

FORESTRY

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Let Us Plant Trees For Our Children and the Years to Come



**MALACANANG
MANILA**

**BY THE PRESIDENT OF THE PHILIPPINES
Proclamation No. 129**

**DECLARING THE WEEK ENDING WITH THE LAST SATURDAY OF
JULY EACH YEAR AS ARBOR WEEK**

WHEREAS, trees are of paramount importance to the welfare and economic well-being of our country and people;

WHEREAS, trees and forest continue to be wantonly destroyed because their importance is not yet sufficiently appreciated; and

WHEREAS, there is urgent need to awaken tree consciousness among our people, to undertake a vigorous campaign for the planting of trees to beautify our yards, plazas, highways, parks, etc., and to reforest our bare and denuded lands through sustained tree planting work participated in by all elements of the community;

Now, THEREFORE, I, RAMON MAGSAYSAY, President of the Philippines, by virtue of the powers vested in me by law, do hereby proclaim the week ending with the last Saturday of July of each year as Arbor week ending with the last Saturday of July of each year as Arbor Week to be observed throughout the country with appropriate programs and actual planting of shade, ornamental, fruit and forest trees.



Trees

*I think that I shall never see
A poem as lovely as a tree.*

*A tree whose hungry mouth is prest
Against the earth's sweet flowing breast;*

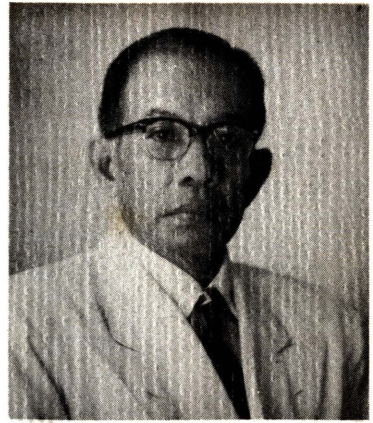
*A tree that looks at God all day
And lifts her leafy arms to pray;*

*A tree that may in summer wear
A nest of robins in her hair;*

*Upon whose bosom snow has lain;
Who intimately lives with rain.*

*Poems are made by fools like me,
But only God can make a tree.*

—JOYCE KILMER



IN REPLY, ADDRESS
DIRECTOR OF FORESTRY
MANILA, PHILIPPINES

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
BUREAU OF FORESTRY
MANILA

Arbor Week Celebration (1955)

July 24, 1955

M E S S A G E

Once again during the celebration of Arbor Week on July 24 to 30 this year, the attention of the people will be directed to the theme of forest conservation. As usual, ceremonial planting of trees will be done during the week by individuals, school children and civic organizations. Thru the press, radio, school programs, etc., the multifarious uses of wood, the recreational value of the forest and its important role in regulating water flow, preventing erosion, and in tempering local climate will again be told to the people. In short, the people will be enlightened on the vital importance of the forest to national welfare and prosperity.

I should like to take advantage of this occasion to point out the fact that our timber growing stocks are fast being depleted thru "kaingins" and destructive and wasteful logging operations. It has been estimated that we are depleting or clearing our forests at the rate of about 30,000 hectares a year and we are replacing our cut-over stands thru planting only at the rate of from 1,000 - 1,500 hectares a year at government expense of over a million pesos. Thus, it is obvious that our country would end in forest bankruptcy and ruin if the destructive factors I have mentioned would not be checked. This, however, is a vast task and requires the cooperation of all the people. To this end, I plead to my countrymen to be more forestry-minded and would urge them whenever they can to see what is actually going on in our forest areas, which after all belong to them so that they may better appreciate our problems and difficulties.

In closing, I would like to leave these thoughts: That it is a fallacy to believe that planting alone will solve our timber depletion problem; that the only way to replenish our timber stores is to practice conservation in our forests, having in mind that timber can renew itself by wise use. These are basic principles in forestry.


FELIPE R. ARCO



THE UNVEILING OF THE NEW COLLEGE OF FORESTRY BUILDING PLAQUE

(L. to r.) Congressman Jacobo Gonzales (sponsor of H. B. 324 for the rehabilitation and expansion of the College of Forestry building), Philcusa Exec. Secretary Cornelio V. Crucillo, Mrs. Jacobo Gonzales, U.P. President Vidal A. Tan and DANR Secretary Salvador Araneta.

Moving Up Day Address *

EDWARD S. PRENTICE

Deputy Director, ICA

This is my second convocation address at this College of Forestry. It is indeed fitting that the address today is made on what is known as "moving up day" since you who are moving up have just witnessed the "moving up" of the capital resources of this college. The investment put into the new college buildings, the Forestry Products Laboratory and the Forest Experiment Station would be useless without the trained human resources required to operate the new physical plant and thus contribute to the development of the Philippine economy. Similarly, the mere fact that the capital investment in these kinds of structures has been made means that the "moving up" of you students will be accelerated! For you now have more opportunity to learn how to apply your textbook knowledge to help solve the practical problems of Philippine forest care, management and utilization.

Before detailing the importance of the work this institution is doing, I should like to pay tribute to the retired Dean of this College whose vision and foresight initiated these structures inspite of many problems and headaches. He is a man all of you know. I speak of former Director and former Dean Tamesis. In the same breath, congratulations are in order to Director Amos and his bureau and college staffs for their determination to complete the building of these institutions.

At the risk of being shot by two of my own countrymen, I would like to tell you a little joke on some people whose contribu-

tions to your work in the College of Forestry and in developing the Forest Products Laboratory have been of real significance. One is my good friend and FOA colleague, Mr. Paul Bedard; the other is my good friend and UN colleague, Dr. George Hunt. The first draft of this speech was prepared by Paul Bedard. He, as you all know, is a forester. So his draft dealt almost exclusively with the problems facing you graduates in the College of Forestry as you move on to positions in the Bureau of Forestry;—the importance of forests in protecting Philippine soil from erosion, the need to protect existing forests, the need for better forest management, the importance of sustained yield and, in general, measures to preserve this priceless natural resource which God has given to the Philippines.

A week ago when Dr. Hunt was showing me around the Forest Products Laboratory, he mentioned having seen Mr. Bedard's draft of this speech. He observed it was written solely from a forester's point of view. He stated he had finally persuaded Mr. Bedard to add a couple of paragraphs dealing with the importance of the Forest Products Laboratory—that is, paragraphs that dealt with the utilization or productive side of this priceless natural resource.

I told Dr. Hunt I suspected my speech would concentrate neither on the protective nor on the productive point of view. Both are important, but both are means to a somewhat bigger end. Protection for the sake of protection could be harmful, and production

* Speech delivered on the occasion of the Inauguration and Dedication and 12th. Moving Up Day of the College of Forestry, March 27, 1955.

for the sake of production could be wasteful. But if one combines a judicious amount of protection with intelligent production, no matter what your raw material is, you come out with an additional economic good. And it is from the point of view of economic development that I would like to talk about the importance of Philippine forests and their fullest possible productive utilization.

You can see right away that although I was born in the vast timber area in my country known as the Great Pacific Northwest and worked through high school and college summer vacations in logging camps and national forests, I am not an expert forester. Nor could I lay claim to knowing very much about the many gadgets which Dr. Hunt is helping to install in this beautiful Forest Products Laboratory. Yet as an economist working actively for the past three years in a program for Philippine economic development, I can lay claim to being something of an expert in economic planning. Now any economist, when he thinks in terms of countrywide planning, must first take an inventory of the resources available to the country. He must then concentrate on those techniques which will make those resources, when combined with human resources, productive in the sense of creating the most goods and services for the people in the economy.

Of all the natural resources available in the Philippines, the two most important from the point of view of producing more for the Philippine consumer are first, the land; and second, the great natural forests which cover a good share of the land. The reason the early planners in the Philippine-American joint program for economic development put a very high priority on the buildings and equipment we are dedicating at this "moving up day" is precisely because the forests of the Philippines are one of the biggest natural economic assets which the Philippines has available to it. Whether these forests will be protected and their production fully utilized to create additional economic wealth

for the people of the Philippines lies largely in the hands of the people who are attending this ceremony today. We in the joint Philippine-American economic development program can provide you with experiment stations, fire-fighting equipment, technical assistance for reforestation, pamphlets on sustained yield, or any number of testing and pilot plant machines in the Forest Products Laboratory. But it is you people who will have to determine whether this rich natural resource will be used intelligently for the benefit of your economic development, or whether it will be wasted and ultimately destroyed by thoughtless individuals who seek quick and immediate personal gain.

You men of the Bureau of Forestry and the College of Forestry, under the skilled leadership of the Secretary of Agriculture and Natural Resources and the President of the University of the Philippines, must insist that the Bureau is not merely the money-producing watchdog of the nation's forests. With the help of these newly-graduated students, you must make sure that the Bureau, as well as the School, is the management arm of your government responsible for developing the forest resources into making an ever increasing contribution to the Philippine economy.

At the stage of development of your economy, in many fields you can take advantage of the practices discovered and employed by the West. European and American technology can help you cover in a span of a few years what it took Western civilization 150 years to do. But in your particular field, do not, I beg, follow the history and practices of European nor, indeed of my own country in the use of forest resources. We in the United States today (and European countries even more so) are, by and large, following intelligent protective, productive and utilization practices with respect to America's forests and the products those forests are capable of producing. But this is a relatively late development in our own history in the States. So in the fields

of forest care and the most intensive utilization of forest products, do not follow the practices which we have followed in past years. Rather, learn as we are doing from our own past mistakes and apply within a Filipino context the practices we have found through great expense to be the most productive from the point of view of the nation's forest resources.

All of you — students and faculty and guests alike — have sat through many conferences listening to many experts raise the red flag of waste in the handling of your forests and watersheds. Many of you attended the National Conference on Forest Conservation a short time ago. From this kind of conference you can get all the expert advice you need on the ways your forests need more protection and the current cutting practices need revision.

It was pretty well brought out at the conference that two major threats to the well being of the forest resource exist. One threat lies basically in the unwise use of the land that should remain forested. Nobody would argue that agricultural expansion is needed to support a growing population and to raise the level of living, but it is equally true that there is a limit beyond which land cultivation should not go. Not all soils of the Philippines are fertile. Many cannot be made sufficiently fertile to support permanent farming. Still, in many areas the limit has been and is being exceeded. One look at the steep slopes of Cebu, parts of Luzon and Negros and even in the new areas of Mindanao is convincing.

It is quite natural to be misled by the illusion that there is unlimited fertility in the soil of forest areas. After all, most agricultural soils were once forest lands. In addition, the accumulation of organic materials and the presence of other favorable conditions on the forest floor give a temporary fertility sufficient for one or two crops.

Such an illusion leads to the harmful practice of "shifting agriculture," or "kaingin." The result of this, as you know better than

I, is that watersheds are stripped and then abandoned. That is the most immediate and increasingly dangerous threat to one of your greatest national assets — the forests of the Philippines. What a price to pay for a small temporary personal gain!

The second threat lies in the mishandling of the resource itself. In the Philippines as in other countries, harmful methods of exploitation are being used in some areas. The forests' capacity to renew themselves is being destroyed and areas are going out of production. However, I shall not here attempt to out-expert you experts in this area. All I can hope to do is point out the importance to your economic development of protecting this resource and at the same time making it more productive for the national economy.

Turning for a moment to the productive side, the forest resource of any country is dynamic in the sense that the resource is continually changing. As the Forest Products Laboratory nears completion and begins its task of testing Philippine woods for their more intensive utilization, you will have added a tremendously important step in your task of making Philippine forests contribute more to the economy of the Philippines. Protective measures in a forest do not become productive unless that which is protected is used to produce. And it does little good to your economy to cut the cream of your lumber and ship it in the form of logs to Japan, there to be manufactured into consumer products. Why not do the processing of your timber resources into consumer products right here in your own country. This is where applied industrial research comes into the operation. And it is because of the importance of applied industrial research to the economic utilization of your forest resources that we in the joint Philippine-American development program have supported this Forest Products Laboratory. While I give you a word of encouragement, let me at the same time add a word of warning. This Laboratory is potentially as important as any facility in the Philip-

pires to your future economic and industrial development. Yet its full contribution to the raising of the living standards of your citizens will never be permitted unless the Philippine Government continues to give the laboratory adequate financial support. Even more important than financial support is the selecting of trained scientists who will spend their lives in the Forest Products Laboratory searching out new and more economical uses of Philippine forest products. Your Government, I am sure, will continue to provide the necessary financial support to keep this Laboratory in operation. We hope to see private industry play an increasing part in contributing to the financial support of this industrial research facility, but before industry will do this, you who work in the Laboratory must convince industry that you have a real contribution to make. Even with financial support assured, the contribution of the Laboratory to your economy will be in direct proportion to the calibre of Filipinos who will run the Laboratory.

From what I have been saying, this much should be obvious: that the best national policy on forests is one that permits the fullest judicious use of this forest resource with due regard, at the same time, for preserving the forest's protective capacity.

How does the Philippines stand with respect to such an objective?

Before we can answer that question, we should take a look at the forests of the Philippines. This country is fortunate in possessing a substantial area of forested land. It covers about one-half of the total land area. It has been calculated that the total land area that should remain as permanent forest is about forty-two per cent of the total, or about twelve million six hundred thousand hectares. This calculation is based on the nature of the soil and terrain and the needs for both protection and production. The present forest land contains protection forests that should never be cut. It contains

inaccessible areas. It contains large, unknown volumes of non-commercial tree species. There are some forest areas that should be converted to other uses. There are some areas outside the forests that should be put back to forestry use.

Here are some other facts that the forestry technicians have learned: Some of the most accessible and productive forest areas are going out of production as the result of squatting, shifting cultivation and improper exploitation. Some of the most serious denudation occurs on important watershed areas. Finally inroads are being made on the forest resources through illegal destruction, including "kaingin." The simple fact is that Philippine forests are being overcut.

Perhaps we can now attempt an answer to the question, "How does the Philippines stand with respect to a sound forestry program?"

Philippine forestry stands at a crossroad. The forest are still there, but they need protection, development and management. I am sure anyone who has studied Philippine forests will agree that a decision must be made: whether the forests will be developed to attain the greatest benefits to the country or whether they will be allowed to deteriorate and lose their respective and productive benefits.

And so we come back to 'moving up' day. Given a priceless natural resource and given the tools to protect and develop that resource into something productive to the economy, one still finds the most essential ingredient to be the human resource. That is why so much of our joint Philippine-American economic development program is concentrated on training in the many priority areas in this economy where we can make a contribution. And that is why this convocation today with the "moving up" of you students and the graduating of you seniors is so vitally important to the future economic development of the Philippine Republic.

