 years for the third climatic type, and 30 years for the fourth climatic type. This tentative cutting cycles are used for determining the allowable annual cut for some concessions so that such forest tracts are worked on sustained yield basis considering an improvement over the 1.5 growth per cent used before.

For the Benguet pine the growth in diameter is about one centimeter a year.

Analysis and derivation of growth figures from five growth plots of highlead logged-over area in 1928 and in a tractor-logged area in 1928 produced an increment table which shows the number of years it takes for different diameter classes of Philippine Mahogany trees to reach certain diameters after periods of years. This is the diameter projection method.

With these few re-measurements conducted, we have already data leading, to or indicative of the trend of growth and they are now presently applied for the computation of the allowable annual cut for timber license areas and concessionaires. From the Basilan plots, a Table was derived which is used for regulation calculations (with the adapted Brasnett formula) in timber management plans.

Silvicultural studies, such as, levels of growing stock, thinning, effect of injuries, girdling, etc., essential to scientific manage-

ment of the forest were started recently. These will give guide for accelerating growth and improving the quality of timber and promoting the growth of other wood species. Optimum levels of growing stock at various sites and periods will be determined, so that the excess stock (for growing saw timber) can be removed and made use of for pulpwood and polewood. Thirty thinning plots were installed with ICA-NEC aid and fifty-nine other silvicultural experimental plots were established by the Bureau of Forestry with a few jointly established by said Bureau and the College of Forestry. There are also undetermined number of silvicultural experiments being undertaken by big concessionaires. This particular field of forestry will be expanded and intensified by the Bureau of Forestry and concessionaires to cope with the needed silvicultural practices in the logged-over areas which will be the source of the wood materials needed by the industry after all the virgin forests will have undergone primary logging.

Lately, continuous inventory plots have been decided to be established for each working circle comprised by timber licenses because the growth plots established to date are mainly for the climatic regions and are not specifically applicable to each management unit (working circle). The growth plots established previously will be used as checks and we will continue to measure them periodically.

Efficient and scientific management of our forests lies on the availability of reliable data on growth and mortality rates of our tropical trees. Our research work was set back in the initial state because our records before the war were burned during the Japanese occupation. The establishment of carefully measured permanent observation plots through out the logged-over areas is the initial step toward obtaining adequate information on growth and stand development. Remeasurements of these permanent plots or points before the succeeding cuts will accurately indicate progress toward size,

volume, utility and quality of wood objects of management. There are 139 plots in logged-over areas in all major logging regions in the Provinces of Mindanao, Visayas, and Luzon. These plots will be harmonized with the ground plots to be established under the Forest Resources Inventory Project with the use of aerial photos. The main purpose of these plots is to guide the management of forest working circles through periodical information on the growth and mortality of the dipterocarp trees and extent of decay following logging injury and thus be able to determine the allowable cuts and prescribe the cutting budgets for each working circle established. These continuous inventory plots serve as "meters" of the working circle to guide the forest managers so that such working circles will produce efficiently and continuously the wood material needed by wood-using industries. We have high hopes that with the establishment of these plots it will give us the guide in the proper management of our forest within the next five to ten years. It is expected that by that time, we have already sufficient information on how to manage this or that particular forest.

#### *Forest Management*

The stages of an orderly management of the forest consists of: First, establishment of such forest in a state of permanency; Second, inventory of its contents; Third, studies of conditions of the site and behavior of the wood species; and Fourth, regulation of cut, improvement of the growing stock and protection under a management plan.

The first of the third stages have been already discussed. The fourth stage shall be now considered.

Early attempts of forest management in this country have been characterized by letting the private entities themselves carry out the diameter limit system of regulation without effective Government supervision and checking on the progress of the work. Forest management has been improved re-

cently by the actual supervision and marking of the trees by the Bureau of Forestry in cooperation with private entities.

Heretofore, the diameter limit system was the system of regulation of cutting. It is still practiced in small timber license areas where the Government cannot afford to assign tree markers to mark either the trees to be cut or the trees to be left. It involves the cutting of trees, 60 centimeters in diameter for the first group; 40 centimeters for the second group and 50 centimeters for Dipterocarp trees belonging to the second or lower groups. Due to lack of funds and technical men to check and supervise the logging operation, the timber operator cut the forest carelessly. This resulted in extensive poorly-stocked cut-over areas.

This cutting system was gradually changed and the present scientific system of cutting called "selective logging" was introduced. Selective logging, in simple terms, is merely the cutting of mature and over-mature trees and leaving enough healthy residual trees for the future cuts as well as for the conservation of soil and water. This system did not specify the diameter limit of the trees to be cut but a flexible diameter limit was set. The minimum set for the number of trees to be left as future growing stock is 60% of the 20- to 70-centimeter diameter class groups of Philippine Mahogany species, including the *Anisoptera* and *Dipterocarpus* species and trees commonly cut for lumber and veneer in the locality. Prior to logging operations, the trees needed to be left are marked by forest officers and forestry men of timber operators. Numbers or spot-marks are painted on these trees to be left and will not be injured or damaged by timber licenses, otherwise, if damaged, they are to pay the fines or penalties prescribed by the Government for damaging such trees. To assure that all areas of the public forest are stock with trees, the Government sees to it that in poorly stocked areas, there are bigger diameter trees to be

left as mother or seed trees for natural regeneration and to prevent exposure of the mineral soil and too severe reduction of the number of stems for the next future cuts, Figure 1.

Our immediate task in the Bureau of Forestry today, is the reduction of injury or damage in the public forest. This is done by seeing to it that felling of trees will not injure stands of young trees for the future harvest. Logging tools necessary for the reduction of destruction in the residual stand is being used by several timber licenses. By more improved techniques in tree marking and introduction of selective logging tools and equipments, an increase in the number of healthy trees was found possible. In some license areas, more than 60% of original number of Philippine Mahogany trees in the 20- to 70-centimeter diameter classes were saved.

After a certain area is logged, the Government usually check the operation of timber operators. This is done in order to see whether or not the required number of trees to be left are found in the area. This system of checking logged-over areas is called "residual inventory". In this inventory, the Government and company tree markers determine also those trees left in the cutting areas whether or not they are considered healthy, undamaged or badly damaged. A healthy tree means it has no injury or has slight injury, and that in the next 10, 20, or 30 years hence such trees will not become defective but will be sound for lumber or veneer purposes. A tree with injuries are usually those that are heavily damaged or heavily injured such that within 10, 20, or 30 years said tree is useless for milling purposes.

A timber licensee or operator whose area does not come under the standard criteria for a healthy residual stand as prescribed by the Government is fined four times the regular rate of forest charges on those marked trees to be left which are cut,

carelessly destroyed or injured, plus the reforestation fund charges. The object of imposing fines is mainly not to increase the revenue of the Government but to minimize logging damages and to attain the goal of adequate residual growing stock in the forest. Under our selective logging project, the Bureau of Forestry has already marked from 1953 to June 30, 1961 an area about 88,580 hectares of which 50,740 hectares were inventoried. We plan to keep pace eventually with about 40,000 hectares logged yearly by timber operators in the country by also seeing to it that some number of hectares is marked and inventoried by the Government. As of June 30, 1961, we have already implemented the selective logging project in about 175 timber licenses with areas of 2,259,400 hectares. We are yet far below our goal of about 7,000,000 hectares of permanent forest land to be under acceptable and scientific forest management. We expect to implement further in the remaining timber license areas equivalent to about 762,000 hectares per year or more in the next five years.

The selective logging project being now undertaken by the Government consists mainly of the following:

1. To secure satisfactory residual stand by tree marking and imposition of fines to those erring timber licensees in order to assure that the secondary forest will be stocked with healthy trees, Figure 2. Techniques of felling and skidding to minimize injury to young trees have been developed. In felling, the proper use of wedges and sawing the felling and under-cuts to avoid damage and injury to marked trees are now practiced in many operations, Figure 3. Skidding techniques, such as, siwashing with bull-blocks, extended chokers, fender logs, proper location of spar trees, confining tractors to specific trails, etc. have been demonstrated and are now practised:

2. To improve logged-over areas (secondary forests) in the permanent forest to

accelerate growth and improve the quality of timber, Figure 4. The killing of defective trees in order to release without injury, poles, saplings and seedlings of the useful species is being done extensively. About 21,270 hectares of logged-over areas have been improved including restocking of badly cut-over and bare areas by planting useful wood species. Timber stand improvement work will be expanded and intensified as results of studies, mentioned previously, become available. This will become one of the big projects of forestry;

3. To protect selectively logged-over areas as this is the mainstay of the future forest of the country. If protection is not done in the logged-over areas and same will be destroyed by kaingineros or squatters, we have no hope of maintaining our valuable forest and our already well-established markets here and abroad.

*Management Plans.*—The selective logging system as practised is embraced by and is the principal tool of attaining sustained yield under a management plan. It has been carried on ahead of written approved plans because of necessity with the aim of placing it later in harmony with regulation in plans. The Bureau of Forestry is requiring and undertaking with concessionaires the preparation of timber management plans. A timber management plan is a precious document and may be called the "bible" of a concessionaire, because it covers the systematic utilization and scientific development of the concession which shall be carried out and improved by succeeding forest managers. Such management plan, in brief, governs the method of cutting and the regulation of the amount of wood-raw materials removed from the forest in accordance with prescribed sound forestry practices; the silvicultural operations to improve the forest; and researches to determine the best system of forestry practice to be applied in certain forest areas and the cheapest means of managing a particular forest such that the goal of continuous wood production and utiliza-

tion will be attained. In addition thereto, the protection of logged-over areas and its remaining virgin forest is prescribed.

Timber management plans are required of all big timber license areas. Approximately 3% of the number of existing concessions have approved plans to date. Management plans for other timber license areas will have to be prepared to place all the timber production forest under sustained yield management.

Present timber management plans cover only licenses whose areas range from 45,000 hectares and over. We have to continue the preparation of timber management plans for timber license areas less than 45,000 hectares. Another program set by the Bureau of Forestry is the organization of working circles, comprising small timber license areas less than 10,000 hectares for the purpose of sustained yield management. Small timber licenses not organized into working circles will not be self-sustaining or they cannot stand alone by themselves but, if they are grouped together and organized as one unit, their operation may be made continuous.

Forest management will keep track of forest and forest products research, local and market demands for wood. Matchwood, polewood, furniture wood and heavy construction wood are in need of managed areas. Management should look ahead for managed pulp and paper, particle board areas as these are up and coming commodities.

In this connection, mention is made of the plan of the Bureau of Forestry to try with a private lumber company the conversion of badly cut-over areas and abandoned kaingins into pure stands of pulpwood trees. If it will be found that it will be more profitable on the part of the timber operators to clear patches of unstocked areas within the public forest and plant them with fast-growing species than harvesting existing miscellaneous species in the area, the Government will have to go ahead and pursue such



program, provided that pulp making and wood-using plants will be established by them or are assured of markets for pulp or pulpwood.

*Benguet Pine management* — Observations established the fact that Benguet Pine regenerate successfully in the open, provided that adequate number of seed-trees are left, seeds are on the ground, or that the cones are already matured during the cutting operation. The management, therefore, of the Benguet Pine forest (850,000 Has. — 6.45%) which is vital to the mining industry and homebuilding in the Mountain Province, is the seed-tree system, entirely different from the modified selection system for Dipterocarp forest which regenerates successfully with partial shade and partial light. There, seed-trees to be left are conspicuously marked by paint, while trees to be cut are marked also but differently. Even-aged stands are produced. Since the average diameter of trees cut for the mines is about 40 centimeters d.b.h. and the diameter increment is about 1 centimeter a year, a rotation of 40 years may be developed. Observation and studies of this Bureau and the Benguet Consolidated, Inc. reveal generally thick regeneration of pine after logging. This will require thinning at various stages to eventually produce sawtimber. This suggests immense possibilities for pulpwood materials in the process of raising sawtimber and, therefore, forest management for this kind of forest should be geared to sawtimber-pulpwood products.

As a major portion of the Benguet pine forest is in a very important watershed of the Ambuklao-Binga Hydroelectric plant, its utilization and management should also be harmonized with watershed protection and conservation.

#### *Forest Products Utilization*

In forest products utilization, extraction of timber from the forest and its manufacture into timber and plywood are highly me-

chanized. Heavy machineries for road construction, skidding and yarding, hauling and unloading are used by big concessionaires in extracting logs from the forest. Investment in logging alone is about ₱40 million. Production in 1960-1961 is about 6,596,400 cubic meters (2,796,897,000 board feet) from which 441,285,600 board feet of lumber, 213,376,504 sq. ft. of plywood panels and 164,695,788 square feet of veneer were manufactured and the rest exported, Figures 5 and 6. Processes have been greatly improved through technology, thus increasing production.

There are in operation 331 sawmill with total daily capacity of 3,951,000 board feet, 16 plywood mills with a total daily capacity of 1,662,800 square feet, and 9 veneer mills with a total daily capacity of 1,220,000 square feet. Techniques of manufacturing had been greatly improved, so that quality lumber and plywood are maintaining their places in foreign markets. This has been made possible through the initiative of the manufacturers urged by the necessity of improving the quality of their products and lowering the cost of production in order to compete successfully in the world market.

The Forest Products Research Institute at Los Baños, considered to be the biggest in the Far East, is doing considerable basic research and applied research for better processes, diversified, closer and increased utilization of wood from our forests. Information is now available for industrial application, such as on paper and pulp manufacture. Much remain yet to be done in the field of basic and applied research.

#### *Watershed Management*

In the field of watershed management, the conservation of important watersheds is being taken care of along with the practice of selective logging and seed tree systems.

Good timber management in our watershed lands where most of our rich forests

are located, means good watershed management, too. They go hand in hand.

The steep topography of many of our watershed lands, the numerous watercourses, badly damaged soil and plant cover, favor swift run-off and rapid concentration of water which results in greater flood hazards. Heretofore, large area of our watershed lands have been stripped of much of their trees and other plant growth by kaingins and destructive logging, and robbed of soil fertility and soil stability. Consequently, they cannot effectively regulate the flow of our rivers and streams and recharging underground water reserves. Instead, our damaged watersheds contribute heavily silt, sand, stones and gravel to the watercourses. Disastrous floods thus ensue and the repair of our sick watersheds will entail heavy amount of skill, money and labor.

The selection system of timber harvesting which had been instituted by the Government in 1953, which requires the leaving of adequate number of trees during logging for the next timber crop in 30 to 40 years in the same area, insures the preservation of the watershed values of our forest areas. In this system of timber harvesting, the more young trees left per hectare, the greater the number of seedlings and saplings are consequently left, thus leaving a sufficient amount of vegetative cover to prevent soil erosion, and retain the water storage capacity of the forest.

Careful felling of trees and judicious handling of yarding machineries, greatly minimize damage to both soil and vegetative cover. The location and construction of logging roads should be more carefully done to minimize soil erosion and vegetative destruction.

All the foregoing measures are now being assiduously enforced by the Bureau of Forestry, not only to insure a continuous supply of timber, but also to keep the health of the watersheds in good condition. The Government is seriously concerned to pro-

tect the watershed values of our forests because good management of our watershed lands has important consequences for urban communities and agricultural lands looking to them for water supplies, flood protection and other services that water provide to modern living.

Our watershed lands must be protected and used in such a manner as to maintain the stability and health of the soil therein, and therefore its capacity to absorb and store water.

Careful logging is not incompatible with water production and control, as has been found in the United States. The object and the size of the watershed determine whether or not logging will be allowed and, if allowed, the kind and intensity of logging. In some small watersheds for domestic (drinking) supply, no logging is allowed. In bigger watersheds for domestic water supply, logging is allowed but with stringent requirements as to location of roads, diversion canals, leaving of unlogged strips along main streams banks and higher diameter limit of trees to be cut.

In the Ambuklao-Binga watershed in the Mountain Province which supply water for electric power generation, logging is also allowed but with the restriction that no dirt roads shall be constructed. Yarding is done by skylining to loading points thence by tramways or skylining to existing roads and thence by trucks to the mills. These minimize soil erosion of the mountain sides and thus silting is also minimized in the reservoir. Forest cover is maintained by the seed-tree system of silviculture. This system allows the removal of timber so vital to the mining industry. Fires, however, are still prevalent which annually destroy considerable vegetative cover of the watersheds.

Watershed reservations have been made for municipalities and cities and these are administered by the local Governments. The biggest reservation, the Angat-Marikina watershed, which is the source of water sup-

ply for Manila and surrounding communities is under the jurisdiction of the NA-WASA. Logging is entirely banned in this reservation. The rest of the watersheds remain under the Bureau of Forestry.

So far, practically no studies for watershed management had been undertaken by the Bureau of Forestry.

There is a pressing need for more intensive studies for better management of our watersheds as the nation grows in population, in agriculture and industry, and in standard of living. One of such studies should be on the effects of various intensities of pasture and logging which should be undertaken. Thus, some observations have been undertaken abroad by some of our men.

An expert from FAO will be availed of to help in the planning for watershed management. A fellowship for a Filipino abroad will also be sponsored by FAO.

#### *Range Management*

The management of about one million hectares for grazing is still in its infancy. There are at present enforced about 2,800 permits and leases for pasture covering about 650,500 hectares of grazing lands. While more than 50% of the estimated total grazing lands are utilized, most of the pastures are not scientifically managed. Greater attention and efforts will be dedicated to this phase of forest land use because this country is very short of meat and dairy products vital to the health of our people. The carrying capacity of various categories of grazing lands will be studied and so with the improvement of forage.

#### *Reforestation*

In the field of reforestation, about 54,000 hectares of plantations have been established. Most of these areas are in critical watersheds of important rivers. Reforestation by artificial means is an expensive and slow process. However, it must be un-

dertaken. Of the 54,000 hectares of plantations of ipil-ipil, Benguet pine, and exotic trees species established, only a small percentage are economically matured trees.

A healthy trend for reforestation should be the large-scale planting of Benguet pine where it is suitable in order to meet the long wood fiber requirements to supplement our abundant short fiber woods that the coming pulp and paper industry using wood fibers will increasingly need once established. Private enterprises are getting more and more interested in reforestation. Short-rotation pulpwood and furniture wood species and lumbang are promising money-makers. The Government should provide the necessary incentives.

With the creation and operation of the Reforestation Administration, much is expected to be done in converting about 1.3 million hectares of denuded lands into forested areas for useful watersheds and as supplementary sources of wood materials needed by industry.

#### *Forest Protection*

Forest destruction is the number one problem of forest conservation. I wish however, to correct the impression that all kain-gins are in public forest. Some of the clearings that many see have been in forested areas suited for agriculture which been released too soon due to the pressing need of people for agricultural lands. But kaingins especially in logged-over areas is still the number one problem.

It is found that no serious and concentrated study towards an effective solution has been undertaken despite the fact that forest destruction nullifies whatever science and technology have been applied to the forest and forest products utilization. It is the most difficult problem as it has political, social and economic aspects.

It is fortunately timely that the Colleges of Forestry and Agriculture of the University of the Philippines have worked out a

research project to be undertaken jointly by them on "Kaingin Agriculture in the Philippines: Analysis and Control". The project is designed to reveal the peculiar, social and economic features in kaingin practices as a basis for understanding this problem and proposing means of controlling it. It will be undertaken on a 5-year period and is divided into 3 major phases. The first phase will consist of study and analysis to isolate and interpret the possible kaingin social patterns in christian and non-christian communities in order to arrive at an understanding of their motivations and tendencies. The study and analysis will provide an insight into comparative economics of kaingin agriculture and forestry through the use of simple tabulation and the "residual method" of computing incomes. The second phase will be a pilot observation which will be conducted during the 3-year period in which the recommendations drawn from the first phase will be implemented and tested in a selected province. The third phase will be an evaluation of the results of the 5-year project. This project has been submitted to the National Science Board for approval and financing. The Bureau of Forestry fully indorse this study as such is urgently needed for the formulation of a more effective program of forest protection.

*Punitive action* by the Bureau of Forestry with the cooperation of the Philippine Constabulary is being intensified. Out of 683 complaints filed in fiscal year 1960-61, 242 were convicted. A concerted effort of agencies concerned will help a lot in minimizing forest destruction, especially in logged-over areas in permanent forest where selective logging have been practiced. The concessionaires are urged to participate more actively in the protection of their concessions.

*Resettlement.*—A part of an effective and permanent solution would be to adopt and execute a policy of resettling the truly landless hill farmers with their families living in wood production forests to NARRA

and EDCOR reservations, in a similar way that the surrendered Huks were resettled to solve the economic and social aspect of the communist threat to the Nation's security. The P.C. and the Navy should take care of delivering the squatters in public forests to the NARRA and EDCOR authorities for resettlement in their reservations.

Whatever remaining areas that may still be available for release for agricultural purposes should be used by the Bureau of Forestry to resettle the convicted squatters and kaingineros before releasing such areas.

However, the so-called professional squatters should not be given this opportunity but shall be dealt with to the fullest extent of the law. The nomadic hill-tribes should be effectively confined to reservations. These people should be availed of for forestry and logging work for which they shall be fairly paid. This will minimize their nomadic and shifting cultivation customs destructive to forest.

*Forestry education and information* should be geared to forest conservation which boils down to the prevention of forest destruction. This has a very important role in the program of forest protection. The College of Forestry has spearheaded in this line. It trains men not only in forest production and forest utilization but also the broader aspects of forestry as a science in relation to other sciences and the role of forests in the people's life. The men so trained will influence a number of people where they work either in the Government or in lumber companies.

With the help of a visiting American Professor, the techniques of effective forestry information campaign is being taught.

Under the auspices of the Joint Committee on Public Education and Information in Forestry radio program and distribution of posters on "Forests Build the Nation" are presently undertaken.

All of these helped a lot in influencing Congress and the Chief Executive to enact

R.A. 3092 which provides for the permanency of status of forest lands and stiff penalties for forest destruction.

This Committee should reach, with the help of the PACD, the local leaders (Bo. Lieutenants and Mayors) in places near the forests and demonstrate with easily understandable facts and figures the consequences of forest destruction.

Wider application of science and modern techniques in agriculture through effective coordinated, demonstrations by the Bureau of Agricultural Extension, Plant Industry, Animal Industry, and Soils and the PACD could indirectly help in the prevention of forest destruction by increased agricultural production per unit area of agricultural and pasture lands. This will minimize horizontal expansion of agricultural activities into forest lands because the present agricultural lands are sufficient to produce the food needs of the people. The emphasis should be maximum production per unit area rather than wider areas poorly developed. If such modern methods are taught to the forest-bordering farmers through actual demonstration, these people will be able to live well in their present areas and will no longer take the trouble of clearing the nearby forests.

The foregoing socio-economic and educational measures have great possibility of success to prevent further forest destruction because it strikes at the very root cause—survival and ignorance of man and his family.

#### *Brief View of Situation and Trend*

It may be asked whether or not we are cutting fast our forest and thus it is fast diminishing. Let us use figures for what they are worth although many doubt the figures. The NEC Forestry Statistics show that as of 1957 the Philippine forests consist of 9.3 million hectares of commercial and 8.3 hectares of non-commercial forests, a total of 12.2 million hectares containing approximately 416 billion board feet of

timber 30 centimeters and over in diameter. Using the conservative method of determining allowable cut, 1.5% of this amount will be about 6.2 billion board feet allowable cut a year which is more than twice the present rate of 3 billion board feet cut a year. If based on the 264 billion board feet volume of the 60 centimeters and over in diameter trees in the 7.3 million hectares of accessible commercial forests, the possible allowable annual cut at 1.5% will be 4.8 billion board feet which is still more than the present rate of cutting.

Consider also the findings in our growth studies which show an average growth of 3.58% in basal area a year for the entire country instead of 1.5%. The practice of selective logging has also improved the number of uninjured young trees left per hectare for residual growing stock. With the growth of about one centimeter a year which may be accelerated by timber stand improvement, provided the logged-over areas are protected from destruction by kaingins, the second cycle of harvest is possible in about 30 to 50 years, and possibly earlier due to the trend of smaller-sized trees to be cut, and intermediate cuttings for pulpwood for the paper and fiber-particle board industries.

As a simple appreciation of the situation in another way, let us divide the exploitable timber of about 264 billion board feet of 60 centimeters and over in the 7.3 million hectares accessible forests by 3 billion board feet cut a year. It will take us over 80 years so that there is a safety factor of over 40 years, because then if the logged-over areas are well protected, another cycle of logging operation could be started after about 40 years from now. So, even if our present statistics is half-accurate and thus reduce by one-half the number of years to finish the virgin timber, Figure there may still be no gap of wood harvesting. But we need more reliable data to be sure of our ground, hence, the early prosecution of the program of aerial forest resources inventory.



Provided that enough uninjured young trees of the commercial species are left in the logged-areas, the commercial forests and logged-over areas will not be further destroyed by kaingineros, and that these logged-over areas are improved by silvicultural measures, the remaining forests are still sufficient to sustain indefinitely the wood needs of the country.

It is not too early, however, to prevent further forest destruction by kaingins, because the harvestable volume will be depleted uselessly and natural replenishment in logged-over areas will be stopped. Such a situation is precarious. The forests will be eventually lost.

The 12.5 million hectares of forest lands that will be eventually set aside and demarcated for the permanent national patrimony, afford immense possibilities for the application of science and technology in the practice of forestry and utilization of forest products to attain the objective of maximum productivity and utility of forest lands.

More wood materials that are allowable to be removed other than for lumber and plywood still await the hands of science, technology, capital and enterprise to convert them into useful commodities for the use of our people. The National Science Board, the National Economic Council and private enterprises are now focusing their attention towards fuller utilization of our forest lands consistent with conservation.

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**Figure 1.** Residual stands given proper protection will provide future harvests at 30 years intervals, thus placing the remaining forests under sustained yield, and safeguarding the timber industry, employment and the national economy.

**Figure 2.** Logged-over area within a concession, showing adequate number of healthy trees after logging.



**Figure 3.** In felling, the proper use of wedges and sawing the felling- and under-cuts to avoid damage and injury to marked trees are now practised in many operations.

**Figure 4.** Residuals inside Sample Plot No. 3 at Abong-Abong, Maluso, established June, 1950. Area was logged 1928. Date taken — October 12, 1956.





## University of the Philippines

COLLEGE OF FORESTRY  
COLLEGE, LAGUNA

OFFICE OF THE DEAN

February 22, 1962

To the Forestry Alumni  
College of Forestry, U.P.  
College, Laguna

Dear Friends:

There is no doubt that you have your heart and soul in every undertaking of your Alma Mater especially when this contributes to the cause for which all forestry men have worked together.

It is this common cause which has served as a cohesive force in binding the Alumni together and an inspiration to all of them. Every forester in the island is dedicated to the task of making every Filipino conservation minded, and perhaps at no other time in the history of our country have we felt the need of conserving our forest resources as at present. The metropolitan dailies and publications like the Philippines Free Press, Graphic, and others have made use of the printed word to bring home the fact that the terrible floods now wreaking havoc in Mindanao are, to a large measure, due to the reckless and wanton forest destruction in those places.

The Forestry Leaves since 1946 when it first appeared in mimeographed form has consistently advocated conservation of our forest, and has served as a newsletter, binding the Alumni closer to one another and to their Alma Mater. Now the Forestry Leaves enjoys a very wide readership including foreign countries. This has been made possible only through your help.

The Staff of the Forestry Leaves at various times in the past had appealed for your help in the solicitation of subscriptions from your colleagues and friends and advertisements from forest users. We hope that this appeal will find a responsive cord in your heart.

May we count again not only on your moral but financial support as well.

Fraternally yours,

  
GREGORIO ZAMUCO

# Can Public Education Save the Forests of the Philippines?<sup>\*</sup>

By

FLOYD E. CARLSON

*Visiting Professor Forestry Information  
University of the Philippines  
College of Forestry at Los Baños*

Make no mistake, here in the Philippines we are in a race between forest education and forest destruction! Against an estimated army of 60,000 uninformed mostly illiterate kaingineros steadily encroaching upon remaining forest land there is at the moment less than one-half dozen professionally trained foresters dedicated to full time activity in public education in forestry. As of this moment, the odds are overwhelmingly in favor of forest destruction! Our lack of men and material for winning this race, is appalling.

In this nation, one of the world's important timber producing and timber exporting countries, there is to my knowledge not a single summary statement of the significance of forest resources that has been generally distributed to its 29 thousand elementary public schools yet any public education program in forestry in the Philippines or elsewhere must be built upon a foundation of elementary school education.

Until the program, "Forests Build the Nation", was started over radio station DZBB by a veteran radio commentator, Leon O. Ty, on March 12 of this year, there had

never been a serious use of radio to advance the cause of forestry, except for the commendable work on two or three local programs where forestry was included. Yet, I am informed there are more than 120 radio stations in this Republic.

Over the years there have been scores of articles published on forestry but the great majority of these were the pleadings of the professional foresters, mostly before gatherings of their own profession. With the special encouragement of Paul Bedard, Dr. Tom Gill and more recently by the late Dominador Paula Dizon, and by Paul Zehngraff, the big daily newspapers have become seriously interested in conservation, an interest augmented by unprecedented and destructive floods right in Manila and nearby provinces.

These flood waters from denuded mountainsides are a weary reminder of the consequences resulting from reckless, heedless decimation of forested countries in mountainous regions. These flood waters, no longer under the control of the forests, have the power of thousands of bulldozers to pile up huge sterile deposits of sand and gravel. They are the flood waters that century after century have wrecked country after country.

But what if — and this is a large IF, but what if the *people* of countries like North

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<sup>\*</sup> Talk presented at First Anniversary Celebration, Reforestation Administration Sept. 15, 1961 at the Department of Agriculture and Natural Resources.

China, Korea, North Africa and Asia Minor *had been informed* about the consequences of forest devastation, the dire consequences of overgrazing, of shifting agricultural practices, I repeat — *what if these people had known about the importance of forests to their very existence and that of their children* — would there have been this inexorable flow of sand and gravel from the mountain-sides? I believe not!

Have the people of the Philippines been warned of the consequences of forest destruction? They certainly have. The early stages in the making of a new graveyard, — the graveyard of the Philippine civilization are glaringly apparent. Last year and this year, and in other places for a 100 and more years the rivers of brown mud have been flowing from deforested hillsides. The brown mud flowing from central Luzon, the brown waters bordering other islands, are the flood waters that have swept over the finest agricultural soil of the Philippines to wipe out crops, human and animal life and carry the top soil, the vital life blood of the soil, the richest most productive soil, and bury this soil in the sea! What a national blunder perpetrated by the witless!

And during this moment while we speak, the scourge of the forest continues. The rivers are sick with the chocolate brown waters robbed from the defenseless forest land. The forest soil on thousands of large and small watersheds is being sacrificed by blind profiteers, and the uninformed. Fish and other waterlife are stricken by the flood waters, sick with the fragments of the once live productive forest soil cover, now having given up the ghost at the hand of blundering men. And the kaingineros leave Cebu by the hundreds to repeat this blood letting of the land on new sites in the island of Mindanao.

In my opinion, no Communist threat to the Philippines compares with the current progress and awesome consequences of forest destruction. Communism can be uprooted and the country protected but already vast

areas of the Philippines are permanently scarred. No Communist activity could so paralyze its production for centuries short of atomic attack. On many places soil has washed down to bedrock. Once fertile valleys in Cebu are now producing their final crop — sand and gravel, the last significant harvest from the hills and valleys for decades to come.

Coupled with the future of forestry is the industrial and agricultural economy. Without forest cover to control water runoff permanent agriculture in the valleys and plains is jeopardized. Without forests providing erosion control how will storage for domestic and industrial water supply be maintained? How will hydroelectric power installations operate when their reservoirs are filled with silt?

Do we need to point anymore to the pages of history for example of what follows forest destruction? Shall we be convinced only by visiting the sites of civilization smothered under deep blankets of sand and gravel? Is it possible that the people of the Philippines are living under an illusion that there is something different about the Philippines, that the lands and forests of the Philippines are immune from these relentless forces of cause and effect?

We have said this is a race between forest destruction and forest education. Let us make it impressively clear that as of the present the forces of forest destruction are a long way ahead.

But some may say — shall we not pass a law to stop this forest destruction? And our answer must be a law and other laws *have been passed*. We are told that right now, the rate of forest destruction in the Philippines is the fastest in the world. But can we expect the people of this nation to protect its forests if they do not appreciate the value of the forests? And will there be hiring of a more adequate force of forest guards until the people understand the values of the forests these guards are to protect?



Because of the urgency brought about by the deteriorating forest situation, there is, in my opinion, only one major hope by which the forces of forest destruction can be overcome and that is to build a public forest information and education campaign that will present the facts to every citizen of the public that is capable of receiving or understanding these facts. It is my firm conviction, based on more than 30 years in public forest information work, that once the people understand these facts: they will begin to apply forest conservation measures on their own land; they will stand back of law enforcement; they will stand resolutely against the destruction of the kainginero and work toward measures providing him with other means of living; they will at last come to recognize that it took God 200 million years or more to create the forests of the Philippines, to provide the indispensable benefits of forests to mankind, and that the tropical forest of the Philippines cannot be destroyed in the next half century without bringing upon every citizen of the Philippines and his descendants the curse of desolation that follows forest destruction.

Can the job of *educating* the public for action, for positive adherence to forest protection, for enforcement of forest laws be accomplished? The answer is yes, a positive yes. But can it be done here in the Philippines at this late date with the first signs of a new graveyard of civilization already seemingly marked out? The answer is that the forests of the Philippines can be rescued but at a cost.

The reason for this attitude of assurance comes from the experience of the Joint Committee on Public Information and Education in Forestry. Composed of the information and education personnel from the Bureau of Forestry, the Reforestation Administration, Parks and Wildlife Office, Forest Products Research Institute, Agricultural Information Division and the U.P. College of Forestry, this committee although formed in March of

this year has proven that opportunities abound on every side for developing one of the greatest campaigns in forest conservation that any country has ever seen.

Opportunity Number 1. As I have said, at present there are more than 120 radio stations in the Philippines, and more are being constructed. Based on the work of the Joint Committee to date, I am convinced that from 50 to 100 of these radio stations would carry programs in English and in local dialects *if* programs could be furnished to these radio stations regularly.

Why cannot this be done now? We need a team of two to three men working full time to develop programs, to contact radio stations, to circulate tape recordings. We need tapes, we need tape recorders! Here is a great potential and a growing potential for reaching adult audiences.

Opportunity No. 2. The Director of the Bureau of Public Schools has personally assured the Chairman of the Joint Committee, Prof. Domingo V. Jacalne and myself that the entire public school system of the Philippines with some 29 thousand elementary schools will take immediate advantage of any material furnished by the Joint Committee on Public Education and Information in Forestry. The Bureau will process such material, furnish copies to offices of Division Superintendents who in turn will duplicate and distribute these conservation suggestions to the individual classroom teachers for work with the elementary schools and the high schools. For work with the public schools a team of two men is needed, one to develop conservation materials for use of a 100 thousand teachers, think of it! — the other to develop programs on conservation for in-school broadcasts *now* broadcast *on a ten station radio network* for the pupils and teachers of elementary schools in Luzon, the Visayas and Mindanao. What a prospect for building forest conservation concepts!

Opportunity No. 3. There is an urgent need for developing a core of public speakers,

a Forestry Speakers Bureau if you will, an elite group of professional foresters trained as speakers who will act as a vanguard in forthrightly stating, with vigor and assurance, the vital need for forest conservation in the Philippines.

Two training courses, one under way, the other in preparation, are paving the way for the realization of a nation-wide forestry speakers bureau. The first training course began on Monday afternoon, September 4 when 18 members of the U.P. College of Forestry faculty at Los Baños *volunteered* to train and prepare for participation in a Forestry Speakers Bureau. The course for the forestry faculty will provide special training in the development of illustrated forestry lectures and straight talks for presentation in high schools and before service clubs.

Second, a one week intensive lecture and radio course for professional foresters in the Bureau of Forestry, the Reforestation Administration, the Parks and Wildlife Office and the Forest Products Research Institute has been approved by the heads of these agencies and is expected to start the latter part of October. It will be opened to not more than 10 to 12 men who will be selected by the heads of these several conservation agencies.

These two courses are in the nature of an emergency training, to more quickly enable public information forces to begin carrying to the public the seriousness of the forestry conditions that must be made known to both friends and foes of the forest.

The objective of the nation-wide Forestry Speakers Bureau is a core of 50 or more lecturers who are qualified by training and careful preparation to not only carry the message of forestry from person to person, to high schools, service clubs and other groups but also constitute a principal force in upgrading the status of the professional forester. This is an essential step in an overall forestry development program if high

school graduates of ability are going to be attracted to the profession of forestry.

To equip these forestry lecturers properly for their work, we must have slide projectors, screens, kodachrome film and cameras. Imagine the condition existing in one important conservation agency — not a single official camera for developing visual aids!

Opportunity No. 4. We have been informed by Dr. George E. Spencer, Community Development Advisor that there are 30 PACD Audio Visual Vans carrying talks and motion pictures on community development to both accessible and remote barrios. We are inclined to believe that it is in these places that *lack of information* makes it easier for individuals under the pressure of failing to find a solution to their problems of unemployment in the barrios to feel compelled to make a living for themselves and their families by trespassing and destroying public forests.

For more than four years now, Professor Delizo and Professor Jacalne of the U.P. College of Forestry have been lecturing to trainees entering the PACD training center at Los Baños regarding the essential place of forestry in the land use program of the Philippines. According to Dr. Spencer there is need now for a forestry trained man to participate in regional training programs and to establish liaison with the PACD mobile units so that illustrated talks and motion pictures on forestry may on occasion be presented as part of the PACD program.

Opportunity No. 5. We are fortunate to have trained journalists in the Parks and Wildlife Office, in the Reforestation Administration and in the Forest Products Research Institute. To the writers in these agencies and to others, the Philippine Lumbermen, issued every other month, is now offering two pages in each issue for a story on forestry and conservation. The School News Review of the Bureau of Public Schools, which comes out 16 times a year and has a circulation of 425 thousand is now

making space in each issue for an article on conservation. The Joint Committee has secured a Conservation Corner in the monthly 150 thousand issue of the Caltex Morning Star filled in turn by the members of the Joint Committee. The Manila Herald is offering space for weekly stories on personalities in the field of conservation. The College of Forestry by showing commercial films to students and members of the community at Los Baños is now raising money for a new student forestry publication to complement Forestry Leaves. It will be called Forestry Leaflet. Space to conservation writers is offered by the Caltex Circle quarterly magazine and by the bimonthly Philippines Today. With the latter publication we have an assured two pages in each issue.

To expedite the work producing proper illustrated articles there is need for good quality news cameras. The College of Forestry has one on order but others are needed. There is a need for good "picture telling" hard hitting photographs for use in news items, magazines and in the preparation of exhibits.

Instead of contributing its share in writing leaflets, brochures, and magazine articles, the College of Forestry has been forced to pass up one writing opportunity after another because of the lack of a full time publications editor at the College.

Opportunity No. 6. It is well recognized that in the Philippines the motion picture is a prime media of public interest as well as of communication. The commercial motion picture Molave in my judgment, if shortened to an hour or an hour and a half, can be of great help in attracting attention to the problem of kaingin making. We need other motion pictures on forestry and conservation.

At its last monthly meeting the General Committee that sponsored the Joint Committee on Public Information and Education in Forestry, the General Committee heard

Mr. Ramon R. Ravanzo, Chief Engineering Division of the National Power Corporation cited the seriousness of the forest fire problem in the Mountain Province. Forest fires and grass fires expose slopes to erosion and jeopardize long range operation of present and future hydroelectric plants by siltation of reservoirs.

The Joint Committee on Public Information and Education in Forestry has been authorized to study the problem in the Mountain Province and develop plans for a public education program in forestry. It will report to the general meeting of November 10. With a plan for public education and with the assured backing of the National Power Corporation, there would seem to be an excellent possibility for developing a highly interesting and useful film as a part of the forestry education development in the Mt. Province. To strengthen the conservation education work and meet the need for motion pictures for both television and regular screenings, the Agricultural Information Division will need additional budget support. New films are needed to meet the problem of kaingin making and for other phases of conservation education.

Opportunity No. 7. The most powerful tool of the educator today is television. It is extremely fortunate that right now there is the certainty of television coverage by one or more TV stations of every significant city in the Republic. Manila will soon have its 4th TV station on the air, and I am told will have six television stations eventually serving the metropolitan area of Manila. Looking ahead, TV programs on conservation and forestry will undoubtedly become a part of the offerings of many TV stations as part of their public service programs.

Thanks to the cooperation of the USIS and ICA, several of the forestry agencies have been on television one to several times in the past 12 months. The U.P. College of Forestry as the educational center for forestry and conservation should anticipate this

significant opportunity to develop programs for adult as well as in-school telecasts.

In-school broadcasting on television is certain to follow in-school radio programming according to patterns of education evolving in both the United States and Canada. Planning at the U.P. College of Forestry to train a man to head up educational television work in forestry and other phases of conservation would pave the way for carrying TV programs to an audience which includes the leaders of public opinion and the makers of forest policy.

These are by no means all the opportunities facing the Joint Committee on Public Information and Education in Forestry. But these seven opportunities listed here are opportunities for the immediate future. They are called to your attention now to show you tangible ways in which organization can be effected to give speed to the race in which public education in forestry must overcome the lead of current forest destruction and its forebodings of national disaster.

From the biblical land of Palestine, Dr. Walter C. Lowdermilk, then Assistant Chief of the United States Soil Conservation Service, in June 1939 broadcast from Jerusalem a message entitled the Eleventh Commandment, later printed by American Forests Magazine in January of 1940. It is a message that has echoed around the world.

From Dr. Lowdermilk's article, I quote the first 3 paragraphs:

"Moses was inspired to deliver to the Children of Israel wandering in the wilderness of Sinai the Ten Commandments to regulate man's relation to his Creator and to his fellow men. These guides of conduct have stood the test of time for more than 3,000 years. Did Moses, during those forty years in the wilderness, fail to foresee the vital need of the future for an additional commandment to regulate man's relation and responsibility to Mother Earth, whose cultivation and production must nourish all generations?"

"If Moses had foreseen what was to become of the "Promised Land" and vast areas of wasted lands, such as we have seen in China, Korea, North Africa, Asia Minor, Mesopotamia and our own United States; namely, the wastage of land due to suicidal agriculture and the resulting man-made deserts and ruined civilizations; if he had foreseen the impoverishment, revolutions, wars, migrations, and social decadence of billions of peoples through thousands of years and the oncoming desolation of their lands, he doubtless would have been inspired to deliver an "Eleventh" Commandment to complete the trinity of man's responsibilities — to his Creator, to his fellow men, and to Mother Earth. Such a commandment should read somewhat as follows:

"XI Thou shalt inherit the holy earth as a faithful steward, conserving its resources and productivity from generation to generation. Thou shalt safeguard thy fields from soil erosion, thy living waters from drying up, thy forests from desolation, and protect thy hills from overgrazing by thy herds, that thy descendants may have abundance forever. If any shall fail in this stewardship of the land thy fruitful fields shall become sterile stony ground and wasting gullies, and thy descendants shall decrease and live in poverty or perish from off the face of the earth".

And now in conclusion, I raise once more the question posed by this paper.

Can public education save the forests of the Philippines?

The proposals made here call for personnel, for equipment, for an aggressive program of public information and education in forestry. Does this represent too great a cost to save the Philippine forests and the benefits of these forests for present and unborn generations to come? What is the alternative? I quote. "Thy fruitful fields shall become stony ground and wasting gullies, and thy descendants shall decrease and live in poverty or perish from off the face of the earth".

# Why Rizal: The Pursuit of Dignity\*

HERNANDO J. ABAYA

## I

Perhaps one way to open this paper, with the above somewhat pretentious title, is to relate what a Regent of this University, a friend of old campus days, told me during a chance meeting recently. "You know," he remarked, when I told him I was teaching the Rizal course, "my daughter has become very nationalistic." And, with undisguised pleasure, he added: "She was in Soliongco's class!"

Reaction varies, but only in degree, among those who really get to know and understand Rizal's writings. Sometimes, a sweet young thing takes you aback with a query: "Sir, do you really think Father Damaso is the father of Maria Clara?" Or, another tells you she has ceased to go to church after reading Rizal's *Letter to the Women of Malolos*, and wants to know how she can mollify her poor, upset father confessor! But then, you are more likely to be braced up by one who ends a competently-written and sober term paper on Rizal with this vibrant line: "I have discovered Rizal; I shall never be alone again!" Among the young minds you meet, bedeviled by today's social ills, the violent solutions of Simoun, of *Kabesang Tales*, and of *Kapitang Pablo* seem to find ready favor.

This is what Rizal does. His is a mind in lively ferment, a mind that doubts. The young mind exposed to Rizal's writings is

stirred. It begins to question, to doubt. And it does not rest until it has resolved this doubt, or satisfied its curiosity. It is never the same again. Right there is the motivation we look for in the young. A stone is laid, later to become a part of the edifice. And one can hope, even the closed mind can be unlocked; the confused can be put at ease, and set aright. In the end, all these will come, it is hoped, with an understanding of Rizal.

The teaching of the Rizal course in this University is something of a coveted assignment. It is not only stimulating but rewarding as well. For here one explores and ranges wide over little-tapped native (and I underscore native) areas of the humanities and the social sciences, from art and literature to politics, history, and philosophy. And, whenever he pauses to explore and examine, he always discovers something new and fresh and challenging — things that may seem old only because we tend to associate them with Rizal and his times, and yet have a refreshingly new meaning for us because, in Rizal's facile pen, the dark past becomes alive and reaches into the indifferent present to infuse new vigour into a lethargic society of confused values and even more confused thinking.

What is unusual is not so much the big number of faculty members who want to teach the course as the diversity and range of their many fields of discipline. Among them you find scholars and students of philosophy, of history, of sociology, of political science, of economics, of literature; a Japanese

\* A paper read at the Faculty Colloquium on the teaching of the course offering in Rizal (Philippine Institutions 100) held at the Executive House, Saturday, June 17, 1961.

scholar, a zoologist, and even writers and journalists. You have this array of diverse personalities. What a boon to the empiricists! You would expect a clash of interests, or surely of personalities, over so exciting *albeit* controversial (to people of a certain persuasion, at any rate) a topic as Rizal's writings. No. You have instead a happy blending of as independent-minded a group of professionals as you would find in any great center of learning. They may differ in their method of teaching or in their approach to the subject, but they each put into this course offering something of themselves that they share in common—their sense of national-consciousness that they see epitomized in the pervasive and dynamic Filipinism of Rizal. I might add, by way of digression, that one cannot be a "neutralist" or a "fence-sitter" in this course because by being neutral we would be saying that we are not taking sides with Rizal against a vicious clericalism and all its attendant evils which he fought to the death. This would be an unpardonable error.

It is this "hand-picking" of professors to handle the Rizal course that the discredited star witness of the un-Filipino Perez Committee on Anti-Filipino Activities (CAFA) cited in her pathetically perjured bid not long ago to pinpoint an imagined communist infiltration in the University. We may perhaps grant she had a right to complain, but *not* for the reason she gave. As for the University—is it not merely being true to its mission as the people's own? Or dare anyone suggest that we leave the teaching of Rizal to the clerics and their acolytes?

## II

Perhaps it is well to remind ourselves at this point that one of our goals is to establish a genuinely Filipino university. The Rizal course is a *must* to help achieve this goal. Our study materials—be they for English and the humanities, or for the social sciences—must have relevance to the

Philippine scene. Nothing restores one's confidence in himself or in his country than the knowledge that he as a Filipino can also learn and create and produce like anybody else. The life of Rizal holds promise for us because we know that the one factor that convinced him to leave the country and go abroad was to study and show the world that the Filipino, given every opportunity for advancement, could equal, if not excel, any other people. He more than proved his point with his brilliant example. It cannot be stressed too often that we have to know more about ourselves, and the writings of Rizal will serve to open "the book of our past" and usher us into new horizons.

A lot of things are simple in a civilized society once we rid ourselves of the many silly and stupid abstractions that hide the economic truths of life. Rizal deals with realities, not with abstractions. His real value to us today is that his works are a mirror of the past.

He makes us see our mistakes so that we may correct them. Flattery will only make us lower our guard. The study of his life is a study of a man in search of honor, dignity, freedom—for himself, for his people. And to a poor and weak people like us, these three things, and the will to fight for them, are everything. Not for one moment does Rizal make us forget this fact.

"We must secure liberty," the wise Father Florentino tells the dying, unrepentant Simoun, "by making ourselves, worthy of it, by exalting the intelligence and the dignity of the individual, by loving justice, right, and greatness, even to the extent of dying for it."

He writes of a society in decay, a people in agony, a nation in pain.

Neglect of Rizal and his writings on the part of Filipinos, his heirs, will contribute to the intellectual decay that like a curse

hangs heavily over his native soil. We cannot pretend to dictate the morals of our present-day society but it is not presumptuous to think that a knowledgeable acquaintance with Rizal's life and works will surely help to correct the evils that corrode our society today. For there is no more blinking the fact that, for all the superficial gloss of a class modernism we affect in our western-inspired ways, our present-day society is not far removed from the capricious and morally and intellectually bankrupt society of Rizal's time.

It is, in fact, the same old alien-dominated society of the petty little despots, the *Kapitan Tiagos* and *Señor Pastas*, the *Doña Victorinas* and *Don Custodio*, that strut like peacocks on Rizal's vast and sombre canvas. A society debased and degenerate wherein ignorance and arrogance rule because the modern counterparts of Rizal's little tin gods remain the makers of our tastes and the educators of our souls. At the top sits a privileged elite exuding the new morality — in C. Wright Mills' apt phrase, "the morality of hard cash and the fast buck"; — while most of us have become, as Archibald Macleish says, part of a mass. In other words, it is Ortega y Gasset's mass-man who has taken over society, this mass-man who drifts along, without a purpose in life, to whom the world has become a paradise without a trace of former footsteps; a society without roots in the past and therefore without any sense of tradition, of culture; a society of drones good only for extinction!

### III

A modern *filosofista* Tasio only lately removed from the Philippine scene — Claro M. Recto — exhorted us to retrace Rizal's footsteps, follow his lofty principles, take his noble life for a model, emulate his sacrifices for our motherland. This cannot be achieved, he said, unless his writings and the invaluable example of his life "reach all the people."

Yet, few of our educated men, who are our leaders, have really read Rizal, and fewer still seem to understand him. The scholar T. H. Pardo de Tavera noted the same sad fact in an earlier period. One has only to inquire into the desultory, almost hostile, manner in which our "best" non-secular schools and universities are implementing the Rizal Law to realize why this is so. The result is, as Recto said, we have not only neglected but disregarded Rizal's teachings and are wittingly offering ourselves to a *total foreign domination*. "Already we are allowing our minds, our beliefs, our economic life to be enslaved." Was not one of Rizal's most valuable admonitions, Recto asked, that we should not behave as if we were strangers in our land? "If we analyze our present situation," he said, "we shall find the very opposite of what he had advised. We are indeed like strangers in our own country!" Many of us today are Rizalists, he used to tell friends, but only when the time comes to honor and remember Rizal. "Patriotism is a means of livelihood and growing rich while in those times it brought poverty if not ignominious death!"

Yet, who listened to this noble spirit? "In the peculiar and perverse structure of our world," Carmen Guerrero Nakpil writes biting in a eulogy of Recto, "to have supported Senator Recto in his ardent nationalism campaigns would have meant offending the Americans, annoying the Catholic hierarchy and other powerful Catholic organizations, losing one's job or election, forfeiting a scholarship or an important appointment, running the risk of ridicule, of excommunication or of being labelled a Communist and an atheist."

Let Recto do it, yes. Let's all applaud him, yes. Applause never hurt anyone. But they remained unmoved.

"The task of Rizal's persecutors did not end with his execution because," as de Tavera says, "they still had to kill the work of

that spirit which could not allow to survive.” (Underscoring supplied) One may here speculate that perhaps the friars could have forgiven Rizal for his political tirades against their social order but not for his frontal assault on their economic dominance and power. For the government then was merely the arm, the head was the *convento*. “Our power will last as long as it is believed in,” an old friar tells a young one just in from Spain in *Noli Me Tangere*. “And when we cease to be rich, we shall no longer be able to control consciousness.” “It is no longer fanaticism that builds this opulence,” writes Marcelo H. del Pilar in *La Soberania Monacal*; “It is fear of a group which has been raised to power which, with one stroke of the pen or a low whisper, can kill the happiness of one who obstructs or does not cooperate in the development of its schemes of exploitation.”

Ignorance deprived the Filipino of his dignity, and with dignity gone, went also his moral strength. Thus, says Rizal, you also make the Filipino useless even for those persons who wish to make use of him. “They have dazzled him with tinsel, with strings of colored glass-beads, with noisy rattles, shining mirrors, and other gewgaws, and he has given in return his gold, his conscience, and even his liberty.”

But even Rizal’s most sanguine detractors today can do only so much — to harm his name. They may even misrepresent him, as some do, and make him out to be the author of harmless tales instead of a devastating critic of an insufferable social order. In the long run, nothing can really kill the work of that great spirit than the apathy and neglect and the ignorance of his own people for whom he sacrificed all. It was that ignorance that succeeded in getting Rizal “deported, imprisoned, and murdered,” to quote de Tavera again — “that ignorance which he fought, which we go on fighting, and which generations after us will still have to fight.”

#### IV

We can chart a course for our people only if we have the historical imagination that comes from a knowledge and understanding of our past. We will then have that sense of historic daring to experiment with change. And we can make a clean break with our colonial past and really get to know the feeling of new beginnings and ending the old evils. These latter we must learn to ferret out in their subtle new guises.

Make no mistake about it. A society that looks on with bemused cynicism at the rape of a democratic tradition in what was intended to be a political convention to pick the best man for the country is a society in decay. A society that permits, even secretly applauds, the contemptible antics of an unprincipled politician — and unintelligent intelligence men — who smears a great university and its professors by vile and malicious gossip, and cloaks a renegade informer with immunity to libel and harass a respectable scientist, is a diseased society, rotten to the core. A society that abandons its vaunted prerogatives of free inquiry to inquisitorial legislative bodies is a society that has turned its back on the adventure of freedom, and inexorably treads the ignoble road to stagnation and death. The cancer has already produced a general paralysis one can readily recognize by its manifest symptoms — expediency, conformity, escapism, intellectual servility, sectarian bigotry.

These are the old evils Rizal fought because they shackled the human mind and spirit. They all stemmed from ignorance or, in de Tavera’s apt term, “obscurantism,” which Professor Yabes has with reason now qualified as “organized obscurantism” which is “more insidious” than the old one. I will go a step farther. The fight Rizal fought is not only not yet over, but is being fought all over again, as in Rizal’s time. And it has to be fought more vigorously and more intelligently, and without letup, if it is to be won. (Continued on page 32)



# Seed Production Forecast for the Mt. Makiling College Forest of the College of Forestry

By

TEODORO C. DELIZO

*Associate Professor*

The country has embarked on an extensive reforestation program with the creation of the Reforestation Administration. A nation-wide project like this would require large amount of planting material specifically seeds. One of the essential information that should be available in forest planting work is that which deals with the time of the year when seeds become available. Except for a few species, gathering the seed from the forest is extremely difficult because the trees are not concentrated in one place and are usually too tall to climb. Gathering seeds from trees that are felled during logging operations is not always safe because there is no guarantee that the seeds are mature. The College of Forestry plantations in Mt. Makiling in Los Baños, Laguna is one of the best sources of seeds in the country today.

The two hundred odd hectares of forest plantations of the College of Forestry started from a modest beginning in 1910 when a forest nursery was established at the foot of Mt. Makiling. Seeds of more than two hundred species were sown in this nursery with the aim of finding out what of the species that were growing in our forests could be raised in the nursery and planted on grass and open lands. Trial plantings were made as early as 1912 and subsequent annual plantings up to the present were done. The knowledge gained from studies in the con-

duct and management of our present day plantations have added in no small measure in the success of our reforestation program.

The trees in the plantations have received judicious and systematic stand improvement whereby poorly shaped and badly developed individuals were eliminated. The mother trees, therefore, in our older stands compose the dominant and codominant crown classes. Aside from this many of them have just finished their principal height growth and are now producing the best quality of seeds. Most important of the species that produce valuable seeds are lumbang, baguilumbang, narra, mahogany, ipil, banaba, molave, teak and many others.

One of the essential information that should be available in forest planting is that which deals with the species that produce seeds as well as the part of the year when seeds of each species ripen in its locality. This gives rise to the difficulty of preparing a seed production forecast table. The year in which a given species produce abundant seed throughout its range is the seed year for that species. Intervening year or years between two seed years is called seed-off year.

The following table was prepared for ready reference on the ripening of seeds of the species enumerated. The month of the year mentioned represents a seed year of the species. The seed-off years have not been deter-

mined. The information is the product of several years of personal observations, records gathered from the local Bureau of Forestry and the College of Forestry offices. It should be mentioned here that Drs. Francisco Tamolang and Felipe Salvoza have made valuable corrections of the table particularly on scientific names. It has been ob-

served that the ripening of seeds may extend to even three months for one species, so that the month mentioned on the table merely indicate the month in which abundant seed is expected and does not necessarily mean that seeds are not available in other months.

SCIENTIFIC NAME	COMMON NAME	MONTH WHEN SEED IS AVAILABLE
<i>Abarema scutifera</i> (Blanco) Kosterm. (Leg.)	Anagap	3
<i>Abroma augusta</i> (L.) Willd. (Sterc.)	Anabo	12-1-2
<i>Acacia cathecu</i> (L. f.) Willd. (Leg.)	Cutchtree	4-5
<i>Acacia farnesiana</i> (Linn.) Willd. (Leg.)	Aroma	1-2
<i>Acer laurinum</i> Hassk. (Acer.)	Philippine maple	7
<i>Acmena acuminatissima</i> (Blume) Merr. & Perry, (Myrt.)	Binoloan	6-7
<i>Actinophloeus macarthurii</i> (H. Wendl.) Becc. (Palm.)	McArthur's-palm	3-4-5
<i>Adenantha microsperma</i> Teijsm. & Binn. (Leg.)	Java tanglin	10
<i>Adenantha pavonina</i> Linn. (Leg.)	Malatanglin	9-10
<i>Azelia rhomboidea</i> (Blanco) Vid. (Leg.)	Tindalo	5
<i>Aglaiia diffusa</i> Merr. (Meliac.)	Malasaging	2-3
<i>Aiphanes caryotaefolia</i> (HBK) Wendl. (Palm.)	Martinez's palm	11
<i>Alangium longiflorum</i> Merr. (Alang.)	Malatapai	7
<i>Albizia lebbek</i> (L.) Benth. (Leg.)	Langil	2
<i>Aleurites moluccana</i> (L.) Willd. (Euph.)	Lumbang (candlenut tree)	8-9
<i>Alphonsea arborea</i> (Blanco) Merr. (Annon.)	Bolon	6-7
<i>Alseodaphne malabunga</i> (Blanco) Kosterm. (Laur.)	Malabunga	3
<i>Alstonia macrophylla</i> Wall (Apocyn.)	Batino	11
<i>Alstonia scholaris</i> (L.) R. Br. (Apocyn.)	Dita	1-2
<i>Anisoptera thurifera</i> (Blanco) Blume, (Dipt.)	Palosapis	5-6
<i>Antiaris toxicaria</i> (Pers.) Lesch. (Morac.)	Upas tree	5
<i>Antidesma bunius</i> (L.) Spreng. (Euph.)	Bignai	8
<i>Archontophoenix alexandriae</i> H. Wendl. & Drude (Palm.)	Queensland palm	7-8-9
<i>Ardisia squamulosa</i> Presl (Myrsin.)	Tagpo	1
<i>Arenga tremula</i> (Blanco) Becc. (Palm.)	Dumayaka	9-10
<i>Aristolochia tagala</i> Champ (Arist.)	Timbañgan	11
<i>Artocarpus blancoi</i> (Elm.) Merr. (Morac.)	Antipolo	4
<i>Artocarpus heterophylla</i> Lam. (Morac.)	Nangka	6-7
<i>Artocarpus nitida</i> Tréc. subsp. nitida (Morac.)	Kubi	6
<i>Artocarpus odoratissima</i> Blanco (Morac.)	Marang-banguhan	8-9
<i>Artocarpus ovata</i> Blanco (Morac.)	Anubing	7-8
<i>Bactris utilis</i> Benth. & Hook. f. ex Hemsl. (Palm.)	Pejibaye palm	8-9
<i>Barringtonia asiatica</i> (L.) Kurz. (Lecyth.)	Boton	9-10
<i>Bischofia javanica</i> Blume (Euph.)	Tuai	11-12
<i>Bixa orrellana</i> L. (Bixa.)	Achuete	10-11
<i>Bombycidendron vidalianum</i> (Naves) Merr. & Rolfe (Malv.)	Vidal Lanutan	3-4-5
<i>Bridelia minutiflora</i> Hook. f. (Euph.)	Subiang	2
<i>Broussonetia papyrifera</i> (L.) Bent (Morac.)	Paper Mulberry	6-7
<i>Caesalpinia pulcherrima</i> (L.) Sw. (Leg.)	Caballero	5

NOTE: Numbers indicate the month of the year, i.e. 5—stands for May and 10 for October, etc.

SCIENTIFIC NAME	COMMON NAME	MONTH WHEN SEED IS AVAILABLE
<i>Calamus discolor</i> Mart. (Palm.)	Kumaboi	9
<i>Calamus maximus</i> Blanco (Palm.)	Palasan	11-12
<i>Calamus mindorensis</i> Becc. (Palm.)	Tumalim	9
<i>Calamus ornatus</i> Blume var. <i>philippinensis</i> Becc. (Palm.)	Limuran	11
<i>Calophyllum blancoi</i> Pl. & Tr. (Gutt.)	Bitanghol	9
<i>Calophyllum inophyllum</i> L. (Gutt.)	Bitagog	4-5
<i>Cananga odorata</i> (Lam.) Hook. f. & Th. (Annon.)	Ilang-ilang	3-4
<i>Canarium asperum</i> Benth. (Burs.)	Pagsahingin	8
<i>Canarium hirsutum</i> Willd. forma <i>multipinnatum</i> (Llanos) H. J. Lam (Burs.)	Dulit	9-10
<i>Canarium luzonicum</i> (Blume) A. Gray (Burs.)	Piling-liitan	9
<i>Canarium ovatum</i> Engl. (Burs.)	Pili	6-7
<i>Canna speciosa</i> Rosc. (Canna.)		1
<i>Caryota cumingii</i> Lodd. (Palm.)	Fish-tail Palm (or Pugahan)	10
<i>Cassia alata</i> L. (Leg.)	Akapulko	10
<i>Cassia fistula</i> L. (Leg.)	Cañafistula	
<i>Cassia nodosa</i> Buch.-Ham. ex Roxb. (Leg.)	(or Golden Shower)	11-12
	Pink shower	11
<i>Cassia javanica</i> L. (Leg.)	Anchoan	11-12
<i>Cassia multijuga</i> Rich. (Leg.)	Malakaturai	11-12
<i>Cassia siamea</i> Lam. (Leg.)	Thailand Shower	11
<i>Cassia spectabilis</i> L. (Leg.)	Antsoan-dilau	8
<i>Casuarina equisetifolia</i> Forst. (Cas.)	Agoho	9-10
<i>Cedrela odorata</i> L. (Meliac.)	Spanish Cedar	2-3
<i>Ceiba pentandra</i> (L.) Gaertn. (Bomb.)	Kapok	3
<i>Celtis philippensis</i> Blanco (Ulm.)	Malaikmo	7
<i>Chrysalidocarpus lutescens</i> H. Wendl. (Palm.)	Palmera (golden palm)	8-9
<i>Cinnamomum camphora</i> (L.) T. Nees & Eberm. (Laur.)	Camphor	11-12
<i>Cissus repens</i> Lam. (Vitac.)	Kalit-kalit	11
<i>Corchorus olitorius</i> L. (Tiliac.)	Jute	10
<i>Cordia dichotoma</i> Forst. f. (Ehr.)	Anonang	7-8
<i>Cratoxylum blancoi</i> Blume (Gutt.)	Guyong-guyong	7
<i>Cubilia cubili</i> (Blanco) Adelb. (Sapind.)	Kubili	5-6
<i>Cycas circinalis</i> L. subsp. <i>riuminiana</i> (Porte) Schuster (Cycad.)	Pitogo	5
<i>Cynometra ramiflora</i> L. (Leg.)	Balitbitan	10
<i>Cyrtostachys lakka</i> Becc. (Palm.)	Red palm	5
<i>Daemonorops mollis</i> (Blanco) Merr. (Palm.)	Ditaan	11
<i>Delonix regia</i> (Boj. ex Hook.) Raf. (Leg.)	Firetree	11-12
<i>Dillenia indica</i> L. (Dill.)	Indian Katmon (Handapara)	8
<i>Dillenia philippinensis</i> Rolfe (Dill.)	Katmon	5-6
<i>Diospyros philippinensis</i> (Desr.) Girke (Eben.)	Kamagong	7-8
<i>Diospyros pilosanthera</i> Blanco (Eben.)	Bolong-eta	7-8
<i>Diospyros poncei</i> Merr. (Eben.)	Ponce's-Kamagong	7
<i>Diospyros pyrrocarpa</i> Miq. (Eben.)	Anang	7
<i>Diplodiscus paniculatus</i> Turcz. (Tiliac.)	Balobo	5
<i>Dipterocarpus gracilis</i> Blume (Dipt.)	Panau	7
<i>Dipterocarpus grandiflorus</i> Blco. (Dipt.)	Apitong	6
<i>Dracontomelon edule</i> (Blanco) Skeels (Anac.)	Lumio	8-9
<i>Durio zibethinus</i> Murr. (Bomb.)	Durian	9-10
<i>Dysoxylum arborescens</i> (Blume) Miq. (Meliac.)	Kalimutain	7-8