The Need for the Protection and Wise Utilization of Our Forest Resources

By CORNELIO V. CRUCILLO
Executive Secretary, Philcusa

The task assigned to me this morning is a very pleasant one. That task is to present to the University of the Philippines and to the Department of Agriculture and Natural Resources in the name of PHILCUSA, the College of Forestry, the Forest Products Laboratory and the Forest Experiment Station buildings on this occasion of their inauguration and dedication.

I could, if I wanted to, cut short my part in this program by taking the line of least resistance, that is, confining my presentation remarks to one or two terse sentences, and then gracefully bowing out for the exit, but I am not in a hurry this morning.

For one thing, the purpose of this celebration holds for me, as it should for all of us, such a deep significance that I simply cannot take it lightly.

For another thing, the setting in which we are now assembled breathes with such a congenial and pleasant atmosphere that the temptation to drink of it to the brim is well nigh irresistible.

So with your kind indulgence I voluntarily succumb to the charms of this occasion and shall take advantage of the opportunity thereby afforded me to make a few remarks relevant and pertinent to the broader and deeper meaning of this celebration—that of underscoring and bringing to the fore the role of our forests in our economic life and the need for their effective protection and wise utilization.

Ours is among the few civilized countries that can still boast of their "forest primeval"

sprawling over a wide area of their land territory.

We are told, without benefit of accurate exploration and survey, that our forests constitute 55% of the entire soil cover of the Philippines and that 38% of the 55% is commercial forest comprising almost 11.5 million hectares.

It has been estimated that the volume of standing timber in these forest areas is about 1,082,000,000 cu. m. with a total value of ₱27 billion at the rate of ₱25 per cu. m.

It is further said that this timber stock, 49% of which belongs to the Philippine mahogany group, if sawn into lumber will yield 270 billion board feet; that if all the timber were cut it would bring to the government in forest charges alone, almost ₱2 billion.

There were in 1954, 1,590 timber licenses with capital amounting to ₱118 million; 433 sawmills with a daily capacity of 3.3 million board feet; 90,000 persons directly employed by the industry; and 500,000 people dependent upon the forest industries for their livelihood. The volume of timber and lumber exports in 1953 amounted to 526 million board feet and 64 million board feet, respectively, with an aggregate value of ₱62 million. Forest income derived from forest in 1954 amounted to over ₱7 million.

All these are entirely apart from the indispensable role of forests in building and conserving our soil cover, in purifying and making wholesome the air that we breathe, in maintaining alive our rivers, brooks and springs which provide us one of the essential

* Presentation address on the occasion of the inauguration and dedication of the College of Forestry, Forest Products Laboratory and Forest Experiment Station Buildings, March 27, 1955.

needs of daily life—drinking water—as well as water for other domestic purposes, water for irrigation, for generating hydro-electric power, and for industrial and other economic uses.

And yet in many respects no other natural resource is more neglected and more abused than the forest resources.

In the first place, our logging operation is a very destructive and wasteful process. No effort is made to cut only the useful timber and to protect the young trees. No tree is spared by the ax or the saw or by the falling timber which crushes all vegetation beneath it. Then almost invariably a logged area is entered by squatters who complete the devastation of the natural vegetative cover through caingin farming. There is no program of replanting the cut-over areas so that 50 or more years from now they might be ready for logging again. There is therefore a gradual and constant diminution of the forest capital.

And yet many lumbermen claim that we can go on cutting indefinitely at the present rate of 1.4 billion board feet per year on the assertion that forest grows at an alleged rate of 1.5% a year, or the equivalent of some four billion board feet increment in the timber capital annually.

This assumption, of course, is fallacious and dangerous to the extreme because: (1) there is no scientific proof that the correct rate of forest growth is really 1.5% (2) much of the forest area is inaccessible and cannot be logged; (3) increase in forest growth includes that made by trees not utilized for timber; and (4) the forest area is gradually receding through continuous logging operation without replenishment, and indeterminable forest destruction through caingin and other practices.

The last factor mentioned—forest destruction—deserves special consideration. It is a senseless practice, and, in unauthorized cases, criminal and punishable by law. Yet it goes merrily on.

Go to any part of this blessed land where

forests still stand and you will not fail to see illegal, indiscriminate cutting of trees and wanton devastation of forest cover—outright vandalism—going on, sometimes just for the heck of it, but generally for the ever convenient excuse of making caingin in the name of food production. It is immaterial to the forest vandals whether the subject of their vandalism is commercial forest or a national park, a forest reserve, or part of an area declared alienable or disposable for agricultural purposes. To many of our people, trees are there to be cut for any purpose legitimate or otherwise.

No sight is more sickening than a steep hillside denuded of forest cover just so it could be planted to some temporary crops like corn or camote for a brief period of time. After one or two, at most three, planting seasons, such denuded slopping areas become totally unproductive and are abandoned for new sites where the process is repeated. Eventually they are reduced to barren land and after further erosion, to jutting rocks and deep gullies, useless for anything save as grim reminders of man's senseless predilection for destroying things he ought really to preserve.

This type of illegal and unauthorized destruction of forests is rampant throughout the frontier areas where land hungry settlers are establishing themselves. The practice is spreading very fast ahead of land classification work, even in the so-called-inaccessible hinterland.

Of course we talk of forest protection, of land reclamation through reforestation and afforestation, of adopting soil conservation measures in land cultivation, but how far have our efforts gone to be really effective? I have it from Director Amos that at the present rate of progress of our reforestation activities—1000 Has. a year—it will take no less than 2,000 years to complete the job that awaits to be done right now, provided no additional areas are added to our already extensive barren land.

But that is just the trouble—the rate of

forest cover destruction is many times faster than the rate of reforestation and other forms of reclamation, including those accomplished by nature without any assistance from man.

Our efforts of construction pitted against the forces of destruction look puny and futile indeed. Herein lies one of our principal forestry problems.

The FOA-PHILCUSA aided project of Forest and Watershed Management which includes the rehabilitation of the College of Forestry and the Forest Experiment Station Buildings is aimed at meeting this problem squarely.

The hour is late for (1) taking inventory of the growing stocks and setting the boundaries of public forests intended for protection, recreation, exploitation and pasture purposes; (2) for setting up an adequate organization for the protection of public forest from fires, illegal cutting and other forms of forest destruction; (3) for stimulating and expanding the rate of reforestation of denuded watersheds, cut-over areas, barren and grasslands; (4) for conducting studies on factors responsible for the establishment of natural and artificial reproduction in cut-over areas and growth yield of growing stocks needed in determining annual allowance cut

The government forces entrusted with this extensive and all-important job are too inadequate to cope with the situation. Therefore, one of the principal objectives of the rehabilitation of the College of Forestry is to enable it to accommodate more students and turn out more graduates needed for strengthening these forces.

Of course the Forest Products Laboratory, as its name implies, is aimed at both fundamental and applied research on forest products utilization.

Right now, there is altogether too much waste in our methods of utilizing forest products, or rather in the non-utilization of a great variety of raw materials available in our forests.

Perhaps, outside the exclusive group of foresters and forest botanists, not very many people know that in our forests there are no less than 2,000 species of trees, but only about 60 species are utilized for lumber. The rest of the species find no definite use at present in our limited scope of forest products utilization and are left to die and rot.

In lumber manufacture only 250 board feet out of every 1,000 board feet of tree, or 25%, is utilized. Of forest products other than timber, very few find some use, and those used are not even well utilized.

The newly built Forest Products Laboratory, probably one of the best and most modern forest product laboratories anywhere in the world, well-equipped to carry out basic research that will help industrialists in putting up lumber and allied factories for the manufacture of exportable wood products instead of raw materials. It will explore the possibilities of industrial development based on the utilization of other forest products not now utilized. Thus the Laboratory will (1) test more tree species for lumber or other uses such as for athletic equipment, tool handles, furniture, matches, plywood, pulp, and plastics, and (2) work out marketable uses for many oil-bearing nuts, resins, wood oils, dye barks, rattans, nipa sap, bur fibers, bamboo, gutta percha and so on.

Over one half million dollars of United States assistance have been allocated to these projects up to FY 1956. The peso support from CP funds and special appropriations up to the end of this fiscal year amounts to more than ₱2 million. More is coming. This substantial investment is many times justified, considering the nature, the scope, the importance to our economy and the urgency of the various activities now being undertaken and to be undertaken in the years to come under these projects. We are proud to have some part in this undertaking.

Now for the task assigned to me—Mr. President Tan, Mr. Secretary Araneta, in the

name of the PHILCUSA, it is my extreme pleasure to have the privilege of presenting to you as representatives respectively, of the University of the Philippines and the Department of Agriculture and Natural Resources, these buildings—the College of Forestry, the Forest Products Laboratory, and the Forest Experiment Station Buildings—which we are now inaugurating in solemn dedication to the cause of human progress in the field of Forestry.

By these new and imposing structures established with American financial and technical assistance matched by Philippine pesos and enterprise, we have forged another link in the chain that binds the United States and the Philippines into a solid partnership for the uplift of living conditions and the strengthening of democratic institutions in this part of the world.

They also symbolize the finest spirit of cooperation among the Foreign Operations Administration Mission, the Philippine Council for United States Aid, and the Department of Agriculture and Natural Resources and the University of the Philippines through the Bureau of Forestry and the College of Forestry which, as the beneficiaries of these new instruments of progress must assume the corresponding responsibility for their proper use in the advancement of scientific knowledge in Forestry and in the employment of that knowledge for the country's economic growth and the people's welfare, through the adoption and enforcement of sound and constructive policies of effective forest protection, conservation and wise utilization.

May the harvest be full, responsive to our needs, and useful to our legitimate struggles and onward forevermore.

There is a wonderful mystical law of nature that the three things we crave most in life—happiness, freedom and peace of mind—are always attained by giving them to someone else.

Japan Has Land Greening Campaign

A nationwide land "greening campaign" every year is a feature of Japanese forestry, according to Nicolas P. Lansigan who arrived from Japan as a member of the Philippine delegation to the Asia-Pacific forestry commission. The campaign is directed at restoring a green tree vegetation on deforested areas of the country and for the beautification of public places.

Lansigan reported that where in the Philippines men and women sport "red feathers" during fund raising campaign for charities, in Japan during the month of April the people have "green feathers" on their breasts. Last year more than eleven million feathers were sold and the fund raised amounted to 109 million yen (approximately ₱600,000). The money is used for the beautification of school premises, streets and highways, national parks and other public places.

The national land greening campaign, which really corresponds to arbor day in western countries, lasts for one week. Each of the seven days is devoted to a greening day, workshop greening day, mountain greening day, traffic greening day, school greening day, and greening tree protection day.

Lansigan said he will report his observations to the Philippine national arbor week committee now planning a big countrywide observance from July 24 to 30.

It is significant that the Emperor and Empress of Japan usually lead in this national observance. As a result of this movement, started after the war, around 10,000 hectares have been planted. During the week, ceremonies include the awarding of prizes for winning slogans and songs on forest and trees, commending in public assemblies of persons who distinguish themselves in the greening movements, and mass meetings explaining the role of trees and forests in the life of the people.

The Philippine Forest Products Laboratory

I suspect that most of the people in the Philippines do not know what a forest products laboratory is. I am sure that is true of the people in the United States. There may even be some lumbermen in both countries who do not really understand what the name means. Defined in general terms, a forest products laboratory is a research institution in which skilled men and women, with proper equipment, combine their talents for the investigation of the properties, uses and processing of wood and other forest products, in order that the forest and its products may be more efficiently, completely, and profitably employed and may give better service to all concerned. This definition may be substantially correct but it will satisfy very few people, if any. It needs explanation. Let us take it apart and examine it closely.

A forest products laboratory is a "research institution." It is not just a building or a group of buildings, it is not just an accumulation of expensive equipment, it is not just a group of appointees on a government payroll. It is more than any one of these. It is more than all of them together. A forest products laboratory is a combination of buildings, equipment, trained people and competent leadership, imbued with the spirit of research, development and service to the nation. It is an institution. It has life, spirit, ambition, and loyalty. Its business is research. It can accomplish great things for the country with proper support and guidance.

The term "research" is not always understood, I am sure. It means, in this case, to study, to investigate, to learn new facts, to solve problems, to develop new processes or products that are better than the old and generally, to increase knowledge.

"Where skilled men and women combine their talents." The success of a forest products laboratory depends in large measure on the skills of its staff and the expert coordination of these skills in the solution of research problems. Forest products research requires a combination of many kinds of scientific training. It is not a job for foresters, or engineers, or chemists alone. All these are needed, as well as pathologists, entomologists, mathematicians, physicists, and other specialists. The important fact to remember here is that these people work as a team, not as individuals. Other things being equal, these specialists, working together under competent leadership, can accomplish much more and with greater accuracy than an even larger number working independently of each other. Individual scientists working alone can accomplish much, of course, but with the constructive criticism and the direct assistance of men of other skills, each scientist is able to make more progress and fewer mistakes than when working alone.

The specialized equipment that can be made available to a forest products laboratory of substantial size is also one of the great advantages possessed by its staff. Individual workers seldom have such equipment available and commonly must be content with makeshift or incomplete apparatus. By itself, the equipment, can do nothing, but in the hands of competent, ambitious staff it permits studies and developments not otherwise possible. On the other hand, the possession of beautiful machines and testing equipment could cause a laboratory staff to become complacent in the belief that they have everything. An individual scientist with brains, ideas, and vision can accomplish more with limited equipment than a group of mer-

with the finest possible equipment but who lack ideas, vision, and a sound research program. The men and women of the Forest Products Laboratory staff and their leadership must, therefore, be of the highest quality obtainable. There is no place for mediocrity among them.

Research in a forest products laboratory is a continuous, full-time occupation, not a secondary item or something to be done in spare time. Research of some kinds can be done by companies engaged in extracting and processing forest products and good examples of company research can be cited. The Weyerhaeuser Timber Company of the United States is outstanding in this respect. It knows that properly directed scientific research and development can pay big dividends and it has plenty of money to finance a company forest products laboratory of considerable size. Its laboratory has been functioning successfully for many years, with profit to the company. But such examples are very scarce. Generally the lumber companies and other wood processors are too busy producing and selling their product to find time for research. When they do occasionally attempt a study, it is usually with the part-time services of someone who also has other duties and cannot put his whole thought and effort into the research job. The result is seldom satisfactory.

"In order that the forest and its products may be more efficiently, completely, and profitably employed and may give better service to all concerned." Here is the reason for the existence of the Forest Products Laboratory and for the investigations it undertakes. Research in forest products is not an end in itself but only a means to an end. Wood is one of the most important natural resources of the Philippines and a good source of foreign exchange. But possibly half of the wood that grows on an area of forest land is left by the logger because it cannot be sold at a profit. It is too small, too defective, or of species for which there is no market. Here then is an enormous quantity

of raw material waiting to be used. There is further loss of wood as the logs are cut into lumber, veneer, or other products so that only about 1/4 to 1/3 of the wood that grows on the land actually reaches the final user in the form of finished products.

We all know that industry must make a profit in order to stay in business. It cannot operate very long at a loss. We also know, or should know, that the loss of wood in its journey from the forest to the consumer is due to inability of the management to avoid the loss profitably. We know that the loggers and the mills are in business to make a profit for their stockholders. If they could find profitable use for some of the wood now left in the forest or lost in processing, they would do so.

There are two general methods of reducing the percentage of the wood that is not used. One method is to improve the equipment and the handling or processing details so that the loss is reduced. For example improved accuracy in sawing lumber can reduce the saw kerf and also the amount of surfacing necessary to produce smooth straight boards. In other words, less of the log goes into sawdust and shavings and more of it into lumber. Other improvements are possible of the same general character.

The second method is to find profitable uses for what is now wasted for lack of market. This involves finding satisfactory ways to utilize species of wood that are now left in the forest as unprofitable. Perhaps some of them can be used for veneer or for special minor products. The slabs, edgings and trimmings at the sawmill are made of perfectly good wood. Why not make them into products that can be sold at a profit? The problems are not impossible and research is one of the basic requirements for their gradual solution.

No one should be deceived, however, into thinking these utilization problems can be solved quickly and easily. If the job were easy, it would have been done long ago, without setting up a research laboratory for

the purpose. In fact, the difficult and time-consuming nature of the task makes necessary the setting up of a scientific organization, a forest products laboratory, to work on it with the best equipment and talent available.

Another thing to remember is that scientists alone cannot solve these waste utilization problems. The lumber industry must cooperate individually and collectively by keeping the scientists' feet on the ground through helpful consultation and advice, by discussing their problems with the Laboratory staff, by furnishing material to work on and other assistance, and by trying out the promising developments arising out of the Laboratory investigations.

In the foregoing paragraphs we have talked in general terms about what the Forest Products Laboratory is and about the problems it faces. But, to be more specific, just what will the Laboratory do? One of its steady jobs will be to build up a mass of basic data on the properties and characteristics of the 3000 species of Philippine woods that grow to tree size. This will require making thousands of tests on the bending, crushing, toughness, and other strength properties of each wood, its specific gravity, its seasoning and shrinkage properties, its resistance to attacks by fungi and insects, its chemical composition, its pulping properties and fiber length, and its microscopic structure. Other things that need to be known about woods for certain uses are their resistance to splitting when nailed, and their behavior under boring, planing, sanding, scraping, painting, varnishing, gluing and the various other shop operations involved in making wood products. Information on some of these properties is already available on a few species from tests made in previous years or from general observation. This will all be collected and added to, where additional data are needed. Most of 3,000 species, however, are still untested. Since the number of species is so large, it will require many years to cover them all. For that reason, the attempt will

be made to cover first the species that are important or promising commercially or are otherwise of especial interest, leaving those of lesser urgency for later study.

Assembling and tabulating data of the kinds described above provides basic information that is helpful in innumerable ways. Let us suppose for example that someone says "I have been importing American hickory tool handles but would like now to manufacture handles from Philippine woods, what Philippine species are tough like hickory and otherwise suitable for tool handles?" Or a lumber manufacturer may say "I am leaving a certain species in the woods because I can find no market for it. What are its properties and what purposes might it be used for?" If the species has been included in the above named tests, much useful information can be given immediately to the inquirer. If it has not yet been studied, perhaps it can be included in later tests.

It is reasonable to believe that much of the mill waste can be made into pulp, paper, or wallboard successfully, some into high class products and some into lower grade products to sell cheaply. For this reason, one of the important sections of the Laboratory will be the pulp and paper section, in which each species available in quantity or otherwise promising will be made into pulp by different methods and then into paper by hand-sheet methods, or into wallboards, for testing. If the first pulping tests with an important species are not successful, perhaps additional studies will be made to bring about improvement in quality. Some day we hope to have a small paper machine that will produce a continuous sheet of paper 10 to 12 inches wide, in different grades and thicknesses.

We also hope to have, in less than a year, fairly complete equipment for making veneer and plywood. This will enable us to try species of wood not now used for veneer or plywood and to study the possibility of producing insect and decay resistant ply-

wood by treating the veneer with preservative before gluing. Such protection should increase the consumer's acceptance of plywood and widen its markets. There may also be a good opportunity to use plywood under severe weather and moisture exposure, if glued with high-quality waterproof glues.

In the beginning, our sawmill will be used mostly for cutting specimens out of logs for strength and other tests. A few years hence, however, it may be possible to use it in studies on sawing, in the effort to find practical ways of reducing the power requirement, improving the accuracy of sawing, reducing the saw kerf, and trying out improved saws.

The research program of the Laboratory must be organized to meet the needs of the times and must be revised each year as the work progresses, new problems arise, and new opportunities present themselves. The program can be considerably influenced by the lumber producers if they will take an interest in the work of the Laboratory, seek to understand its objectives and methods, get thoroughly acquainted with its staff, and convincingly present the problems and needs of the wood industries. The lumber industry, therefore, should plan definitely to maintain close contact with the Laboratory, individually and by committee action.

The research program must also be responsive to the needs of consumers of forest products for better quality, greater satisfaction, and longer life of the product. There appears, however, to be no organization to represent the consumer in the discussions of the annual program of work. Until some better representation is found, the Laboratory staff will have to make sure that the consumer is not forgotten.

The economic needs of the country will also have a strong influence on the program. The reduction of waste, the development of new industries, and the export of a higher percentage of the wood in the finished instead of the raw form will all have a favorable economic influence.

The financial problems of the Laboratory

have not been completely solved. Up to the present, the costs have been paid in part by direct Congressional appropriation, in part by dollar funds from F.O.A. and in part by peso funds from Philcusa. This same situation will probably prevail next year but but it cannot go on indefinitely. The time is coming when neither Philcusa nor FOA funds will be available and the laboratory will have to depend almost entirely on direct appropriations from Congress unless some other source of funds is provided. Since the Laboratory can be of such great value to the lumber and wood industries, its proper financing should be a matter of great concern to these industries and they should press for an adequate solution.

Most of the Laboratory's work will be of the general interest kind. That is, it will be for the benefit of the general public in the long run although it will also benefit the wood industries directly. It is proper that work of this kind be paid for from the general funds of the Laboratory. Occasionally, however, some company may wish to have a special study made that is primarily of interest and value to that company and only incidentally of value to others. It is no more than right that the company so benefitted should pay part or all the costs of the special study. I believe it will be possible to arrange for such studies through individual cooperative agreements which describe the work to be done, the expected costs and method of payment, what is to be furnished by each party to the agreement, the kind of report to be prepared and number of copies to be provided, and any other details that need to be agreed upon. It may be that, in the course of time, other Asian countries that are not equipped for forest products research, will wish to have studies made here at their expense. Projects of this kind from within and from outside the Philippines should increase in number as the Laboratory staff grows in skill and develops a reputation for accuracy, reliability, and good judgment. It

(Continued on page 36)

Report of Reforestation in the Philippines

The Need of Forests

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POPULAR MISCONCEPTION ON THE VALUE OF FORESTS.

Forests, to the unthinking layman, are vast extensions of land filled with vegetation of little utility except for lumber and other wild products like rattan, almaciga, etc., but by and large of so very little economic value that the lands can very well be considered as idle lands. Hence, the connotation of the common word "gubat" as something untidy which would be better removed or stripped off of its vegetation and converted into a cultivated plot. It is, therefore, a common concept that because forest trees do not yield any commercial crop except the long-dated product as lumber, the more forests are cleared and converted into agricultural lands the better off and wealthier will be the community.

Not understanding the natural function of forests, townspeople find it impossible to understand why it should be a crime to enter into areas which the government has not certified as potentially agricultural, since to them all public lands should eventually be classified as agricultural and the only reason why a particular tract of land is not released is because the land classifier has not gotten around to it or because of the standing timber still on it. And so the expedient way is to occupy it or "squat on it," even before it is released in order to have a preferential right once the land is finally released.

To many people, to hold vast tracts of land under forest and to prevent settlers from coming in and having their own small holdings is a great loss and a high impedi-

ment to the economic development of the country. For them, it is hard to understand the principle of land classification under which the government after making use of all the scientific knowledge regarding land use and soil conservation and after examining the circumstances of the various areas, declares them as either (a) agricultural or (b) pasture or (c) forest lands. *But why a particular parcel of land was classified pasture or forest and not agricultural and what criteria were used in reaching this decision,* to the unthinking layman appears whimsical and capricious; and if farmers wish to invest their time and resources to cultivate a particular parcel of land, it would be the popular view that the government should yield and have the land reclassified as agricultural.

Herein lies the cause of the utter lack of public support for the implementation of the "kaiñgin law" which makes it a crime to trespass on forest lands. In the eyes of the many, this technical trespass is no moral trespass at all, and this is undoubtedly the reason why there are so very few instances of any municipal or provincial authority or member of Congress who has pleaded against the intrusion into forest lands, (the only two exceptions are the Governor of Cebu and Bohol, two provinces where soil erosion has already inflicted devastating damage), while on the other hand there have been many, many instances of pressure from authorities for the release of forest lands for agriculture.

VITAL FUNCTION OF FORESTS IN SOIL FORMATION AND SOIL CONSERVATION.

And yet *forests are in truth nature's agent for soil formation and soil conservation*. Paradoxical as it may seem, *without forests there would be no agricultural lands*. The easiest way to convert rich agricultural lands into useless, arid deserts is to destroy the surrounding forests. Hence, even if we were not to obtain a single stick of timber or a piece of rattan or any forest product from our forests, we would still be obliged to defend our forest lands if we wish to conserve the fertility of our agricultural areas and protect the interests of our farmers.

The beneficent effect of forests against water and wind erosion has been proven again and again in all parts of the world, and in the Philippines it is a established fact that the greatest enemy of agricultural production is water erosion. Erosion exhausts the productive potentiality of land by carting away from the earth surface that valuable topsoil responsible for maintaining a vigorous agriculture. Lost with the topsoil are the life-giving minerals of enormous value, and the water that carries them finally empties into the sea far from being used by cultivated crops.

To an average citizen, while forests have that obvious function, the phenomena involved why they do so, is not fully known. It is easy to recognize that when rain strikes a bare soil, it splashes the soil particles from the rest of the soil mass. The particles are thus dislodged and carried away by the runoff. The runoff with the soil particles in suspension passes thru the tiny pores and channels as it moves downward thru the soil layers. Later the silt and clay clog the tiny openings and consequently these tiny pores and channels can no longer admit water thru them so the water has to move on the surface of the ground and thus soil erosion starts.

But under a forest cover, the process just described rarely takes place. As the rain-

water hits the thick canopy of leaves of the trees, its impact is absorbed and it drops down with reduced pressure to hit another layer, this time the forest litter. The rainwater is absorbed by the litter, and when this becomes soaked, the water merely moves down to the soil surface in a lightly loaded form. Evidently, the pores and channels in the soil remain open and surface runoff does not occur except under heavy downpour. Many desirable conditions are attained in this chain of events. The rainwater that would immediately have runoff on a bare soil to cause erosion is prevented under the forest condition. The organic matter accumulated together with porosity of the soil enables the forest soil to hold more water and thus prevents frequent floods. On the other hand, that portion of the rain water that wets the leaves of the forest trees are again evaporated into the air. It should be realized also that tremendous amount of water is needed just to wet the forest litter consisting of dead leaves, twigs, branches, limbs, etc. And the binding effect of the surface roots although not the chief factor in soil erosion control effect a considerable help in preventing soil losses. The roots of the forest trees, once decayed, leave veritable pipes to conduct water deep into the ground for storage.

Thus *forest conservation is soil conservation*, it is the best way to protect our farm lands from rapid depletion of their fertility. *But forests* do not only perform this defensive function of preventing erosion, but they also *contribute positively to increasing the fertility* of the surrounding farm lands by storing organic materials in the forest litter and from which most essential plant nutrients are gradually transported by alluvium to the lower lands, enriching the flooded rice-fields and replenishing the fertility removed from them by the harvested food crops. Stripped of forest cover, the highlands become vulnerable to erosion, the soil loosens and the humous content which binds the soil particles disappears, the topsoil is washed

away and the subsoil is exposed. The result is that the lower fields become piled up with deposits of silt, stones and gravels, fertility declines and the land becomes finally barren. The addition of mineral fertilizers might restore in part the fertility of the lands, but this can hardly replace the rich fertilizers provided by nature from organic material.

Veritably, *forests are nature's vast factories and rich storages of fertilizer for the lowlands.* A really enlightened agricultural policy would plan carefully the conservation of the forests necessary for each region and would mobilize the farmers to militantly defend against further encroachment of the neighboring forest lands. This would insure the farmers the perpetuation of the fertility of their lands and the conservation of the essential water supply. It is a matter of record that wherever forests have been removed, rainfall becomes less regular and droughts more recurrent. With increasing aridity, the sub-soil water table lowers, and it becomes doubly difficult to raise crops as the roots have to go deeper to reach the water supply.

PECULIAR NATURE OF TROPICAL LANDS.

The foregoing considerations regarding the relation of forest cover to soil fertility apply to all parts of the earth, but they apply with more strength to tropical lands where owing to climatological reasons, soil fertility is intrinsically fragile and easily vulnerable to destruction.