SCIENTIFIC NAME	COMMON NAME	MONTH WHEN SEED IS AVAILABLE
<i>Elaeis guineensis</i> Jacq. (Palm.)	African Oil-Palm	8
<i>Endospermum peltatum</i> Merr. (Euph.)	Gubas	8-9
<i>Enterolobium cyclocarpum</i> Griseb. (Leg.)	Earpod (niggerear)	6
<i>Epicharis cumingiana</i> (C. DC.) Harms (Meliac.)	Tara-tara	8
<i>Ervatamia pandacaqui</i> (Poir.) Pich. (Apocyn.)	Pandakaki	8, 11
<i>Erythrophloeum densiflorum</i> (Elm.) Merr. (Leg.)	Kamatog	8
<i>Eucalyptus deglupta</i> Blume (Myrt.)	Bagras	10
<i>Eucalyptus robusta</i> Sm. (Myrt.)	Swamp mahogany	11
<i>Euphoria didyma</i> Blanco (Sapind.)	Alupag	5-6
<i>Fagraea fragrans</i> Roxb. (Logan.)	Urung	11
<i>Ficus elastica</i> Roxb. (Morac.)	India rubber	9
<i>Ficus nota</i> (Blanco) Merr. (Morac.)	Tibig	11
<i>Garcinia binucao</i> (Blanco) Choisy (Gutt.)	Binukau	5
<i>Garcinia venulosa</i> (Blanco) Choisy (Gutt.)	Gatasan	5
<i>Gardenia merrillii</i> Elm. (Rub.)	Bagaoi	1
<i>Gnetum indicum</i> (Lour.) Merr. (Gnet.)	Kaliat	10-11
<i>Gonocaryum calleryanum</i> (Baill.) Becc. (Icac.)	Taingang-babui	9-10
<i>Gonystylus macrophyllus</i> (Miq.) Airy-Shaw (Thymel.)	Lanutan-bagyo	1
<i>Grewia multiflora</i> Juss. (Til.)	Danglin	3-4
<i>Haematoxylon campechianum</i> L. (Leg.)	Logwood	6
<i>Harpullia arborea</i> (Blco.) Radlk. (Sapind.)	Uas	2
<i>Heritiera littoralis</i> Ait. (Sterc.)	Dungon-late	11-12
<i>Hevea brasiliensis</i> (HBK) Muell.-Arg. (Euph.)	Para rubber	7-8
<i>Hibiscus cannabinus</i> (Malv.)	Kenaf	9-10
<i>Hibiscus rosasinensis</i> L. (Malv.)	Gumamela	5
<i>Hibiscus tiliaceus</i> L. (Malv.)	Malubago	10
<i>Hopea acuminata</i> Merr. (Dipt.)	Manggachappui	7
<i>Hopea philippinensis</i> Dyer (Dipt.)	Gisok-gisok	7
<i>Hura crepitans</i> L. (Euph.)	Sand box	2-3
<i>Hydnocarpus alcalae</i> C. DC. (Flac.)	Dudoa	6
<i>Hydnocarpus sumatrana</i> (Miq.) Koord. (Flac.)	Bagarbas	9-10
<i>Hymenaea courbaril</i> L. (Leg.)	Jatoba	3-4
<i>Inocarpus fagifer</i> (Park.) Fosb. (Leg.)	Kayam	7-8
<i>Intsia bijuga</i> (Colebr.) O. Ktze. (Leg.)	Ipil	11-12
<i>Knema glomerata</i> (Blanco) Merr. (Myrist.)	Tambalau	10
<i>Koordersiodendron pinnatum</i> (Blanco) Merr. (Anac.)	Amugis	6-7
<i>Lagerstroemia indica</i> L. (Lythr.)	Melindres	10
<i>Lagerstroemia speciosa</i> (L.) Pers. (Lythr.)	Banaba	11-12
<i>Leucaena leucocephala</i> (Lam.) de Wit (Leg.)	Ipil-ipil	3, 7
<i>Licuala spinosa</i> Wurmb (Palm.)	Balatbat	8
<i>Lithocarpus bennettii</i> (Miq.) Rehd. (Fag.)	Pangnan	8-9
<i>Litsea perrottetii</i> (Blume) F.-Vill. (Laur.)	Marang	8
<i>Livistona rotundifolia</i> (Lam.) Mart. var. luzonensis Becc. (Palm.)	Anahau	8-9
<i>Livistona saribas</i> (Lour.) Merr. (Palm.)	Tarau	7-8
<i>Lumnitzera littorea</i> (Jack) Voigt (Combr.)	Tabau	11
<i>Lunasia amara</i> Blanco (Rutac.)	Lunas	2, 8
<i>Macrozania macrocarpa</i> (Blume) Cogn. (Cucurb.)	Kabatiting-gubat	2
<i>Machilus philippinensis</i> Merr. (Laur.)	Kalisisiaw	5
<i>Madhuca betis</i> (Blanco) Merr. & Macbr. (Sapot.)	Betis	3-4
<i>Mallotus philippensis</i> (Lam.) Muel.-Arg. Euph.)	Banato	9
<i>Melia dubia</i> Cav. (Meliac.)	Bagalunga	9-10
<i>Memecylon ovatum</i> Sm. (Melast.)	Kulis	3

SCIENTIFIC NAME	COMMON NAME	MONTH WHEN SEED IS AVAILABLE
<i>Merremia peltata</i> (L.) Merr. (Convolv.)	Bulakan	5
<i>Microcos stylocarpa</i> (Warb.) Burret (Tiliac.)	Kamuling	5
<i>Mimusops parvifolia</i> R. Br. (Sapot.)	Bansalagin	6
<i>Murraya paniculata</i> (L.) Jack (Rut.)	Kamuning	10-11
<i>Myristica elliptica</i> Hook. f. & Thoms. var. <i>simiarum</i> (A. DC.) J. Sincl. (Myrist.)	Tanghas	12
<i>Myristica philippensis</i> Lam (Myrist.)	Duguan	6-7
<i>Nauclea junghuhnii</i> (Miq.) Merr. (Rub.)	Bangkal, Southern	9-10
<i>Neonauclea formicaria</i> (Elm.) Merr. (Rub.)	Hambabalud	1
<i>Neotrewia cumingii</i> (Muell.-Arg.) Pax & K. Hoffm. (Euph.)	Apanang	9
<i>Nephelium mutabile</i> Blume (Sapind.)	Kapulasan	5, 8
<i>Ochroma pyramidale</i> (Cav.) Urb. (Bomb.)	Balsa	4-5
<i>Oncosperma tigillaria</i> (Jack Ridl. (Palm.)	Anibong	7
<i>Ormosia calavensis</i> Azaola, (Leg.)	Bahai	8-9
<i>Oroxylon indicum</i> (L.) Vent. (Bign.)	Pingkapingkahan	3-4
<i>Palaquium merrillii</i> Dub. (Sapot.)	Dulitan	2
<i>Pandanus luzonensis</i> Merr. (Pand.)	Alas-as	1
<i>Pangium edule</i> Reinw. ex Blume (Flac.)	Pangi	1-2
<i>Papualthia lanceolata</i> (Vid.) Merr. (Annon.)	Anolang	8-9
<i>Parartocarpus venenosus</i> (Zoll. & Mor.) Becc. subsp. <i>papuanus</i> (Becc.) Jarr. (Morac.)	Malanangka	7
<i>Parashorea plicata</i> Brandis (Dipt.)	Bagtikan	6-7
<i>Paratrophis philippinensis</i> (Bur.) F.-Vill. (Morac.)	Agus-us	2, 9
<i>Parinari corymbosa</i> (Blume) Miq. (Amygd.)	Liusin	6-7
<i>Parinari glaberrima</i> Hassk. (Amygd.)	Tabon-tabon	5
<i>Parkia roxburghii</i> G. Don (Leg.)	Kupang	3-4
<i>Parmentiera cerifera</i> Seem. (Bign.)	Candletree	11-12
<i>Parmentiera edulis</i> DC. (Bign.)	Binalimbing	5
<i>Passiflora edulis</i> Sims (Passifl.)		12
<i>Pedicellia fuscescens</i> (Blume) Hu, (Sapind.)	Ambalag	3
<i>Peltophorum pterocarpum</i> (DC.) Back ex K. Heyne (Leg.)	Siar	4
<i>Pentacme contorta</i> (Vid.) Merr & Rolfe (Dipt.)	White lauan	7-8
<i>Persea americana</i> Mill. (Laur.)	Avocado	7-8
<i>Phaeanthus ebracteolatus</i> (Presl) Merr. (Annon.)	Kalimatas	8
<i>Piliostigma malabaricum</i> (Roxb.) Benth. var. <i>acidum</i> (Korth.) de Wit (Leg.)	Alibangbang	9
<i>Podocarpus blumei</i> Endl. (Pod.)	Malaalmaciga	10-11
<i>Polyalthia flava</i> Merr. (Annon.)	Yellow Lanutan	12-1
<i>Polyscias nodosa</i> (Blume) Seem. (Aral.)	Malapapaya	9-10
<i>Pometia pinnata</i> Forst. (Sapind.)	Malugai	9-10
<i>Pongamia pinnata</i> (L.) Merr. (Leg.)	Bani	9-10
<i>Posoqueria latifolia</i> Roem. & Schult. (Rub.)	Posoqueria	4, 6
<i>Pouteria macrantha</i> (Merr.) Baehni (Sapot.)	White nato	6-7
<i>Pseudopinanga insignis</i> (Becc.) Burr. (Palm.)	Sarauag	6
<i>Pterocarpus indicus</i> Willd. (Leg.)	Narra	7-8
<i>Pterocarpus vidalianus</i> Rolfe (Leg.)	Narra, Prickly	7-8-9
<i>Pygeum vulgare</i> (Koehne) Merr. (Amygd.)	Lago	2-3
<i>Pyenarrhena manillensis</i> Vid. (Menisp.)	Ambal	9-10
<i>Rollinia deliciosa</i> Saff. (Annon.)	Biriba	12
<i>Rourea volubilis</i> (Blanco) Merr. (Connar.)	Kamagsa	6
<i>Roystonea regia</i> (HBK.) O. F. Cook (Palm.)	Royal Palm	7-8-9
<i>Samanea saman</i> (Jacq.) Merr. (Leg.)	Rain tree	4-5
<i>Sandoricum koetjape</i> (Burm. f.) Merr. (Meliac.)	Santol	7

SCIENTIFIC NAME	COMMON NAME	MONTH WHEN SEED IS AVAILABLE
<i>Sapium luzonicum</i> (Vid.) Merr. (Euph.)	Balakat-gubat	7, 9
<i>Saraca declinata</i> Miq. (Leg.)	Saraca	7-8
<i>Saraca thaipingensis</i> Cantl. (Leg.)	Narrow-leaved saraca	9-10
<i>Semecarpus cuneiformis</i> Blanco (Anac.)	Ligas	6
<i>Serialbizia acle</i> (Blanco) Kosterm. (Leg.)	Akle	9-10
<i>Shorea almon</i> Foxw. (Dipt.)	Almon	7-8
<i>Shorea negrosensis</i> Foxw. (Dipt.)	Red lauan	8
<i>Shorea polysperma</i> (Blco.) Merr. (Dipt.)	Tañgile	7-8
<i>Sindora supa</i> Merr. (Leg.)	Supa	7-8
<i>Spathodea campanulata</i> Beauv. (Bign.)	Tulip, African	6, 8
<i>Spondias mombin</i> L. (Anac.)	Hogplum	9-10
<i>Spondias pinnata</i> (L. f.) Kurz, Anac.)	Libas	7
<i>Sterculia foetida</i> L. (Sterc.)	Kalumpang	4
<i>Sterculia oblongata</i> R. Br. (Sterc.)	Malabuho	10
<i>Strombosia philippinensis</i> (Baill.) Rolfe (Olac.)	Tamayuan	8
<i>Strongylodon macrobatrax</i> A. Gray (Leg.)	Jade Vine	5-6
<i>Swietenia mahagoni</i> Jacq. (Meliac.)	Mahogany	1-2
<i>Tarrietia sylvatica</i> (Vid.) Merr. (Sterc.)	Duñgon	6-7
<i>Tecoma stans</i> Juss. (Bign.)	Yellow elder	2
<i>Tectona grandis</i> L. f. (Verb.)	Teak	5-6
<i>Terminalia catappa</i> L. (Combr.)	Talisai	9-10
<i>Terminalia microcarpa</i> Decne. (Combr.)	Kalumpit	6-7
<i>Thevetia peruviana</i> (Pers.) K. Schum. (Apocyn.)	Peruvian-bell	8-9
<i>Toona calantas</i> Merr. & Rolfe (Meliac.)	Kalantas	5-6
<i>Triplaris cumingiana</i> Fisch. & Mey. (Polygon.)	Palosanto	4-5
<i>Triphasia trifolia</i> (Burm. f.) P. Wils. (Rutac.)	Limoncito	8
<i>Tristania decorticata</i> Merr. (Myrt.)	Malabayabas	8
<i>Veitchia merrillii</i> (Becc.) Moore f. (Palm.)	Bungang Jolo	7-8-9
<i>Vitex parviflora</i> Juss. (Verb.)	Molave	9-10
<i>Wikstroemia indica</i> (L.) C. A. Mey. (Thymel.)	Salago, Small-leaved	10-11
<i>Wikstroemia lanceolata</i> Merr. (Thymel.)	Salago, Lance-leaved	10-11
<i>Wikstroemia meyeniana</i> Warb. (Thymel.)	Salago, Large-leaved	9-10
<i>Wrightia laniti</i> (Blanco) Merr. (Apocyn.)	Lanete	4-5
<i>Ziziphus hutchinsonii</i> Merr. (Rhamn.)	Lumuluas	11
<i>Ziziphus talanai</i> (Blanco) Merr. (Rhamn.)	Balakat	5-6

"The small daughter of a famous surgeon always introduced herself, when asked her identity, as 'Dr. Baker's daughter.' Her mother decided to correct her, on the ground that it sounded too snobbish. 'After this,' said her mother, 'just refer to yourself as Mary Baker.'

"Several days later a colleague of the physician leaned over and asked, 'Aren't you Dr. Baker's little girl?'

"I always thought I was,' answered the little girl. 'But Mother says not.'"

— Ron Butler in *Coronet*

# Too Many Fiestas

By

MANUEL R. MONSALUD

As a general rule we, Filipinos, are extravagant. Consider, among other things, the many yearly "fiestas" — barrio and town fiestas in addition to Christmas, New Year's, and others.

Take a typical Philippine town with 15,000 population. Granting that there is an average of 5 members to a family, there would then be 3,000 families in said town. Assuming further that 1,500 families live in the poblacion. These are the ones heavily affected by the annual town fiesta.

What will be the expense involved? Let us assume that 70% of these families, or 1,050, in the poblacion will entertain, that is, feed and offer drinks and refreshments to relatives, friends and even total strangers, who may visit with them at their residences during the fiesta and partake of the preparations. A modest estimate of ₱100 per family (taking into consideration the present high costs of practically everything that is bought) is easily spent unnecessarily. How about new shoes, hairdos, suits, orchestras, house curtains, dances, etc.? All these entail a sizeable amount spent unessentially. For one typical poblacion, therefore, an amount not less than ₱105,000 is squandered at least once a year.

Supposing we have, let us say, only 1,000 towns (excluding cities) all over the country. The staggering amount of ₱105,000,000 annually is easily squandered for fiestas. How many hospitals, kilometers of first-class roads, barrio schools, artesian wells, or irrigation projects, etcetera, can we construct with this huge sum if properly harnessed or channelled?

Something concrete should be done by our legislators or leaders to eliminate or minimize this extravagance. Perhaps, we can have a law enacted legalizing only the holding of fiestas, say, once in 3 or 5 years.

During fiestas too a lot of man-hours are lost which otherwise could have been devoted to more productive endeavors. Many people during fiestas go to *pintakasis*, engage in drinking sprees, or just roam around the streets or in the town plaza aimlessly. These people, no doubt, could better use this idle time to working in their farms or yard or in their animal projects at home that may neat them some cash later on.

Another generally unpleasant thing about fiestas: — The housewives vie with one another doing their best and working in good faith to prepare sumptuous luncheon and dinner complete with lechon, fruit and vegetable salads, stuffed chicken, custard, etc. The visitors usually eat these preparations and, if some of them get sick thereafter, let us say from indigestion or diarrhea, the poor hosts or hostesses are usually blamed or cursed.

Therefore to avoid all these unnecessary and unpleasant things and to practice "austerity", let us reduce the number of fiestas if we cannot totally eliminate them from our native customs and traditions.

Most of us, Filipinos, do not know how to save. More often than not we spend more than what we earn. Many of us live beyond our means. In this respect, we are very far from the thrifty or frugal Japanese and Chinese, that is why we are quite slow in our financial or economic progress due to a great extent to *too many fiestas*.

## WHY RIZAL . . .

(Continued from page 24)

In this centenary of Rizal's birth, his is the voice of our national conscience speaking from the grave to remind us how far we have strayed from the path of truth and decency he and our other heroes had charted for us. What sense of shame must fill us today as old Tasio pours out, with damning reproach, this bitter truth:

"Our youth think only of love affairs and dissipations; they expend more time and work harder to deceive and dishonor a maiden than in thinking about the welfare of their country; our women, in order to care for the house and family of God, neglect their own; our men are active only in vice and heroic only in shame; childhood develops amid ignorance and routine, youth lives its best years without ideals, and a sterile manhood serves only an example for corrupting youth. Gladly do I die!"

May I now put in a word of caution. There is the danger that in our enthusiasm to propagate the teachings of Rizal we may tend to "type" him, that is institutionalize him and convert his teachings into dogma. We have a well-known propensity to live by slogans. The fund-raising drive of the Rizal Centennial Commission has lately taken the form of a slogan contest of the cheapest Madison Avenue variety. Many ride around smugly in their cars with *Live the Rizal Way* stickers on their windshields. And soon, this infantile gimmick, a *March of Joses for Jose* to keep the coins rolling into the till. One does not become a Rizalist this way any more than wearing a barong tagalog makes one a nationalist. Slogans may help win popularity contest, and may even help elect a president (Magsaysay is My Guy). But it is hardly the way to make our people conscious of Rizal and what he means to us in terms of national self-respect, of national dignity, and of the national soul.

A Rizal cult will surely be the Judas kiss for a nascent Rizalism.

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We cannot read Rizal today and remain unmoved. But let us not read him as something the doctor ordered, like a sacred or tribal duty. And let us not read him with awe. This, as a candid Rizalist says, would be fatal. Rather, let us read him as we would any book find, and thrill to a new discovery. For Rizal re-read is Rizal discovered. We will then get to know him well, and learn from him the simple truths, and the little virtues. Those things that we had carelessly tossed away some place before, and forgotten. What it means to be honest, what it means to feel a sense of shame, what it means to have integrity and self-respect, what it means to be a man, a human being a Filipino. This last above all else. For this generation need to be schooled in nationalism and what this surging and roaring "wave of the future" has in store for our still unredeemed people.

I am not suggesting that Rizal is the cure-all for what ails our society today, but it is surely charitable to hope that an understanding of this great man and his writings would save many of us from making fools of ourselves. "People consider madmen," says old Tasio, "those who do not think as they do."

I don't see how a Filipino who has read Rizal can help identifying himself with Rizal and what he stands for, and identifying himself thus, find common cause with him against the resurgent old evils that he fought in his time. But identification, I must add, not as a label but as a recognition of one's place in the scheme of things. This means, certainly, the Filipino's place in his own society — as the master of his own house. And when he finds that he is a mere "hewer of wood and carrier of water" in this land of potential plenty for all, this new-found

(Continued on page 38)



# Modern Practical Techniques and Economical Practices on Reforestation

By

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*Forester In Charge*  
*Buhi Reforestation Project*

Every step in reforestation work means money from the reforestation fund. To obtain accomplishment, at least cost, each reforestation project must therefore have a carefully formulated working program to be followed which is economical in nursery and plantation work.

During my assignment in several Reforestation projects, I have had the following observations:

## I — *Economical Practices:*

### (A) *Contract Basis:*

#### 1. *Weeding*

Weeding is necessary to liberate desirable plants from weeds. This nursery practice needs labor and money. We know how government casual workers work. By applying the contract basis in weeding, the work will be ultimately faster and cheaper, for the deal must be agreeable to both parties.

#### 2. *Preparation of seedbeds and transplant beds:*

By employing a man who has a carabao and a plow, the government saves much as it has only to pay for the services of the man.

#### 3. *Hauling of seedlings:*

In allowing laborers to bring potted planting materials from the nursery to the plantations, the number of seedlings avail-

able for planting can not cope with the speed of the planting in the field. But if on a contract basis the seedlings can be hauled to the planting site and be made available for planting. A man can carry from 50 to 75 potted seedlings and at a distance of 5 to 6 kilometers, he can deliver 300 seedlings only for the 8-hour work in the four trips that he makes. But if contracted at 1.5 to 2 centavos per potted stock, at least 100 potted stocks can be hauled which number will run to thousands if the work will cover a number of days.

#### 4. *Plantation thinning:*

It was an old practice that ipil-ipil are first planted in the field in order to control cogon before a final forest crop will be planted to establish a permanent forest plantation. The established ipil-ipil plantations must, therefore, be cleared out. By allowing interested persons to buy blocks of ipil-ipil plantations on a contract basis, the government saves money for clearing the area of ipil-ipil and in addition, will earn an income for forest and reforestation charges. Then the planting of important forest tree species is undertaken immediately in all areas cleared. After two years, the ipil-ipil plantation is again sold to the highest bidder in order to give the growing seedlings enough sunlight and to liberate them from weeds. After the second harvest of ipil-ipil, the de-

sired species now dominate the area and the selling of ipil-ipil can be allowed to continue as desired.

**5. Preparation of potting materials:**

In the Cebu Reforestation Project, empty milk cans are bought at ₱2.50 per thousand and payment for opening the top and slitting the sides on a contract basis is ₱4.00 per thousand. A daily worker can finish only from 400 to 500 potting materials. The usable potting materials in the plantations left after planting are also collected at ₱4.00 per thousand. There is therefore a saving in expenses that will be incurred if opening and slitting of the tin cans are on contract basis.

**6. Sale of forest products:**

In cutting pine branches for Christmas trees and in cutting branches of trees usable for mine props, the payment for both is twenty centavos a piece, if hauled to the roadside. If laborers are paid for this job at ₱4.00 per day, the cost of labor will be more than three times and the gain in the sale of forest products will be reduced considerably.

The project officer, however, must take the necessary precaution in selling forest products under contract. He must see to it that only experienced and trusted cutters are allowed to contract the cutting to avoid the mutilation of trees. The trees to be pruned must be the ones first designated by the project officer before cutting of any kind is undertaken.

For those who buy timber for posts and lumber, the trees are first marked before the buyer is allowed to cut and cutters must also be given instructions on the right procedure in felling trees. Reforestation projects must sell nursery and plantation products or stocks in order to earn to dispose ornamental plants being raised which are not plantable in the plantations and to prune or thin its crowded established forest plantations.

There are also other necessary operations in reforestation to which the contract basis can be applied like trail making, brushing or ring weeding of plantations, terracing, leveling of grounds, hauling of stones, gravel and sand, gathering of cogon, bamboo, potting materials, fencing post, sawing of lumber and even in the construction of nursery shed houses.

To make the contract legal, a simply written agreement must be prepared.

**(B) Amount of work accomplished:**

In reforestation we have a definite cost data in all our activities being performed both in the nurseries and in the plantations:

1. In the construction of firelines, a man must at least finish clearing an area of 20 meters by 10 meters in 8 hours;
2. He is expected to transplant at least 500 seedlings a day including the preparation of same and;
3. In potting seedlings, to properly plant at least 250 to 300 a day, and at least 200 to 250 for potted stocks.

**(C) Purchasing:**

**1. Seeds:**

The administration has its own official price list for seeds but based on the Cebu Reforestation Project condition, the local prices for the following available species in the locality are:

1. Ipil-ipil . . . . . ₱0.50/ganta
  2. Narra and Mahogany  
without wings . . . . . 1.00/7 gantas
  3. Lumbang, baguilumbang  
and palomaria all  
clean . . . . . 0.10/ganta
  4. Acle, tindalo, fire tree  
and acacia . . . . . 0.50/ganta
  5. Teak, clean . . . . . 1.00/7 gantas
  6. Banaba and lanutan  
fruits . . . . . 0.08/ganta
  7. Balsa, clean . . . . . 4.00/liter
- (Continued on page 87)*

# *My Experience as Officer in Charge of a Forest Station*

By

ANGEL A. MARIANO

After my graduation from the Ranger Course I was immediately sent to the field by the Director of Forestry. I was assigned to the Office of the District Forester at Dipolog, Zamboanga del Norte. I cannot recall the exact date when I reported to the District Forester for duty, but I do remember that it was sometime in June, 1955. I spent my first month in the Bureau of Forestry in orientation work. Sometimes I was doing relative forestry work, such as forest inventory and survey of Nipa-Bacauan Plantations and Fishponds. At other times I was told to perform office work, such as typing of correspondence, but most of the time I found myself reading old circulars, office memoranda and administrative orders.

Six months later the District Forester assigned me to take over the duties of an Officer in Charge of the Sibuco Forest Station. I had a mixed feeling of joy and sadness when he told me of his decision to send me to Sibuco. I was happy, first, because this assignment came to me as a commendation for my diligence and hard work and secondly, I knew that I had gained the confidence and trust of my immediate superior. On the otherhand I was sad, for leaving my friends and acquaintances behind.

On January 13, 1956, I arrived at Sibuco by launch from Zamboanga City, after traveling for almost six hours. As soon as I arrived in Sibuco I proceeded immediately

to the Camp of the Western Mindanao Lumber Company, Inc., where the Office of the Sibuco Forest Station was located. I reported to Senior Forest Guard Casimiro Guisadio and informed him that I was to relieve him as Officer in Charge of the station. He was not surprised at all for he was already informed of my coming to Sibuco by the District Forester. Actually, he had been expecting me for sometime. On this same day the property of the Station was turned over to me and was placed under my responsibilities.

The Sibuco Forest Station was housed in a 8 x 10 meters sled house. One half of the house was used as the office, and the other half as our bedroom. In effect the Sibuco Forest Station was only a Scaling Station to all intents and purposes. The office facilities consisted of a table, a chair and a bench. For our filing cabinet we had a soap box. There was no typewriter where we could type our reports every end of the month. We had to depend on the Western Mindanao Lumber Company, Inc. for our office supplies. This was the exact condition prevailing in the Sibuco Forest Station. That very moment I felt disgusted and disappointed. Accordingly, this was just the beginning of a long series of frustrations and disappointments. More were yet to come, but for the moment I had to confine myself to the immediate problems of the station. I had to face the fact and make the most out of what we had.

The personnel who were under me consisted of two concession guards, and three regular forest guards. One of my Concession Guards was a Datu of the Moslem Tribe known as Kalibugan. He was the liaison officer of the station. His name is Datu Cadiali Mangura.

As the days rolled by I came to know more about Sibuco, and its people. Sibuco at that time was only a barrio of the Municipality of Siocon, Zamboanga del Norte. Though only a barrio, it is as large as the town of Los Baños. It was once the seat of government of the Municipal District of Sibuco which comprised all the Barrios that are now under the Municipality of Siocon, Zamboanga del Norte. For this reason we had to travel by vinta for one day to Siocon just to get our mails and to get our treasury warrants every end of the month.

Most of the inhabitants of Sibuco are moslems. Their dialect, customs and tradition were strange to me. Fortunately, some of these people spoke a little English and the Chavacano dialect of which I have a good command. I am emphasizing this point here, because I sincerely believe that a Forest Officer must not only be concerned with the forest but with the people of the community as well. These Inhabitants are not fully aware of the different forestry laws and it is the responsibility of a forest officer to inform them. While it is true that ignorance of the law excuses nobody, yet in fairness to these people who are less fortunate than we are, the law must be made known to them. And the surest way to gain the confidence and faith of these people is to know their dialect, customs and traditions. This I did successfully.

My experience as Officer in Charge of the Sibuco Forest Station taught me that it is not good to fraternize too much with one or two individuals because these individuals, though ignorant, are also capable of some malicious scheme, which eventually may contribute to one's downfall as a Forest Officer.

For instance, one day one of the Natives came to my Office and brought me one dozen eggs. He gave them to me. When I asked him what those eggs were for, he answered, "That is for you." I took the eggs, and thanked him, not knowing that those eggs were the match sticks that would soon set fire to the wick to burn down a good stand of public forest. Fortunately, I was able to discover in due time the purpose of his malicious scheme and upbraided him for his malfeasance.

The work of an Officer in Charge is not all pleasure and fun as some people would like us to think. It is a very responsible position in the government and the price of this responsibility is eternal vigilance. I have to work even on Sundays, whenever I was called upon to investigate some violations of this or that forest law. It is also a very risky job for even during stormy nights I had to brave the storm in order to reach places wherever my services were demanded of me. A forester's life is just like that of a soldier or a Boy Scout whose motto is "Be prepared."

However, this is only one side of the story. For a job well done has always its rewards. To be one of those few people who are charged with the responsibility of preserving our forest for posterity is an honor and a privilege reserved only for foresters.

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*Trade increases the wealth and glory of a country; but its real strength and stamina are to be looked for among the cultivators of the land.*

Lord Chatham

# "Our Best Friend... The Tree"\*

By  
B. G. PARAGAS

Mr. Principal, Members of the Faculty,  
Friends, Students, Ladies and Gentlemen:

It is indeed a pleasure and a privilege to have this opportunity to be your speaker this morning. I know that you are all aware why we are having this program.

Under Executive Proclamation No. 129, dated March 5, 1955 as issued by our beloved late President Ramon Magsaysay, the name "Arbor Day" was changed to "Arbor Week" to awaken tree-conscious people to undertake a vigorous campaign for the planting of trees and to beautify our yards, public plazas, highways and parks and to reforest our bare and denuded lands thru sustained tree planting work.

Why do we celebrate "Arbor Week"? Just as we celebrate Rizal Day, year after year, because we honor Rizal's ideals as a national hero, so must we celebrate *Arbor Week*, year after year, because we honor our great friend the Tree.

But why do we consider a tree our great friend? Many of you, my friends, do not know or perhaps will never know that a tree is one of our great friends. Now, let me tell you why we consider a tree, our great friend.

Well, in the first place, try to examine your surroundings in your school . . . your building, your desks, and even your pencils and papers. Do you think they are not products coming from our friend, the tree? They all come from a tree. These are the

many seemingly small things that we, as human beings, derive from a tree. To mention all the benefits that we get from a tree is to stay here the whole day talking to you. But for the present, I shall not tire myself doing this. I will just leave this thing for you to think of and ponder over for yourself. In the meantime, I shall just tell you the most important things that the trees give us, as a people and as a nation.

1. The lumber and log export industry, which is basically founded on the trees, is a life blood of the national economy. From the lumber and export industry, the Philippine government derives a tremendous income which supports the nation. Our forest as a national resource of the country, which, if properly utilized and conserved, will stabilize the economic structure of our nation.

2. The community of trees which we call forest in preventing erosion conserves the fertility of the soil; in regulating waterflow conserves water supply during the dry season; it minimizes the effects of floods, which yearly exact great losses of life and property. In regions where there are barren mountains, like for instance the Ilocos Region and the Province of Cebu, floods visit these places regularly every year causing great loss of life and property, reaching the staggering sums of millions of pesos. You will not believe these things because you have not seen them. Recently, in a news item that appeared in the *Manila Times*, the Chinese people suffered huge losses of life and property from floods. These are brought about by the wanton destruction and indiscriminate cutting of trees. The Chinese, because

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\* (The following speech was delivered by the author before the faculty and student body of the Zamboanga City High School during the "Arbor Week" program last July 28, 1960.)

they have plenty of trees to cut in the past, recklessly and ruthlessly cut trees without regard for the future. What are they experiencing now? The Chinese today are experiencing timber famine. Their homes are washed away by floods. You will notice that houses in China are made of bricks and tiles. Why? Because they have no more supply of timber. We shall experience the same thing, if we do not properly conserve our timber supply.

I will cite you an example of a country . . . a great country . . . that conserved its forest for the future. This country is the United States of America. The great American people, during the time of President Theodore Roosevelt, conserved their forest by wise use for the coming generations. As a result the United States is one of the nations of the world that has a steady supply of timber. Perhaps, this is one of the reasons why the United States is considered a great power today.

There are countless benefits that we get from the trees. As I have said, if I mention all the little things that we derive from a tree, it will take me the whole day talking of nothing but trees. But before I leave this stage this morning, may I enjoin every one of you to help us, Foresters, for the sake of the coming generations, in our gigantic task of conserving the nation's forests.

Let us make the whole year round an

*Arbor Year.* When you plant a tree, water it and protect it from its enemies until it is old enough to stand the hardships of life so that they will give you the many things that they furnish us in life. For if you will not do as I say, the purpose for which we have gathered here this morning will just be in vain.

There is a saying that runs like this: "Nobody will value a thing until he has lost it". My friends you will not value our forests until you will lose them. I hope, God forbid, we will not lose our forest.

THANK YOU

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### WHY RIZAL . . .

(Continued from page 32)

haven of a predatory anti-intellectualism, then he will begin to find out why.

Like Oedipus in the Greek story, he begins his tragic pursuit — of himself. The truth will destroy him, but he must know who he is. And this is the fundamental dilemma of man: he has to know whether knowledge will save him or whether it will kill him. He has to know, because the end of man is knowledge.

Like Oedipus, the Filipino must seek after the truth about himself even if the truth will destroy him. For in discovering the truth, he will discover himself.

In understanding Rizal, the Filipino will discover himself.

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*"Edwin Way Teale, the naturalist-philosopher, was talking enthusiastically of his life as a writer: "I have the good fortune to have the sort of mind that sees the individual rather than the group. Just as an example — the other night I was awake longer than usual, and so for the first time I tried counting sheep. But for the first sheep, as it came to the fence, stumbled and fell, and I began to observe everything about — and became so interested I lost all chance of going to sleep."*

— Wes Laurence in  
Cleveland Plain Dealer

# • *Literary Attempts* •

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## **A Real Christmas**

By  
ROMULO CASILLA

Christmas will soon be here. Christmas songs from jukeboxes, radios and TV's are filling the air and once again we hear people, especially the youngsters, singing Christmas carols. For those who have nothing for Christmas, it will be bleak. Others, the lucky ones, Christmas will indeed be very merry.

Already we are talking about Christmas. Some religious leaders maintain that the nativity of Christ was not in December, but rather during summer. But in what particular month and date, they could not ascertain. But the date does not matter. Whether Christmas dates as early as November or later in April, we really do not care. What matter is the fact that Christ was born some time ago.

Christmas day is a day of jubilation. The Child Jesus brings us newer hopes and brighter tomorrow. People of all ages do lots of things to presage the coming of the King. On Christmas eve, we find young people caroling Yuletide songs to cheer this lonely world. After singing a song or two they greet you with a "Merry Christmas", "Maligayang Pasko" in Tagalog, "Naimbag a Paskuayo" in Ilocano, "Maayong Pasko" in Visaya, "Felices Pascuas" in Spanish, and in as many foreign languages that they know. But, of course there are those that disturb you. Theirs is not a carol but simple "Noise" that would make Old Noel turn in his grave. If you give ten centavos to a caroler, he at once makes a quiet exit, and when you feed your chickens you will notice two or three of them missing. By that time your chickens are having their own merry Christmas in hot water. There are those who sing the carol

in monotones that you are only too glad to get rid of them, even if it means digging into your pocket for a fifty-centavo piece.