Comparatively, recent studies on tropical soils on all continents—Asia, Africa and Central America—have discovered some remarkable similarities in soil characteristic, most important for a realistic national policy on soil conservation. Tropical lands differ radically in many respects from those in the temperate zone, and many farming practices applicable to the latter have been found to have ruinous results when applied to tropical lands. It is now widely accepted

that unirrigated tropical uplands can not be continuously plowed for the plantation of food crops without causing a rapid deterioration in soil fertility. It is here where the shifting system of cultivation—called *kaingin* in the Philippines, *Milpa* in Mexico, *Ladang* in Java, *Roca* in Brazil, *Ray* in Indo-China and *Masole* in Belgian Congo—is so prevalent. This system, so strangely uniform in all tropical lands, and so highly deprecated because of its harmful effect on soil fertility, is after all the only system of cultivation adapted to unirrigated tropical uplands; and if temperate zone agricultural practices were applied with deep plowing and mechanized power, the effects would still be more disastrous. The reason is fundamental, because tropical soil—aside from flooded ricefields—can not hold their fertility principally due to the fact that at the normal tropical temperature (above 75 degrees F) organic compounds rapidly decompose and upon contact with water have a tendency to leach out fast, leaving the soil devoid of plant nutrients. It has been observed in Africa and Brazil that wherever modern mechanized agriculture has been practised, cleaning the land more thoroughly, and by deeper plowing exposing the soil more to the sun, the results are still worse than those observed under the “*kaingin* system,” the fertility of the soil vanishes even more rapidly.

On unirrigated tropical lands, the only cultivation that seems reasonably enduring is tree agriculture, like coconut, cocoa, coffee, banana, etc., under which the soil is kept under the shade of the tree canopies and the roots bind the soil, thus combating leaching and erosion. The only probable exception to this rule is sugar cane, under which tropical lands seem not to deteriorate fast although plowed, probably because the crop takes a longer time, nearly a year and the soil thus suffers less from sun exposure.

Though this generalization regarding tropical uplands might be subject to several qualifications, it is now widely accepted that tropical lands are not as rich as one would

expect from their luxuriance and their fertility is fragile and easily destroyed once the forest cover is removed.

MISUSE OF LAND AND ITS CONSEQUENCES—CONTEMPORARY EXAMPLES.

A strict adherence to the principles of land classification and a strict enforcement of the rules governing the use of lands according to their respective capabilities is most imperative in tropical lands. The only alternative is rapid fertility destruction and farm misery.

In the Philippines we have several shining examples of rank neglect and misuse of land. Perhaps the most glaring case is that of Cebu where in spite of all government efforts, vegetation continues to recede and *water erosion keeps on becoming worse and worse every year.*

A similar experience can be observed in the district of Buenavista, Bulacan. In this place, famous for the political controversies which centered on its acquisition by the government, the soil fertility has been so depleted that farmers can expect a rice yield seldom higher than 10 cavanes per hectare. In order to replace the soil fertility in this region, a long and arduous process will be necessary which will perhaps take more than a generation. In the Koronadal Valley, unless steps are taken promptly to counteract the forces exhausting the soil, the ultimate results will be similarly disastrous. For the present savannahs standing on Koronadal's very thin soil, if cultivated by plowing, offer the classical example of misuse of tropical lands.

And so, we might go on to many other regions. It is told that Ilocos regions once were fertile lands, they were among the first ones to be settled by the Spaniards, and yet now they are classified as among the most infertile districts, and their population is continuously looking for other lands where it may emigrate. Coincidentally, the surrounding highlands have been most heavily denuded.

What is most tragic about misuse of land is that while those who settle on what should otherwise have been kept under forest do get a very miserable subsistence level crop themselves, by their destruction of the forest cover they impair the fertility of the surrounding good agricultural lands. And so while no new good land is acquired, even what otherwise would have been good land becomes bad. A famous author called this latter, exhausted tropical land as land leprosy—such far reaching evil effects can it have—for it is a vicious spiral, as the areas of good land diminish, more forest lands are opened and destroyed, and these in turn destroy more good lands.

ECONOMIC VALUE OF FORESTS.

On the other hand, these fragile and delicate soil lands which are so incapable of sustaining agricultural cultivation, when kept under forest are not so idle from the national economic point of view. The Philippine forests may be classified among the richest in the world, and the demand for our woods is steadily growing from year to year. In the year 1953, the exports for logs and lumber were valued at ₱46,769,487.08 ranking third in the country's exports aside from the valuable contribution to the domestic economy in the building of the much needed housing for our growing population.

On the basis of an average density of 150 cu. m. of merchantable timber per hectare of forest land, at the present ruling price of approximately ₱30.00 per cu. m., the gross yield per hectare is ₱4,500.00. If we estimate a cutting cycle from first growth of 50 years, the annual growth yield would be around ₱90.00 per hectare. We would remember that this yield is obtained on soil otherwise poor for agriculture, and it should also be pointed out that a great deal can still be done to improve on the utilization of our timber—it is estimated that at present only 25 per cent of a tree is converted into merchantable lumber, and by modern utilization plants it is possible to expect a utili-

zation as high as 70 per cent.* If in addition we consider that there are other products like rattan, gum copal, firewood, etc., we can appreciate how utterly erroneous is the notion that forest lands are idle lands in the sense that they do not contribute much to the gross national product.

In other countries such as America, Australia and New Zealand, the governments and even private enterprise have gone to the extent of buying out vast extensions of private lands in order to convert them into forests, and these man-made forests are proving to be profitable investments.

REFORESTATION WORK IN THE PHILIPPINES

BRIEF HISTORY OF PHILIPPINE REFORESTATION WORK.

The need for artificial reforestation has been long felt in the Philippines. As early as 1910, a forest nursery was established at the same time as the school of forestry was opened under the University of the Philippines in Los Baños, Laguna. Practical methods of planting cogonal areas were tried and the species suitable for the planting were determined. By 1914, approximately 120 species were tried in the nursery and plantation of the school, and by 1916, this number had increased to 600. At present there is a good number of species which have been found suitable for reforestation, among which are Molave, Narra, Supa, Para rubber, taluto, kalantas, malaruhut, teak, mahogany, ipil, lumbang, banaba, agoho, bitaog, baguilumbang, akle, tindalo, ipil-ipil and madre-cacao.

Pilot Plant Period 1916-1936.

The initial attempt to embark on extensive planting of barren lands was in 1916 when the Philippine Legislature appropriated the sum of ₱10,000 under Act 2649 for the reforestation of the Talisay-Minglanilla Friar Lands Estate in Cebu Province, con-

taining an aggregate area of 4,095 hectares. The Bureau of Forestry immediately established the project, now known as Cebu Reforestation Project, to demonstrate to the public the necessity of putting the land to its best use and how much can be done in the way of reclaiming waste and rocky lands through artificial reforestation. The difficulty encountered at the start was the ejection of the squatters who were very hostile to the project. In spite of this, the work progressed rapidly as available funds warranted and 73 per cent of the area was planted. Due to lack of funds, however, the work had to be stopped for some time. The squatters, taking advantage of the temporary abandonment of the project, returned to the estate and made clearings on the areas planted to ipil-ipil and other fast growing forest species.

In 1919, three new projects were opened. Up to 1926, the expenses for reforestation were taken from the general appropriations of the bureau, and because these were limited, the work was confined to experimental planting, establishment of small plantations, studies on treatment of seeds to hasten germination, and species suitable for reforestation purposes. In 1927, the amount of ₱50,000 was appropriated under Act No. 3238 to continue the activities of planting. This made possible the opening of the Cinchona Plantation at Bukidnon during the year and of three other new projects up to 1931. From 1932 to 1936, the amount of ₱310,000 was made available for expenditures. No new project was opened as the money was just enough to maintain the then existing projects. *Full Scale Reforestation 1937-1941.*

In 1937, under Commonwealth Act No. 245, the amount of ₱258,198 was appropriated. This was the biggest appropriation authorized for a single year since the beginning. Because of the increased volume of work brought about by the substantial increase of appropriation, the office of the Forester in Charge of Reforestation Projects

* When this high utilization is achieved, the yield might treble, to around ₱250 per hectare per year.

was organized. Extensive and intensive planting surveys were conducted to determine the area needing planting, and gather data for a long-range reforestation plan.

In 1938, the total amount of ₱1,256,375 was appropriated under Commonwealth Acts Nos. 300 and 304. During the year, 12 additional projects were established. Reforestation became so important an activity of the Bureau of Forestry that in 1938, the office of the Forester in Charge of Reforestation Projects was organized into, and made to function as, a Division of Reclamation and Reforestation. In that same year, five more new projects were established.

When the war broke out in 1941, the total amount of ₱1,689,710 was appropriated for reforestation under various Acts of Congress.

War Period.

Since the beginning up to the outbreak of the war, the Government had spent about 3½ million pesos for an extensive reforestation program. At the outbreak of the war, the work was very well in progress in the 35 reforestation projects established in the various parts of the Philippines, distributed as follows: 11 in Northern Luzon, 14 in Central Luzon, 1 in Southern Luzon, 6 in the Visayas and 3 in Mindanao. Four of these projects were located in established forest reserves, 7 in national parks, and the rest in the watershed of the Agno, Pampanga, Abra and Cagayan rivers and in other places where the problems of flood and erosion, flood control and water conservation are of such a nature and character as to demand immediate attention. For reforestation purposes, 1,841,980 hectares of open lands had been intensively studied. Out of this area, 963,740 hectares or 53 per cent needed immediate planting. About 467,700 hectares of the area needing reforestation had already been included within the jurisdiction of the existing 35 projects.

The total area of the plantation before the war was 26,660 hectares classified as fol-

lows: fully-stocked, 5,200 hectares; partially-stocked, 16,500 hectares; and unclassified, 4,960 hectares. The number of trees living in the plantation was estimated at 687 million, of which 25 million were of the more desired timber species and 662 million were ipil-ipil. The nursery exclusively for cinchona growing had an area under maintenance of 51,570 square meters with an annual capacity of about one million seedlings. At the outbreak of the war, the area of fully-stocked cinchona plantation was 344.26 hectares containing about 1,200,000 cinchona trees.

The forest nurseries during the years of enemy occupation were neglected. They were partially or fully destroyed and were rendered wholly inoperative. Nursery houses, water systems, seeds and transplants beds, etc., were bombed or burned and tools and equipment looted.

A large portion of the plantations were cleared for cultivation by evacuees. All the young seedlings died due to suppression by grasses, while many older trees were cut and utilized for firewood. Only a few of the projects were kept in operation but no planting was done therein as the work was confined mostly to guarding the salvaged property and equipment, and protecting from fire the few trees that were found surviving in the plantation. Only about 15 per cent or 4,000 hectares of the prewar plantations survived the ravages of the war.

Immediate Post War Period.

Before the war, reforestation work was carried on with funds under the Coconut Oil Excise Tax. During the first year after liberation, there was difficulty in securing funds to enable the Bureau of Forestry to reopen

Many thousands have the ability to achieve outstanding success in every undertaking of life—politics, literature, music—if they were willing to give themselves and overtime to one achievement. Getting is the result of giving. When one directs all his energy into one channel, and gives himself wholly to one task, something will happen.

—*The Speaker's Library*

the projects. No fund for reforestation was made available until January 3, 1946, when the amount of ₱540,000 was appropriated for the purpose under Commonwealth Act No. 718, of which, however, only ₱216,000 was released for the fiscal year ending June 30, 1946. With this initial appropriation, only 29 were reopened of the 35 reforestation projects in existence before the war. The work was confined to the rehabilitation of the nurseries, recovering looted equipment and tools, reconstruction of water systems, nursery sheds and office buildings, sowing seeds on nursery beds, construction of fire lines and cleaning the plantations. New areas had to be located for nursery sites as most of the old ones were overgrown with saplings and poles and were converted into arboretum. A total area of 37,730 square meters has been reconstructed as forest nurseries. The acquisition of needed equipment, especially planting tools, was very much delayed on account of the inavailability of those tools in the local market.

For the fiscal year ending June 30, 1947, the total appropriation available for reforestation was ₱280,000 under Republic Act No. 80. The Cinchona Plantation in Bukidnon was allotted an initial capital of ₱144,000 as a revolving fund for its maintenance. Due to adverse peace and order conditions in the vicinity, the Western Pangasinan Reforestation Project was temporarily closed. A total area of 117,053 square meters was main-

tained for forest nursery. There were planted new area covering 393 hectares and approximately 227 hectares of the old plantations were replanted.

REFORESTATION UNDER REPUBLIC ACT NO. 115.

Commencing on July 1, 1948, a new and more permanent source of funds was available for reforestation work. Under Republic Act No. 115, a separate fund was constituted by levying the amount of ₱0.50 on each cubic meter of timber from the first and second groups, and ₱0.40 on third and fourth groups, cut and removed from any public forest for commercial purposes.

Under this law, at the present rate of logging, the Government is assured of around a million pesos annually, and this law provides that the funds thus collected will be exclusively used for reforestation work. During the last five years ending on June 30, 1953, the disbursements under this fund averaged ₱883,328 yearly, but of this amount only 85% was disbursed for purely reforestation work, the balance having been spent for salaries and wages of personnel not directly connected with actual reforestation work, such as rental of buildings, expenses for scaling, accounting, auditing, etc. The following table shows the income, appropriation and actual expenditures for reforestation from 1947 onwards:

Fiscal Year	Income	Appropriation	Actual Expenditures
1947-48	₱ 437,515.71	₱ 200,000.00	₱ 246,016.44
1948-49	862,985.20	986,679.00	855,583.80
1949-50	908,087.73	974,096.40	969,601.49
1950-51	1,192,390.32	821,000.00	800,384.61
1951-52	1,310,255.44	921,858.05	921,326.34
1952-53	1,025,694.52	1,376,480.00	1,423,750.86
TOTAL 1948-1953	₱5,299,413.22	₱5,080,203.45	₱4,970,647.10
Average Yearly	₱ 938,915.96	₱ 949,614.18	₱ 883,328.72
1953-54	522,510.49*	1,050,560.00	672,194.74*

The following table shows the work accomplished as of June 30, 1953, in the various reforestation projects arranged in their order of establishment:

* Up to February 28, 1954, or for eight months.

Name of reforestation project	Location	Date established	Proposed Area to be reforested (Hectares)	Area of Nursery (Sq. M.)	Area Actually planted (Hectares)	Percentage
1. Makiling	Los Baños, Lag.	1910	3,900	74,111	433	11.1
2. Cebu	Camp 7, Cebu	5-1916	2,690	4,749	666	24.6
3. Caniaw	Bantay, Il. Sur	1919	35,236	54,216	246	0.7
4. Arayat	Arayat, Pampanga	1919	3,710	15,000	525	14.2
5. Impalutao	Impasugon, Buk.	5-1927	1,000	29,998	299	29.9
6. Ambuklao	Bokod, Benguet	4-1928	29,090	4,000	376	1.2
7. Cinchona	Kaatoan, Malaybalay	8-1929	6,410	71,260	450	7.0
8. Paraiso	Nueva Era, Il. N.	5-1930	26,166	45,101	577	2.2
9. Salinas	Pingkian, N. Viz.	3-1931	5,430	56,531	320	6.0
10. Siquijor	Larena, Siquijor	4-1937	260	11,054	283	100.0
11. Carranglan	Carranglan, N. E.	5-1937	14,800	57,286	594	4.0
12. Marinduque	Boac, Marinduque	5-1937	3,480	190,000	126	3.6
13. Itogon	Itogon, Mt. Prov.	6-1937	32,500	13,200	406	1.2
14. Bohol	Carmen, Bohol	7-1937	2,920	86,520	595	20.3
15. Bulusan	Bulusan, Sorsogon	8-1937	795	10,000	48	6.0
16. Cabunagan	Bauko, Mt. Prov.	10-1937	27,300	42,816	831	3.0
17. San Jose	San Jose, N.E.	5-1938	20,000	66,764	569	2.8
18. Aringay	Pugo, L. Union	5-1938	14,930	17,500	60	6.4
19. Roosevelt	Dinalupihan, Bat.	5-1938	1,480	3,390	82	5.4
20. Magat	Bagabag, N. Viz.	6-1938	20,050	10,000	112	0.5
21. Lagangilang	Lagangilang, Abra	6-1938	38,500	235,000	276	0.7
22. Kennon Rd.	Benguet, Mt. Prov.	6-1938	5,200	5,234	460	9.0
23. Canlaon	Murcia, Neg. Occ.	6-1938	6,120	22,890	247	6.0
24. Sto. Tomas	San Marcelino, Zam.	8-1938	10,000	68,764	113	1.1
25. Baguio	Benguet, Mt. Prov.	10-1938	30,560	5,085	754	2.4
26. Consuelo	Sta. Fe, N. Viz.	2-1938	12,000	160,000	63	0.5
27. Nasiping	Gattaran, Cag.	5-1939	4,720	55,690	167	4.0
28. Malaybalay	Malaybalay, Buk.	5-1939	1,750	27,813	251	14.0
29. Manleluag	Mangatarem, Pang.	6-1939	91,700	40,400	24	0.2
30. Bacnotan	Bacnotan, L. Union	8-1948	115	30,000	15	13.0
31. Nabua	Nabua, Cam. Sur	2-1949	1,500	81,496	148	10.0
32. Liuanag	Tumauini, Isabela	3-1949	5,100	25,054	121	2.3
33. Dingle	Dingle, Iloilo	8-1949	260	6,885	128	56.0
34. Malasag	Cagayan, Or. Mis.	9-1949	900	58,499	108	12.0
35. Sibalom	Sibalom, Antique	12-1949	5,620	15,000	12	0.2
36. Basilan	Basilan City	1951	1,500	15,766	41	0.3
TOTAL			467,692	1,717,072	10,526	2.2

* Up to February 28, 1954, or for eight (8) months.

EVALUATION OF THE WORK ACCOMPLISHED:

Since the reforestation work was started, the Government has spent about ₱10,000,000 and the area at present covered with forest plantations under the various projects measure about 10,500 hectares. This might lead one to believe that the cost of reforestation averages at the high figure of nearly ₱1,000 per hectare. Such conclusion, however, would not be warranted since a large portion of the disbursements was invested in survey work, acquisition and preparation of the nursery sites, and in repairing and replacing the vast losses caused during the war. At the start of the war, there were 26,600 hectares under reforestation and out of these 85%

was destroyed. In addition, the appropriations for reforestation were very irregular and the work had by necessity to be spasmodic and intermittent, depending on the availability of funds. The record of disbursements for reforestation work are as follows:

1916	₱ 10,000.00
1927	50,000.00
1932-1936	310,000.00
1937	258,198.00
1938	1,256,375.00
1941	1,689,710.00
1947-1954	5,888,858.00
TOTAL	₱9,463,141.00

It is only after 1948 that a steady source of funds for reforestation was created under

Republic Act No. 115 and the statistical data available for the last five years can hardly justify the drawing of any valid conclusion as to the average cost of reforestation. It is believed that if the work were well organized and the necessary funds supplied steadily from year to year, the cost of reforestation per hectare will be brought down to a much more reasonable figure. In the United States, it is claimed that the cost of reforestation averages around \$10.00 to \$12.00 per acre or ₱60.00 per hectare. In the Philippines, our cost might considerably be higher due to our harder climate.

The following unit cost data compiled by the officers in charge of the different projects might be of interest:

1. Cost of raising per 1,000 seedlings of Benguet pine	₱ 1.52
2. Cost of raising per 1,000 seedlings other than Benguet pine	4.335
3. Cost of potting per 1,000 seedlings including cost of potting materials	20.15
4. Cost of weeding per 1,000 sq. meters of nursery	32.90
5. Cost of planting per 1,000 bare-root seedlings	34.00
6. Cost of planting per 1,000 potted seedlings	43.15
7. Cost of planting per 1,000 earth-balled seedlings	125.18
8. Cost of planting per hectare with bare-root seedlings	76.36
9. Cost of planting per hectare with potted seedlings	79.75
10. Cost of planting per hectare with earth-balled seedlings	206.19
11. Cost of brushing plantation per hectare	91.20
12. Cost of construction 1,000 meters of fire-line (5 to 8 meters wide)	134.60

MAGNITUDE OF THE TASK AND MAIN DIFFICULTIES ENCOUNTERED

The principal cause for the destruction of our forests and the conversion thereof into

extensive cogonal areas is the roving or shifting system of cultivation, commonly called *kaiñgin*. This primitive form of agriculture carried on from time immemorial continues until now unabated notwithstanding the vigorous penalties meted out by Commonwealth Act No. 447 commonly called the "Kaiñgin Law."

It is now estimated that there are at present 5,073,000 hectares of cogonal lands constituting approximately 17.4% of our total land area. This barren, desolate and impoverished regions are mostly located in the watersheds of our principal rivers and therefore are in urgent need of reforestation if, for nothing else, but to control the increasingly devastating floods which occur yearly during the rainy season. *Even if we were to artificially reforest one-half of this area and the planting were at the unprecedented rate of 10,000 hectares a year, it will still take 250 years to accomplish the task.*

What makes the problem more tragic is that the task is still growing, now kaiñgins are still being made, usually in the wake of timber logging operations and consequently the situation is not even stabilized, let alone improving. It is probable that around 25,000 hectares of forest areas are logged over annually. A considerable portion of these areas falls under the agricultural classification, and therefore would not need reforestation; but a very large portion should be kept under forest, and in these areas, natural regeneration should be encouraged which would bring about the desired reforestation at a much lesser cost. The fact is, however, that much of this logged-over areas inevitably fall under squatter occupation and it becomes impossible, nay useless, to practice any modern system of sustained yield logging.

PROBLEMS INVOLVED AND SOME RECOMMENDATIONS HOW TO IMPROVE PUBLIC SUPPORT FOR FOREST CONSERVATION.

Heretofore, the campaign in favor of forest conservation, outside of the forest ser-

vice, has always been waged by lumber interests and there has been a general disinterest, nay apathy or even antagonism on the part of agricultural elements. This should not be so and must be changed as farmers must be convinced that forests and foresters are their best allies and they should consider it part of their activities to defend the surrounding forest lands against encroachment. It is said that in Scandinavia, the natural resources are comparatively meager, and the exceptionally high standard of living is only achieved because *the people participate wholeheartedly in the long-range program for the perpetual use of forest, crop and pasture lands based on enlightened and articulate public opinion.*

The resistance to land use control and disinterest in forest conservation in the Philippines arises partly from lack of faith in the scientific principles involved and partly from the all too widespread and most dangerous notion that we still have enormous quantities of public lands, potentially agricultural, and we can therefore afford to be wasteful in our land utilization policies.

To build faith in scientific principles and practices among the townspeople, particularly the unlettered, is no easy task. We might point out, however, that around two generations ago, an almost similar situation obtained regarding the science of medicine when physicians had to contend against herb and witch doctors. And yet now, the Philippine population can be said to be completely health conscious with unlimited faith in the science of medicine. By the time soil science achieves the same degree of public faith, the problem of reforestation will probably be more than half solved. As in medicine, it will allow the adoption of preventive measures which are always many times cheaper than curative process. A policy of "land hygiene" might be launched with the aim of preventing infection in land sickness and thus keep our forests and watersheds in a healthy and vigorous condition.

Perhaps it might be helpful to establish

certain definite zones or regions, whether coinciding with provincial boundaries or not, but which make up reasonable topographical units, with the aim to bind together the people in each zone so that they may all pull together in putting soil scientific principles into practice. Perhaps thus the people might actually see the difference in the productivity of their lands with and without forests.

DETERMINATION OF THE PERMANENT FOREST AREAS AND UNEQUIVOCAL DEMARKATION OF THE FOREST LINES.

Since until now, areas under forest continually pass on to agricultural classification, it is natural for townspeople to expect that this process will continue in the future, and the notion of permanent forest areas does not seem to them understandable. In order to change this general attitude, it might be advisable for the National Government to announce a formal declaration establishing the policy of permanent forest areas, the determination once made to be final and the areas so determined never again to be subject to revision for re-classification. This will remove the existing uncertainty and will destroy the incentive which induces squatters to settle on forest areas.

These permanent forest areas should be determined as early as possible and boundaries marked in a most unequivocal way to prevent trespass due to ignorance or misunderstanding. Whenever possible, the forest line should coincide with natural topographical boundaries like rivers, ravines, etc., so as to make the boundaries more easily defensible.

WHERE TO CONCENTRATE THE REFORESTATION WORK.

Admittedly, the funds available will never be enough to perform all the required reforestation work at the same time. It is the common problem of scarce means, and the policy should be to invest funds where they may be expected to yield most. The

choice will be between the old, highly denuded areas or the recently logged-over sectors of the lumbering areas. Lately, the Department of Agriculture and Natural Resources issued a new regulation whereby one-third of the reforestation fund must be invested in work on lumbering areas and the remaining two-thirds to be devoted in the continuation of the work at the old denuded areas. Though this new regulation might work considerable hardship in maintaining the present reforestation sites, and some of them might have to be abandoned temporarily, still the enforcement of the new regulation might put to test the effectivity of the preventive measures discussed in the foregoing paragraph. Certainly *it seems highly folly to invest large sums of public funds in reforestation while at the same time new lands are being deforested.*

In addition, *at the lumbering areas, a cooperative plan might be worked out with the concessioners whereby the latter would assist or even contribute financially in the reforestation work of their particular areas.* It is felt that most concessioners would gladly agree to help in this work if only they were assured of a reasonable permanency in their concession rights.

A word might be also said regarding the wisdom of concentrating efforts on projects which can be carried out within the financial capacity of the reforestation fund. To spread the funds among too many projects may have the detrimental result scattering efforts, making it impossible to attain efficiency. It is recommended that the financial requirements of reforestation projects be carefully studied and minimum requirements be established with a view to avoiding the opening up of new projects unless the necessary funds are available. A good objective would seem to be to attack few projects but to do them well.

WHAT TO DO WITH THE NEWLY OPENED REGIONS.

The present administration has embarked on an aggressive policy to rapidly open up

new lands by building a vast network of road, particularly in the island of Mindanao. It would seem highly important to take advantage of this golden opportunity to put to practice the scientific principles of land use control and soil conservation. It is vital that as the new lands are thrown open, the permanent forest areas be determined as early as possible and a plan be designed to enforce a strict adherence to the policy of forest conservation. Otherwise, these lands will be doomed to the same fate as abserved in older regions with all the dire consequences.

It might be appropriate to recall here that Japan with its population of 82,900,000 and a total land area of 36,848,000 hectares still keeps 22,500,000 hectares or *almost two-thirds of its land are under forest.* The comparative figures for the Philippines are: Population — 20,000,000, Land Area — 29,000,000 hectares and Area under forest — 16,487,600 hectares.* This high percentage of forested areas in Japan might be one of the causes of the high-crop yield per hectare in that country; it is a fact that the Japanese Government is well known because of its zealous protection for its forest lands.

Our new areas in Mindanao are probably the nation's last reserves, and if we allow them to be wantonly wasted away, the next generation will have nothing to fall upon and the pressure of population for more lands will be much more serious than what it is at present.

SCIENTIFIC ORIENTATION.

Reforestation is only one of the many phases of the bigger problem of developing a national consciousness for a scientific way of life. Unless and until we succeed in getting the Philippine population imbued with a pervading underlying attitude of applying science to economic production with all the concomittant restraints which this discipline requires, it is impossible to expect a true and enduring progress in our economic growth. Our people must be convinced that they have to live in harmony with nature,

in accordance with the proven scientific laws or else nature will always have the last word.

HOW TO WIN THE PUBLIC MIND.

To attain the objective envisaged in a really effective movement for forest conservation and reforestation, it is essential to carefully prepare a well-designed program to break the present public inertia and indifference, and inspire the public imagination in favor of trees as trees, not necessarily because of the fruits derived from trees.

To a very large sector of the public, a tree not bearing edible or otherwise useful fruits is a useless tree and is better removed. The logical consequence of this attitude is that forest trees since they bear no useful fruits are also useless and, therefore, merit no attention. This whole attitude must be corrected and the campaign should aim to develop a public love for trees, because of their highly beneficial effect on soil, because of the shade they give, and because of the incomparable beauty they impart to any landscape.

In waging this campaign, several media may be utilized, but some of these have been resorted to so much in the past, such as the Arbor Day observance once a year when appropriate speeches are made, articles published in the newspapers, and school

children made to plant one tree each. These practices are already well known and are so familiar that they almost verge into the trite. Something new must be promoted if we are to make any headway.

We propose the establishment of Woodland Parks or City Forests in as many cities or municipalities as possible. It is significantly noteworthy that in our capital city of Manila with its over a million and one-half inhabitants, there should be one Woodland Park. And so it is with all other Philippine cities or towns where all the parks and plazas are treeless, brown patches, of hardly any utility to the townspeople. In all foreign metropolis like London, Paris, New York, San Francisco, Tokyo and even lesser cities, there are always one or several Woodland Parks where residents may leisurely take a stroll at the height of noon and which are important points of interest for visiting tourists. In the Philippines, a tropical country where shade is so very important, our parks are treeless and shadeless.