Indeed, few people know and understand the real meaning of Christmas. Of course, everybody, except some, know that December 25 is the nativity of Christ. Even most of the children know that. But is being jubilant, having new hope and brighter tomorrow, and giving and receiving gifts enough to make Christmas a real one. A gift without a receiver is nothing. But it should serve to give us a lesson—humility for Christ, the King of Kings, in being born in a stable in Bethlehem gave to the world an everlasting example of humility, of love for one's fellowmen. He has shown and taught us by his teachings and life that it is more blessed to give than to receive.

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## **Self-Expression and the Student Publication**

By  
OSCAR A. GENDRANO

The ability for self-expression is a common deficiency among the student populace of this college. This is evidenced by the numerous failures in English courses, by everyday instances of stammering conversations, and by the scarcity of student literary contributions to the school publications.

It may be a shame to admit but it is the fact: we are not adequately equipped in language instruction. I guess we know why we are not. Our secondary schools, where we are supposed to have acquired enough skills in English are partly to blame. But much as we regret this situation we should contemplate our own attitude towards learning. Easily it becomes clear to us that we have failed to realize the importance of

being proficient in oral expression. We seem to dwell on the wrong notion that English is like high school history which could be learned by merely memorizing names, dates and places. Learning a language requires rigorous practice in writing rather than just knowing the definition of noun, verb, adjective, etc . . . .

Now, here in college we meet formidable odds. Subjects requiring sufficient knowledge of comprehensive English term in the curriculum. Undaunted, we face the challenge. It is an uphill fight but determination sides with us. Consequently, we grope for ideas and meanings among pages of books, in lectures our faces often go blank in quiet confusion and when asked to explain a point all we usually mumble out are some incoherent garbled versions of ideas. The usual haphazard ways of study, we realize often too late bring red marks and sad tidings. We discover also that memorizing without understanding is not worth a straw, that having ideas without being able to express them lucidly in speech or in writings is inutile.

We must accept the truth. Good writing is one guarantee to success in most of our subjects. We do not need literary skill. All we need only is to be able to express our ideas in simple but very lucid way.

In the classroom, we are taught to write good paragraphs. However, promise of good grades do not prove enough incentive for exerting more effort. We have a university newspaper that opens an opportunity to develop the student's writing ability. I suspect, though, that we are scared by its wide circulation. We are diffident that our well-meaning article is not worth reading by the whole university student body. We have a college publication, the *Forestry Leaves*. The message in it are inspiring; the speeches — astounding; the technical notes — informative; the sunshine corner — entertaining; the fee it exacts on us per semester — pinching. Just the same our response to it is lukewarm.

Fortunately, the pioneering spirit of a

venerable group on our campus still stays with alacrity. The *Makiling Literary Club*, guided by its honest aim of helping develop the literary talent of students in this college, endeavored to put up a real student body paper. Thus we have the *Forestry Leaflets* which is planned to reel off the press every month. But present funds will permit only five issues. In this project, the MLC's utmost concern, I believe, is the cultivation of our writing skill to make it less difficult for us to take courses that require facility in expressing ourselves clearly and intelligently. In turn, it should be our concern to support the paper. It asks for only a little sum yet the benefits we get in terms of learning is sizeable.

Our literary attempts, whatever their nature, are welcome in this publication. We can express our ideas, expound our opinions, polish our style. No other periodical is a closer answer to our needs. Send in articles and relevant news. Send in monetary help, too. However little the help, it is for a worthy cause. Every centavo received is a sound investment. Every article we contribute is a monument to our achievement and a stepping stone towards writing success.

\* \* \*

## BUBBLES

*a lounge . . . a cup . . . a stick . . .*

*sun, trees, the sea: it mists.*

*bubbles crystal up the mists*

*men, the world, the sea, the mountains:*

— *the blowing winds take them.*

*bubbles float — white, black, gray:*

— *the world is shining, smiles:*

— *the love, graindrops*

— *the world darkens: blood, hate, nothing.*

— *the world grays: glows, darkens, loves, hates:*

— *love, graindrops, something, nothing.*

*a lounge . . . a cup . . . a stick no more.*

*a sun . . . trees . . . the sea . . . the mists no more, the bubbles no more.*

*bubbles . . .*

*. . . ed. g. dizon*



# • Campus Notes •

## LEON O. TY UNDERSCORES COMMUNISM MENACE

By G. P. Principe

Atty. Leon O. Ty, this year's Forestry Day guest speaker underscored the menace of Communism to the Philippines, in his talk at the College Auditorium, during the Forestry Day program last November 30, 1961.

Speaking before a jampacked crowd of about 800, the veteran newspaperman, lawyer, and radio commentator discoursed on the spread of Communism in Asia. According to him, thirteen countries are now groaning under the yoke of communism, while twelve others are helplessly tied up with Red China and Russia under their sphere of co-existence. Among the countries mentioned by him were Tibet, North Vietnam, Laos, Mainland China, North Korea, India, outer Mongolia and Manchuria.

In Tibet, he said that the Llamas were compelled to get married, others were made beasts of burden, and monasteries were turned into barns. Slavery has gone so low and terrible in Red China that the poor people are eating even the bark of trees. He referred to Communism as the greatest of all menaces, a new colonialism under which there is no liberation nor independence, unlike the British or the American colonialism.

The next drive of the communist according to Atty. Ty will be to South Vietnam. He said that at the close of the rainy season (it is now rainy season in South Vietnam), the "human flies" from North Vietnam will start their drive to the South. In anticipation of this attack, however, President Kennedy has sent reinforcements and together with the SEATO forces, South Vietnam will be defended. He added that unlike Laos and Tibet, which had been given up, South Vietnam will be easy to defend because it is near the shore. He also stated that our ambassador to that country may not return to his post on account of the highly explosive situation there.

Atty. Ty upbraided some leaders for being too busy grabbing the people's money while the grabbing is good, unmindful of the menace of Communism which is threatening our shore.



Atty. Leon O. Ty delivering his keynote address. (Courtesy of Olive's Studio)

He said that today, when even the Americans are air raid-shelter-minded, most of our people including the leaders are busy with petty pursuits, that our leaders are blind as bats, because they don't read. They never go to Southeast Asia. He said that they only go to Paris, London, Madrid, and Copenhagen where the lights are bright and the women are beautiful. He also mentioned a very highly placed government official, and a relative of a senator who has millions of ill-gotten dollars deposited in the banks of Hongkong and Switzerland.

Rampant graft and corruption he said, is the best fodder for Communism to thrive on. He cited the downfall of the Syngman Rhee regime in Korea as an example. No body loved Korea more than Syngman Rhee, he said, but the men around him were corrupt. He stressed that as long as crooks and grafters infest this country; when money is disappearing in spite of our auditors; when filipino officials grab as much as they can and then deposit them in the banks of Hongkong and Switzerland; this serves as a prelude to a very dark future for our country.

Atty. Ty had extensively traveled throughout Asia under an Asian Foundation grant, on a journalism award. Among the countries he visited were Vietnam, Nepal, Pakistan, India,

Burma, Thailand, Malaya, Indonesia, South Korea, and Japan. Dean Zamuco introduced him as a man of the common people, symbolizing the common man, aside from being a newspaperman, lawyer and commentator.

In his speech, Atty. Ty made mention of the "Forest Build the Nation" program which was started seven months ago, over station DZBB, Quezon City. He said that he put up this program not because anybody told him to do so, nor for any monetary consideration, but because in his conversations he had with Prof. Floyd Carlson, a visiting professor in this College, Dr. Tom Gill, a well known Forestry Expert, and other foresters, he was appraised of the sad state of forestry in this country. This he added led to his reading a lot of books on forestry.

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### SCHOLARSHIP REPORT

*by Molly Valeña*

After the storm of the first semester had abated, five students of the College made the scholars roster. Edmundo V. Cortes, a senior topped the list with an average of 1.368. He is this semester's lone university scholar from this college. The college scholars are: Gregorio P. Principe, senior with an average of 1.539; Romulo Casilla, junior, with 1.583; Brigido A. Gendrano, freshman, with 1.640 average; and Herminio B. Sambajon, freshman, with 1.687 average. These scholars will receive certificates of merits from the President of the University during a special convocation to be held in their honor at the University Theater in Diliman, sometime next March, 1962.

The Secretary's Office has not yet released the names of the students who are under the Bureau of Forestry scholarship, Commission on National Integration, and other types of scholarship.

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### RESIDENTS CITE DORMITORY NEEDS

*by Molly Valeña*

In a meeting last November 23, the residents of the Forestry Residence Hall unanimously agreed to send a resolution to the proper authorities stating the need of the residence hall for more facilities.

During the meeting which was presided over by the FRHO president, Antonio M. Lizardo and with Romulo A. del Castillo, one of the assistant faculty members in-charge of the dormitory acting as adviser, preparation for the Open House on Forestry Day was dis-

cussed but the subject that made most of the residents center their complaints is the inadequacy of the facilities in the dormitory.

The residents cited the following needs: chairs and study tables, telephone, a shed for the ping-pong tables, floor wax, tissue paper and other facilities.

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### ICA OFFICIAL'S ARRIVALS AND DEPARTURES

*by D. V. Jacalne*

Los Baños, Laguna — A group of departing and newly arrived ICA officials were recently honored at a party given by the U.P. College of Forestry faculty at Los Baños.

Mr. Donald Ritter, head of the Agriculture Division ICA, USOM/ Manila left recently for a new assignment abroad. He has been in the country for about four years.

During the party, Dean Gregorio Zamuco presented Mr. Ritter a cane, a salakot and a coffee table as token of gratitude of the College of Forestry for the support and encouragement Mr. Ritter had given to the College and for being instrumental in the turnover of the administration of the Makiling National Park to the U.P. forestry college.

The other honorees of the combined despedida — bienvenida party were Mr. and Mrs. Alfred Bishop, Mr. and Mrs. Elon Bomberger and Mr. and Mrs. Eugene Roberts. All are new arrivals.

Professor Bishop is a visiting professor at the Los Baños forestry college. He is professor of forest utilization at the State University of New York College of Forestry at Syracuse. He and Mrs. Bishop will stay in the Philippines about two years.

Bomberger and Roberts, ICA forestry advisers are here to train Filipino foresters in aerial photogrammetry. Both are experts in aerial photogrammetry and will subsequently act as advisors to the projected Forest Resources Inventory of the Philippines which will soon be conducted by the Bureau of Forestry.

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### MLC SPONSORS PROGRAM

*By Hermie Sambajon*

The Makiling Literary Club sponsored a literary-musical program at the college auditorium on the eve of the 21st Forestry Day, November 29. The program started the traditional celebration of the Day.

Prof. Jose Blando, MLC adviser, in his opening remarks, traced the origin of the celebration. "It was the Class 1937 in its junior year that began the Forestry Day," he said. "The aim was to honor those who died for the cause of Forestry."

In the extemporaneous speaking contests that followed, the winners were: Molly Valeña, with his "Forest Education, A Must"—gold medalist, Guillermo Cabanero, "Courtship in Los Baños"—silver medalist and Jaime Albay, "When I Become the President of the Philippines"—third place; singing contest: Alerto Tremor—first, Freshman Trio—second, and Betans quartet—third; skit contest: "The Chase" by the Zeta Beta Rho Frat—first and "The Endless Gospel" by the Beta Sigma Frat—second.

A quiz game, "Double Your Money" was conducted by Mr. Filiberto Pollisco in the latter part of the program. Dean Gregorio Zamuco gave the closing remarks.

Other contributors to the program were Miss Rose Marie Magno with a piano selection, Miss Thelma Militar, accordion selections, and Miss Corazon Tamolang, organ selection. Those who rendered vocal solos were Ely Francisco, Antonio Glori, and Roger Cantuba. Gil Urgino, Domie del Rosario and Julio de Luna were the other participants in the extempore speech.

The board of judges in the extempore speech were Dr. Lee Crandall as chairman, Prof. Floyd Carlson, Prof. Alfred Bishop, and Miss Emma Albano, as members; in the singing contest, Miss Rose Marie Magno as chairman, Messrs. Lucio Quimbo and Romulo del Castillo as members; in the skit contest, Mr. Florencio Mauricio as chairman and Messrs. Juanito Lamanilao and Edilberto Cajucom as members.

The prizes were donated by Dean Zamuco, Director Eugenio de la Cruz, Asst. Director Manuel Monsalud, Prof. Floyd Carlson, Forestry Consumers Coop Store, Makiling Literary Club, and Foresters Conrado Tadeo, Max Sagrado, L. Espinosa, and Romulo del Castillo.

Opened with college of Forestry song, the program closed with the University Hymn.

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#### BSF AND RANGER GRADUATES

*by Molly Valeña*

Nine students from this College were conferred the Bachelor of Science in Forestry degree, during the UP Commencement program last November 12, at Diliman. They are as follows: Benson A. Calabia, Eleno C. Capili,

Larry N. Cayayan, Roberto N. Dumo, Moises Q. Estrella, Domingo A. Furigay, Celso C. Luis, Urdanito M. Romero and Elpidio A. Villanueva.

Four students also finished the Ranger course, and their certificates will be handed to them on the Moving-Up Day celebration of the college sometime in April, 1962. Those who finished the Ranger course at the end of the first semester are the following; Manuel P. Bandong, Ismael E. Camello, Florentino B. Enrile, and Ricardo L. Valencia.

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#### ZETA BETA RHOANS ARBOR WEEK ACTIVITY

*By F. C. Lozano*

Members of the Zeta Beta Rho fraternity of the U.P. College of Forestry helped the PTA teaching force of the Mayondon Elementary School plant and beautify their school ground. Headed by the Adviser Dr. Artemio V. Manza and SF Francisco C. Lozano, the fratmen planted balitbitan, anahao, shade trees and other ornamental plants on the school campus.

After planting, the boys were served refreshment at the elementary school building by the beautiful and lovely home economics teachers. To add gaiety to the affair, the group had a sort of informal program.

Before proceeding back to Forestry, members of the Zeta Beta Rho basketball team tangled with the Mayondon Boys at the Los Baños School of Fisheries basketball court. The Forestry frat boys edged out the pickups by two (2) fieldgoals — a score of 56-52.

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#### INSTRUCTORS LEAVE FOR U. S.

*by D. V. Jacalne*

Los Baños, Laguna—Five Instructors of the University of the Philippines College of Forestry, Los Baños, left for the United States to take up advanced studies under the NEC-ICA Type A Training Program.

They were Andrew W. Bacdayan, Ireneo L. Domingo, Angelo G. Mordeno, Armando A. Villafior and Vicente L. Saplala.

Bacdayan will take up courses in forestry policy and administration at the State University of New York; Domingo, a course in silviculture at North Carolina State University; Mordeno, in logging engineering at Oregon State University; Villafior, in veneer and plywood and Saplala in forest entomology at the University of Minnesota.

Bacdayan, Domingo, Mordeno and Villafior graduated in 1959 from the U.P. College of Forestry with the degree of Bachelor of Science in Forestry.

Saplala is a 1954 graduate of the U.P. College of Agriculture. He was also a fellow under the Colombo Plan Technical Assistance Program in 1956 to England. Before he joined the faculty of the College of Forestry, he was a Junior Plant Entomologist in the Philippine Sugar Institute.

Except Mordeno who left on August 25, the rest left by Northeast Airlines on September 1.

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#### THE FORESTRY TECHNOLOGY BUILDING

Construction of the Forestry Technology Building will be finished next February 8. Financed by the ICA-NEC funds, this building was erected in the site formerly occupied by the boys' dormitory houses nos. 1 to 4, along Racelis Street.

The original plan of the technology building, which called for an appropriation of ₱997,000.00 was an L-shape two-story type and included an auditorium and a basement. As only ₱480,000.00 was available however, only the front wing facing Racelis Street was constructed. No definite information was available as to when the additional wing would be constructed.

The building will be inaugurated this coming Moving-Up Day celebration, and it will be ready for occupancy next June. Classes in all technical forestry subjects will be held in this building, while classes in academic subjects will be held as usual in the College Building.

The wing which was constructed is a rectangular affair, 56-1/2 feet by 214 feet. Among the compartments to be housed are the following:

I Basement: Drafting room; Surveying and Management Storage room; Lecture room; Storage room; Lecture rooms; Photomicrography dark room; and Storage room for chemicals.

II First Floor: Two (2) Botany teaching laboratory rooms; Storage rooms for microscope and Botanical collection; Herbarium; Two (2) faculty offices; Lecture room; Comfort rooms; Information and Secretarial room;

III Second Floor: Wood collection and dry storage room for wood; Wood Technology laboratory room; Management room; Lecture room; Kitchen; Faculty and Seminar room; Faculty office, Comfort rooms; and Calculating room.

The original contract for the construction of the building ended last December 8. The construction of the driveway, however was added, and accordingly the contract was extended up to February 8.

\* \* \* \*

#### PUBLIC FORESTRY INFORMATION AND EDUCATION CORNER

by *D. V. Jacalne*

A short course on Public Information and Education in Forestry with special emphasis on public lectures and radio broadcasts will start on January 15-25, 1962. It will be conducted here in the College of Forestry with Prof. Domingo V. Jacalne, Incharge of Training. Lecturers will be Dr. Larson, Professors Carlson and Blando, and Mr. Vergara.

Participants will come from the Bureau of Forestry, Parks and Wildlife Office, Reforestation Administration, Forest Products Institute, Agricultural Information Division, DANR and possibly from the National Power Corporation and Heald Lumber Company in Mountain Province.

A first and shorter training period was conducted last October 15-21, 1961 with nine (9) participants from the first four forestry agencies named above including the College of Forestry.

The goal of the training program is the establishment of a nation-wide Speakers Bureau on Forestry and Conservation whose function is to develop in our people a deeper appreciation of the importance and value of our forest resources.

You must have been informed or have been hearing the highly informative and educational radio program, "Forest Build the Nation" broadcast over Station DZBB (580) every Sunday at 9:30 in the evening.

It is one of the projects being undertaken by the Joint Committee on Public Information and Education in Forestry.

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#### CLASS ORGANIZATIONS ELECT OFFICERS

by *Molly Valeña*

The Junior class organization in its organizational meeting last September 15, 1961 elected its officers for 1961-'62. Officers elected are: Claudio C. Guerrero, president; Rosalio Goze, vice president; Alberto Picardo, secretary; Romulo Casilla, treasurer; Victor Dotimas Jr., auditor; Angel Mariano, busines manager; Jaime Albay, P.R.O.; Macorro Macumbal, re-

representative to the SBO; Aligan Lucop and Antonio Mendoza, sergeants at arms. Mr. Filiberto Pollisco is the class adviser.

Immediately after his election, the president created a committee on rules and regulations. One of the class major activities will be the forthcoming Junior-Senior Ball sometime in February, 1962.

\* \* \* \*

The Sophomore Class Organization elected their officers last July, 1961 at the College Auditorium. Elected officers are: President — Rogelio M. de la Rosa; Vice-President — Antonio V. Glori; Secretary — Antonio G. Principe; Treasurer — Esther T. Vergara; Auditor — Pedro V. Calixto; Representative to the SBO — Oscar M. Gendrano; Press Relations Officer — Gerardo A. Ibay; and Sergeant-at-arms — Sancho C. Retondo.

Mr. de la Rosa who had been a university scholar and then a college scholar last year, is under the Bureau of Forestry Study Grant. He graduated valedictorian of the Ilocos Sur High School, class '60. He is a member of the ZETA BETA RHO Fraternity, the College's Honor Fraternity.

He won the Class Presidency over Mr. Anacleto C. Duldulao by a very close margin of 3 votes.

\* \* \* \*

Herminio B. Sambajon was elected president of the Freshman Class Organization during their election of officers held last July 28 at the college auditorium.

Other officers elected are: Melanio S. Tagueg, vice-president; Teotimo M. Redulla, secretary; Venia L. de la Torre, treasurer; Felicitio V. Revilla, auditor; Eufemia B. Tamolang, representative to the SBO; Antonino M. Difunturum, Press Relations Officer; Tristan T. Agsalud, business manager; Heracleo A. Basas and Elmer S. Llanillo, sergeants-at-arms. Class adviser is Dr. Artemio V. Manza.

Mr. Sambajon, who graduated salutatorian of the Quezon Provincial High School in Lucena City, is one of the recipients of the Bureau of Forestry Scholarship. During his last year of stay in high school, he was the Editor-in-Chief of "The Coconut", the school's official organ, the president of the senior class and an active member of several organizations.

## PROF. JACALNE SCORED PUBLIC EDUCATION IN FORESTRY

*by I. S. Barongan*

Prof. Domingo Jacalne, a counterpart of Prof. Carlson in the Forestry Extension work of the U.P. College of Forestry spoke before the faculty in one of the series of seminars last July 9 and stressed the accomplishments of his section, its plans as well as its shortcomings.

Before the seminar, the speaker was briefly introduced by Prof. Carlson and gave also some hints on the topics discussed. Prof. Jacalne began his talk by discussing some of the aspects of his present job. He lamented the fact that most people do not know anything about forestry. He made mention of the Joint Public Information Committee in Forestry which is composed of representatives from the different government forestry agencies. He said that this group is not very effective because of its limited facilities, added to the fact that each member is tied up to his work in his respective office.

The committee shall be the core of all extension work in forestry. Among its accomplishments are as follows: a) organization of a working committee; b) interviews on the air over radio station DZBB; c) and publication of some forestry articles in the School News Review, News Digest, Philippine Lumberman, and other newspapers and magazines. Comic books depicting the idea of forest conservation are also being printed and translated into different dialects, and distributed to the public. To quote, Prof. Jacalne said: "If only our people were well-informed, our parks and highways would not be as bare as they are now."

\* \* \* \*

## UPSCans HOLD INDUCTION

*by Nep Q. Zabala*

The Forestry — Aggie UPSCans held their annual induction of new members in the Forestry Pavilion last December 16, 1961.

After three months of probationary period the applicants were inducted to the organization.

At the induction program which started at 7:00 P.M., there were a candle and pinning ceremonies participated in by all members of the organization. A dance climaxed the affair.

\* \* \* \*

UPSCA LEAGUE

by *Pet Muñoz*

Of the 8 competing teams in the current inter-organization basketball tournament sponsored by the UPSCA Forestry Chapter, only 4 teams made it to the Championship round. They are: the untouchables, Beta Sigma, Faculty and the Freshman teams. The less fortunate ones are the Sultans, Apaches, Green Archers and Zeta Beta Rho..

The highly-favored untouchables of Sid Zamuco outblasted the Freshman selection in the opening of hostilities in the Championship round, 56 to 69, assuring themselves of the chance for the pennant against the winner of the Faculty vs. Beta Sigma affair.

\* \* \* \*

FRESHMAN RE-ELECTION

by *Hermie Sambajon*

To fill up the positions vacated by three freshmen officers, the class organization held an election on November 28 at 7 P.M. in room 216.

Those elected are: Elpidio Padre, vice president; Reynaldo de la Cruz, auditor; and Albino Sajor, sergeant-at-arms.

Former officers who left the college were Melanio Tagueg, vice president; Felicito Revilla, auditor; and Elmer Llanillo, sergeant-at arms.

Mr. Bernardo Sinues supervised the election in place of Dr. Artemio Manza.

\* \* \* \*

GOLDIES CLINCHED BASKETBALL TITLE

by *Molly Valeña*

Forestry Glowing Goldies is again the undisputed king of the UP Los Baños Basketball Intramurals this year. Coach Jess Rola's charges confirmed their supremacy over the Aggie Seniors whom they clobbered to submission on their first encounter, by dealing them anew with a 76 to 66 defeat last September 19 at the Baker Memorial Hall.

"Big boy" Reboton drew first blood for the Foresters on a swift feed by Willy Dy. Torres and Princena of the Seniors promptly retaliated with a charity and a quarter-court jump, giving their team the only lead they enjoyed throughout the game, 3 to 2. Seguerra jumped twice, Hilario scored on a neat lay-up, and then Cruz soloed after weak responses from the Seniors, wresting the lead which they never relinquished up to the final whistle.

Forced to shoot from the outside by an efficient man-zone defense of the Goldies the Seniors fell back in production. Playing their last card, the Agriculturists applied a full-court press but the best they did was to clip down the Lumberjacks' lead to a breathing distance of 4 points. Their anemic bench finally caught up with them and taking advantage of the situation, the Goldies blew up their lead to 12 points with time down to 4 minutes.

Four of the Lumberjacks notched double figures with Skipper Seguerra on top, despite the opponents' effort to muzzle his guns. Half time score was 32 to 27 for the Foresters.

How they scored:

FORESTRY .....	76
Seguerra .....	18
Reboton .....	17
Hilario .....	13
Cruz .....	12
Dy .....	7
Clemente .....	5
Valeña .....	2
Hamada .....	2
SENIORS .....	66
Torres .....	12
Quinay .....	11
Princena .....	10
Azcarraga .....	8
Orlanes .....	6
Mascarinas .....	6
Reyes .....	6
de la Mar .....	5
de la Paz .....	2

\* \* \* \*

FORESTRY DORM INAUGURATED

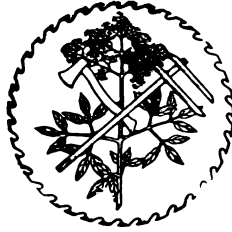
By *Tony Lizardo*

Mrs. Sofia S. Sinco assisted by Mrs. Juliana Zamuco, cut the ceremonial ribbon at the inauguration of the Forestry Residence Hall on November 30, 1961 at 9:30 o'clock A.M. Dean Gregorio Zamuco of the College of Forestry announced the official inauguration of the dormitory.

Witnesses to the ribbon cutting ceremony were U.P. President Vicente Sinco, Prof. & Mrs. Bishop, Prof. & Mrs. Carlson, Prof. & Mrs. Johnson, Prof. & Mrs. Larson, Prof. & Mrs. Sammi, Prof. & Mrs. von Oppenfeld, Prof. Eugenio dela Cruz, Director Vicente dela Cruz of the Parks and Wildlife Office, Dr. Silverio Cendaña and a number of guests from Manila and Los Baños.

Mrs. Charles Larson unveiled the electric wall clock donated by American ladies to the

(Continued on page 54)



### INCREASE FORESTRY REVENUE

*By A. J. Evangelista*

Forestry revenue collection increased over ₱5 million this year despite the present lagging state of lumber business as compared to previous years, reported chief accountant Antonio A. Quejado of forestry bureau.

In his 5-year plan report to the acting director Tiburcio S. Serevo of forestry, the accountant chief cited the increase in miscellaneous income (general fund), reforestation fees and forest charges. Collection this year is ₱17,775,918.83 compared to last year ₱12,454,101.32. He said increase of forestry income was realized through the combined extensive effort of the PCAPE and the systematic procedures on collection observed by the forestry accounting division.

However, Quejado deplored the shortage of personnel but assured the forestry head that forestry revenue collection can be more increased if technical men assigned to do the job will be increased.

Lumber business today is not prosperous as compared to previous years both in domestic and foreign trade, but with systematic procedures, increase in forestry revenue collection is expected, Quejado indicated.

\* \* \*

### FORESTRY DIRECTOR ANSWERS TIMBER GRANT CHARGE

*By Amador J. Evangelista*

Forestry director Tiburcio S. Serevo denied recently the alleged indiscriminate grants of timber licenses in his bureau.

Serevo said licenses are issued by his bureau only after they are properly screened.

The director added that in the granting of timber licenses, among the factors to be considered are most appropriate and efficient logging equipment, most appropriate and efficient sawmill and/or processing plants, sufficient available capital for the purpose and assurances that applicant possesses the necessary know-how or can provide services of competent personnel.

There must be also assurances that the applicant is the one directly interested in the proposal and that he is not acting for and in behalf of any individual, partnership or corporation and preference to be given to applicant who himself disposes of his products directly to consumers, or in any manner that will best serve public interest, Serevo said.

\* \* \*

### COLOMBO PLAN SCHOLARS

*By Amador J. Evangelista*

Forestry supervisor Mario Garcia and training officer Teofilo A. Santos of the forestry bureau arrived recently from a six-month observation study of the forestry conditions in Japan as Colombo Plan scholars.

Garcia and Santos observed the different forest management practices throughout that country. They visited some of the wood-using industries there such as pulp manufacture, bamboo products, toys manufacture and lumber industry. They had also the opportunity to observe how the Philippine mahogany was being utilized in the veneer and plywood industries in Japan.

The two Filipino foresters were among the few Southeast Asian forest specialists who were granted scholarships in forestry by the Japanese Government.

\* \* \*

### SCHOLAR

*By Amador J. Evangelista*

Senior research forester Constancio Reyes of the bureau of forestry returned recently from Japan where he attended the Southeast Asian regional training course on genetics held in Mishima.

Jointly sponsored by the UNESCO Science Cooperation Office for Southeast Asia, the Japanese National Institute of Genetics, and the Japanese National Commission for UNESCO, the seminar was participated by representatives from Singapore, Malaya, Korea, Taiwan, Thailand, India, and the Philippines.

## RE- PROMOTION

*By Felipe B. Chicano, Jr.*

Supply officer Manuel M. Añonuevo was recently promoted personnel officer and concurrently personnel section chief of the forestry bureau.

Añonuevo joined the bureau as a ₱40-a-month clerk in 1947. Through sheer merit and hard work, he rose to the positions of property clerk, property custodian and supply officer II. He was acting chief of the property and general services section for two years until his recent promotion.

The new forestry personnel officer is a B.S.C. graduate of the National University and management analyst and personnel technician eligible. He is also the acting athletic director of the department of agriculture and natural resources athletic association.

\* \* \*

## ICA-NEC GRANTEE

*By Felipe B. Chicano, Jr.*

Senior forester Teotimo S. Sevilla of the forestry bureau arrived recently after a three-month observation study of the forestry conditions in Japan, Taiwan and Korea as an ICA-NEC grantee.

Sevilla had been with the bureau since 1937. From ranger, he rose to the positions of forester III and senior forester. Until recently, he was assigned in the domain use division as chief of a land classification party performing land classification work.

\* \* \*

## FORESTRY X'MAS AFFAIR

*By Amador J. Evangelista*

Forestry officials and employees held a X'mas program and ball on December 21 at forestry main building, Juan Luna, Binondo, Manila.

Committee Chairmen were: domain use division chief Juan L. Utleg, program; chief accountant Antonio A. Quejado, finance; forest management division chief Vicente Marababol, prizes; and forest research division chief Martin Guerrero, refreshments. Administrative services division chief Juan Acogido was the master of ceremonies.

Prizes were awarded to the best decorated section or division, model employee, most efficient janitor, best dance and surprise number.

\* \* \*

## AWARD

*By Amador J. Evangelista*

Chief accountant Antonio A. Quejado of forestry bureau was chosen recently Chief Accountant IV of the Year by the Association of Government Accountants of the Philippines (AGAP). Budget commissioner Faustino Sy-Changco presented him a certificate of award during the induction of the incoming officers of the association.

Quejado started as a messenger in the bureau of lands. He transferred to the bureau of forestry and, through sheer merit and fitness, was promoted to the position of general services and personnel section chief, records section chief, collecting and disbursing officer, project accountant, and presently accounting division chief. Reelected AGAP vice-president, he attended top-level government management supervision courses conducted by the UP and budget commission.

The forestry chief accountant studied commerce and is a holder of bachelor of science in industrial chemistry. A first grade eligible, he also passed the US Federal messenger and the special second grade civil service examinations. A native of La Paz, San Narciso, Zambales, he is married to the former Juanita Mañalac by whom he has nine children.

\* \* \*

## INDUCTION

*By Felipe B. Chicano, Jr.*

Forestry director Tiburcio S. Serevo inducted the officers of the newly organized Camarines Sur forest guards association in Naga City recently.

Serevo congratulated the group for taking initiative in forming what could be the nucleus of a first nation-wide organization of this kind. He said he hopes this movement will be followed by other forest districts throughout the country to become national in scope patterned after the Philippine Government Employees Association.

Emphasizing the need for a more realistic approach to the solution of our forest problems, he said only through sincere, collective and concerted efforts can we hope to stop or at least minimize illegal destruction of our forests.

The forestry head also conferred with timber licensees of the province. He appealed for their cooperation in the common task of conserving our forest resources. He also explain-



ed the new forestry administrative order on re-grouping of trees and Republic Act No. 3092 passed by Congress recently which requires establishment of permanent timberland.

\* \* \*

Republic of the Philippines  
Department of Agriculture and Natural Resources  
BUREAU OF FORESTRY  
Manila

Personnel  
In-Service Training (Forest Guard)  
December 19, 1961

MEMORANDUM for —  
All Employees Concerned  
Bureau of Forestry.

In view of the policy of the government towards the improvement of the public service, an in-service training program for employees performing forest guard duties has been prepared. The personnel listed are hereby enjoined to attend classes from January 8-20, 1962, inclusive.

Attendance, official time, will be strictly observed.

Being enrolled in this 72-hour course, the above-mentioned personnel will acquire additional practical skills, knowledge of public administration and learn the basic functions of the Bureau. To enable this Office to know how much of the training they have absorbed, an evaluation individual report will be made and "the successful completion of approved training courses will be given due consideration in making promotions in the government." This is self-explanatory under Forestry Circular No. 220, dated March 19, 1959.