If a movement were to be started to establish new Woodland Parks or to convert the present ones by planting suitable trees, a healthy rivalry might be aroused between cities, thus stimulating a widespread interest in trees as trees. Preferably these Woodland Parks should be located in the center of the cities or as near to it as possible. In this respect we would recommend the conversion of the Sunken Garden of Manila, or at least the part in front of the Legislative Building, into the first Woodland Park. Undoubtedly, it would enhance the beauty of our capital city and would be a forceful way to convey the merits of the importance of trees.

Coupled with the program of Woodland Parks, there should be a long-range educational campaign supported by brochures and diverse types of literature explaining the values of trees and forests. These campaigns can be well assisted by some slogans such as: "Keep Philippine Fields Green," and "He conserves the Forest who loves the Soil Best."

ANACLETO BRAZIL

O. T. Licensee

Tinambacan, Calbayog City

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Catbalogan, Samar

Education Campaign on Forest Conservation and Reforestation

By ROBERTO VILLANUEVA
c/o Manila Chronicle

Our forest experts claim that for the adequate protection of our land, not less than 40% of our total area must be forest. Others advocate a higher percentage. In the Philippines at present, 38% of our land is forest; in Japan, the proportion is 60%. In order to conserve and expand our forest cover the government is undertaking artificial reforestation at the rate of 1,000 hectares yearly. At this rate, I am told, the job of restoring our denuded areas will take 1,390 years. Clearly the rate of reforestation must be vastly increased if we do not wish to see once fertile lands converted into near-deserts.

Briefly stated, our problem is how to increase the forest cover on our land in the shortest possible time. The problem has two aspects: first, conservation or how to prevent the senseless destruction of valuable forest land, and, second, reforestation or how to rehabilitate destroyed forests and grow trees in denuded areas.

Since the problem is clear, the next question is: Who will solve it? The Department of Agriculture and Natural Resources, and specifically the Bureau of Forestry is in charge. But the job is too big for one bureau with its limited resources in manpower and finance to tackle alone. The job requires the combined efforts of many agencies and groups. In fact, we must mobilize the entire nation, for the solution to this vital program depends to a large extent on the awareness of the people of the real value of trees. The Department of Education must work hand in hand with the Department of Agriculture and Natural Resources

on the task of disseminating information and educating the people. But even if these two departments apply their entire resources to the problem they can do very little without the support of provincial, city or town and barrio officials. The Department of Education can transform the idea of conservation and reforestation into a mass movement by harnessing the enthusiasm and efforts of teachers, students and their parents in every community. Finally, because any general movement needs leadership, we must enlist the support and active sponsorship of business, professional and civic groups. The conservation and reforestation campaign can be conducted with government agencies and officials providing the technical know-how, doing the pre-planning and initial dissemination of information, and shouldering at least the initial financial outlay. As the campaign progresses, and leaders in the community and in the schools are developed, they can take over the wider dissemination of information, much of the actual business of tree planting and the continuing care of the trees. Of course, all this must be done with the support, advice and guidance of our forestry people.

I have just sketched in its barest outlines, the organization of the campaign in terms of human effort. Our attention should next be focused on the specific projects we can undertake.

First, let us consider what can be done in terms of conservation. Although as a project, conservation is not as attractive as reforestation it is fully as important. Refore-

tation will be a waste of human energy if steps are not taken to prevent the systematic and thoughtless plunder of our forest resources.

Three sectors of the population should be the principal targets of our drive for conservation. These are lumbermen, the *kaiñgin* farmers, and the lowland farmers. Everyone is aware of the existence of laws designed to protect our natural resources. These should be strictly enforced especially in dealing with unscrupulous lumbermen and *kaiñgin* farmers. The motivation of the unscrupulous among our lumbermen is quick profit, but certainly they can be made to understand that they will be benefiting themselves in the long run if they observe the laws and limitations imposed on their operations. The conservation of forest lands will naturally redound to their benefit in terms of continuing business.

The question of *kaiñgin* farming is a different matter altogether. Here we can not combat the destruction of forests only through education. Most *kaiñgins* are farmed by migrant families who have no land of their own. Even enforcing the law strictly will not solve this problem unless we want our municipal jails filled with erring *kaiñgineros*. The only way to prevent the destruction wrought by the *kaiñgins* is to settle these people on lands of their own. Provision should be made for them in the government's land resettlement program.

As for farmers who own their lands and who, through ignorance of the value of trees, cut these down for lumber or firewood or to get maximum acreage, education would be the principal remedy. This program of mass education I shall take up presently in the discussion of reforestation projects.

The magnitude of our reforestation work throughout the country and its importance to our national future make it imperative that government agencies and civic organizations properly plan and coordinate their activities in connection with the campaign.

They should know before hand what their objectives are and what their approach should be. I believe that if we are to succeed, the pre-planning stage should be given utmost study and attention.

First, we must recognize that before we can start on the job, we should make people aware of the importance and urgency of reforestation. The Department of Agriculture and Natural Resources and the Department of Education can handle the preliminary spadework along this line. I have no doubt that the Bureau of Forestry has all the data showing the need of conserving our forest. What must be done is to incorporate these data on posters and bulletin board materials which in simple, concise, but striking way, will tell with pictures and words what is happening to our forests now and what could possibly happen if we continue to ignore our forests. Posters should dramatize the soil-conserving and rain-producing functions of trees. This could well be done through the effective use of pictures and cartoons. Other materials suitable for bulletin board display can point out the advantage that some towns have gained by planting trees. Still other poster materials could give information on trees and how to propagate them.

At the same time, brochures and pamphlets should be prepared for the use of leaders of various group levels to generate enthusiasm for the work and give them a working knowledge of the problem and the campaign. In passing, let me impart a friendly warning to those engaged in pamphlet preparation, and it is, that laymen like me, do not have either the time or the patience for Latin terminology or scientific terms. My advice in the preparation of such pamphlets would be: keep it simple, keep it practical and keep it short.

In any project which must rely on mass awareness of the problem as a starting point, one cannot neglect the facilities offered by our educational system. Thus we should enlist the aid of the Department of Education.

It is fortunate that the trend towards the community school which is now being pushed by the Department fits in very well with our campaign. The Department of Education has been conducting experiments in many towns whereby the school makes the study of its own community the core of its social studies. The situation, I may say, is ready-made. All that needs to be done is to incorporate in the social studies curriculum in the elementary level a unit on trees and their value. Geography could stress the value of commercially productive trees in the intermediate grades and in high school, home economics could emphasize the value of a home orchard. Economics in the high school could also develop concern for our forests and General Science could emphasize the relationship between trees and rain, trees and good soil. As a matter of fact, several experimental schools in the public school system have already done their bit. For example, in the agricultural barrio of Cupang, Balanga, the barrio school under the leadership of the Industrial Arts teacher, established a nursery with model greenhouse and model seed boxes. It distributes caimito seedlings, marcotted chico, mango seedlings, etc. at nominal cost. In Mexico and Sta. Ana, Pampanga, the schools have developed orchards and popularized the planting of marungay and katuray trees as sources of feed and to act as wind-breaks and fence-posts. A community school in Cebu is actually engaged in reforestation and soil conservation as a work project.

In conjunction with this development of awareness on the three educational levels, books and pamphlets should be made available in the school libraries.

If this pre-planning activity is carried out among the teachers and students, some of its benefits will no doubt reach the parents. At the same time, the posters and bulletin boards will be reaching the adult population. If the community leaders who have received advance information from the Department of Agriculture and Natural Re-

sources could get together with Department representatives and government officials, they can determine what rules they will play in the projects which they will help to shape. Having prepared the minds of the general public and the student population and having tapped a source for group leadership, the campaign can now be ready to embark on its projects.

These projects may take many different forms. The methods by which people could be induced to plant trees and care for them are limited only by the ingenuity of group leaders and the circumstances obtaining in each area. The variations are endless. I would like to mention a few that have occurred to me.

Let us take a tree planting project which starts in a grade school. In a social studies unit, the children discuss the uses of trees for feed, medicine, shade, soil conservation and rain. This being a farming community, it will be easy for the teacher to stimulate special interest in the relation of trees to soil and rain. The unit discussion may lead to a survey of the students' yard and farms and children may remark on the absence of trees or express a desire to have other useful trees. A resourceful person from among the specially trained group we spoke about in the pre-planning stage could be invited to help set up goals. Meanwhile, children should be encouraged to talk things over with their parents. The next step would be a school program as the unit's culminating activity. Children could prepare a program where they themselves speak on the value of trees and reforestation. A father-son project may evolve from this with fathers setting themselves planting quotas. These self-determined goals should be noted down, and any offers by neighbors of seed or cuttings should immediately be availed of. Enthusiasm may be further bolstered if at this juncture the representative of a civic organization in the town or from the provincial capital could stand up and offer rewards and recognition in a year's time—perhaps dur-

ing the next Arbor Day program. A committee from the civic organization would conduct home visitations every three months to see how the quotas are being fulfilled. The farmers would be more enthusiastic if the awards were practical prizes they could use in the farms. In addition, a certificate for the father-son team to hang in the sala would be appreciated. This is just one of many projects that could be undertaken.

The sources of failure must be guarded against; namely, insufficient check-ups which will cause interest to wane and the setting up of goals too high to meet. Adequate training of both the teacher and the civic leaders should help to temper enthusiasm so that goals set up are realistic and within the reach of the community.

A variation of this project could start with the civic organization itself surveying the community and sponsoring a reforestation contest. This may start on one Arbor Day and end on the next Arbor Day. I shall not go into the details of this program which I am sure any well-organized group can develop for itself.

Then again, instead of having either the school or civic group as the sponsors, town or barrio officials themselves could initiate the program. One town, through its officials, could challenge another, or one *purok* could be in friendly competition with another *purok* of the same town. They could vie for the honor of planting the most trees or developing a beautiful woodland park within a certain period of time. The mechanics for such friendly competition could simply be copied from the Bataan *purok* competitions on sanitation, literacy or poultry raising. The idea of inter-group competition is not new here. We would merely be adopting it to a new purpose. One thing must be remembered, though, before challenges begin to be flung around indiscriminately. Only a town official who enjoys the wholehearted support of his constituents can consider initiating such a competition, for the entire population must be behind him or

the plan will fail since its motivation is civic pride alone.

The barrio assemblies developed by the schools can easily take care of planting trees throughout the *poblacion*. If each household were to be held responsible for planting and caring for a tree in front of the house, there would not be a treeless street in sight within a couple of years. Of course, streets must be so planned as to provide space for trees along both sides. Moreover, with a little direction these tree plantings could yield dividends for the townspeople. A practical town could plant fruit trees and an aesthetically inclined town could plan on flame trees for example, and find these a tourist attraction like Japan's world-famous cherry blossoms.

It may be difficult at the outset to start reforestation projects where but a good beginning may inspire other localities to start projects of their own. For example, a national civic organization may choose one town as a pilot project. It can have an agreement with the town whereby in exchange for a certain number of trees planted and cared for, the national organization will set aside a certain sum of money to undertake one improvement chosen by the town. Perhaps the people want an artesian well, or a reading room, or a better plaza, or a town clock, or an additional schoolroom. They can get it by planting trees. An ideal arrangement would be for a local chapter to take charge of the campaign for its mother organization. The project be publicized with a magazine pictorial of the town and surrounding treeless farms; an account of its proposed undertaking and a map showing where the trees should be planted. At the end of the year, another pictorial article could show what has been accomplished.

One other variation of a tree planting project would be the establishment of a woodland park. If a town or a wealthy philanthropist can set aside an area suitable for development as a woodland park, a youth

(Continued on page 38)

Feasibility of Selective Logging in Dipterocarp Forest

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Selective Logging Defined

To avoid any misunderstanding in the use of the term "selective logging," this term, as used in this report, means the application of the silvicultural system known as "selection cutting." The accepted definition of "selection cutting" is as follows: "Removal of mature timber, usually the oldest or largest trees, either as single scattered trees or in small groups at relatively short intervals, commonly 5 to 20 years, repeated indefinitely, by means of which the continuous establishment of natural reproduction is encouraged and an uneven-aged stand is maintained."¹

Application of Selection Cutting to Dipterocarp Forest

The objective of forest management in dipterocarp forest should be the maintenance of the stand in continuous production thru natural regeneration. The achievement of this objective requires (1) leaving of enough residual stand to constitute succeeding economic cuts within reasonable periods of time; and (2) the production of a condition which will permit the establishment of natural reproduction and at the same time prevent the invasion by secondary species and vines.

This necessitates a partial opening of the stand permitting sufficient light for the reproduction to start.

The residual stand acts as a nurse crop for the development of the desirable reproduction.

Selective logging meets both of these requirements and would seem, therefore, to be the proper system of cutting applicable to dipterocarp forest.

The fact that it is not in general practised has been due to the objection that it is economically infeasible. If it can be shown that this objection is not generally valid, there should be no reason at all why selective cutting cannot be generally adopted in dipterocarp forest.

Application of Selective Logging at Bislig

On the operation of the Bislig Bay Lumber Company's concession at Surigao, a good start is being made with the application of selective logging with economic success.

THE CONCESSION

This company was originally granted O.T. License No. 4-'55 on April 26, 1951, to expire on June 30, 1955, covering about 29,500 hectares of public forest located in the municipalities of Sumilao, Bislig and Lingig in the provinces of Agusan and Surigao. This was converted into a ten-year Timber License Agreement No. 43 to expire on April 26, 1961, with a total area of 50,274.7 hectares, of which 16,214.2 hectares are alienable and disposable. This license agreement

¹ "Forest Terminology" *Society of American Foresters*, 1950.

was amended on April 28, 1953, by adding thereto 116,964 hectares, thereby bringing the total area covered to 167,238.7 hectares and located in the Provincial Division of Sumilao, Agusan; Lingig and Bislig, Surigao; and Baganga, Cateel land Compostela, Davao.

The annual allowable cut is 120,000 cubic meters but not to exceed 240,000 cubic meters.

Logging operations have been confined on the watershed of Mangagoy, Bunawan and Tuma-an Rivers. The country is rolling and consists of low mountains with broad ridges.