(SGD.) VICENTE G. GOBUYAN  
Actg. Regional Forestry Director  
(SGD.) TEOFILO A. SANTOS  
Training Officer

APPROVED:

(SGD.) TIBURCIO S. SEREVO  
Acting Director of Forestry

Republic of the Philippines  
Department of Agriculture and Natural Resources  
BUREAU OF FORESTRY  
Manila

Personnel  
In-Service Training (Forest Guard) 72 Hours Course  
IN-SERVICE TRAINING FOR FOREST GUARDS  
Period: January 8 to 20, 1962 Place: Bacolod City

Date	Subject (Topic Discussion)	Resource Speaker
1962		
Jan. 8 (Monday) A.M. (8-12)	Registration of Trainees and Participants — at District Office	Mr. Sixto Villanueva, Forester & Lbr. Inspector
	Opening Session: Opening Remarks	Mr. Vicente G. Gobuyan Regional Forestry Director
P.M. (1-5)	Introduction of the Course	Mr. Teofilo A. Santos Training Officer, BF
Jan. 9 (Tuesday) A.M. (8-12)	Duties and Responsibilities of a Forest Guard	Mr. Gerardo B. Tamayo Dist. Forester, Neg. Occ.
P.M. (1-5)	Forest Guards' Role in Forest Conservation.	Mr. Rafael Navallasca Reg. Sups., Ref. Adm.
Jan. 10 (Wed.) A.M. (8-12)	Elementary Forest Surveying: (a) Methods of Forest Survey (b) How to Make Trail Notes (c) How to Prepare Survey Report	Mr. Nicomedes Paa Chief, L.C. Party No. 13
P.M. (1-5)	Instruments and their Uses in Forest Surveys	Mr. Juan B. Galo Forester, Timber Management

Jan. 11 (Thurs.) A.M. (8-12)	Field Work: (a) Workshop — field (b) Demonstration survey	Mr. Faustino Cabrido, Chief. L.C. Party No. 14
P.M. (1-5)	Field Lectures (d)	Mr. Fernando Atmosfera Dist. Forester, Iloilo
Jan. 12 (Friday) A.M. (8-12)	Scaling and Wood Identification: (a) How to Use Volume Table (b) How to Prepare Aux. Invoices Wood Identification	Mr. Juan B. Galo Forester, Timber Management
P.M. (1-5)	Field Workshop: (a) Lumber Yards — Bacolod City (b) Sawmills — Silay & Bacolod	Mr. Sixto Villanueva Forester
Date	Subject (Topic Discussion)	
Jan. 13 (Sat.) A.M. (8-12)	Administrative Management of the Bureau of Forestry (a) Organization (b) Functions (c) Objectives	Mr. Teofilo A. Santos Training Officer, BF
P.M. (1-5)	Principles and Functions of Management How to Work and Deal with People: (a) Techniques of Good Human and Public Relations (b) Public Information Campaign Importance in Solving Forestry Problems	—do—  Mr. Mario Garcia Forestry Supv.—Attorney, BF
Jan. 14 (Sunday) A.M. (8-12) P.M. (1-5)	Church Services Socials	
Jan. 15 (Monday) A.M. (8-12)	Cooperation between Bureau of Forestry and Provincial Fiscals in Prosecution of Forest Law Violations and in Land Registration Cases	Atty. Jesus Rodriguez Prov. Fiscal, Neg. Occ.
P.M. (1-5)	Work-Coordination in Forest Conservation with: (a) Bureau of Lands (b) Bureau of Soils (c) Bureau of Plant Industry (d) Bureau of Agricultural Ext. (e) Bureau of Animal Industry (f) Bureau of Mines (g) Bureau of Fisheries	Mr. Jayme Araneta Regional Director, BIR All Regional Directors of Bureaus, DANR Presided By — Reg. Dir. Vicente G. Gobuyan, BF
Jan. 16 (Tuesday) A.M. (8-12) P.M. (1-5)	Know Our Forest and Civil Service Laws Forest Protection:	Atty. Juan Acogido Chief, Adm. Ser. Div., BF



Republic of the Philippines  
Department of Agriculture and Natural  
Resources  
BUREAU OF FORESTRY  
Manila

Personnel

In-Service Training (Forest Guards)

December 19, 1961

.. LIST OF FOREST GUARD TRAINEES ..

*District No. 25 — Romblon*

1. Erefilo R. Diance
2. Recarido Gabat

*District No. 26 — Antique*

1. Hilario C. Rivera
2. Generoso Romero
3. Epifanio Palapas
4. Salvador Banson

*District No. 27 — Capiz*

1. Rodolfo Babas
2. Andrew Patricio
3. Napoleon Gloria
4. Jose Gasis
5. Jesus Maglantay

*District No. 28 — Iloilo*

1. Jose Buston
2. Teodorico Galeno
3. Benjamin Magbanua
4. Jose Transporte
5. Jeronimo Jaque
6. Jesus Escoliada
7. Zacarias Parian
8. Ernesto Lasola

*District No. 29. — Negros Occidental*

1. Wenceslao B. Tomas
2. Conrado Aguilar
4. Sancho Letayco
3. Alfredo Cordero
5. Teodolo Cario
6. Procopio Gimay
7. William Hangartner

8. Carlos V. Getida
9. Basilio Guillergan
10. Recarido Binibile
11. Evangelino Revecencio
12. Pablo Lucasan, Jr.
13. Resurreccion Acaton
14. Saturnino Tuya
15. Marcelino Z. Cerezo
16. Teofilo Hilario
17. Ernesto Cordova
18. Pablo Arimas, Jr.
19. Domingo T. Gentilezo
20. Roberto Piansay
21. Loreto Tupas
22. Bartolome Flores
23. Buenaventura Magbanua
24. Florencio Gregas
25. Arcadio Maestrecampo
26. Wilfredo M. Buday
27. Epifanio Talaban
28. Jose Real

*District No. 47 — Aklan*

1. Pacifico Villaruel
2. Paterno Aranas
3. Gabriel Villas

Place of In-Service Training — Bacolod City

Date of Training — January 8 to 20, 1962, inclusive.

PREPARED AND RECOMMENDED BY:

(SGD.) VICENTE G. GOBUYAN  
Actg. Regional Forestry Director

(SGD.) TEOFILO A. SANTOS  
Training Officer  
Bureau of Forestry

APPROVED:

(SGD.) TIBURCIO S. SEREVO  
Acting Director of Forestry

Republic of the Philippines  
 Department of Agriculture and Natural Resources  
 BUREAU OF FORESTRY  
 Forestry Administrative Order No. 32

February 15, 1961

REVISED CLASSIFICATION OF TREES INTO GROUPS

Pursuant to the provisions of section 79(b), 1817, and 1821, of Act No. 2711, known as the Revised Administrative Code, as amended by Republic Act 370, amendments to the rules and regulations provided in Forestry Administrative Order No. 12, known as the 1949 Classification of Trees into Groups, are hereby promulgated for the information and guidance of all concerned.

SECTION 1. *Title.* — This regulation shall be known as the “1961 Classification of Trees into Groups”.

SEC. 2. *Groups of Trees.* — The various trees shall be classified into four (4) groups as follows:

(a) *First Group* — ₱3.50 per cubic meter (Forest Charges)

Akle	Duñgon	Kulilisiau	Narek
Akleng-parang	Duñgon-late	Lanete	Nárig
Almaciga	Duyok-duyok	Magasusu	Narra
Aranga	Ebony	Malabuñga	Sapluñgan
Bakan	Gisok	Malaguijo	Sudiang
Balu	Guijo	Malakadios	Supa
Bansalagin	Gisok-gisok	Malakauayan	Tambulian
Banuyo	Ipil	Mancono	Teak
Batitinan	Kaburo	Manggachapui	Tindalo
Betis	Kalamansanai	Maranggo	Urung
Caña-fistula	Kalantas	Margapali	Yakal
Dañigula	Kaliot	Matang-usa	Batikuling
Dao	Kamagon	Molave	

(b) *Second Group* — ₱2.00 per cubic meter (Forest charges)

Afu	Bolong-eta	Malakatmon	Philippine Chestnut
Alupag	Dagang	Malugai	Red Lauan
Alupag-amo	Hagakhak	Manggis	Sangilo
Amugis	Kamatog	Mangkas	Taba
Anubing	Kamuning	Mapilig	Tabigi
Apitong	Katmon	Marabitaog	Tabau
Banaba	Katmon-Kalabau	Mayapis	Tamayuan
Bagras (Amamanit)	Kayo-galu	Nato	Tanguile
Batino	Kubi	Pagatpat	Tanglin
Binggas	Lanutan	Palosapis	Tiga
Bitanghol or palo maria del monte	Lumbayau	Pamitaogen	Tukang-kalau
Bitao	Lumbayau-bato	Panau	
	Makaasim	Piagau	
	Malabatino	Pili	
	Malabayabas	Pine, Benguet	

(c) *Third Group* — ₱1.25 per cubic meter (Forest Charges)

Agoho	Bulala	Kuling-manok	Malatumbaga
Agoho del monte	Bulog	Lamio	Matamata
Almon	Dalinsi	Lago	Miao
Amayan	Gisihan	Lamog	Nangka
Anislag	Gubas	Lanipau	Oak
Antipolo	Haras	Liusin	Pahunan
Bagtikan	Kaliñgag	Malaanonang	Sakat
Batete	Kalumpit	Malakamias	Salakin

Balukanag	Kalunti	Malambifigan	Salinkugi
Bayanti	Kansulud	Malapapaya	Sandit
Bayok	Kato	Malasaging	Santol
Bogo	Kayatau	Malasantol	Tanghas
		Talisai	Toog
		Talisai-gubat	Unik
		Taluto	White Lauan

(d) *Fourth Group* — ₱0.60 per cubic meter (Forest charges)  
 The fourth group shall include all species not included in any of the other groups.  
 SEC. 3. — Date of taking effect — This Order shall take effect on March 15, 1961.

CESAR M. FORTICH  
 Secretary of Agriculture and  
 Natural Resources

Recommended by:  
 TIBURCIO S. SEREVO  
 Director of Forestry

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NOTE: This Forestry Administrative Order was taken from the OFFICIAL GAZETTE of June 19, 1961, p. 4580-4581.

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## CAMPUS NOTES . . .

(Continued from page 46)

Forestry Residence Hall. The Clock which will be of great value to the residents is a gift from Mrs. Bishop, Mrs. Carlson, Mrs. Hunt, Mrs. Johnson, Mrs. Larson, Mrs. Sammi and Mrs. von Oppenfeld.

Mr. Romulo del Castillo and Antonio Lizardo, Faculty adviser and president of the Forestry Residence Hall Association respectively, were on hand to guide the visitors at the "open house".

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## SCHOLARS ALL

By Molly Valeña

The Secretary's Office has released the names of 37 students who are this semester's scholars. They are as follows: Bureau of Forestry Scholars: Honesto A. Clemente, Marcelino V. Dalmacio, Reynaldo E. dela Cruz, Rodolfo A. Fernandez, Ruben M. Fernandez, George R. Garcia, Brigido A. Gendrano (College scholar), Crisante D. Pascua, George V. Peria, Herminio B. Sambajon (college scholar),

Cenon M. Castillo, Rogelio M. De la Rosa, Virgilio A. Fernandez, Oscar A. Gendrano, Antonio V. Glori, Ester T. Vergara, Honorio F. Cariño, Romulo C. Casilla (college scholar), Victor M. Dotimas Jr., Claudio C. Guerrero, Eddie I. Quintana, Dominador S. Alonzo, Dominador T. del Rosario, Senecio D. Festin, Francisco C. Lozano, Petronilo S. Muñoz, Jorge B. Seguerra, Gil V. Urgino, Guillermo L. Valeña, and Neptale Zabala; scholars of the Commission On National Integration: Peter S. Osbucan, Al Rashid H. Ishmael, Aligan D. Lucop, Macorro L. Macumbal, and Pangaga P. Pangcoga.

Edmundo V. Cortes and Gregorio P. Principe, both Bureau of Forestry personnels, are university and college scholars respectively.

University and College scholars are entitled to a deduction in their tuition fees. Scholars of the Commission of National Integration receive monthly stipend of ₱65.00 besides their allowance for books while scholars of the Bureau of Forestry are entitled to a ₱120.00 monthly stipend.

# FPRI Technical Note

## PHILIPPINE MAHOGANY

### Technical Note No. 21

Philippine mahogany is a distinctive trade name for the premier Philippine commercial woods which are light reddish to reddish-brown in color and show ribbon-grain or mahogany figure. It is commercially important because of its beauty, workability, versatility, relatively low price and abundance in various sizes and forms. Uses for it range from fine cabinet work to the rugged planking of sea-going vessels, particularly in modern home construction. The Forest Products Research Institute has found it suitable for veneer and plywood, and its waste or residue promising for pulp and papermaking.

As regards wood quality, uses and beautiful finish, Philippine mahogany is similar to the tropical American (*Swietenia macrophylla* King), the West Indian mahogany (*S. mahogani* Jacq.) and the African mahogany (*Khaya ivorensis* A. Chev.). Its inherent beauty in color, grain and figure, fine texture, the ease of working it and its high-finishing property altogether have earned for it an enviable position not only in the American lumber market but also in the international trade.

In international trade, it is a "must" to use the prefix "Philippine" to the word mahogany. In the use of this term, Philippine mahogany has always maintained and justified its long-established fair competition in the international market and this has been duly recognized by the U.S. Federal Trade Commission since 1931 and repeatedly affirmed by it in 1932, 1934, 1947, 1957 and 1960. With this reputation, the international market has absorbed increasing quantities of Philippine mahogany. In 1957, Philippine mahogany lumber exports amounted to 57,727,000 board feet shared by more than ten countries as follows:

1. United States .....	67	percent
2. Okinawa .....	10	"
3. Hongkong .....	3	"
4. Hawaii .....	2	"
5. Canada .....	1.5	"
6. England .....	0.9	"
7. Formosa .....	0.6	"
8. Belgium .....	0.5	"
9. Denmark .....	0.3	"
10. Guam .....	0.2	"
11. Others .....	14.0	"

Also in 1957, long exports amounted to 880,988,000 board feet (valued at \$47,127,726) shared by only eight countries as follows:

1. Japan .....	89	percent
2. United States .....	4	"
3. Taiwan .....	3.3	"
5. England, Italy, Australia and Germany .....	1.3	"

Philippine mahogany, therefore, has been a supporter of the Philippine economy. Next to copra and sugar as export products, its annual dollar earning is the highest and helps greatly in replenishing the dwindling dollar reserves of the country. As an industry, it provides employment to about 4 percent of the country's population. This will continue to benefit the Philippines so long as the potential standing timber of Philippine mahogany, 267 billion board feet, is properly managed on a sustained-yield basis.

### Species and Brief Notes on Philippine Mahogany

Philippine mahogany, according to the grading rules of the United States National Hardwood Lumber Association, consists of seven species of the Dipterocarpaceae. These are classified into two groups, namely:

#### a. Philippine red or dark red mahogany (red lauan)

*Species:* red lauan, tañgile and tiaong

#### b. Light red Philippine mahogany (white lauan)

*Species:* almon, mayapis, white lauan and bagtikan

#### 1. Red lauan (*Shorea negrosensis* Foxw.)

##### Tree features

*Tree.*— Large, buttressed.

*Bole.*— Straight, cylindrical, very slightly-tapered.

*Crown.*— Small, irregular, open, with few large branches.

*Leaves.*— Simple alternate, elliptic (1 1/2 to 2 1/2 inches wide and 4 1/4 to 6 1/2 inches long), upper surface smooth and dark green, stellate hairs along veins beneath, base rounded, apex acuminate.

*Bark.*— Dark brown to reddish black, flakes off in rectangular scales (2 to

4 inches long and 1/4 to 1/2 inch wide.)

*Inner bark.*— Reddish, stringy.

*Wood features*

*Sapwood.*— Straw color, 2 to 2 1/2 inches thick.

*Heartwood.*— Brick red.

*Wood.*— Homogeneous, coarse-textured, slightly lustrous, distinctly ribbon-grained when quarter-sawn, takes stains very easily, finishes highly, works easily with common tools, has high glue-, paint- and nail-holding capacity, but not resistant to decay.

*Uses.*— Most uses of American mahogany, furniture, cabinets, general house construction, veneer and plywood, sash, boat planking and decking.

*Supply.*— Abundant, estimated standing timber 45.8 billion board feet.

2. Tangile (*Shorea polysperma* (Blco.) Merr.)

*Tree features*

*Tree.*— Large, seldom strongly-butressed.

*Bole.*— Like red lauan in form.

*Crown.*— Dense widely spreading, irregularly conical and dome-shaped.

*Leaves.*— Simple alternate, ovate-lanceolate (2 to 5 1/2 inches long and 1 1/4 to 2 inches wide), shiny, upper surface dark green, lower surface light green, base rounded, apex long-acuminate.

*Bark.*— Light red, sheds off in irregularly-shaped scales.

*Inner bark.*— Red stringy.

*Wood features*

*Sapwood.*— Straw color, 1 1/2 to 2 inches thick, distinct from heartwood.

*Heartwood.*— Red to dark brownish-red.

*Wood.*— Fine-textured, cross-grained, fairly lustrous, beautifully ribbon-figured when quarter-sawn, seasons well, checks negligibly, moderately hard, weighs about 36 pounds per cubic foot, has high glue-, and nail-holding capacity, lasts long indoors, but not resistant to decay.

*Uses.*— All uses of red lauan.

*Supply.*— Abundant, estimated standing timber 49.3 billion board feet.

3. Tiaong (*Shorea* sp.)<sup>1</sup>

*Tree features*

*Tree.*— Large, resembles red lauan more than tañgile.

*Leaves.*— Oblong to elliptic (1 1/4 to 2-3/8 inches wide and 2-1/2 to 5-1/2 inches long), smooth except midrib with few fairs, stipules larger than those of tañgile.

*Bark.*— Reddish, 13/32 to 1 inch thick, not powdery to the touch as tañgile, sheds in small flakes similar to guijo and apitong.

*Inner bark.*— Red, stringy.

*Wood features*

*Wood.*— Tañgile-like, lighter color, softer, lighter weight (32 pounds per cubic foot), cross section has fewer resin ducts appearing as numerous broken lines than those appearing as solid lines in tañgile.

*Uses.*— Same as tañgile.

*Supply.*— Abundant in Laguna and Quezon; reported in several provinces including Mindanao (Agusan and Davao); estimated standing timber .07 billion board feet.

4. Almon (*Shorea almon* Foxw.)

*Tree features*

*Tree.*— Large, resembles red lauan more than tañgile.

*Leaves.*— Oblong to elliptic (1-1/4 to 2-3/8 inches wide and 2-1/2 to 5-1/2 inches long), smooth except midrib with few fairs, stipules larger than those of tañgile.

*Bark.*— Reddish, 13/32 to 1 inch thick, not powdery to the touch as tañgile, sheds in small flakes similar to guijo and apitong.

*Inner bark.*— Red, stringy.

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<sup>1</sup> The botanical name of tiaong has not been definitely established up to the present time. It was formerly known as *Shorea teysmanniana* Dyer, but according to Foxworthy, the description of *S. teysmanniana* by Symington, based on sterile botanical specimens, does not fit the Philippine species known as tiaong. He placed it under tañgile (*S. polysperma* (Blco.) Merr.), although there are certain differences between the two species. Tamesis and Aguilar treated it as an undetermined species belonging to the genus *Shorea* but separate from tañgile (*S. polysperma*).



**Wood features**

**Wood.**— Tañgile-like, lighter color, softer, lighter weight (32 pounds per cubic foot), cross section has fewer resin ducts appearing as numerous broken lines than those appearing as solid lines in tañgile.

**Uses.**— Same as tañgile.

**Supply.**— Abundant in Laguna and Quezon; reported in several provinces including Mindanao (Agusan and Davao); estimated standing timber .07 billion board feet.

4. Almon (*Shorea almon* Foxw.)

**Tree features**

**Tree.**— Large.

**Bole.**— Regular, almost cylindrical, very evenly-shaped.

**Crown.**— Flat, irregular.

**Leaves.**— Simple, alternate, elliptic to ovate (3-1/2 to 4-3/4 inches long and 1-1/2 to 2-1/2 inches wide), apex acuminate, base rounded, paperlike, blade flat or slightly convex.

**Bark.**— Smooth, ridgeless, light brown in young trees below 15 inches diameter; furrows long with flat ridges between them, dark brown or darker in older and bigger trees.

**Middle bark.**— Thin, with pitted dark brown layer.

**Inner bark.**— Light brown to slightly yellowish beneath the ridges.

**Wood features**

**Sapwood.**— Straw color, light brown transition.

**Heartwood.**— Light pink to light red.

**Wood.**— Cross-grained, coarse-textured ribbon-figured when quarter-sawn, weighs 36 pounds per cubic foot.

**Uses.**— Furniture, various kinds of interior work, boat planking and decking, pattern, all other uses requiring moderately hard and comparatively light wood with beautiful "ribbon figure", plywood, lumber, rotary and quarter-sliced veneers.

**Supply.**— Abundant, estimated standing timber 6.4 billion board feet.

5. Mayapis (*Shorea squamata* (Turcz.) Dyer)  
Synonym: *S. palosapis* (Blco.) Merr.

**Tree features**

**Tree.**— Large, strongly buttressed.

**Bole.**— Form similar to red lauan.

**Crown.**— Dense, spreading, flatly conical.

**Leaves.**— Simple, alternate, oblong, ovate or elliptic, 4 to 8 inches long and 3 to 4 inches wide, upper surface smooth, lower surface hairy and rough, apex shortly acuminate, base cordate, thinly leathery, blade concave, closely similar to almon leaves which are smaller and with finer hair on the lower surface.

**Bark.**— Prominently ridged, 5/16 to 5/8 inch thick, brown to dark brown, gray when exposed to strong sunlight and black when wet.

**Inner bark.**— Stringy, brown to pink, with vertical white band beneath the furrows.

**Wood features**

**Sapwood.**— Light-colored, 1 to 2 inches thick.

**Heartwood.**— Red.

**Wood.**— Varies from sufficiently red to be able to pass as red lauan or tañgile to light red to be taken for white lauan, glossy, lightest among Philippine mahogany (31 pounds per cubic foot), with volatile resin, resin ducts empty, log cross section shows concentric rows of resin ducts.

**Uses.**— Furniture, cabinets, cigar boxes, patterns, veneer and plywood.

**Supply.**— Abundant, estimated standing timber 46.5 billion board feet.

6. Bagtikan (*Parashorea plicata* Brandis) Brandis  
Synonym: *P. malaanonan* (Blco.) Merr.

**Two species:** (1) *P. plicata*, leaves whitish beneath, and (2) *P. warburgii*, leaves hairy and brownish beneath.

**Tree features**

**Tree.**— Large.

**Bole.**— Cylindrical.

**Crown.**— Irregular, vase-shaped.

**Leaves.**— Elliptic to ovate (2-3/8 to 6 inches long and 2 to 3-1/8 inches wide), upper surface light green, whitish beneath.

**Bark.**— Brown to almost black but grayish when exposed to sunlight, convex-faced ridges and furrows discontinuous, cambium white.

**Wood features**

**Sapwood.**— Light gray, 3/4 to 1-1/2 inches thick, rather indistinct from heartwood.

**Heartwood.**— Grayish-brown.

**Wood.**— Cross-grained, moderately coarse-textured, moderately hard, moderately heavy (40 pounds per cubic foot), seasons well, works and holds nails like most woods of equal density, glues and takes stains very satisfactorily, strongest among the lauans.

**Uses.**— Furniture, cabinets, interior finish, ship and boat planking, patterns, veneer and plywood.

**Supply.**— Abundant, estimated standing timber 7.0 billion board feet.

7. White lauan (*Pentacme contorta* (Vidal) Merr. & Rolfe)

**Two species:** (1) *P. contorta*, found throughout the country, leaves less than 6 inches long, and (2) *P. mindanensis*, confined only to Agusan, Lanao, Zamboanga and Basilan, leaves over 6 inches long.

**Tree features**

**Tree.**— Large, more strongly buttressed with age.

**Crown.**— Flat, irregular, open.

**Leaves.**— Simple, alternate, ovate (length 4 to 5-1/4 inches, width about half the length), smooth, apex acuminate, base rounded, dark green, with 6 pairs of prominent and further apart secondary nerves that differentiate white lauan from other species.

**Bark.**— Brown to almost black, gray when exposed to sunlight, distinct longitudinal ridges throughout the bole in young trees and, in very old trees, less ridges and more scaly, concave-faced ridges more or less continuous, cambium yellow.

**Wood features**

**Sapwood.**— Light gray, 2 to 3-1/2 inches thick, indistinct from the heartwood.

**Heartwood.**— Grayish when fresh, light pink when dry.

**Wood.**— Cross-grained moderately coarse-textured, comparatively light (35 pounds per cubic foot), moderately hard, seasons well, very stable once dried.

**Uses.**— Boat planking and decking, furniture, cabinets, practically all uses of red lauan and tañgile.

**Supply.**— Abundant, estimated standing timber 102 billion board feet.

**Useful Guides in Wood Identification**

To those who are engaged or concerned in the identification of Philippine mahogany, the following keys may be helpful:

**A. Key to Philippine Red Mahogany**

1. Wood, dark reddish-brown to brick red, coarse-textured; bark ridged, over 3/8 inch (10 mm.) thick ..... Red lauan  
(*Shorea negrosensis*)
- 1'. Wood, light red to reddish-brown, finer-textured than above; bark not ridged ..... 2
2. Resin ducts in continuous line, filled with white resin; bark powdery and smooth to the touch ..... Tañgile  
(*Shorea polysperma*)
- 2'. Resin ducts in broken line, filled with white resin; bark not powdery, shedding in irregular flakes ... Tiaong

**B. Key to Light Red Philippine Mahogany**

1. Wood, light red to reddish color ..... 2
2. Resin ducts filled with white resin, pores oblong in shape ..... Almon  
(*Shorea almon*)
- 2'. Resin ducts empty, pores circular in shape ..... Mayapis  
(*Shorea squamata*)
- 1'. Wood, light to gray in color .. 3
3. Wood, grayish with reddish tinge ..... White lauan  
(*Pentacme contorta*)
- 3'. Wood, grayish with a brown cast; heavier and harder than above ..... Bagtikan  
(*Parashorea plicata*)

**C. Card-sorting Key to Philippine Mahogany**

The Forest Products Research Institute has devised a card-sorting key for the convenient and reliable identification of Philippine mahogany. This is now available from the Institute.

Keys A and B are bracket keys. To use either key, first examine the wood to be identified, noting its striking diagnostic features. For example, using A, compare these wood features with the features enumerated in number 1 on the left hand side and if they do not agree, make another comparison with the features in number 1'. If the features enumerated in 1' ag-

ree with the wood features, follow the broken line to the right up to number 2. On the left hand side find the corresponding number 2 and compare the wood features with the diagnostic features enumerated in this number, and if these features do not agree, compare the features enumerated in number 2' with the wood features. Should the wood and the enumerated features agree or tally with each other, follow the broken line to the right and you will find the common and scientific names of the wood being identified. In this particular case, the identification is *tiaong* (*Shorea* sp.).

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## PAPER AND ITS IMPORTANCE IN DAILY LIVING

### *Technical Note No. 22*

The word "paper" originated from papyrus, a cross-woven mat of Egyptian reeds (*Cyperus papyrus*) which was pounded into a hard thin sheet and used in ancient times as a writing material. Paper is the name now given to all kinds of matter of felted sheets of fibers formed on a fine wire screen from a water suspension.

Basically the fibers in a sheet of paper form a definite self-supporting structure or matrix due to their felting or bonding properties. The degree of bonding between the fibers in a sheet depends upon the fiber dimensions and their shape, the relation between these dimensions, their surface area relative to their mass, their chemical composition, flexibility and the mechanical and chemical processing treatments given to them. The strength of the paper depends largely on the number of bonds between the surfaces of the adjacent fibers. The fiber to fiber bonding may be improved by mechanical treatment such as beating, rubbing, bruising, pounding or refining. This develops a gelatinous surface condition so that when the fibers are felted and dried, the contact areas between them become cemented and the fiber matrix set.

### *Importance of Paper*

The consumption of paper is often considered as an index of the industrial progress and standard of living of a nation. The statement that the higher the standard of living and the more progressive the nation, the larger is the amount of paper consumed might be called the "*Paper Law*."

However, paper is one of the commodities that has just been taken for granted. Few individuals recognize the importance that paper plays in our everyday life. Almost at all times of the day, we come in contact with paper, in one way or another, in its various forms, uses and applications. Paper is so essential and so closely connected with our daily lives that if it should suddenly disappear from the face of the earth the effect on communication, education, government, industry and commerce would be paralyzing. The status of paper has greatly changed from a purely cultural product used for books, newspapers and writing paper to a basic product, which, like steel, can be produced, modified and adapted for a multitude of uses. Bags and

wrapping papers are widely used in the marketing of merchandise; corrugated and solid fiber boxes are replacing wooden crates for shipping many commodities; paper overlays are being used for veneer, plywood, lumber and hardwood panels; paper milk containers are now becoming standard in many countries, and a thousand more other uses.

Paper is one of the most versatile materials and has thousands of uses. We have paper money, bank books, checks, business records, certificates, bonds and stocks. Blueprints and specifications for houses, factories, machines, automobiles, etc. are made usually on paper.

As a result of constant research, hundreds of new and better paper products with different properties and applications are being developed. The future of paper and its uses is probably limited only by man's ingenuity. The quality of paper products has been modified and improved through the addition of resins, waxes, and sizing materials or in combination with plastics, glass fibers, metals and other materials; and by coating with resins, lacquers, glue or casein with or without fillers of clay or other mineral pigments.

Because of its lightness, low cost, and availability, paper is used for packaging and shipping. Without paper containers it would be difficult to mass produce and distribute various materials and products. Paper has now truly become one of civilization's most useful products.

### *Kinds of Paper*

There are hundreds of grades or classes of paper and paperboards each with distinct characteristics, properties and uses. The list is too long for all the kinds of papers to be included in this Note. Hence, only the major groups or classification of papers will be described.

#### *Bond and writing papers*

These papers closely resemble each other and are often used interchangeably. However, it may be stated that bond papers are generally of better quality than ordinary writing papers. Some properties of these papers may differ widely but generally they are similar in opacity and brightness, and both must have good printing and erasing qualities and also good quality for writing with ink. Bond paper was originally used where strength, durability and permanence are essential requirements such as in government bonds, legal documents, currency papers, certificate and in-

surance policies. However, the use of bond papers is extended to other fields such as in business forms, letterheads, data sheets, advertising pieces and collection books where strength and permanence are not so important. Bond papers may be made entirely from rags, or bleached chemical pulp from wood, bamboos and agricultural fibrous materials or from mixtures of these pulps.

Writing papers are used principally for pen-and-ink writing, letterheads, tablets, stationery, notebooks, many types of ruled or printed forms, and sometimes for printing purposes. The principal differences between bond and writing papers are that the latter are not as strong as the former, and usually they have close formation and, generally, exhibit smooth, flat finish. Writing papers are made entirely from rag pulp, or chemical wood pulp, and mixtures of these pulps. Mechanical wood pulp is also sometimes added to the mixtures.

#### *Printing paper*

Printing paper is any kind of paper suitable for printing. This group includes book paper, newsprint, bristol, ledger, and lithographic. As mentioned above writing and bond papers are sometimes used for printing.

1) Book papers may be coated or uncoated. Both kinds are used in the printing of magazines, books, pamphlets, folders and brochures. These are usually made from various mixtures of mechanical and chemical wood pulps, straw, esparto and reclaimed paper pulps. Mineral fillers, size and dyes are also added.

Uncoated book papers may be made in antique, eggshell, machine, English or supercalendared finishes, as well as other fancy finishes. Color, cleanness, formation, bulk, opacity and finish are important properties. Always the strength must be sufficient for the requirements of the printing processes to be employed.

In the case of coated book paper, the base paper is coated either on one or both sides with white mineral pigment mixed with adhesives. The pigments used are clay, barium sulfate, calcium carbonate, calcium sulfate and titanium dioxide, while the adhesives normally are casein, starch and glue. Practically all coated book paper is supercalendared and the finish ranges from a dull finish to a high gloss.

2) Newsprint paper, as the name implies, is the grade of paper generally used for newspaper. It is also used for other printing of which mail-order catalogues are good exam-

ples. The composition of the paper is largely groundwood pulp with some chemical wood pulp.

3) Bristol — is the term given to the group of papers or paperboards, 0.006 of an inch in thickness or thicker. The principal types under this group are called index bristol, mill bristol, wedding bristol, bogus bristol and folder stock.

Index bristols are used mostly for index records, index cards and business and commercial cards. They must have good writing and erasing qualities, stiffness, durability and permanence.

Mill bristols are used principally for show cards and other advertising media where stiffness and good printing surface are important characteristics.

Wedding bristols are high-grade bristols used principally for cards, announcements and menus. These are made by pasting two or more sheets together to form different thicknesses and plies. Important characteristics are color, cleanness, finish and must have "snap."

Bogus bristols may be solid or the different layers may be of different stock and colors. They are used for various ticket purposes and cheap, stiff printing cards. The composition of bogus bristols usually consists of mixtures of over-issue news, blank or unprinted news, and various other kinds of waste papers and bleached sulfite pulp.

Folder stock is used primarily for the manufacture of folders for business filing. Significant properties include serviceability, tearing resistance, folding endurance and uniform thickness. Non-curling and a uniform high finish without mottle are also important properties.

4) Ledger papers as indicated by the name are mainly used as filler leaves for ledger books. They are usually surface-sized and treated to permit erasure of writing ink. Since ledgers are used for keeping records, paper with a high degree of durability and permanence is required. Other important properties include good writing and erasing qualities, good water resistance, uniform surface and smoothness.

5) Lithographic papers are prepared for use in the lithographic printing process. They may be coated either on one side or both sides and must have a uniform ink-receptive surface which does not allow the ink to come off. Important qualities are cleanness, uniform formation, freedom from fuzz, bright white color and a flat sheet.

### *Wrapping and bag papers*

These two grades of paper are so analogous and similar in properties that in many cases they may be used interchangeably. Both papers are produced primarily for packaging. As such, they must have the property of retaining the contents of a package intact and in good condition until the package reaches its final destination. Strength, pliability and ability to protect the packaged product are the most important points considered for these kinds of paper.

Most wrapping and bag papers are made from unbleached kraft pulp, although to a certain extent, some are made from bleached pulps. In both cases, strength and good sizing are the main requirements, although other properties may be imparted to the paper through the use of various additives, coating or treatment with waxes, depending upon the end-use. There are various uses for these papers such as shipping sacks, grocers' bags, meat wrappers, soak wrappers, decorative wrapping and hundreds of other uses.

### *Paper towels and toilet tissues*

These papers can be classified under one group as they possess some common characteristics. Important properties of these papers are softness, absorbency and strength. Both papers are creped to impart the required softness and absorbency. Paper towels usually have a wet strength sufficient to withstand use without disintegration. On the other hand, toilet tissues must have the property of being easily disintegrated in water.

Due to modern high sanitary standards, the market for toilet tissues and paper towels has expanded greatly. The basic advantages derived from the use of these papers in addition to their sanitary attributes, are convenience, economy, efficiency and service.

### *Paperboards*

Paperboard is a general term which includes all sheets made of fibrous materials on paper machines or wet machines, 0.012 inch or more in thickness. However, certain grades of paper boards are also included in this classification which are 0.006 of an inch or over in thickness such as corrugating board, lightweight chip, certain linerboards, etc.

Paperboards are classified in accordance with the industries for which they are produced namely, boxboards, container boards and paperboard specialities.

1) Boxboards are the paperboards used for fabricating boxes such as folding and set-up

boxes and cartons. They must have a fair degree of strength, be capable of bending without cracking and possess a good surface for printing.

2) Container boards are used for the manufacture of corrugated and solid fiber shipping containers.

Corrugated containers usually consist of two linerboards used for the inner and outer facings with the corrugated material in-between. The corrugated construction provides a cushioning effect. It possesses high tensile strength and is rigid, yet may be folded without rupture when scored.

Solid fiber board is made by joining, with a suitable adhesive, an outer liner, one or more filler members or layers and an inner liner. The adhesives normally used are starch and silicate of soda.

3) Paperboard specialties comprise a number of kinds of boards especially made for particular purposes. Following are several grades of specialty boards, although there are actually many more:

a. Binder board is a solid board with thickness ranging from 0.03 to 0.30 inch. This is mainly used for the binding of books and is usually lined with cloth, paper or leather.

b. Electrical pressboard is a dense board with thickness ranging from 0.03 to 0.25 inch. This is used for insulation in electrical industries and hence, must be free from conducting particles.

c. Imitation pressboard is somewhat similar to electrical pressboard but lacks its high density and dielectric property. This is used principally for notebook covers.

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Technical Notes are brief summaries of the different subjects on the properties, processing, and uses of wood and other forest products, issued monthly by the Forest Products Research Institute for public information. The information in the Notes is derived from the accumulated world knowledge on each subject discussed as well as from the work of the Institute. For more comprehensive discussion, the reader is referred to the many books and other publications available.

#### DIFFERENTIATION OF RED LAUAN (*SHOREA NEGROSENSIS* FOXW.) AND TANGILE (*S. POLYSERMA* (BLCO.) MERR.)

##### Technical Note No. 23

Red lauan and tañgile belong to the genus *Shorea* of the Dipterocarpaceae. They are the sources of the Philippine red mahogany famous in the international trade. Both species are abundant in Philippine forests and have straight and cylindrical bole of merchantable size.

Botanically, red lauan and tañgile are distinctly different species. Red lauan's crown is small, irregular, open and made up of a few large branches. The leaves are simple, alternate, elliptic (1-1/2 to 2-1/2 inches wide and 4-1/4 to 6-1/2 inches long), smooth and dark green above, but hairy along nerves beneath. The bark is 1/2 to 1 inch thick, dark brown to reddish black, prominently ridged and shallowly furrowed on the upper portion of the trunk, and sheds in thick and irregular flakes (2 to 4 inches long and 1/4 to 1/2 inch wide). The inner bark is stringy in texture, dull tan or reddish in color.

Tañgile has a wide spreading, irregularly dome-shaped and dense crown, covering 1/3 to 1/2 the length of the bole. The leaves are

simple, alternate, ovate-lanceolate (2 to 5-1/2 inches long and 1-1/4 to 2 inches wide), shiny, leathery, dark green above and lighter green beneath. The bark is light red, and sheds in thin, irregular, and small to medium-sized flakes. In old trees, the fresh bark is somewhat powdery and smooth to the touch. The inner bark is red and stringy in texture.

The woods of red lauan and tañgile are so closely similar that red lauan is often sold in the market as tañgile. Depending solely on the general characteristics of their woods, either of these species may be taken for the other even by experienced foresters. Because of certain requirements in the international trade as well as specifications in various construction or building contracts it becomes necessary to determine their identity whenever they are specified in the bill of materials to safe-guard against possible unpleasant litigation or financial loss. Results of a study in the Institute of the woods of these two species show that it is possible to differentiate one from the other, based on materials from Quezon, Camarines, Cagayan and Agusan.

As seen by the naked eye or with a 20-x hand lens, three diagnostic features could be used to distinguish red lauan from tañgile. These are the burning splinter test, number of pores per sq. mm., and percentage of solitary pores per unit area.

#### *Splinter test*

Match-sized splinters, about 5 cm. long of the dry heartwood are burnt slowly to almost the whole length. Red lauan produces charcoal or partial ash, and tañgile light brown or brown ash.

#### *Pore count*

Pores or vessels can be seen with the naked eye on a clean-cut cross section of most hardwoods. Otherwise a 20-x hand lens can be used. Because of the similarity of the nature and size of the pores of red lauan and tañgile, a difference in their distribution is of some diagnostics value. The method of counting the pores per unit area is a practical approach towards identifying these species although it has some limitations depending on the source of the material.

A four quadrat die with a circular area of 20 sq. mm. and a 20-x hand lens are used in determining the number of pores per sq. mm. and the percentage of solitary pores. An impression is made by hammering lightly the die on a cleanly-cut cross section of the

wood. Counts are made per quadrat of the circle with the use of the hand lens. These are averaged to show the number of pores per sq. mm. Tañgile shows consistently higher average values for the two features mentioned than red lauan as indicated below:

Diagnostic features	Red lauan	Tañgile
1. No. of pores/sq. mm.	1.3 to 3.6 ave. 2.3	1.6 to 5.4 ave. 2.8
2. Percentage of solitary pores	39 per- cent	64 per- cent

Best results in the differentiation of red lauan and tañgile are obtained by the laboratory method using a microscope equipped with a calibrated stage micrometer. With the low and high power objectives, fiber length and diameter measurements are taken from 100 wood fibers obtained by macerating wood splints with equal parts of 30 percent hydrogen peroxide and 60 percent glacial acetic acid. Likewise, 100 measurements (under the low power objectives) for each of the maximum tangential diameter of pores on the cross section and ray height on the tangential section and observation for the presence of oxalate crystals are carried out from either temporary or permanent mounts or section slides. Average values of tañgile are consistently lower than those of red lauan as shown below:

Diagnostic features	Red lauan	Tañgile
1. Maximum tangential diameter of pores	microns <sup>1</sup> 233.31-472.50 ave. 311.9	microns <sup>1</sup> 199.98-415.3 ave. 280.3
2. Fiber length	722.20-2488.6 ave. 1703	507.70-2145.0 ave. 1336.9
3. Fiber diameter	17.14-60.0 ave. 33.4	16.44-50.0 ave. 26.8
4. Ray height	184.56-2214.7 ave. 1071.7	276.84-2060.9 ave. 891.6
5. Oxalate crystals	absent	present

<sup>1</sup> One micron is one thousandth of a millimeter.

The most significant diagnostic feature of these two species is the presence of oxalate crystals in the vertical parenchyma of tañgile and its absence in red lauan.

So far, the practical and satisfactory methods for separating the woods of red lauan and tañgile are the burning splinter test and the microscopic observation for the presence of oxalate crystals.

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## OCCURRENCE OF SILICA INCLUSIONS IN PHILIPPINE WOODS

Technical Note No. 24

Silica is the name ordinarily given to the chemical substance known as silicon dioxide ( $\text{SiO}_2$ ). Ordinary sea sand is composed mostly of silica.

Silica in wood is classified as *inclusion* or *vitreous*. The former refers to cell inclusions smaller than the lumina of the cells in which they occur. Under the microscope or hand lens they appear to have wrinkled or uneven surface and a refractive index of 1.434. The latter refers to silica deposited as a lining on cell walls or a complete filling in the lumen of the containing cell and with a refractive index greater than 1.5. These small deposits are microscopically visible provided they are present in quantities in excess of 0.05 percent based on oven-dry weight of the wood. On this basis, the terms *silica-accumulating* and *silica-free* have been adopted to describe the presence and absence, respectively, of silica in wood.

The importance and significance of silica inclusions in certain woods have been recently recognized on account of a number of associated practical problems of which the following are typical:

#### (a) Diagnostic value of siliceous inclusions as an aid to wood identification

The occurrence of siliceous inclusions in wood in certain species, genera, and families, has proven to be of significant diagnostic value, to a certain extent, in identifying closely related species. This may be used as promising criterion in separating closely allied genera or species because silica inclusions are readily recognizable by their characteristic properties. In a study conducted by the Forest Products Research Institute on similar woods of the Sapotaceae commonly found in the market, it was possible to differentiate bansalagin (*Mimusops parvifolia* R. Br.), which is silica-accumulating, from duyok-duyok formerly *Mimusops calophylloides* Merr., but now *Manilkara merrilliana* H. J. Lam, which is silica-free. Similarly, bagomaho formerly *Sideroxylon fragrans* Elm., but now named *Planchonella firma* Dub., a silica-accumulating species, was segregated from Ahern mangkas (*Sideroxylon ahernianum* Merr.) which is silica-free. In the Dipterocarpaceae, silica-free kalunti (*Shorea kalunti* Merr.) was differentiated from silica-accumulating manggasinoro



(*Shorea philippinensis* Brandis).

(b) *Siliceous inclusions and working qualities*

Siliceous timbers are generally hard to saw and some of them dull the teeth of saws rapidly. However, the amount of silica required to affect the sawing properties noticeably has not yet been determined. The sawing problem is far from satisfactorily explained because other researches found that there are timbers wanting in silica inclusions, yet, they cause severe dulling of saws. On the other hand, some timbers which contain silica inclusions are converted easily into lumber or finished products and no complaints as to dulling of tools have been reported. It seems probable that other factors than silica content have an equally important effect on saws and other wood working tools. But one thing stands out clearly. The presence of silica inclusions in wood has been associated with the dulling of saws and woodworking tools. The Forest Products Research Institute has been following up observations along this association.

(c) *Resistance of wood with silica inclusions to marine borers*

Teredine resistance of some siliceous timbers was observed in 1932 by Gonggrijp who suggested that silica content of 0.50 percent of the dry weight of the wood is sufficient to confer resistance. As an example, Australian turpentine (*Syncarpia laurifolia* Ten.) with a silica content of 0.59 percent has a world-wide reputation for marine borer resistance. However, the presence of silica in some species is not the only factor that gives them resistance to the attack of teredine borers. Probably other extraneous toxic materials present contribute to the resistance of the wood. Despite this, it is important to have at hand a list of our local siliceous woods and their resistance to marine borers. With this information on the right species to be used in marine timber installations, the cost of replacements and damage due to marine borers may be substantially reduced.

The species, shown in the accompanying tables, were studied by microscopic methods and some were chemically analyzed. Table 1 shows the local species found by microscopic observations to be as siliceous as Australian turpentine, if not more so, based on the size, occurrence and distribution of their silica inclusions. In Table 2, the silica content of 161 species are listed. Thirty-three species were found to exceed the 0.59 percent silica content of the Australian turpentine.

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Table 1. List of local species studied by microscopic examinations which are as siliceous as, or more siliceous than, Australian turpentine based on the size, occurrence and distribution of silica inclusions.

Species	Locality
1. Afu ( <i>Anisoptera brunnea</i> Foxw.)	Quezon
2. Apitong ( <i>Dipterocarpus grandiflorus</i> Blanco)	Quezon
3. Bagomaho ( <i>Planchonella firma</i> Dub.)	Capiz
4. Malabaniti ( <i>Madhuca</i> sp.)	Mindoro, Palawan
5. Bansalagin ( <i>Mimusops parvifolia</i> R. Br.)	Bataan, Camarines, Cotabato, Palawan
6. Banokbok ( <i>Pouteria luzoniensis</i> (Merr.) Baehni)	Tapiantana Islands
7. Basilan apitong ( <i>Dipterocarpus basilanicus</i> Foxw.)	Basilan
8. Bataan tagatoi ( <i>Palaquium bataanense</i> Merr.)	Ilocos Sur
9. Bayit ( <i>Walsura aherniana</i> Perk.)	Sorsogon
10. Betis ( <i>Madhuca betis</i> (Blco.) Macbr. & Merr.)	Cagayan, Mindoro, Rizal
11. Betis-bundok ( <i>Adhuca monticola</i> (Merr.) Merr.)	Palawan
12. Broad-leaved apitong ( <i>Dipterocarpus speciosus</i> Brandis)	Albay, Basilan
13. Dugarag ( <i>Aphanamixis velutina</i> Elm.)	Agusan
14. Edkoyan ( <i>Madhuca leerii</i> (Teijsm. & Binn.) Merr.)	Zamboanga
15. Hagakhak ( <i>Dipterocarpus warburgii</i> Brandis)	Agusan, Cagayan, Camarines
16. Kalalang ( <i>Chrysophyllum roxburghii</i> G. Don)	Palawan
17. Lahas ( <i>Palaquium obovatum</i> (Griff.) Engl.)	Davao
18. Malaanonang ( <i>Shorea polita</i> Vid.)	Agusan
19. Malabetis ( <i>Madhuca oblongifolia</i> (Merr.) Merr.)	Camarines
20. Malak-malak ( <i>Palaquium philippense</i> (Perr.) C. B. Rob.)	Bataan, Batangas, Laguna
21. Malapanau ( <i>Dipterocarpus kerrii</i> King)	Agusan, Quezon, Samar
22. Malikmik ( <i>Palaquium cuneifolium</i> Merr.)	Quezon, Zambales
23. Malobon ( <i>Madhuca burckiana</i> (Koord.) H. J. Lam.)	Agusan, Cagayan
24. Manggasinoro ( <i>Shorea philippinensis</i> Brandis)	Quezon
25. Mindanao palosapis ( <i>Anisoptera mindanensis</i> Foxw.)	Zamboanga
26. Panau ( <i>Dipterocarpus gracilis</i> Foxw.)	Ilocos Sur, Quezon, Zambales, Agusan, Cagayan, Laguna
27. Pianga ( <i>Madhuca obovatifolia</i> (Merr.) Merr.)	Camarines
28. Round-leaved apitong ( <i>Dipterocarpus orbicularis</i> Foxw.)	Camarines Norte
29. Salakin ( <i>Aphanamixis cumingiana</i> (C. DC.) Harms)	Bulacan
30. Tailedleaf panau ( <i>Dipterocarpus caudatus</i> Foxw.)	Camarines
31. White nato ( <i>Pouteria macrantha</i> (Merr.) Baehni)	Lanao

Table II. Silica content of certain Philippine woods. (Underscored common names are the species found to exceed the 0.59 percent silica content of the Australian turpentine).

Species	Percent silica	Locality
1. <i>Anubing</i> ( <i>Artocarpus ovata</i> Blanco)	5.93	Laguna
2. <i>Kalios</i> ( <i>Streblus asper</i> Lour.)	4.82	Laguna
3. <i>Kalulot</i> ( <i>Artocarpus rubrovenia</i> Warb.)	4.11	Bataan
4. <i>Gumihan</i> ( <i>Artocarpus elastica</i> Reinw.)	3.96	Davao
5. <i>Amudil</i> ( <i>Paratrophis glabra</i> (Merr.) v. Steen.)	3.58	Davao
6. <i>Liusin</i> ( <i>Parinari corymbosa</i> (Blume) Miq.)	3.49	Laguna
7. <i>Bio-bio</i> ( <i>Artocarpus multifidus</i> Jarr.)	3.33	Davao
8. <i>Pianga</i> ( <i>Madhuca obovatifolia</i> (Merr.) Merr.)	2.87	Laguna
9. <i>Pakak</i> ( <i>Artocarpus treculiana</i> Elm.)	2.57	Camarines
10. <i>Bayuko</i> ( <i>Artocarpus fretessii</i> Teijsm. & Binn.)	2.20	Palawan
11. <i>Balakat-gubat</i> ( <i>Sapium luzonicum</i> (Vid.) Merr.)	2.20	Laguna

Species	Percent silica	Locality
12. Kubi ( <i>Artocarpus nitida</i> Trec.)	1.85	Bataan
13. Toog ( <i>Combretodendron quadrialatum</i> (Merr.) Merr.)	1.80	—
14. Alagasi ( <i>Leucosyke capitellata</i> (Poir.) Wedd.)	1.80	—
15. Tuai ( <i>Bischofia javanica</i> Blume)	1.76	—
16. Dagang ( <i>Anisoptera aurea</i> Foxw.)	1.70	—
17. Afu ( <i>Anisoptera brunnea</i> Foxw.)	1.43	Quezon
18. Malakubi ( <i>Artocarpus subtrotundifolia</i> Elm.)	1.38	Samar
19. Nangka ( <i>Artocarpus heterophylla</i> Lam.)	1.13	Sulu
20. Malatapai ( <i>Alangium longiflorum</i> Merr.)	1.04	Laguna
21. Apitong ( <i>Dipterocarpus grandiflorus</i> Blanco)	1.02	Quezon
22. Manggasinoro ( <i>Shorea philippinensis</i> Brandis)	1.00	Quezon
23. Kapok ( <i>Ceiba pentandra</i> (L.) Gaertn.)	0.99	—
24. Matang-arau ( <i>Melicope triphylla</i> (Lam.) Merr.)	0.99	Laguna
25. Salakin ( <i>Aphanamixis cumingiana</i> (C.DC.) Harms)	0.92	Bulacan
26. Kalimatas ( <i>Phaeanthus ebracteolatus</i> (Presl) Merr.)	0.89	Laguna
27. Lanutan-bagyo ( <i>Gonystylus macrophyllus</i> (Miq.) Airy Shaw)	0.84	—
28. Binggas ( <i>Terminalia citrina</i> (Gartn.) Roxb.)	0.80	—
29. Katmon ( <i>Dillenia philippinensis</i> Rolfe)	0.78	Laguna
30. Malaanonang ( <i>Shorea polita</i> Vid.)	0.74	Agusan
31. Bayit ( <i>Walsura aherniana</i> Perk.)	0.74	Sorsogon
32. Bukagan ( <i>Artocarpus anisophylla</i> Miq.)	0.64	Palawan
33. Dugarag ( <i>Aphanamixis velutina</i> Elm.)	0.60	Agusan
34. Duktulan ( <i>Syzygium luzonense</i> (Merr.) Merr.)	0.52	Laguna
35. Agusan kangko ( <i>Aphanamixis agusanensis</i> Elm.)	0.45	Agusan
36. Palosapis ( <i>Anisoptera thurifera</i> (Blco.) Blume)	0.42	Bataan
37. Magabuyo ( <i>Celtis luzonica</i> Warb.)	0.42	Laguna
38. Kangko ( <i>Aphanamixis perrottetiana</i> (C. DC.) Harms)	0.37	Camarines
39. Agogoi ( <i>Chisocheton tetrapetalus</i> (Turcz.) C. DC.)	0.37	Agusan
40. Igyo ( <i>Dysoxylum decandrum</i> (Blco.) Merr.)	0.37	Camarines
41. Katong-matsin ( <i>Chisocheton pentandrus</i> (Blco.) Merr.)	0.36	Palawan
42. Apanang ( <i>Neotrewia cumingii</i> (Muell.-Arg.) Pax & K. Hoffm.)	0.35	Laguna
43. Malabulak ( <i>Salmalia malabarica</i> (DC.) Schott & Endl.)	0.35	Laguna
44. Malakalumpang ( <i>Sterculia ceramica</i> R. Br.)	0.35	Laguna
45. Sasa ( <i>Walsura villamilii</i> Merr.)	0.33	Zamboanga
46. Ata-ata ( <i>Diospyros mindanaensis</i> Merr.)	0.25	—
47. Hamindang ( <i>Macaranga bicolor</i> Muell.-Arg.)	0.24	Laguna
48. Taingang-babui ( <i>Gonocaryum calleryanum</i> (Baill.) Becc.)	0.23	Laguna
49. Tangisang-bayauak ( <i>Ficus variegata</i> Blume)	0.22	Bataan
50. Malakamanga ( <i>Reinwardtiodendron celebicum</i> Koord.)	0.19	Davao
51. Ilang-ilang ( <i>Cananga odorata</i> (Lam.) Hook. f. & Th.)	0.18	Laguna
52. Hulas ( <i>Pseudotrophis mindanaensis</i> Warb.)	0.18	Davao
53. Upas ( <i>Antiaris toxicaria</i> (Pers.) Lesch.)	0.16	Cagayan
54. Bolong-eta ( <i>Diospyros pilosanthera</i> Blanco)	0.16	Laguna
55. Taluto ( <i>Pterocymbium tinctorium</i> (Blanco) Merr.)	0.15	Laguna
56. Lanutan-dilau ( <i>Polyalthia flava</i> Merr.)	0.15	Laguna
57. Balsa ( <i>Ochroma pyramidale</i> (Cav.) Urb.)	0.14	Laguna
58. Anonang ( <i>Cordia dichotoma</i> Forst.)	0.13	Laguna
59. Ipil ( <i>Intsia bijuga</i> (Colebr.) O. Ktze.)	0.13	Laguna
60. Bani ( <i>Pongamia pinnata</i> (L.) Merr.)	0.13	Palawan
61. Anang ( <i>Diospyros pyrrocarpa</i> Miq.)	0.12	Laguna
62. Governor plum ( <i>Flacourtia jangomas</i> (Lour.) Raeusch.)	0.12	Laguna

Species	Percent silica	Locality
63. Kupang ( <i>Parkia roxburghii</i> G. Don)	0.11	Abra
64. Dap-dap ( <i>Erythrina orientalis</i> (L.) Murr.)	0.11	Bataan
65. Himbaba-o ( <i>Allaeanthus luzonicus</i> (Blco.) F.-Vill.)	0.10	Davao
66. Sakat ( <i>Terminalia nitens</i> Presl)	0.08	Laguna
67. Teak ( <i>Tectona grandis</i> L. f.)	0.08	Laguna
68. Rimas ( <i>Artocarpus cummunis</i> J. R. & G. Forst.)	0.08	Ilocos Sur
69. White lauan ( <i>Pentacme contorta</i> (Vid.) Merr. & Rolfe)	0.07	Quezon
70. African tulip ( <i>Spathodea campanulata</i> Beauv.)	0.07	—
71. Kaliaantan ( <i>Leea philippinensis</i> Merr.)	0.05	Laguna
72. Binuang ( <i>Octomeles sumatrana</i> Miq.)	0.05	Laguna
73. Rarang ( <i>Erythrina subumbrans</i> (Hassk.) Merr.)	0.05	Laguna
74. Almon ( <i>Shorea almon</i> Foxw.)	0.05	Zamboanga
75. Mayapis ( <i>Shorea squamata</i> (Turcz.) Dyer)	0.05	Camarines
76. Kalunti ( <i>Shorea kalunti</i> Merr.)	0.04	Zambales
77. Dolalog ( <i>Ficus variegata</i> Blume var. <i>sycomoroides</i> (Miq.) Corner)	0.04	—
78. Katilma ( <i>Diospyros nitida</i> Merr.)	0.04	—
79. Binunga ( <i>Macaranga tanarius</i> (L.) Muell.-Arg.)	0.03	—
80. Yakal ( <i>Shorea astylosa</i> Foxw.)	0.03	—
81. Bayok ( <i>Pterospermum diversifolium</i> Blume)	0.03	Laguna
82. Kamagong ( <i>Diospyros philippensis</i> (Desr.) Gurke)	0.02	—
83. Paper-mulberry ( <i>Broussonetia papyrifera</i> (L.) Vent.)	0.02	—
84. Gapas-gapas ( <i>Camptostemon philippinense</i> (Vid.) Becc.)	0.00	—
85. Pagatpat ( <i>Sonneratia alba</i> J. Sm.)	0.00	Quezon
86. Pahutan ( <i>Mangifera altissima</i> Blanco)	0.00	Quezon
87. Vidal lanutan ( <i>Bombycidendron vidalianum</i> (Naves) Merr. & Rolfe)	0.00	Laguna
88. Anang-gulod ( <i>Diospyros inclusa</i> Merr.)	0.00	Laguna
89. Banalo ( <i>Thespesia populnea</i> (L.) Soland.)	0.00	Laguna
90. Kubili ( <i>Cubilia cubili</i> (Blanco) Adelb.)	0.00	Laguna
91. Big-leaved mahogany ( <i>Swietenia macrophylla</i> King)	0.00	Laguna
92. Spanish cedar ( <i>Cedrela odorata</i> L.)	0.00	Laguna
93. Bagarbas ( <i>Hydnocarpus sumatrana</i> (Miq.) Koord.)	0.00	Laguna
94. Malubago ( <i>Hibiscus tiliaceus</i> L.)	0.00	Laguna
95. Bagtikan ( <i>Parashorea plicata</i> Brandis)	0.00	Quezon
96. Narig ( <i>Vatica mangachapoi</i> Blanco)	0.00	Agusan
97. Tañgile ( <i>Shorea polysperma</i> (Blco.) Merr.)	0.00	Laguna
98. Potkipot ( <i>Abarema angulata</i> (Benth.) Kosterm.)	0.00	Quezon
99. Ayangile ( <i>Acacia confusa</i> Merr.)	0.00	Zambales
100. Malatanglin ( <i>Adenanthera pavonina</i> L.)	0.00	Quezon
101. Salingkugi ( <i>Albizia saponaria</i> (Lour.) Blume)	0.00	Samar
102. Alibangbang ( <i>Piliostigma malabaricum</i> (Roxb.) Benth. var. <i>acidum</i> (Korth.) de Wit)	0.00	Laguna
103. Thailand shower ( <i>Cassia bifoliolata</i> Merr.)	0.00	Manila
104. Siping-siping ( <i>Cynometra bifoliolata</i> Merr.)	0.00	Davao
105. Makapil ( <i>Dalbergia mimosella</i> (Blco.) Prain)	0.00	Bataan
106. Firetree ( <i>Delonix regia</i> (Boj.) Raf.)	0.00	Quezon
107. Earpod ( <i>Enterolobium cyclocarpum</i> Griseb.)	0.00	Laguna
108. Kamatog ( <i>Erythrophloeum densiflorum</i> (Elm.) Merr.)	0.00	Laguna
109. Tiri ( <i>Gleditsia rolfei</i> Vid.)	0.00	Cagayan
110. Kakauati ( <i>Gliricida sepium</i> (Jacq.) Steud.)	0.00	Davao
111. Batete ( <i>Kingiodendron alternifolium</i> (Elm.) Merr. & Rolfe)	0.00	Laguna
	0.00	Sulu

Species	Percent silica	Locality
112. Manggis ( <i>Koompassia excelsa</i> (Becc.) Taub.)	0.00	Palawan
113. Tina-tinaan ( <i>Indigofera zollingeriana</i> Miq.)	0.00	Bataan
114. Ipil-ipil ( <i>Leucaena leucocephala</i> (Lam.) de Wit)	0.00	Laguna
115. Basilan bahai ( <i>Ormosia basilanensis</i> Merr.)	0.00	Zamboanga
116. Tindalo ( <i>Afzelia rhomboidea</i> (Blco.) Vid.)	0.00	Ilocos Norte
117. Prickly narra ( <i>Pterocarpus vidalianus</i> Rolfe)	0.00	Cagayan
118. Akle ( <i>Serialbizia acle</i> (Blco.) Kosterm.)	0.00	Ilocos Sur
119. Katurai ( <i>Sesbania grandiflora</i> Pers.)	0.00	Jolo
120. Supa ( <i>Sindora supa</i> Merr.)	0.00	Sibuto Island
121. Sandalaitan ( <i>Sophora tomentosa</i> L.)	0.00	Palawan
122. Sampalok ( <i>Tamarindus indica</i> L.)	0.00	Manila
123. Banuyo ( <i>Wallaceodendron celebicum</i> Koord.)	0.00	Cagayan
124. Tukang-kalau ( <i>Aglaia clarkii</i> Merr.)	0.00	Palawan
125. Gisihan ( <i>Aglaia laevigata</i> Merr.)	0.00	Bataan
126. Kuling-manuk ( <i>Aglaia luzoniensis</i> (Vid.) Merr. & Rolfe)	0.00	Cotabato
127. Magsayap ( <i>Aglaia stellato-tomentosa</i> Merr.)	0.00	Palawan
128. Maranggo ( <i>Azadirachta excelsa</i> (Jacq.) Jacobs)	0.00	Palawan
129. Kalantas ( <i>Toona calantas</i> Merr. & Rolfe)	0.00	Cagayan
130. Bauai ( <i>Epicharis foxworthyi</i> (Elm.) Harms)	0.00	Palawan
131. Amau ( <i>Dysoxylum pauciflorum</i> Merr.)	0.00	Laguna
132. Tarublang ( <i>Epicharis angustifoliola</i> (Merr.) Harms)	0.00	Palawan
133. Lanzones ( <i>Lansium domesticum</i> Corr.)	0.00	Davao
134. Bagalunga ( <i>Melia dubia</i> Cav.)	0.00	Quezon
135. Santol ( <i>Sandoricum koetjape</i> (Burm. f.) Merr.)	0.00	Rizal
136. Pingan-pingan ( <i>Vavaea heterophylla</i> Merr.)	0.00	Camarines
137. Panigib ( <i>Walsura brachybotrys</i> Merr.)	0.00	Misamis
138. Urisep ( <i>Walsura multijuga</i> King)	0.00	Lanao
139. Tabigi ( <i>Xylocarpus granatum</i> Koen.)	0.00	Quezon
140. Upling-gubat ( <i>Ficus ampelas</i> Burm. f.)	0.00	Cagayan
141. Balete ( <i>Ficus balete</i> Merr.)	0.00	Abra
142. Kalukoi ( <i>Ficus callosa</i> Willd.)	0.00	Bataan
143. Basala ( <i>Ficus callophylla</i> Blume)	0.00	Palawan
144. Pasapla ( <i>Ficus concinna</i> Miq.)	0.00	Manila
145. Basikong ( <i>Ficus botryocarpa</i> Miq.)	0.00	Palawan
146. India rubber ( <i>Ficus elastica</i> Roxb.)	0.00	Manila
147. Upli ( <i>Ficus melinocarpa</i> Blume)	0.00	Camarines Sur
148. Alangas ( <i>Ficus heteropoda</i> Miq.)	0.00	—
149. Aplas ( <i>Ficus irisana</i> Elm.)	0.00	—
150. Hagimit ( <i>Ficus minahassae</i> (Teijsm. & de Vr.) Miq.)	0.00	Laguna
151. Tibig ( <i>Ficus nota</i> (Blco.) Merr.)	0.00	—
152. Agopid ( <i>Ficus obscura</i> Blume)	0.00	Agusan
153. Dungo ( <i>Ficus pubinervis</i> Blume)	0.00	Ilocos Sur
154. Agaien ( <i>Ficus microcarpa</i> L. f.)	0.00	Ilocos Sur
155. Hauili ( <i>Ficus septica</i> Burm. f.)	0.00	Abra
156. Agamid ( <i>Ficus cordatula</i> Merr.)	0.00	Palawan
157. Baleteng-ibon ( <i>Ficus sumatrana</i> Miq.)	0.00	Zambales
158. Isis-bato ( <i>Ficus tinctoria</i> Forst. f.)	0.00	Palawan
159. Malanangka ( <i>Paratocarpus venenosus</i> (Zoll. & Mor.) Becc. subsp. <i>papuanos</i> (Becc.) Jarr.)	0.00	Mindoro
160. Agus-us ( <i>Paratrophis philippinensis</i> (Bur.) F.-Vill.)	0.00	Laguna
161. Kuyos-kuyos ( <i>Taxotrophis macrophylla</i> (Blume) Boer.)	0.00	Cebu

## USEFUL FIBERS FROM BARKS OF PHILIPPINE WOODS

Technical Note No. 25

It has been estimated that about eight percent of the total volume of a tree trunk is bark. It is also estimated that the annual cut of the commercially known and most exploited Philippine mahogany alone is about 4,716,981 cubic meters. Based on these estimates the bark of the annual cut of the Philippine mahogany alone is about 377,358 cubic meters.

In the lumber industry, this bark is almost entirely unutilized and is disposed of as waste, thus posing a problem of waste disposal.

The barks of some trees contain high percentage of resins, some in tannins, others in waxes and other chemicals. This enormous amount of bark is a potential raw material for the manufacture of adhesives, charcoal, hardboards and other structural boards, and other related products.

A study has been conducted on bark utilization at the Forest Products Research Institute. Logs of white lauan (*Pentacme contorta* (Vid.) Merr. & Rolfe) with moisture content of 77 percent and bagtikan (*Parashorea plicata* Brandis) with moisture content of 88 percent were found to yield from 7 to 10 percent bark by volume. Fractionation of this bark yielded 47 percent of fibrous elements for white lauan and 43 percent for bagtikan, and the rest, consisted of assorted corky and woody elements.

### Bark and its Composition

Though only the exterior covering of the trunk and branches of a tree is technically known as bark the word is often loosely used to designate all the tissues lying outside the wood. Bark consists of an outermost corky layer called *epidermis*, a layer of manufactured-food-conducting tissues called *phloem*, and a zone between these two layers known as *cortex*. In several species, a layer of fibrous strips called "bast fiber" forms an inner bark. Oils, resins, tannins, waxes, and phenolic substances may also be present in the bark. When extracted from the barks of some tree species, these materials are useful for the manufacture of certain chemical and medicinal products.

The bark of some woods is processed into various useful products. In chip or pulverized form, bark is used in the growing of certain plants. The ground bark particles alter the "water-air relationships," lower the bulk density, improve the friability and act as a pro-

tective mulch of the soil. When mixed with suitable chemicals, it may be a useful fertilizer. In the making of structural fiber boards, roofing and some grades of paper some manufacturers remove only part or perhaps none of the bark from wood.