An idea of the stand of the virgin forest in the vicinity of the present logging operation may be seen from the following cruise data of the company for two adjacent sections of one mile square each:

RANGE OF SIZE DISTRIBUTION

Diameter Inches	Section 12 No. of trees	Section 13 No. of trees
24	320.0	1,599.9
26	799.0	693.3
28	373.3	1,013.3
30	533.3	1,599.9
32	53.3	373.3
34	106.7	213.3
36	106.7	160.0
38	373.3	160.0
40	160.0	266.6
42	106.7	373.3
44	—	160.0
46	—	—
48	—	106.7
50	—	—
52	106.7	160.0
Total ..	3,039.8	6,879.6

In a plot of $\frac{1}{4}$ hectare in a virgin forest, there were counted 22 dipterocarps from 2-22 inches in diameter or a stand of 88 dipterocarps to a hectare in this diameter or a stand of 88 dipterocarps to a hectare in this diameter range.

RANGE OF VOLUME BY SPECIES

Species	Section 12 Volume (Bd. Ft.) Brereton	Section 13 Volume (Bd. Ft.) Brereton
Almon	—	79,680
Apitong	139,904	184,320
Bagtikan	—	361,960
Mayapis	1,452,863	2,336,640
Red Lauan	2,365,120	4,626,240
Tañgile	306,496	1,823,936
White Lauan	604,736	1,130,944
Yakal	—	264,000
Total ..	4,869,120	10,807,720

METHOD OF LOGGING

The system used by the Bislig Bay Lumber Co. is, in general, truck logging, with the use of cold-decking and swinging.

High standard main roads are constructed, along which are strategically located log landings or loading points. Logs are brought to these landings by combination of yarding, cold-decking, swinging and sky-lining to fit the terrain.

The company is operating on four sides. Three are so-called "Washington" sides and one "tractor" side. A "Washington" side is composed of one (1) Skagit for sky-lining only, one (1) D-8 tractor yarder also used for sky-lining and that three (3) 150 h.p. Washington" diesel yarders. The "tractor" side is composed of one (1) Berger yarder and two (2) tractor yarders. A unique feature of this operation is the fact that no yarder is more than 150 h.p. The yarding radius is from 700-800 feet.

FELLING AND BUCKING

Trees 60 cm. d.b.h. or 50 cm. top diameter are felled, except in stands of very low density of from 70-80 cu-m. per hectare. This is another unique feature of this operation, as the legal diameter limit for dipterocarps, except the first group, is 50 cm. d.b.h. Tree lengths run up to 20 meters. Felling is done by the conventional method of axe and cross-cut saw.

As much as possible, logs are not bucked more than 12 meters, except for small diameter logs. This is so because of the limited power of the yarders and the fact that the company does not wish to overload the trucks used for log transportation.

The method of bucking is by hand with the use of cross-cut saw.

YARDING AND LOADING

As mentioned above, all yarders are diesel-powered and no yarder is more than 150 h.p. with yarding radius of from 700-800 feet. On account of the terrain, double yarding is resorted to. Yarders usually cold-decked and the logs are swung to loading points along the road.

Loading on trucks is done by cranes and heel-boom.

TRANSPORTATION

Transportation equipment consists of two (2) types, namely, the heavier type loading from 28-30 thousand board feet, and the lighter type loading half as much. Hauling distance is now about 13 kilometers to the mill.

PRODUCTION

Under this system of operation, the company logged the following:

Year	Area (Hectare)	Total Volume Bd. Ft. (Brereton)	Volume per Hectare Bd. Ft. (Brereton)
1951	474.50	20,306,772	42,796
1952	916.50	51,332,972	56,010
1953	1,413.76	54,237,331	38,364

SILVICULTURE RESULTS

This operation, except for the area covered by the management plan in Basilan, is the closest approach to the application of selective logging on a large scale in the Philippines and the results are quite encouraging.

A good idea of the residual stand of dipterocarps may be obtained from the attached simplified stand table. The table lumps all dipterocarp species together, and omits other

miscellaneous species on the area. These data were compiled from 12 sample plots each .05 hectare in size, located in the 1951 cut-over area. The table shows the average stand (number of trees) per hectare, by one-inch-diameter classes in April 1952 and April 1953. The figures in parenthesis in the 1952 column indicate mortality. Those in parenthesis in the 1953 column indicate trees which have moved up to a higher diameter class during the year.

In summary, these data show that the residual merchantable stand of dipterocarps in April 1952 averaged 25.7 trees, 21" or greater d.b.h., and 13.5 trees, 25" or greater d.b.h. One year later, the stand averaged 27.4 trees, 21" or greater d.b.h., and 13.6 trees, 25" or greater d.b.h.

Comparative d.b.h. measurements made on 100 individual dipterocarps on these plots showed an average increase of .36 inch for the year.

While these data are, of course, too meager to attempt to accurate long-range growth prediction, they do give an indication of what might be expected in the future, barring a catastrophe such as typhoon or kaiñgin-making. If we apply the average growth figure to the average individual stand per hectare, the following is indicated:

	No. of Dipterocarps	
	21" D.B.H.—	25" D.B.H.—
Present residual stand	25.7	13.5
Ingrowth during 15 years	40.0	26.0
Available for cutting at the end of first cutting cycle	65.7	39.5
Ingrowth during next 15 years	42.8	38.4

The amount of merchantable material available for the third cut, 30 years hence, will be the ingrowth during the second cutting cycle plus the residual stand left by the second cut. No deduction has been made for mortality, except the small amount shown on the stand table. However, even if a fairly heavy mortality factor were applied, there would still be a satisfactory merchantable stand.

The data apply to timbered areas only and do not include spar tree areas, skylining roads or other blank areas. For the area as a whole, these portions will have to be considered. They represent blank areas with no residual stand and no advance natural reproduction.

The data indicate that the selective system of cutting has left a condition where satisfactory, economically feasible successive cuts are probable, with cutting cycle as short as 15 years.

A most important point is the fact that natural reproduction is taking place, and the growth of vines is being retarded. Reproduction counts made by company foresters show 1,600 seedlings per hectare, of which 70 per cent are dipterocarp species. From this reproduction will come the future successive cuts.

It must be kept in mind that the all-size situation of the Bislig Bay stands, with good representation in all diameter classes, is especially well suited to the selection system, which assumes an uneven-aged forest.

Conclusions

1. Selective logging in dipterocarp forest is silviculturally desirable and economically feasible. Its best application, however, requires a stand condition where there is a fairly even distribution of all size classes particularly on the smaller size classes (24 inches or less d.b.h.).

2. Conditions suitable to selective logging exist in varying degrees on all large conces-

sions. On Bislig area, there is a good distribution of all size classes over a large portion of the area. On some other large concessions, an even-size condition predominates over much of the area.

3. On areas where even-size condition exists, especially where there is a heavy concentration on the higher size classes, selective cutting will not leave a good residual stand and therefore cannot be satisfactorily applied. On such areas, some degree of clear-cutting must be permitted at least for the first harvest. However, in order to obtain natural reproduction and to discourage the growth of undesirable species and vines, this clear-cutting should not be applied over the total area but should be done in strips or patches.

4. The conditions of size distribution are not always obvious or well defined. For this reason, a high degree of professional judgment is necessary in determining the cutting policy on any area.

5. Even where an all-size condition exists, the resulting damage on, and density of, residual stand depend much on the power and type of the yarding machineries. On Bislig area, diesel yarders of not more than 150 h.p. showed very desirable results on the residual stand.

Recommendations

1. Selective cutting should be required on all areas where a sufficiently satisfactory all-size distribution exist.

2. Modified clear-cutting in strips or patches should be permitted for the first cut on areas where even-size condition makes it necessary.

3. Since varying stand conditions exist on all concessions, the cutting system used should not be uniform over the entire area, but should be flexible and varied to suit specific stand conditions. This will require good professional judgment in many cases. Technical foresters of the Bureau of Forestry should be the ones to exercise this judgment. Resident foresters on the concessions

(Continued on page 42)

RAMON LAO HOO

Sawmill Operator & O. T. Licensee

Catbalogan, Samar

Are We Overcutting Our Forests?¹

By LUIS J. REYES²

Authorities agree that once upon a time all the islands of our Archipelago, with few exceptions were covered with dense vegetation. From the sea coasts up to the high mountain tops, stretched unbroken virgin forests of various types with members of the lauan family (Dipterocarpeae) predominating in the low and middle elevations. With primitive tools, the first settlers must have toiled hard to make the clearings they needed for their settlement and places to plant crops. Except for the fish and game found in them, the forests were more of a liability than an asset. By cutting the trees down and letting the grasses grow, not only attracted deer, but they also found that burning the grass helped them push back the forest. This practice continued for hundreds of years, it has not stopped to this day!

Increase in population and subsequent waves of immigration have required new clearings and so more trees were cut down in order to meet the demands of agriculture and primitive economy. Years of shifting method of cultivation and uncontrolled timber cutting have reduced the area and volume of our timber stands. The barren mountains of Rizal, Cavite, Batangas, Zambales, Cebu, Bohol as well as most of the grass lands throughout the Nation are the result of primitive system of cultivation known as "kaingin." It is disheartening to think that all these mountains were, once upon a time, covered with virgin timber, and now, whether we like it or not, a certain portion of these must be reforested at

high cost to the Nation, in order to keep them under vegetation to serve as reservoirs for irrigation and soil protection. Verily, stripping the mountains of trees invariably results in dry rivers. Needless to say "kaingin" making must be stopped and discouraged even in second growth forests.

Besides "kaingin" making, we have during the last twenty-five to thirty years another factor which threatens the forest of the future. I have reference to uncontrolled timber cutting. Every forester, at one time or another, has been asked the question: "Are we over-cutting our forests?" Alarmed at the rate at which the forests are being cut down, namely: about 1,200 million board feet a year, people continually ask this question of us foresters, who are trained in the science and art of managing forests. Indeed, examples are many of countries that discovered too late the evil effects of over-cutting. China is a classical example of such a country and even America in one generation has cut down her "inexhaustible" forests of the Lake States, then those of the Gulf States and are now logging the remaining stands in the Northwest. Several large American companies have already moved to Canada, where some of the most active logging operations are in progress. But in the Philippines, where will we go after cutting down the remaining virgin stands? Where will our children and their children secure the timber for their homes, and for the wood-using industries that must be supplied with raw materials?

¹ Based on an address delivered at the Forestry Day Celebration held in the College of Forestry, Los Baños, Laguna on November 29, 1953.

² Formerly Wood Technologist, Bureau of Forestry and Bureau of Science.

One of the basis upon which foresters determine future timber supply is a knowledge of growth of trees under different sets of conditions. Brown and Mathews,¹ who were the first to study dipterocarps and dipterocarp forests, have discovered valuable information on growth. For example, they found that young trees of lauan up to 60 cm. in diameter are fast growers and put on as much as 3.10 cu.m. (1,314 bd. ft.) of growth per hectare per year. Those above 60 cm. make relatively slower growth amounting only to 0.7 cu.m. (297 bd.ft.), indicating that those that have reached a diameter of 60 cm. may be considered as having reached merchantable size although they are still capable of growing to larger diameters, until finally trees stop to grow and die of old age or of some other causes. Brown and Mathews also found that "the total growth of 3.9 cu.m. (per hectare) is equal to the annual growth on capital of 203.9 cu.m. (86,454 bd. ft.) and is therefore a growth of 1.91%. Assuming that the percentage of growth as shown by the forest is approximately normal for equal volume of timber throughout the Philippines, we are in a position to make an approximation of the total production of our timber in the forest." I quote further, "Whitford estimates the total stands of timber of the Philippine Islands at 822,584,000 cu. m. By applying our percentage growth of 1.91%, we can estimate that the total annual production of timber in the Philippine Islands amounts to 15,711,000 cu.m." *This growth amounts to 6,711 million board feet per year.*

It is apparent that the conclusion arrived at by Brown and Mathews to the effect that our forests are putting on a yearly growth of about 6,711 million board feet has been taken as the basis of official estimates on growth for years. *It is high time therefore that we should call attention to the fallacy of these figures, which took into account only the growth of individual trees without at the*

same time deducting the mortality due to old age or by some other causes. We should realize that our forests are old: they have been in existence for thousands of years. As proof of old age we find petrified trunks of big dipterocarps and other forest trees in many islands of the Philippines; E. D. Merrill, formerly Director of the Philippine Bureau of Science, also showed me an imprint on a rock of a leaf of tangile, *Shorea polysperma* Dyer, which he assured me was thousands of years old. Besides these, many of our mountains which were once upon a time active volcanoes could not have been covered with mature forest except after a lapse of thousands of years! *It can therefore be presumed that our forests have already attained their maximum volume capacity and that no appreciable increase could be expected in them even in ten, fifty or one hundred years from now.* In other words, our forests have reached a state of equilibrium insofar as volume growth is concerned. While young trees are growing, yet the old ones are dying and this cycle continued uninterruptedly for centuries. *It is erroneous, therefore to say "that our total annual cut of both logs and sawn lumber is still far below the estimated annual yield of our timber stock."*² Because if it were true that the total cut is far below the annual yield of our forest, then through the years the volume of our timber stands would have increased; it would have been much greater than it was say thirty years ago when more serious attention was given to the exploitation of our lauan forests. True enough, there is growth taking place in logged-over areas, but this is only a replacement of what has been cut down; furthermore, many of these lands are being settled for agricultural purpose being suitable for growing crops or else converted into "kaiñgin." It is improper therefore, that we should rest in the illusion "that we could still increase our present cut, at least three times without affecting our timber capital." Great

¹ W. H. Brown and D. N. Mathews. Philippine Dipterocarp Forests. Phil. Journal of Science, Vol. XI, No. 6, p. 524, Nov. 1914.

² Florencio Tamesis—"Lumber Trade Problems"—Manila Daily Bulletin, August 25, 1953.

harm has already been caused to our forests by this mistaken belief. But now the time has come when we must face the bitter truth once and for all. **WE DO NOT HAVE MUCH VIRGIN TIMBER LEFT.** The choice tracks of easily accessible timber in Bataan, Tayabas, Camarines, Negros and in many places throughout the country have already been cut down, and what virgin timber is available are found in remote, broken terrain, expensive to log and require high transportation expenses to bring them to the market.