Incidentally, the most common, yet the oldest and lowest-grade use of unprocessed bark, is for fuel in some factories as well as in millions of rural Filipino homes. Certain barks of the commonly used Philippine timber-producing species have *bark fibers* while the others have *bast fibers*.

### Bark Fibers

Some barks contain from 60 to 90 percent of thickly matted fibers that are strong, tough and durable. These can be utilized for a number of purposes. The bark fibers of paper mulberry (*Broussonetia papyrifera* (L.) Vent.), for example, have been successfully used in the manufacture of hand-made papers, parasols and decorative papers in Thailand and Japan. This tree is now cultivated locally. The matted fibers from the bark of kalulot (*Artocarpus rubrovenia* Warb.) and abutag have been used locally by natives for clothing and G-strings. The barks of these species are comparable in structure to that of paper mulberry and so likewise might be useful raw materials for a hand-made paper industry of the Philippines. It is likely that there are other Philippine species which can produce similar fibers.

### Bast Fibers

"Bast fibers" are obtained mostly from dicotyledonous plants. They occur in that portion of the fibro-vascular area of phloem which is around the woody, central portion and just under the outer bark. They usually occur in bundles with their ends overlapping so as to produce continuous filaments or strips throughout the length of the tree. In some cases, the filaments are interlaced as in malabuhu (*Sterculia oblongata* R. Br.).

Bast fibers are inherently strong and durable, and are commonly extracted by simple retting. In most instances, they are primarily processed for the manufacture of ropes, baskets, hats, mats, etc. Bast fibers possessing sufficient bending strength, folding endurance, toughness, and durability are used for making wild-hog traps, fish lines, clothes lines, twines, sacks for storing rice, strings, cordage and textile fabrics for cords, strainers, mosquito nets, etc.

The most important tree species that produce bast fibers of the best quality belong chiefly to the Thymelaeaceae, Tiliaceae, Malvaceae, Sterculiaceae and Moraceae.

Fibers of salago (*Wikstroemia* spp.), alagasi (*Leucosyke capitellata* (Poir.) Wedd.), bani (*Pongamia pinnata* (L.) Merr.), Vidal lanutan (*Bombycidendron vidalianum* (Naves) Merr.), malubago (*Hibiscus tiliaceus* L.), anabo (*Abroma augusta* (L.) L. f.), and malabuho (*Sterculia oblongata* R. Br.) are very strong and generally used for rope making. The bast fibers of ramie (*Boehmeria nivea* (L.) Gaudich.) and lata or upas-tree (*Antiaris toxicaria* (Pers.) Lesch.) are perhaps more suitable for cloth making.

Salago and malabuho bast fibers are exceptionally good. Salago fibers can be used for making strong paper, and would seem to be particularly useful constituents for bank note and check paper. The exquisitely silky and strong fibers of malabuho are good materials for weaving elegant bags, wallets, and hats for both men and women.

At present, small establishments engaged principally in the local fiber business export some of their products to foreign countries including Japan, United States, and Europe, for good prices. The demands by these countries for the products of the local industries are ever-increasing so this foreign trade will continue to help the Philippine economy.

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## MINIMIZING DECAY HAZARDS IN LUMBER YARDS

Technical Note No. 26

The danger that lurks in the use of lumber infected with wood-destroying fungi<sup>1</sup> is not generally appreciated by wood users. The casual observer does not readily recognize incipient decay in wood which can be easily mistaken for sound lumber. Perhaps unknowingly, lumber dealers may occasionally sell as sound lumber, wood having incipient decay when mixed with sound or clear lumber.

Many people regard this infection as a minor superficial defect which can be largely removed by surface planing. This, however, is not the case. Infected wood, even in the early stage, is already permeated with the destructive hyphae of wood-decaying fungi. When this infected piece is used in a place of high decay hazard, it will not last long in service. As a consequence, this necessitates expensive repairs and replacements with attendant inconvenience and unnecessary expense to the user.

Stored lumber that is stained and infected by molds is likewise objectionable. It is likely to harbor wood-decaying fungi because the conditions that favor stain fungi also favor decay fungi.

Recent findings by the Forest Products Research Institute disclose that decay in stored lumber occurs sometimes in lumber yards because of primitive and unsanitary storage conditions and improper handling practices which make for high decay hazards. The following recommendations will reduce these decay hazards:

1. *Site.* — It is preferable to locate the yard in well drained high level ground, and not adjacent to wind obstructing objects such as tall trees and buildings. High solid wall inclosures are objectionable because they obstruct air movement inside the yard thereby promoting humidity which is favorable to decay.

2. *Sanitation.* — The elementary rules of sanitation should be observed. Wood waste scattered all over the premises invariably harbors wood decaying fungi as well as insects. It may contain fungal infection and should be disposed of promptly and properly. Regular and frequent cleanups of debris are far more desirable than one large yearly cleanup. The

<sup>1</sup>See FPRI Technical Note No. 10, Protecting Building from Termite and Fungus Damage.

use of sawdust to fill up low ground is undesirable. Soil containing rotted woody materials can be a constant source of infection for the lumber stored in the yard.

Infected timber should never be used for the foundation or skids of piled lumber because fungus strands can move freely from infected wood to moist clean lumber if the two come in contact.

Weeds which impede air movement and promote high humidity in the air beneath the piles should be eradicated and kept under control.

3. *Foundations.* — The piles or stacks should be placed on good solid foundations. Concrete and durable or adequately treated timber for horizontal stringers are preferable. Adobe stones are not desirable for foundations because they readily absorb water and take a long time to dry. The height of the foundations should not be less than 18 inches from the bottom of the stringers to the surface of the ground to permit ample ventilation beneath the piles and keep the soil beneath as dry as possible. The foundations for shed piles should be similar to those recommended for yard piles.

4. *Layout.* — The arrangement of the stacks in the yard should be such that the air moves through each one of them regardless of wind direction. Adequate alleys and spaces must be provided between piles and rows of piles so as to provide air movement freely.

5. *Piling.* — The most critical period in storing fresh sawn lumber is the first few weeks after delivery. It is at this stage that the surface of the lumber is moist enough for the germination of fungal spores that might have alighted on it to initiate decay. Hence, the faster the lumber is dried the less chance for

fungal infection to occur, but in doing so due consideration must be given to the possibilities of warping and checking. This can be attained by proper spacing of the piles and the separation of the lumber in the pile by stickers to promote drying within the pile. The stickers should be of sound and dry material, preferably heartwood, and must be handled in a sanitary manner. Fresh lumber should never be piled for storage on top of old lumber. It must be piled separately.

6. *Pile roofs and sheds.* — A good pile roof has always been considered an important feature of good air seasoning practice. A roof protects the upper courses and, to a lesser extent, the lower part of the pile from rain. Rain-water penetrating the pile may retard drying of the lumber besides rendering it susceptible to fungal infection. To provide maximum protection, the roof should extend beyond the ends and sides of the piles and should be pitched so that the water will run from front to rear and drip off at the edge. The roof of the sheds should be kept in good repair and provided with gutters and downspouts.

The lumber stored in the sheds should never be allowed to project beyond the roof because the drip from rain may run back along the projecting pieces into the center of the solid-piled stock. Once wetted, the pile will retain the moisture for prolonged periods permitting fungal infection to set in.

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*"The only gracious way to accept an insult is to ignore it; if you can't ignore it, top it; if you can't top it, laugh at it; if you can't laugh at it, it's probably deserved."*

— Russel Lynes in *Vogue*

—oOo—

*Maturity is not a state one suddenly arrives at. It is a continuous development, achieved less by age than by insight."*

— Michael Drury in *Glamour*

—oOo—

*Great men are meteors designed to burn so that the earth may be lighted.*

—Napoleon



# Forestry in the News

## SUSTAINED FOREST YIELD IN PI URGED

DAET, Camarines Norte, Dec. 16—(CNS)—Director of Forestry Tiburcio Serevo today urged sustained yield or increased production from forest resources throughout the country.

In a conference attended by forestry personnel, timber licensees, sawmill owners and lumber dealers, government officials and forestry personnel, Serevo appealed to the concessionaires to cooperate with the bureau in adopting a scientific approach for the "continuous timber and logging business operation in this province so that yearly revenue of about ₱260,000 and money circulation of about ₱2.5 million pesos brought about by the local and export sales of forest products of this province will not only be maintained but improved as years go by."

Serevo said the purposes of the conference are: (1) to appeal to timber licensees to cooperate willingly with the scientific management of our forest; (2) to implement selective logging the whys and how to do this objective; (3) to know the requirements on the filing of applications for timber licenses; (4) to know the requirements for the conversion of O.T. licenses to four to five year timber license agreements; (5) to know the requirements on requests for additional cuts when the amount granted in the license is already exhausted; and (6) to know the problems of the timber licensees, sawmill owners and lumber dealers.

Among the speakers were; Provincial Fiscal Delfin Vir. Sunga, Major Alfonso Calderon, provincial constabulary commander, Major G. Luansing, asst. provincial commander Capt. J. Bandong, 40th PC commander, Captain Vicente Santos, 123rd PC company; Vice-Governor Rafael dela Cruz and District Forester Regino Doroin for Camarines Norte.—dnc

Sunday Chronicle, Dec. 17, 1961

## PALAWAN LUMBER BOOM PREDICTED

PUERTO PRINCESA, Palawan. Nov. 6—Local forestry officials predicted there will be a lumber boom in Palawan in 1962.

According to District Forester Buenaventura Rodrigo, big lumber dealers and exporters are turning to Palawan since most of the forest areas in other regions have already been depleted.

Two big exporters are now operating in Aborlan, same sources indicated. The apitong stand in this area is abundant.

A leading lumber concessionaire of the same place plans to concentrate on two phases of operation: 1. logging apitong for export; and 2. manufacturing first group timber for posts and fitches.

The same concessionaire said that Palawan's ipil is the best in the country. The timber stand in his area of first group is 46 percent or more than 33 cubic meters to a hectare.—L.

*Manila Times, Dec. 17, 1961*

## LOGGER SCORES PI TIGHT MONEY

Brigido R. Valencia, president of the Philippine Association of Log Producers and Exporters, yesterday said the improvement in the prices of log exports to Japan from the Philippines hardly makes up for difficulties encountered under a tight money situation and high rate of interest in banking transactions in Japan.

Valencia explained that the improvement in prices of from \$2 to \$3 per 1,000 board feet of logs is virtually nullified by the high rate of interest now imposed by the banks in Japan caused by tight money situation in that country.

"The tight money situation and high interest rate in Japan today tax credit transactions to a point where it precludes further improvement in log trading between Japan and the Philippines," Valencia said.

Valencia noted that Japanese traders are reluctant to contract range program of trading relationship because of the uncertainty of economic policies in our country.

"Again, the absence of clear-cut and definite economic policies in our country stand in the way of a long range arrangement in trading between Philippine producers and Japanese importers," Valencia said.

He stressed that this reluctance the Japanese are showing obviously arises from vacillating monetary, credit, and fiscal policies in the Philippines.

"It now seems impossible for a stable relationship between Filipino and Japanese traders to exist unless our monetary, credit and

fiscal policies are so defined that they will give confidence to producers and importers to engage in a long range program of trading activities.

"This is also because fear of losses in any sudden change of policies deter local producers as well as foreign importers."

*Manila Times — Dec. 18, 1961*

#### WOOD RESEARCH REPORTS BARED

The Forest Products Research Institute in College, Laguna hit an unprecedented record during the month of August in gathering useful information for more efficient and profitable utilization of wood and other forest products.

This was learned from FPRI Assistant Director Manuel R. Monsalud, who announced that 11 progress reports were approved by FPRI Director Eugenio de la Cruz during the month.

These progress reports, Monsalud explained, are technical papers presenting in detail the information obtained in completed and partly completed research projects.

Monsalud mentioned that the reports completed during August by the researchers of the Institute present useful information on creosoted poles, moisture content variation of lumber, tyloses in Philippine woods, collection and yield of tanbarks, chemical analyses of woods, bamboos, studies on measurement of fibers, treatability of native woods with chemical preservatives, identification of native commercial woods, resistance of untreated wood to decay and related subjects.

He pointed out that most of the information presented in the Institute's progress reports are intended to help solve the current problems encountered by wood-using industries and the general public.

Monsalud also stated that every information gathered by the Institute is available to all interested parties.

*Manila Times — Dec. 5, 1961*

#### BEST PINE TREES GROWN BY MARCOTTING

Baguio, Nov. 25 — Marcottage of pine tree branches through the use of a new media has been discovered recently at the Baguio forest experiment station.

The scientific discovery was announced by Forester Artemio A. Caleda, forester-in-charge of the station; and Guillermo J. Felipe, an assistant.

Caleda made the experiments in Kilometer 21, Atok, Benguet, Mt. Province.

He said that the media used in his experiments were pine sawdust, pine soil and sphagnum moss.

While all the media used on marcottage of pine trees made use of clay and chemicals, Caleda selected his media because it is available locally and cheap.

The marcotted branches ranged in length from 100 to 130 centimeters. They came from a 14-year old pine tree.

Caleda said in his report that using the sphagnum moss for a medium, it took the branch 107 days to callus; 122 days for the pine sawdust; and the pine soil, 139 days.

Roots formed in the layer-plants with sphagnum moss in an average of 224 days; pine sawdust, 227 days; and pine-soil, 233 days after air-layering.

The percentage of survival of layer-plants by the medium used was; sphagnum moss, 50 per cent; pine sawdust, 40 per cent; and pine soil, 10 per cent.

Caleda made a three-point summary of his experiment as follows: 1. Rootings of Benguet pine branches by air-layering or marcottage is physiologically possible; 2. Sphagnum moss and pine sawdust are the best media for air-layering with 50 and 40 per cent survival, respectively. There is little difference, however, in the efficiency of the air-layering media to callus formation.

3. In general, marcottes of Benguet pine branches require at least four months to callus after air-layering and another 3.5 months following callusing to develop roots or a span of 7.5 months required to produce planting stocks by air-layering.

In making an assessment of the significance of the experiment, Caleda noted:

"The Benguet pine is considerably a prolific seeder. It is usually propagated by seeds. However, too often the best trees are cut or logged leaving inferior trees to provide seeds, which are propagated in the nurseries for reforestation purposes.

"In this experimental work an attempt was made to use marcottage of Benguet pine branches from selected parent trees. The work may also prove the possibility of rooting and the success attained will provide means for rapid propagation of the species under study."

With the success in this experiment, it may be possible to produce pine cones from which seeds are gathered, from pine trees of about two meters in height, or even less.

The final stage of this sort of breeding work will lead to the establishment of seed orchards as seed sources for current and future planting program.

Caleda recommended that similar study along this objective be made in the interest of producing better seeds for reforestation purposes.

*Sunday Times* — Nov. 26, 1961

#### PC MOVES TO STOP ILLEGAL LOGGING IN TARLAC

TARLAC, Tarlac, Dec. 16 — Lt. Col. Carlos B. Flores, PC provincial commander here this week ordered the establishment of a PC checkpoint at the outskirts of barrio Patling, Capas for the purpose of checking and stopping illegal logging activities of certain forest concessionaires.

The PC action came shortly following reports received at the constabulary headquarters that illegal logging activities have been started in some forest areas near the U.S. Military reservation west of Capas town.

Col. Flores ordered his men to impound logging trucks found to be violating rules and regulations of the bureau of forestry and to apprehend persons responsible for illegal logging.

At the same time, the constabulary commander directed his men to go after persons engaged in illegal "kaingin" as the practice has been denuding the mountain areas. Col. Flores said the "kaingin" should be stopped as it causes destructive floods during the rainy season.

Meanwhile, authorities of the bureau of forestry here sought the aid of barrio people in not destroying wantonly small growing trees in the mountain so as to enable the forest authorities to reforest denuded mountains.

It was gathered that some mountain people have been destroying indiscriminately growing small trees which they use or sell for firewood. District Forester Toribio Manzano created a team of forest rangers to conduct a campaign among the barrio folk especially those living near the mountain areas to stop these wanton destruction of growing trees.

*The Sunday Chronicle* — Dec. 17, 1961

#### FOREST PROTECTION DRIVE STARTS IN MT. PROVINCE

BAGUIO CITY, Nov. 6 — An all-out information drive on forest protection against fire has been launched by forestry authorities here as the dry season in this region set in.

Forester Rufino A. Sabado, acting forestry regional director, exhorted local district forestry personnel to exert efforts to prevent the occurrence of forest fires by conducting systematic information and education drive in the remote areas and places which adjoin the forest.

Sabado was particularly interested in the protection of the watershed of the Agno River, which feeds the multi-million Ambuklao and Binga hydro-electric projects of the National Power Corporation in Bokbok and Itogon, Benguet.

The regional forestry director, whose headquarters is located in Dagupan City, also alerted the forest guards assigned along the picturesque Kennon Road to be on the look-out for grass fires.

An anti-forest fire drive has also been launched by personnel of the Reforestation Administration in this district to save pine plantations of the RA throughout the Mt. Province.

These extensive plantations, which cover reforested areas, are located along the Kennon Road, Mambulo, Ambuklao, Tublay, Cabunagan, Sabangan and many other places.

Forester Primo P. Andres, RA regional supervisor, has mobilized the men under all the five reforestation projects in the subprovinces of Benguet and Bontoc to conduct their own fire prevention drive.

Andres said that unless the pine plantations which had caused the national government a big sum of money to put up and maintain all through the years, are adequately protected all efforts exerted and the money invested would go up in smoke.

*The Manila Times* — Nov. 7, 1961

#### LOCAL FORESTRY RESEARCH LAGS

The Philippines is lagging in scientific forest development, a Filipino reforestation expert said upon his arrival last week from an observation trip through Malaya, New Zealand and Australia.

Feliciano S. Esmalde, head of the tree-farm division of Nasipit Lumber Co., spent two months observing the latest trends in silviculture operations in those countries.

Development of permanent tree farms in turn will assure the country of perpetual sources of raw materials for wood products, pulp and paper, plastics and other by-products of cellulose, Esmalde said.

These industries would well solve a big slice of the country's economic problems, he added.

Esmalde said he noticed that there are certain species of fast-growing trees in Malayan research tree farms that have been found suitable for the tropical climate. He said he would test this species — *Araucarie cunningham* — at the Nasipit tree farm up the Agusan river area..

Esmalde was sent by his firm to learn the latest techniques in tree-farm management preparatory to the launching of an extensive reforestation and afforestation project of that company. He said NALCO plans to develop 300 hectares this year and gradually increase this hectareage until some 10,000 hectares are developed.

This tree farm project will be the source of pulp for the projected pulp and paper plant at Nasipit. The integrated Nasipit operation of NALCO and its sister corporation now includes the manufacture of Lawanit hard-board, kiln-dried timber and various pre-finished wooden construction materials.

*The Sunday Times* — Nov. 5, 1961

#### COPAL SMUGGLING TO BORNEO EYED

Puerto Princesa, Palawan, Nov. 1 — District Forester Buenaventura Rodrigo left anew for the southwestern sector of this province to verify reports of smuggling of almaciga to Borneo from this province.

Rodrigo had earlier received confidential information that Muslim traders have been smuggling almaciga to Borneo since the price there is higher than in Manila.

The commercial name of almaciga is Manila copal or gum copal.

The smuggling of almaciga and copra to Borneo is causing a big drain from the country's revenues.

It is suspected that some traders are conniving with customs officials here as well as PC officers and enlisted men.

Rodrigo's move has been hailed by people in this province who have long been witnessing rampant smuggling under the very noses of the authorities concerned.

Reliable sources averred that some officials are promoting smuggling to Borneo by giving Muslim traders protection.

*The Manila Times* — Nov. 2, 1961

#### SCOUTS LAUNCH TREE- PLANTING CAMPAIGN

Malaybalay, Bukidnon, Nov. 22 — The reforestation program in this province has received a big boost with a tree-planting drive launched by local boy scouts.

Edilberto Mamawag, local scout executive, said that some 300,000 trees are expected to be planted all over the province by the end of December.

Participating in the tree-planting drive are boy scouts from the different schools in Malaybalay.

*The Manila Times* — Nov. 23, 1961

#### FOREST GUARDS

Baguio City, Nov. 22 — The Baguio City forestry council completed its program of protection of the watersheds of this city from illegal cutting and forest fires so as to insure a steady supply of water for the city.

The program was drawn up and approved during the meeting of the forestry council last Friday at the office of Mayor Luis L. Lardizabal, council chairman.

As approved, the city watersheds will be guarded by six men, who will be selected in a competitive test to be given by the forestry council. The watershed guards will be provided with uniforms and sidearms.

The guards will have quarters in their respective areas to be protected by them. Each guard will also be equipped with a walkie-talkie for purposes of quick communication in case of fire.

Capt. Carlos Joaquin, Benguet PC commander, has offered to prepare a security plan for the watersheds, based on the map of the watershed areas, which he had requested from the forestry council.

*The Manila Times* — Nov. 23, 1961

#### NEW FORESTRY OFFICE URGED

Baguio, Oct. 31 — The creation of a department, which will take adequate care of the protection and maintenance of the city forest has been proposed by Councilor Jose S. Florencio, council vice chairman.

The proposal, if approved, would abolish the office of the city forester, and in it instead create the department of city forests and watersheds, which will be headed by a superintendent.

The proposed new city department would operate independently from the office of the

district forester, who under the present set-up is also the city forester.

The explanatory note accompanying the proposed ordinance states that as far back as a quarter of century ago or more, the protection and maintenance of the pine forests within the Baguio Townsite Reservation has been a joint venture of the city government and the bureau of forestry who by tradition or practice, is the ex-officio city forester.

This proposal would also seek to correct this seemingly anomalous situation by converting the office of the city forester into a regular city department, which shall be called department of city forests and watersheds.

Since the main attraction in the city as a tourist resort is the pine forest, its protection and maintenance would enhance the city's prestige as a vacation spot, thus promoting tourist trade.

Some 40 city-paid employees and workers under the office of the city forester will be absorbed by the new department.

*The Manila Times — Nov. 1, 1961*

## JAPAN CONTROL OF PLYWOOD TRADE HIT

Industry Undersecretary Jovito A. Rivera Thursday stressed the need for a more aggressive foreign trade program to win away from Japan the control of the lumber export to the United States.

Rivera keynoted the three-day management conference of the Sta. Clara Lumber Co., Inc. participated in by all branch managers of the firm in conjunction with the inauguration of its new office building.

Rivera deplored the fact that Japan is the biggest exporter of plywood to the United States with 810.9 million square feet as against the Philippines' 213.5 million square feet. He pointed out that Japan imports around 78 per cent of her raw materials for plywood manufacture from the Philippines.

The undersecretary said the greatest concern of the Philippines today is industrialization.

"Now moving into its own industrial epoch," Rivera stressed, "our country has utilized and adopted sound management techniques at even more effective level."

Rivera said a sound management-employee relation is a vital factor in industrial progress.

"Captains of industry have now found that it is highly desirable to join forces with junior executives, supervisors, and foremen in a con-

certed effort to make each individual, from the company president or general manager to the humble office boy, contribute his best toward the promotion of the morale and productivity of the entire organization," he said.

Various scientific studies has it, Rivera said, that a face-to-face relation between management and labor and among the workers themselves in an industrial plant is a prime importance in stepping up productivity.

They have come to recognize that modern industrial management is founded on strong social and psychological needs that motivate men and women as people as well as workers, he added.

"Today, alert managers and presidents have seen that a human relation approach to supervision is desirable," Rivera said, "and with his approach the supervisor is no hypocritical of his subordinates but only interested in their personal work, and problems."

Rivera said the country's industrial leaders should further realize that the superficial exploitation of our rich natural resources is to a great extent traceable not to lack of adequate capital and technique know-how but also to the need of management techniques.

Before the group of lumbermen, Rivera cited the important contribution of the lumber industry to the national economy. He said that total investments in the industry alone amounts to around ₱303.5 million while an estimated 80,000 people with about 500,000 dependents depend on the industry.

Being an integral part of Philippine industrialization, Rivera said, the lumber industry goes directly to the sources of raw material of which the country is bountiful thus creating jobs in the rural areas and providing therefore new sources of income for our people.

Enjoining lumber people to embark on a more aggressive foreign trade promotion program, Rivera suggested that best foreign trade promotion men of the industry must be sent abroad to undertake a closer evaluation of the needs and problems of importers and consumers as a means to insure a higher level of sales of our lumber products abroad.

Rivera asked Filipino businessmen to take advantages of the benefits of Republic Act No. 3127, known as the Basic Industries Act, which is primarily designed "to encourage the establishments of basic industries through the grant of tax exemptions directed at accelerating the pace of the economic and social development of our country."

*The Manila Times — Nov. 25, 1961*

## PI LUMBER TRADE IN IH MAGAZINE

The lumber industry in Mindanao was recently featured in the world-wide edition of the International Harvester Co. Publication.

Entitled "143,000 acres of Philippine Forest", the article cites how lumbermen in Mindanao operate their large concession with mechanized units.

Part of the article said:

"One of the Philippine's largest lumber concessions, deep in the dense rain-forests of the Island of Mindanao, is served by a hardworking fleet of International Harvester tractors and trucks. The logging operations of Alcantara and Sons began in 1954 with one International TD-18 Crawler tractor (still in daily use) and has grown into one of the nation's leading industries. Twenty-eight US and British-made International Crawlers fell giant trees, grade roads and drag logs through rugged jungle, 60 per cent of which had once been declared unfit for development.

"International trucks work around the clock over a network of roads bulldozed through the forest, connecting the timber areas with logging camps, some over 13 miles away, and with inland waterways where the logs are floated to distant sawmills. Lumber will soon be sent to a new veneer and plywood plant being constructed by Alcantara at Davao, Mindanao, where 6,000 panels per day will be produced for export, largely to American and European markets."

*The Sunday Times* — November 12, 1961

## PULP, PAPER PLANT NEARS COMPLETION

The plant of the Bataan Pulp & Paper Mills, Inc., located in Samal, Bataan, is fast nearing completion and will soon, be operational, it was announced by Vicente A. Rufino, board chairman, in a recent progress report to stockholders.

According to Rufino, the administration building, paper mill, pulp mill, warehouse, boiler house, several staff houses, chlorine plant, and water cooling tower have been completed, while construction work on the following items is continuing with steady progress: water supply pool, effluent disposal works, roadworks and laboratory building.

Rufino also reported the arrival of essential equipment and machinery from Europe and US, including pulp mill, paper machine, refining equipment, and the latest electronic devices.

Capitalized at ₱15 million, the Bataan Pulp and Paper Mill, Inc. will operate the first in-

tegrated bamboo pulp and paper mill in the Philippines. Financial assistance was granted the project by US Development Loan Fund.

Alexander A. Adamson, vice president and general manager, went abroad recently and in the course of his trip made valuable contacts in Europe and US. In Europe, he visited the plants of suppliers, while in Washington, D.C. he conferred with officials of US Development Loan Fund and acquainted them with first-hand information regarding the status of the project.

*The Manila Times* — Sept. 30, 1961

## NAWASA ASKS LOGGERS TO TRANSFER OPERATIONS

BUTUAN CITY, Sept. 14 — Joaquin Eudin, NAWASA representative and chief of the city waterworks system, yesterday renewed his appeal to logging operators in barrio Bonbon for their cooperation in protecting the health of city residents.

Logging operations are carried on above the dam, only source of drinking water of this city.

According to Eudin, the logging operators are logging and dumping their logs just a few kilometers upstream of the dam, dirtying the stream. Eudin said that this was discovered when the personnel of his office surveyed the place to satisfy the complaints of the residents.

Eudin sought the assistance of the city mayor to request the loggers not to dump their logs upstream to safeguard public health. He has received an opinion from Valeriano Ninibla. NAWASA is authorized to safeguard the sanitary conditions of water supply for public consumption of municipalities and cities. Ninibla also authorized the local NAWASA office to bring the matter to PC and police authorities in stopping the loggers from polluting the water source of the dam.

*The Manila Chronicle* — Sept. 15, 1961

## PAGSANJAN'S NATURAL TOURIST ATTRACTION CITED BY EXPERTS

Pagsanjan, Laguna, Nov. 16 — Pagsanjan has the resources, the tradition and the potentials to convert itself into a garden community and a major attraction in itself to domestic and foreign visitors and vacationers, outside of shooting the rapids and viewing the falls.

This was brought to the attention of the teachers of the Benitez Memorial School by Federico Mangahas and Benedicto C. Leaño, officers of the UP Garden Club and members

of the national council on community beautification when they recently visited the town to see the landscaping of the rolling school site under the leadership of Saturnino de Leon, principal.

The ground covering a good part of a hill in the heart of the town are a veritable park heavily wooded with ancient and young trees, both fruit-bearing and ornamental.

*The Manila Times* — Nov. 17, 1961

#### LUMBEMEN HAIL PELAEZ' PLAN

Vice President-elect Emmanuel Pelaez' proposal to convert Philippine foreign missions abroad into functional promoters of Philippine exports was hailed by the Philippine Lumber Producers Association board of directors Saturday.

Antonio de las Alas, president of PLPA, said this proposal of the in-coming secretary of foreign affairs should help expand the export industries, including the forest products, and thus help develop the country's economy.

*The Manila Times* — Nov. 30, 1961

#### LOG STACKER BOOSTS LUMBER PRODUCTION

An improve series FJ log stacker with electric powered tusk extensions has recently been introduced by R. G. LeTourneau, Inc., of Longview, Texas, according to reports received by Smith, Bell and Company Philippines, Inc., local representatives.

Introduced in 1957 where it was used to unload off-highway trucks in bites up to 22 tons, the electric wheel unit has undergone several electrical and structural design improvements that now give it a 25 ton lift capacity.

The electrically controlled and powered tusk extensions act like a giant hand as it unloads and sorts logs by length and species.

All structural components of the new Series FJ Log Stackers are built from heavy nickel-chrome alloy steel to give added strength. The mast structure has been reinforced and the car structure has a new wrap-around design. Larger main and side thrust rollers which are added to the car give smoother lift and longer service life.

According to the report, a completely enclosed all-weather cab with no-glare picture window visibility and heavy duty windshield wipers is now being used. Inside the cab, a swivel-type control panel and air cushioned seat unit permits the operator to turn and face the direction he desires to travel.

Other improvements include demountable tusks. An independently operated cable kicker that removes all the logs from the forks is now also available. Easier access to all functional components is afforded by conveniently placed ladders, steps and handholds.

The LeTourneau FJ Log Stackers are powered by a rugged Cummins Diesel Engine of 275 H.P. driving electric generators.

*The Manila Times* — Nov. 25, 1961

#### JAPANESE LOG IMPORTS HIKED

Tokyo, Nov. 25 — Japan's lumber imports totaled about ₱195 million during the first 10 months of this year, according to estimates of the ministry of agriculture and forestry.

This is an increase of about 41 per cent over the corresponding period last year.

The increase in lumber imports has created a storage problem in most of the nations ports.

*The Manila Times* — Nov. 25, 1961

#### TRANSPLANT TREES DURING RAINY DAYS

The transplanting of big trees should be done at the beginning of the rainy season to insure the continuous life of the tree, this was emphasized by specialist of the bureau of agricultural extension at Diliman, Quezon City.

The specialist emphasized the proper preparation of the tree to be transplanted. Care must be taken in the transportation and planting of the trees, the expert said. They recommend that the trees to be transplanted must be first balled. This is done by digging the soil around the roots of the tree. The size of the ball varies according to the size of the tree. Usually a one foot wide ball is dug for every inch of the diameter of the tree.

The ball is then kept together by wrapping it with a jute sack. The jute also keeps the soil from drying thus insuring continuous moisture for the tree.

Bureau specialist advised great care in the preparation of the hole for planting the tree.

The hole should be dug 12 inches deeper than the size of the ball. A few inches of top soil placed at the bottom before the tree is planted is recommended.

Planting is then made by placing the balled tree gently to the hole. This is covered by top soil. Even if the soil is moist, watering the newly planted tree is advisable.

*The Sunday Times* — Nov. 19, 1961

## COMMUNIST CHINA IS SHORT OF PAPER

Hongkong—(AP)—Paper-short Communist China is currently conducting a nation-wide campaign in the search of waste paper, rags, odd scraps of lumber and anything else that may be converted into paper.

Government authorities have been publicizing the campaign extensively.

The official Ta-Kung Pao in Peiping said paper mills representatives have been dispatched to government organs, public offices, factories and mines to negotiate regular supplies of this waste materials.

With the help of city dwellers, the paper said, one paper mill in Chungking received more than 7,000 tons of materials of this type during the first six month of this year.

"Fifty percent of the raw materials used by this mill during the period was obtained

from urban districts," it said.

Peiping apparently intended to depend to a large extent on waste material to feed its paper mills. New machines have been installed in paper factories and mill workers are being taught new technical processes to handle the change.

The communist have also started a "book borrowing" drive to help solve the paper shortage.

The People's Daily has been cut from eight pages to four twice a week and the Red Flag semi-monthly frequently appear once a month.

Some observers blame the paper shortage in China on uncoordinated government policies. The Chinese Communist pointed out last year, however, the demand for paper would increase as literary spread and the need for text books rises.

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## *Light and shadow*

# Our sense of values

By ALFREDO R. ROCES

The events in the Davao disaster point out a simple fact. The problem of the nation is not basically economic as many contend. Our problem is morals. Our sense of values has been turned inside out, and with it our common sense.

\* \* \*

While it is true that the economy is very shaky and that the people are in need of many of the basic material wants in life, it is also true that our morals have suffered an equal bankruptcy, and the people are in need of the basic values of life. To introduce economic measures and aids, one has to presume that the persons who will carry out these measures have high moral values. The best theories of economics and the biggest dollar grants will not help the country as long as there is no moral standard. The stabilization of morals must come before the stabilization of dollars.

\* \* \*

The tragic part in the Davao flood is not that nature was cruel or that man did not have the economic facilities to prosper with nature's resources; it was that man made use of bountiful nature, economic theories, technological experts, and financial aid for selfish ends. The logging business was giving the country dollars. But then one wise guy, followed by many other wise guys, started cutting more trees than he should. He was

making money and nobody was looking, why should he bother about the reforestation program?

\* \* \*

The cause of the Davao floods was deforestation. It was not done because of dire economic needs but because of greed. Now the proposal to save Davao will be economic aid which is very good. Economic aid is now a vital need for survival. This proposed aid has been withheld because of a battle over who will get the credit for such a magnanimous act. The wet and drowning voters of Davao must know who the brilliant fellow who thought of helping them is.

\* \* \*

To pass a relief measure without debate a congressman moved to suspend the rules of the House and approve a ₱2-million aid. Representative Ismael L. Veloso charged a Malacañang plot to "make political capital out of the misery of the people of his area." Representative Veloso had a similar measure seeking to give aid to the victims. Veloso was purported to have said with righteous indignation: "I would rather the people of Davao do not receive a single centavo than allow this insult to pass."

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Is our national problem basically economic or is it—painful to say—a lack of proper values?



# R. A. Notes

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## I SHALL FIGHT FOR FOREST CONSERVATION AND REFORESTATION — SOLIVEN

"I shall fight for forest conservation and reforestation."

Thus Maximo V. Soliven, publisher of the "Evening News" pledged during the monthly convocation of the Reforestation Administration held at the DANR building, Diliman, Quezon City, recently.

Speaking before personnel and guests of the Reforestation Administration, the eldest son of the Ilocos Sur Assemblyman, Benito T. Soliven, revealed that he consistently pushed the cause of reforestation while still a reporter covering the National Economic Council. However, his propositions were all shelved because moneyed interests somehow managed to kill them. "With newly acquired forest statistics and facts as my most effective weapons, I will venture to call the attention of the powers-that-be on the urgent need of replenishing our deforested areas," he said.

Turning his attack on the administration of government affairs, the one-time TOYM awardee for the "most outstanding young man in journalism" lambasted politicians whose proteges infest all agencies of the government. If government entities are presently in a rut, it is because of the political proteges who do not know their jobs. In some cases, plenty of brilliant men are yanked out of the government service simply because they had no political backers, according to him.

Soliven singled out the case of numerous government PRO's who do not know their business. These people become liabilities instead of assets and the government agencies they are serving become the least known for lack of experienced hands to sell their activities to the critical public, he said. He urged the eradication of political intrigues inside any government agency so that it could function smoothly and efficiently. Political interference will only drive the good men out and force the dumb fellows in, according to him.

In closing the affair, Administrator Jose Viado said he hoped the "News" publisher will have a feel of the tremendous job his office is

undertaking. "Ours is a good cause and it will thus find supporters not only in Mr. Soliven but also in our countrymen who abhor the terrible effects of deforestation such as floods, erosions, famine, droughts and many other ills, he said. These people will take up the cudgels for us because they realize that ours is a problem that must be solved at once if the Philippines is to survive economically," he concluded.

The Reforestation Management Division which handled the successful affair had for its participants, Mrs. Juliana A. Afos conducting the mass singing of the national anthem, Mrs. Lolita Baluyot leading the pledge to the flag, and Mesdames Trinidad Aggabao and Juliana A. Afos rendering a vocal duet entitled "The Love I Bear For You."

Atty. Rosario T. Jaramillo, chief of the Legal Staff, introduced the guest speaker while Forester Paciano Rimando, chief of the sponsoring division, gave the opening remarks. The program was emceed by Chief Regulo D. Bala of the Public Cooperation Section.  
Reforestation Newsletter  
Vol. I No. 8, October, 1961

## REFORESTATION TROUBLES CITED

The reforestation work of the government is meeting all kinds of difficulties from the public because they lack the education and information necessary to make them appreciate and conscious of the values of a forest.

This was the gist of the talk given by Administrator Viado during the recent meeting of the Department of Agriculture and Natural Resources Information Council (DANRIC) held at the DANR Library. Administrator Viado was the guest speaker of the DANRIC composed of information officers of the bureaus, corporations and offices under the DANR.

The Administrator dwelt on what his office has so far done in its reforestation extension work. He said that aside from consistently feeding the press with releases and stories designed to popularize the reforestation work of the government, his agency has already embarked on the publication of technical and po-

pular materials for public and private entities. The purpose behind this undertaking is to encourage the people to plant more trees. An example, he said, is the cooperative planting undertaken at the barren areas at the vicinity of Baguio City in which the Parent-Teachers Association and the pupils of Tuding and Bua Elementary Schools worked hand in hand with the field personnel of his office. Cooperative plantings like those help generate the interest of the people to the value of the forest. Lectures are made before excursionists and other visitors by reforestation personnel whenever possible because the people must be told that whereas in other countries trees are grown in 80 years, the same size can be raised here in less than 12 years. Bits of information like this made them know more about the trees, hence, their appreciative attitude towards our reforestation work. Our countrymen must also be informed on what to expect when denuded areas continue to multiply, according to him.

Administrator Viado concluded his talk by appealing to the DANRIC members to help his office in eradicating forest violations thru proper education and information of the people especially those in the remote areas. As a potent group, the DANRIC can do a lot to help in the promotion of the cause of reforestation, he said.

Reforestation Newsletter  
Vol. I No. 8 — October 1961

#### DEFORESTATION ENDANGERS AMBUK-LAO DAM OPERATION

Reforestation administration officials have warned that the Binga-Ambuklao hydro-electric dam would be rendered useless after 20 years unless the watersheds in the area are reforested.

Jose Viado reforestation administrator, said the giant electric complex which supply power for Manila and some provinces in Central Luzon is now in danger of steadily losing its maximum capacity due to silt and debris in the waterways caused by destruction of the forest areas.

He called for active government and public support to restore the watersheds that affect the power sources of the huge electric project.

Viado also announced that the Boy Scouts of the Philippines has launched a reforestation program for 1962. Some 230,000 boy scouts will participate in the plant-a-tree scheme.

Sunday Times, January 7, 1962

#### ASK COOPERATION OF LOGGERS IN REFORESTATION PROGRAM

Speaking before the inhabitants of Arayat, Pampanga during the inauguration of a new office building for the Arayat Reforestation Project recently, Administrator Viado enjoined lumber firms to cooperate with the government in hastening reforestation in the Philippines. He said that lumbermen opposed to hiked forest charges and reforestation fees do not know that the Philippines forest users now pay the lowest charges in the whole world.

The Administrator disagreed with the lumber groups' claim that they are losing or are not gaining much. He reasoned out that lumber companies pay their employees even at a much higher rate than does the government.

He said the average forest fee that the lumberman pays to the government is only about ₱1.50 per cubic meter compared to about \$20.00 that other nations impose on their forest users for the same volume.

According to the Administrator, the Arayat Mountain as well as those barren areas scattered all over the country can still be converted into potential forests from which more timber and other forest products may be drawn. A successfully reforested area will not only minimize cogonal lands but may also serve as a tourist spot.

Dwelling on land use management, Administrator Viado stated that a prolific agriculture needs forest to prevent soil erosion from hillsides, to provide water for irrigation and domestic use and to temper the climate.

Reforestation Newsletter

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October, 1961

#### TIMESMAN WARNS ON DEFORESTATION

Jose P. Bautista, Editor of the Manila Times was the guest speaker during the monthly convocation of the Reforestation Administration personnel at the DANR building in Diliman, Quezon City last October 2. He talked on the role of the press in stopping forest destruction. He also urged the press to cooperate with the campaign of the reforestation agency in educating the people to conserve the forest areas in their region.

Thanking Mr. Bautista for his interest in the reforestation campaign, Administrator Viado said that the restoration of the country's lost forest vegetation cannot but succeed if fully supported by the press.

Reforestation Newsletter

Vol. I No. 8  
October, 1961

## REFORESTATION: THE NEED OF THE TIMES

by Carlos Cunanan\*

A little over a year ago, the President of the Philippines signed into law Republic Act No. 2706 creating an office which now stands as a symbol of the people's growing concern over the country's rapidly vanishing forests—the Reforestation Administration.

This new-born agency under the Department of Agriculture and Natural Resources formally seceded from the Bureau of Forestry to embrace the sole responsibility of reclaiming the country's vast deforested and open lands estimated at 1.4 million hectares.

Presently headed by Forester Jose Viado who hold the official title of Administrator, the newest addition to the DANR family of bureaus, offices, and corporations has a complement of 691 permanent officials, employees and laborers and about 10,000 emergency laborers. Around a hundred of these permanent civil servants are temporarily housed at the DANR building at Diliman, Quezon City; the rest are distributed among the 58 reforestation projects which are scattered throughout the Philippines.

In the pursuit of its objectives, the former Reclamation and Reforestation Division of the forestry bureau has to reckon principally with the reforestation of critical watersheds which are sources of rivers for hydro-electric power, irrigation, waterworks system, and domestic use.

Significantly, out of the 1.4 million hectares that the government has slated to be urgently under forest cover, a total of 66,073.00 hectares have already been restored to 136,437,370 living trees. Approximately 12,000 hectares of these established plantations were reforested within the agency's maiden year as an independent office. This last figure, it must be carefully pointed out, represents only one-third of the area that is being deforested every year. So that, comparatively speaking, one sees quite shockingly that in the race between forest destruction and forest conservation, the former is pacing the latter by an incredibly wide margin.

But in the face of this gloomy situation of Philippine forestry, the Reforestation Administration is unflinching in its fight against the odds. At present, the agency has a five-year reforestation plan. The scheme calls for the im-

mediate planting of forest trees on the critically denuded areas at the rate of 25,000 hectares or more per annum within a period of five years. This remedy is effective, no doubt about it, but to implement it warrants a more generous financial help from the government. Otherwise, the program remains on the blueprint while the nation gazes desperately at the mounting pace of forest denudation. Nevertheless, hopes are high that, come the day Congress tackles all annual outlays, the country's respectable solons will discover in the plan the most reasonable and the noblest of intentions which will provide them with the strongest motivations to say 'yes' in unison.

Meanwhile, the Reforestation Administration has likewise decided to intensify its public relations and forestry education campaign to minimize the increase of kaingineros, illegal loggers, squatters, incendiaries, and other enemies of the forests. It was no less than Administrator Viado who, in one of the agency's monthly convocations, appealed to his personnel to try their best in doing good and in getting along with all individuals. The critical eyes of the public are now focused upon our infant office so that, whether we like it or not, we must cultivate mutual understanding, mutual confidence, and mutual respect. If we fail to do these, we will not get cooperation, we will not progress, he warned.

One sound way of achieving this end concerns the relocation of the office buildings of some reforestation projects from the hinterlands to ideal sites along national highways. These establishments shall then serve as show-windows where townspeople shall have better access to their facilities and where interested parties can avail of the services of the foresters. From the standpoint of public relations, this step will promote goodwill, will create more friends and sympathizers of reforestation.

Noteworthy also are two particular sections of the Reforestation Administration which are to a great extent helping the agency in its public relations program — the Public Cooperation Section and the Private Cooperation Section. These units assist public and private sectors in their reforestation and other tree-planting activities. One big project in which the Public Cooperation Section played a major role was the launching of the "Operations Reforestation" in Ilocos Norte in May, 1961. In that province wide cooperative undertaking

*(Continued on page 90)*

\* Forester Carlos Cunanan is the Acting Deputy Administrator of the Reforestation Administration.

# • Sunshine Corner •

## MERRY CHRISTMAS

A class in wood preservation greeted their professor while he entered the room: "Merry Christmas, sir!"

The professor smiled back: "After the test."

\* \* \* \* \*

## LECTURE NOTE

A young lady instructor in organic chemistry was busy writing chemical formulas on the blackboard, so much so that she had no time to stop the noise at the back row.

Finished with the formula, she wrote in big bold letters across the blackboard, the words: "SILENCE PLEASE!"

A serious-looking forestry student stood up and asked: "Madam, are we going to copy that, too?"

\* \* \* \* \*

## EXCEPTION

During one of the regular FSBO meeting, there was a heated discussion, as to whether or not freshmen should be allowed to vote in SBO election.

A freshman who looked like a senior stood up and addressed the Chair: "How about old freshmen?"

\* \* \* \* \*

## "HUMOR IN UNIFORM"

An old returning B. F. pensionado was required to finish the basic ROTC course. He went to the supply room to buy a military cap, and while fitting one of them, a young advanced cadet asked him: "Sir, is that for you, or for your son?"

\* \* \* \* \*

## PALM IDENTIFICATION

Two American visitors asked a forestry student: "Young man, do you know where we can find the Tamesis palm?"

The young man answered: "Yes, sir. Follow me and I will show you the way." And he proudly showed the Americans the Tamesis palm, barely two feet high, at the palmetum grove.

"How did you know that this is the Tamesis palm?" Asked one of the Americans.

The young man answered: "By location, sir. I am a dendrology student in this College."

\* \* \* \* \*

## INFORMATION PLEASE

A medical student from UST was walking at the Palma bridge going up to Forestry. He met a forestry boy and curious to know the

road going to the forestry campus, the coed asked politely: "From where are you?"

*Forestry boy:* "College of Forestry, U.P."

*Coed:* "Are you a frat member?"

*Forestry boy:* "Yes."

*Coed:* "What fraternity?"

*Forestry boy:* "I am a Knight of Dirt."

*Coed:* "What do you mean?"

*Forestry boy:* I am in plain language — the College janitor."

\* \* \* \* \*

## DEFINITION

In a Silviculture class, a professor was discussing the difference between the subject of Silvics and Silviculture. Finally he came to the conclusion that Silviculture primarily deals with the question "How", whereas Silvics deals with the question "Why." Noticing that the students were a little bit confused on the brief differentiation, the professor asked: "Why are the trees at the top of Mount Makiling shrubby? "You, there!" And he pointed to a sleepy student at the corner of the room.

The student answered: "that is Silvics, sir."

\* \* \* \* \*

## PARDON ME

A fresh ranger graduate from the College of Forestry, U.P., was immediately assigned as an Officer in Charge of a Scaling Station. Fond of wearing shorts, the young forest officer paid his first official call on the manager of a lumber company, under his jurisdiction.

Thinking that the visitor was a mere high school student, peddling tickets, the lumberman remarked: "Boy, tickets again?"

The young ranger introduced himself: "I am Ranger Paragas, incoming Officer in Charge."

The company boss apologized.

\* \* \* \* \*

During a bad electrical storm the mother thought her young son would be frightened, so she tip-toed into his room to comfort him. The boy opened his eyes and mumbled, "What's daddy doing with the television set now?"

\* \* \* \* \*

A young man had just met the father of his favorite girl friend. "The young man who marries my daughter will get a prize," boasted the proud parent.

There was a pause, and then the young man said: "May I see it?"



OFFICE OF THE PRESIDENT  
OF THE PHILIPPINES

MEMORANDUM CIRCULAR NO. 30  
ENJOINING AGAINST THE CONTINU-  
ANCE IN THE SERVICE OF OFFICIALS  
AND EMPLOYEES BEYOND THE DUE  
DATE OF THEIR AUTOMATIC AND COM-  
PULSORY RETIREMENT.

WHEREAS, Section 12(e) of Common-wealth Act No. 186, as further amended by Republic Act No. 3096 approved on June 17, 1961 no longer contains the provision empowering the President of the Philippines, the President of the Senate, the Speaker of the House of Representatives, and the Chief Justice of the Supreme Court to continue an employee in the service in the Executive, Legislative or Judicial Branch of the Government, as the case may be, after reaching the automatic and compulsory retirement age of 65 years.

WHEREFORE, heads of departments and chiefs of bureaus and offices, including provincial, municipal, and city governments and corporations owned or controlled by the Government, are hereby enjoined not to allow any of the officials and employees under them to continue in the service beyond the date he becomes due for automatic and compulsory retirement pursuant to the provisions of the aforementioned Section 12(e) of Commonwealth Act No. 186, as amended. Particular attention is invited to the last portion of the said Section which provides that "it shall be the duty of the employer concerned to notify each such employee under its direction of the date of his automatic separation from the service at least sixty days in advance thereof." It is, therefore, hereby directed that this legal duty be strictly complied with, otherwise the said heads of departments and chiefs of bureaus and offices, including provincial, municipal, and city governments and corporations owned or controlled by the Government, shall be held personally responsible for the salaries that may be paid to officials and employees under their direction for service rendered beyond the due date of their automatic separation from the service.

Extreme caution should, however, be exercised in giving instructions for the separation of any government officials and employees so that only those who are compulsorily retireable under the law should be so separated. The following conditions and requirements prescribed by law should be considered.

1. Only members of the Government Service Insurance System are subject to automatic and compulsory separation from the service upon meeting the conditions and requirements therefor. Those holding regular and permanent appointments are, under the law, automatically members of the System and may be automatically and compulsorily retired even if they have not yet been issued the corresponding GSIS policies.

2. Those who have less than fifteen (15) years of creditable service may not be separated even if they have already attained the age of 65 years. They are entitled to remain in the service until they complete the minimum requirement of fifteen (15) years of service.

3. The last three (3) years of service prior to retirement must be continuous. Hence, an employee who does not meet this requirement may not be automatically separated even if he has attained the age of 65 years with more than fifteen years of service.

4. Temporary, casual, and emergency employees are not compulsory members of the Government Service Insurance System and as such are not subject to compulsory separation even if they are already 65 years of age or over. Their continuance in the service depends on the appointing official concerned.

In order to preclude illegal extension or premature separation from the service for insufficiency of records, it is hereby further directed that the files and records of personnel, particularly as to their correct dates of birth and number of years in the government service, be made up-to-date. Incompleteness of records will not be recognized as a valid excuse for the continuance in the service of an official or employee beyond the due date of his automatic and compulsory separation from the service.

In this connection, all appointing officials concerned are hereby reminded of the provision of Section 6 of Republic Act No. 728, also amending Commonwealth Act. No. 186, that "no person shall be appointed or reinstated in the service if he is already 57 years of age, unless the President of the Philippines x x x determines that he possesses special qualifications and his services are needed." Particular attention is invited to the requirements that only persons who possess special qualifications and whose services are needed may be appointed under the aforementioned provision of law, and that the prior approval thereof by the President is necessary before such persons can be issued appointments.

Those concerned should be guided accordingly.

Manila, September 15, 1961.

By authority of the President:  
(SGD.) EDILBERTO S. GALLARES  
Assistant Executive Secretary

Republic of the Philippines  
Department of Agriculture and Natural Resources  
REFORESTATION ADMINISTRATION  
Western Albay Forest Subsidiary Nursery  
Malacbalac, Guinobatan, Albay  
R-III, Z-Forestry Leaves December 6, 1961  
The Editor in Chief  
The Forestry Leaves  
University of the Philippines  
College of Forestry  
College, Iaguna  
Sir:

Your Forestry Leaves Arbor Week issue for 1961, Volume XIII Number I is indeed a very good reference and reading material. But it was observed that among the organ spaces allotted for the different forestry offices notes, only the Parks and Wildlife Office has no space in your said forestry issue.

It is therefore suggested that the PWO be given space in our organ so all the sister bureaus and offices will be represented properly. It is also suggested that the official seal of each offices be printed in the space of each office notes like that of the B.F. notes, for beauty and arrangement.

It is hoped that for the coming issues the Campus Notes will have the College of Forestry zeal and likewise the others.

Very truly yours,  
(SGD.) TOMAS M. BINUA  
Forester In Charge

(NOTE:— We had asked the PWO to contribute articles for the Forestry Leaves but have not received any except the article of Dr. Vicente dela Cruz, which was read at the World Congress at Seattle, Washington. We would be glad to receive more contributions—EDITOR).

Republic of the Philippines  
Department of Agriculture and Natural Resources  
REFORESTATION ADMINISTRATION  
Diliman, Quezon City  
P. O. Box 2363, Manila

Personnel  
Pascual, L. G. December 14, 1961  
Mrs. Leticia G. Pascual  
Records Section, ASD  
Reforestation Administration  
Diliman, Quezon City  
Dear Mrs. Pascual,

You are hereby commended for your timely detection of a double salary payment to Mr. Estanislao Villanueva for the month of November, 1961. Were it not for your systematic indexing, the error could have passed unnoticed, just as it was undetected both in the Accounting and Auditor's Office.

Keep up the good work and may this commendatory letter serve as a source of inspiration for all other personnel to emulate in performing their jobs with dedication and devotion.

Very truly yours,  
(Sgd.) JOSE VIADO  
Administrator

Republic of the Philippines  
Department of Agriculture and Natural Resources  
BUREAU OF FORESTRY  
Forest District Headquarters  
Dipolog  
Zamboanga del Norte  
D-42, Publication December 1, 1961  
The Business Manager  
Forestry Leaves  
College of Forestry  
College, Laguna  
Sir:

May I request the publication in the Forestry Leaves, the enclosed picture with the following caption:

"Regional Director Jose R. Claveria with B.F. District 42 personnel and Timber Licensees in a "Round Table" Conference

(Continued on page 88)

## MODERN PRACTICAL . . .

(Continued from page 34)

A daily worker earning ₱4.00 a day can collect only 2-3 gantas of ipil-ipil seeds a day, but if purchased, this will cost only ₱1.50.

### 1. *Wildlings:*

There are projects with areas included in their administration that are still forested, and in old projects there are established forest plantations that are already reproducing. If the planting stocks of a project are not enough for the areas to be planted during a planting season, wildlings or natural reproductions can be purchased from persons living near the forested areas. It is cheaper to buy wildlings if there is an abundant supply of them in the locality than in raising them.

Wildlings must be purchased from persons who have experience in planting forest tree seedlings or from former project workers who are residing near the forest areas so as to be sure that the collection and preparation of wildlings had been properly done.

## II — *Practical Techniques:*

### 1. *Stump planting:*

Some important species that can be planted by stump method are teak, narra and mahogany. A man planting stumped seedlings can finish from 350 to 400 a day in rough terrain, but in rolling and not too brushy areas he can plant as many as 500 seedlings a day.

A pending study by Sr. Research Forester Marcelino M. Maun and the writer proved that Teak planted by stumped method produced a stand with volume twice that of teak planted as whole seedlings. Also a matured teak tree planted by the stump method is straight, with higher clear length, thinner bark, fewer branches and a smaller canopy.

*One man can carry more stumped seedlings of teak from the nursery to the planta-*

*tions and the percent survival in the field is very high reaching almost 100 per cent.*

### 2. *Construction of seed beds direct in the plantations:*

On rolling cogonal areas, wider and longer seed beds are prepared one month before the beginning of the rainy season. As soon as the ground is wet, selected and viable seeds are sown in the prepared beds at a distance of 10 centimeters between holes and only one seed is sown per hole. The seedlings in the beds are then left to nature's care.

For the next rainy season the seedlings will then be ready for planting and the seedlings that are within the distance of 2 meters by 2 meters are left in the beds to grow into trees. The other seedlings that are out of place are then pulled and planted bare root in the immediate area. *The seedlings raised in this method were observed to be very hardy and the percentage of survival in planting is also high.*

The maintenance of the seedlings in a nursery and the transplanting of seedlings are not taken up in this study.

### 3. *Establishment of temporary and permanent forest in one planting:*

In direct seeding, ipil-ipil seeds in spot of 2 M. x 2 M. and distance between spots of 6 meters, a total of 169 square spots will fill a hectare. By interplanting any important species of seedlings at 8 M. by 8 M. distance, a total of 144 seedlings are needed to complete a hectare of plantation with cost data of ₱20.00 per hectare.

In this planting, ipil-ipil is used as cogon eradicator in order to give enough space for the permanent species for its reproduction. In this method (harvesting ipil-ipil for firewood), income is earned earlier and at the same time the cost data is reduced to the minimum while a permanent forest crop for future utilization is assured.

The sizes of square spots can be enlarged

as desired to, let us say, 133 4 x 4 square spots distanced at 4 x 4 M. in between spots and interplanted by other permanent forest tree species at 10 x 10 M., 122 seedlings will be needed in a hectare. This is more compact and no 1-meter space nor ride is left around the inside part of a hectare of plantation. If desired also, other improved spacing can be used by

4. *Spot Planting*—

5. *Spot seeding*—

6. *Strip method of direct seeding*—

7. *Direct seeding*—

On account of the absence of machines in reforestation projects and limitation of funds, new practical techniques and economical practices must be developed in each reforestation project so that full scale reforestation can be undertaken. All field observations must be reported every month to insure a complete study and research work.

---

## FROM THE MAILBAG . . .

(Continued from page 86)

on Selective Logging, held in Dipolog, Zamboanga del Norte, on October 28, 1961."

Your favorable consideration on the matter will be highly appreciated.

Very truly yours,  
(SGD.) JOSE C. TOMAS  
Forester, B. F.  
(District No. 42)

UNIVERSITY OF THE PHILIPPINES  
Quezon City

Office of the Secretary of the University  
September 25, 1961

## MEMORANDUM—

TO ALL DEANS AND DIRECTORS,  
HEADS OF INDEPENDENT DEPARTMENTS  
AND OFFICES

Re: *Automatic and compulsory retirement*

For the information and guidance of all concerned, there is attached hereto five copies of Memorandum Circular No. 30, dated September 15, 1961, of the Office of the President of the Philippines, in connection with the provisions of Section 12 (e) of Commonwealth Act No. 186, as further amended by Republic Act No. 3096, approved on June 16, 1961.

Attention is invited particularly to the Fourth paragraph on page 2 of the Memorandum Circular directing "that the files and records of personnel, particularly as to their correct dates of birth and number of years in the government, be made up-to-date." For this purpose, all members of the faculty, officers and employees of the University of the Philippines are requested to furnish this office, if not done yet —

- 1) a certified baptismal or birth certificate, and
- 2) if previously in the service of other branch or branches of the Philippine government, a certified copy of record of such service.

In the past, questions have arisen as to the acceptability of affidavits in the absence of primary record of 1) and 2), above. This office, therefore, has sent an inquiry to the Government Service Insurance System as to what papers definitely may be accepted for the purpose. The reply will be relayed to all concerned upon receipt thereof.

ENRIQUE T. VIRATA  
Acting President

By:

(SGD.)  
D. CERVANTES  
Chief, Office Services Division

—oOo—

*Feminine logic is fallacious, shallow, inconsistent, irrelevant, capricious, transparent — and irrefutable."*

—Harold Coffin in  
*The Wall Street Journal*



# Forestry Leaves

*Organ of the Student Body and Alumni of the College of Forestry, College, Laguna*

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*Adviser*

## Editorial:

### IMMEDIATE AND LONG-RANGE SOLUTIONS TO FLOOD PROBLEM

*The destructive floods which ravage the Philippine countryside with increasing frequency are attributed mainly to the wanton destruction of forest trees in unauthorized logging operations and the slash-and-burn method of kaingin farmers. While it is true that other factors help to aggravate the situation, deforestation is considered the major cause of the disastrous inundations of recent years.*

*The floods in eastern Mindanao, which have kept a large section of Davao, Agusan, and Surigao del Sur, under water for the past two weeks are unprecedented in the area. There have been serious floods there before but not of such magnitude. The removal of thousands of hectares of forest cover by indiscriminate logging has begun to show its effects.*

*In Luzon the same conditions were noted several years ago. They were tragically confirmed in the flood of May 1960 in the Manila area, where more than 150 persons perished, in the Apalit-Calumpit floods of the same year when transportation lines were paralyzed for days, and in the recurrence of unusually heavy floods in the Ilocos region and the Bicol peninsula.*

*Every rainy season these and other areas are now condemned to suffer from disastrous floods, thanks mainly to the deforestation which has been going on throughout the country.*

*It will take many years to reforest the denuded hills and mountains. But with efficient methods it will take considerably less than most laymen think. At least one species of forest tree has been found by reforestation experts to be ideal for this purpose. Where the better known forest trees take 20 years or more to mature, this species is said to reach full growth in five years.*

*This tree, known to scientists as *Albezzia falcata*, was introduced from the Molucas not long ago. Reforestation officials have need to discover other fast growing species.*

*It is not necessary to delay the reforestation program in the meanwhile, however. There are other trees, like citrus, coffee, and cacao, with enough seedlings to serve the needs of extensive areas. As a matter of fact, reforestation using these growths has already started in some places, notably Tarlac province, where a forest conservation association composed of civic and political elements has made a promising start.*

*Reforestation on a nation-wide scale is the object of the five-year program under the Reforestation Administration created by law a year ago. The Mindanao floods may have prodded government officials into giving the necessary financial support to this program. Malacañang yesterday directed the budget office to earmark ₱7,350,000 for reforestation work. It was noted that later President Macapagal conferred with public works officials. It is hoped that other flood control measures were fully discussed, and assured budgetary aid, at this conference.*

*For flood control does not consist only of long-range measures like reforestation. Partial remedies are immediately available and all that is needed is firm implementation by the authorities. Illegal encroachment on waterways, for instance, aggravates floods in and around the Pampanga River delta. Dammed-up streams, appropriated by fishpond owners, must be reopened. Scores of cases in which public works officials intervened with demolition orders are still unsettled because of legal technicalities.*

*A firmer hand is needed by the government to remove these major causes of destructive floods. In some cases, it is hoped, further court action may even be dispensed with through the cooperation of fishpond owners. It so happens that the towns affected feel some sort of kinship with the present administration because the President hails from those parts. By appealing to the sense of responsibility of these comprovincianos it may yet be possible to convince them to remove the obstructions voluntarily.*

*Unless this is done even the ambitious flood control project improvement of river dikes and digging of man-made rivers will be of little help.*

Reprinted from:  
*Manila Times, Jan. 31, 1962*

**R. A. NOTES . . .** *(Continued from page 83)*  
which was participated in by provincial and municipal officials, civic and religious groups, barrio councils, boy and girl scouts, public and private schools, and arm of the Reforestation Administration was always felt and appreciated as each participant viewed the scientifically prepared planting sites and as he was handed the balled seedlings that were given free of charge. It was indeed a special affair to remember because among the thousands that were sold to the cause of reforestation were kaingineros who were, perhaps, incidentally drawn to the occasion by the rattle of local drums and the unusually long motorcade that preceded the tree-planting ceremony. Aside from this particular instance, these sections have also given various kinds of assistance to other organizations generating tree-consciousness and curbing forest devastation in the process. Given more liberal allocations in pursuing their goals, these units can work wonders

in abating the upward trend of forest destruction.

As regards its extension activities, the forest agency is now turning out more information materials designed to popularize the reforestation work of the government, to discourage deforestation and to win the masses on the side of forest conservation. It has already invaded the airplanes to let the listeners know that reforestation is dedicated to forest conservation. Through the press, it has continuously appealed to the people's sense of patriotism by raising a voice loud enough to awaken the powers-that-be of the country's need for reforestation.

Thus far the Reforestation Administration's program of work can go in its attempt to make the future of Philippine forestry brighter. One campaign is over; another will be launched. But if the second is expected to have a more powerful thrust, more funds must be poured into its operations. Yes?

Department of Public Works and Communications  
**BUREAU OF POSTS**  
**Manila**

**SWORN STATEMENT**  
 (Required by Act 2580)

The undersigned, **IGNACIO G. PATAGUE**, business manager, of Forestry Leaves, published quarterly, in English, at the College of Forestry, Laguna, after having been duly sworn in accordance with law, hereby submits the following statement of ownership, management, circulation, etc., which is required by Act 2580, as amended by Commonwealth Act No. 201:

<i>Name</i>	<i>Address</i>
<i>Editor</i> GREGORIO P. PRINCIPE	College, Laguna
<i>Managing Editor</i> EDMUNDO V. CORTES	College, Laguna
<i>Business Manager</i> Ignacio G. Patague	College, Laguna
<i>Owner</i> U.P. College of Forestry	College, Laguna
<i>Publisher</i> Student Body & Alumni, College of Forestry, Laguna	
<i>Printer</i> Community Publishers Inc.	Inverness, St., Sta. Ana, Manila
<i>Office of Publication</i>	College, Laguna

If publication is owned by a corporation, stockholders owning one per cent or more of the total amount of stocks: **NONE**

Bondholders, mortgages, or other security holders owning one per cent or more of the total amount of security: **NONE**

In case of daily publication, average number of copies printed and circulated of each issue during the preceding month of April, 1961;

1. Sent to paid subscribers .....	<b>NONE</b>
2. Sent to others than paid subscribers .....	<b>NONE</b>
<b>Total</b> .....	<b>NONE</b>

In case of publication other than daily, total number of copies printed and circulated of the last issue dated October, 1961;

1. Sent to paid subscribers .....	<b>520</b>
2. Sent to others than paid subscribers .....	<b>480</b>
<b>Total</b> .....	<b>1,000</b>

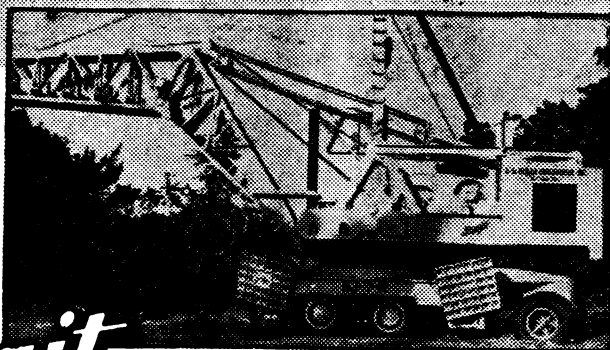
(SGD.) **IGNACIO G. PATAGUE**  
*Business Manager*

SUBSCRIBED AND SWORN to before me this 8th day of March, 1962, at Los Baños, Laguna, the affiant exhibiting his Residence Certificate No. A-4060567 issued at Los Baños, Laguna on February 28, 1962.

SGD. **GENARO V. CATALAN**  
*Mayor, Los Baños, Laguna*

NOTE: This form is exempt from the payment of documentary stamp tax.  
**ACT 2580 REQUIRES THAT THIS SWORN STATEMENT BE FILED WITH THE BUREAU OF POSTS ON APRIL 1 AND OCTOBER 1 OF EACH YEAR.**

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