On the basis of these facts it seems *imperative that a revision of our forest policy should be made* insofar as it pertains to the administration of timber licensees. This is a matter that needs our immediate attention now when our timber production is assuming ever increasing proportions. Foresters know that there is a way by which forests could be managed whereby it would yield the maximum benefit possible, at the same time insuring continuity of timber supply. Good forestry practice calls for harvesting of mature trees upon reaching merchantable size, but adequate protection should be given young trees. It is certainly not the present system with almost no limit set as to the amount that can be cut from timber concessions, and with little or no regard made to save young trees that would take the place of those cut down. The logged-over areas in most operations are left so denuded of young trees and the land exposed to direct sunshine that fast second growth species, of little value from the standpoint of timber production, quickly take hold of the open spaces. No harm is done on lands which are more suitable for agriculture than for growing timber crop, but in absolute forest lands much more attention should be given to the protection of young trees than is given at present. A more optimistic note can be made here to the effect that the *Bureau of Forestry*, realizing the great harm that certain system of mechanical logging has done and is doing our forests, *has started to limit*

the allowable annual cut in some districts and this is a step in the right direction. It should be applied in all forest lands where active logging operations are in progress.

Lastly, in the revision of rules and regulations concerning the operation of timber licenses, it is important that the government should consider not only the protection of the forests, but also the heavy investments in the industry consisting of logging and milling equipment together with costly improvements—all made in good faith with the advice and encouragement of the Government. It will not be an easy problem to solve, but it is our earnest hope that a happy solution would be found that will be fair to all parties concerned. In the first place *a reduction of the annual cut is in order, while at the same time we should take determined steps towards the protection of young trees in absolute forest lands.* These, coupled with a more vigorous program of reforestation throughout the Island would enable us to put back into the forest what we have taken away from it, thus insuring to posterity ample timber supply, at the same time making available to them forests that will prevent soil erosion, and act as reservoirs of rain water indispensable to agriculture.

* * *

HOW MUCH DOES IT COST TO REFOREST THE ENTIRE PHILIPPINES

The total area of *cogon lands* in the Philippines is approximately 5,073,300 hectares. Allowing 60 percent of these lands for agricultural and pasture purposes and as unplantable area, it remains for us *to reforest a total area of 2,029,320 hectares.*

If the goal is to reforest 50,000 hectares annually, it will take about 41 years to plant 2,029,320 hectares.

It is also the plan to produce no less than 1,500 trees uniformly distributed in a hectare of ground. This would require about 3,750 seedlings to a hectare at the start, allowing a survival of 40 percent, which is a very conservative estimate.

With 50,000 hectares to be planted yearly, we will need no less than 187,500,000 (3,750 x 50,000) seedlings every planting season of the year. The average cost of raising seedlings in our nurseries is ₱3.00 per thousand or ₱0.003 per seedling. Raising 187,500,000 seedlings would necessitate an outlay of ₱562,500 (.003 x 187,500,000, annually. In actual nursery practice, the cost of raising seedlings alone, represents about 80 percent of the entire cost of nursery operation (cost of planting the seedlings in the field not included). Therefore, including expenses for improvement of water system, maintenance of nursery office and laborer bunk houses, supervision, collection of seeds and wildings, purchase and repairs of tools and equipment, preparation of seedlings for planting in the field, etc., we need approximately ₱703,125.00 to maintain the nurseries capable of supplying the seedlings needed annually to reforest 50,000 hectares.

It is planned to pay ₱0.23 for every surviving seedling (3-year old) by "pakiao" or contract system of planting. To reforest 50,000 hectares, we need to grow at least

75,000,000 seedlings (1,500 seedlings to a hectare). At ₱0.23 per seedling, we need approximately ₱17,250,000.00 to pay for the trees needed to reforest 50,000 hectares annually.

SUMMARY OF EXPENSES FOR ONE YEAR

For maintenance of nursery to produce 187,500,000 seedlings for planting by the contractors	₱ 703,125.00
For payment to contractors for 75,000,000 3-year seedlings at ₱0.23	17,250,000.00

Total expenses, annually . ₱17,953,125.00

Therefore, it needs about ₱736,078,125.00 (17,953,125 x 41) to reforest the entire area of 2,020,320 hectares of cogon land (1,500 trees to a hectare).

If the goal is to grow 2,000 trees to a hectare, the yearly cost will amount to ₱23,937,500.00 and to reforest our entire cogon land will need a total outlay of ₱981,437,500.00.

THE PHILIPPINE . . .

(Continued from page 12)

is probable, however, that they will account for only a small percentage of the Laboratory's financial support during the next five of ten years.

The Laboratory needs the advice and counsel of the wood industries in developing its research and development program, as well as its support of the financial program. The wood industries need also to maintain close contact with the Laboratory in order to keep informed on the progress of the investigations under way and to understand and take early advantage of the results obtained. An excellent method of providing this two-way exchange of ideas and information is through one or more wood industry advisory committees which would meet with the Laboratory staff for discussion several times a year. Possibly a start has already been made

toward the formation of one or more committees of this kind. If not, it is not too early to begin.

Finally, gentlemen, I ask you to keep strongly before you the idea that the Forest Products Laboratory will be most useful to you and to the country if you, as individuals keep well informed on what it is doing. Give it friendly constructive criticism when you think it is wrong and give it praise when you find something praiseworthy. Get acquainted with the individual staff members so that you can call them by name. Teach them the things you have learned in your business. Your knowledge added to their knowledge amounts to more than the knowledge of either one alone. Above all, give your hearty and continuing support to the development of a thoroughly scientific organization and the prosecution of a well-considered research program.

Success in Tree Planting*

By R. H. ANDERSON, B. Sc. Agr.

Successful tree planting depends on: (1) selection of a suitable species; (2) preparation of the ground; (3) correct planting methods; and (4) adequate after-care.

Choice of Species—A tree must be suited to the condition of the planting site, taking into consideration the nature of the soil, local climatic conditions, available moisture supply, drainage, etc., affecting the health and vigor of the tree.

Ground Preparation — Planting trees in rows or singly:

When *planting trees in rows* for avenues or windbreaks, it is desirable to plough as deeply and widely as possible, without mixing the various strata of soils. A ploughed strip from six to eight feet wide is desirable.

In *planting single trees*, the holes should be as wide and deep as possible. A diameter of at least 3 feet and a depth of 18 inches is desirable, but care should be taken that the top soil and sub-soil are not mixed, replacing them in the same order.

Planting Methods—Plants received from nurseries can be divided into four main groups:

(1) *Plants in 4-inch pots, metal tubes, or cardboard containers.* Unless planted immediately, the plants should be placed in a sheltered spot and kept watered until required for planting.

After removing the plants from the containers they should be placed in the center of the hole and the soil lightly tamped down. The soil around the roots should not be disturbed in any way.

(2) *Open-rooted or bare-rooted plants.* (Applicable only to cold climate countries.)

(3) *Balled plants* Some plants are re-

ceived wrapped in hessian or similar material. These should be planted out immediately or kept moist in a sheltered spot until required. A hole is opened to accommodate the plant without removing the hessian, but merely to loosen it from around the stem of the plant. The roots remain undisturbed and the hessian soon rots.

(4) *Advanced plants in tins.* A hole should be prepared as closely as possible to the right depth. The plant must be removed from the tin, and this is usually done by cutting down two or three corners with a suitable instrument, avoiding damage to the root system. The plant is then placed in the hole without disturbing the soil.

In all the above cases it is desirable to water the plants thoroughly before planting and allow them to drain before removing from the pots or other containers.

It is essential to water the plants well after planting, leaving a shallow saucer-like depression around the plant which helps subsequent watering. On no account should the soil be heaped around the plant to form a raised mound.

After-Care. The first two years or so after planting constitute the critical period and make all the difference between success and failure. These steps must be carried out for the care of the plants: watering, cultivation, protection from wind, and pruning.

Watering. Regular attention is required during hot dry weather until the trees are well established.

The frequency of watering depends naturally on the rainfall, but it should be remembered that one good soaking is better than several light waterings.

* Condensed from AGRICULTURAL GAZETTE of New South Wales, February 1955.

A mulch of manure, dried grass, or even gravel helps to conserve moisture in drier districts.

Cultivation. Young trees require cultivation to keep down weeds, to conserve soil moisture, and to maintain good soil conditions. Single trees can be cultivated with ordinary garden tools, but large scale plantings, such as avenues and windbreaks, require attention with a cultivator or rotary hoe.

Protection from Wind. In exposed positions the young trees may need protection from wind until they are established. Hessian or tea-tree cover can be fastened to stakes to give protection against wind from the worst quarters, but it is not advisable to enclose the plants completely as they would tend to become spindly and drawn up.

Pruning. It is seldom necessary to prune in the early stages of growth. In most cases the growing tree is required to develop a sufficient length of clean trunk and a well-balanced crown, and this can be produced by careful pruning once the young trees are firmly established.

As the young trees develop, some pruning is necessary to produce a well-balanced crown. No hard and fast rules can be given, but the object is to obtain the future framework by removing unwanted branches while young and by shortening tips where necessary.

FOR NEW THOUGHTS

Every boy and girl in school should read one useful book a month. It should be a book of travel, or of adventure, if the adventure is concerning a new people, and gives information. Or it might be a craftbook, which teaches a new hobby, or a useful art. Or it might be a scientific book—on stars, or botany, or some interesting facts concerning inventions. Or it might be a book of history.

Be certain you read one interesting and useful book a month. Don't try one a week with your school work and other obligations. But twelve books a year will cause you to be far better informed than the average boy or girl of today.

EDUCATION . . .

(Continued from page 28)

organization may take over the planting. In consultation with forestry experts they can draw a plan for their woodland park. Some advanced work can be done by leaders to designate places for planting. Then on Arbor Day young people of the town can organize a mass picnic and mass planting of trees. Everyone can then set up a sign with his name to mark the tree he planted. He shall be held responsible for the care of those trees. Other outings can be organized in three month intervals to check up on the growth of the plants and to keep up members' interest.

As I said before, the possibilities are endless, but you will notice they have these points in common which project leaders would do well to remember:

First, the goals are definite and realizable within a short period.

Second, the emphasis is not just on a good start but on a continuing enthusiasm kept up by a carefully planned check-up system;

Third, projects stimulate interest by offering rewards and recognition for achievement;

Fourth, and most important, project leaders do serious and detailed pre-planning before they start the project and do not stop working until it is completed.

The job of reforestation is a big one but there are no insurmountable obstacles before us. If the government and the people work together with well-directed devotion to the cause, there is no reason why we cannot accomplish wonders.

LOYALTY

If you work for a man, in heaven's name work for him! If he pays you wages that supply you your bread and butter, work for him. Speak well of him, think well of him, stand by him, and stand by the institution he represents. If I worked for a man, I would not work for him part of the time, and the rest of time work against him, I would give an undivided service or more. If put of the pinch an ounce of loyalty is worth a pound of cleverness.

—Hubbard

I Went with the President

By CARLOS SULIT
*Acting Chief, Administrative Division
Bureau of Forestry*

On the night of October 29, 1954 I received a note from the Director of Forestry that I was to go with the President the next morning and that I should contact Malacañang. At 9:30 p.m. I called up the officer of the day to find out where we were going and how long we would be away. I was informed that he did not know but I must be at the Army airport before 11:00 next morning.

Much has been said about President Ramon Magsaysay since he assumed the presidency a little over a year ago. While a good many praise him, there are others that criticize him. Perhaps one can say that hundreds of kilometers of words in print have been written in praise of him. On the other hand there were also attempts by some unscrupulous persons during his early days as President to "deglamorize" him. In fact a very systematic "smear campaign" had actually been started against the President, but it fizzled out in no time at all. There is no use denying the fact that the President's popularity with the masses and the people's abiding faith in him is so great that one often wonders at his magic spell over the masses.

This short article of mine is written simply to report some observations I made when I went with him on a field trip to Basud, Camarines Norte, one sunny day in late October, last year. I have had the opportunity to observe at close range in that trip how the President makes on the spot decisions of which he is now well-known.

We left Nichols Air Base in Baclaran at about 11:20 that morning. With us on the

presidential plane, besides the President himself, were Agriculture Undersecretary Jaime Ferrer, Defense Undersecretary Jose Crisol, Director of Lands Zoilo Castrillo, Generals Vargas, Balao, Arellano, and Cruz. I learned from these Generals that they were just told to accompany the President during the ceremonies at Fort McKinley a few minutes earlier. I was representing Director Felipe R. Amos of the Bureau of Forestry.

After the takeoff, the President exchanged pleasantries and jokes with the members of the party. Then he lay down on a cot for rest and relaxation. He did the same thing after our takeoff from Daet. I understand that this is the way the President relaxes from the heavy duties of his position and thus keep his perfect health.

After about one hour in the air our plane circled the airport in Daet, Camarines Norte. I expected a big delegation to meet us at the airport as did other government officials when they made field inspection trips to the provinces. I can still remember a former president, who, when he came back to Manila after a pleasure trip to the Visayas and Mindanao, was met by thousands at the pier. There were several brass bands playing. Government employees were excused from their offices to meet the arriving President and his party. I pictured the same thing in my mind. There would be bands playing as we stepped down the plane. Beautiful, young ladies would place leis and garlands around our necks. But to my surprise there was nobody to meet us, not even one local or provincial official, at the airport.

Later I learned that our trip was unannounced.

From the airport in Daet we motored to the North Camarines Norte logged-over area in Basud where members of the "Samahan Magsasaka" were apparently waiting for us. The crowd cheered the President lustily.

Instead of the usual practice of somebody making an introductory speech before the President speaks it was President Mag-saysay who spoke first in that meeting. He then introduced to the crowd everyone of us in his party, one by one. The President emphasized to these simple farmer folks that he is bringing the government to the people. He told them that they need not go to Manila to air their grievances because they will only incur expenses or may be victims of pickpockets.

One thing I noticed about the President was his sincerity in his speech. He spoke as if he had known these people all along, as if he were speaking to his friends and relatives he had not seen for a long, long time. The people on the other hand looked upon him not with awe and reverence but as one like them, in fact, one of them. Turning to me he said that it was the promise of the administration to release those lands these people are occupying. Then turning to Director Castrillo he told him that the Bureau of Lands should look after the subdivision of about 2,000 hectares which the petitioners were asking. A few minutes later Governor Panotes and Congressman Pajarillo came to join our party.

When we started to leave on our return trip to the Daet airport, President Mag-saysay came back walking followed by the crowd. He called the people once more and told them in a trembling voice that he was informed that somebody was collecting money from the farmers. The man, he said, claimed to be an agent of Malacañang, or someone close to his office. He told the people that he had authorized nobody to speak for him, much less to collect any

amount for him. "The people can go direct to me if they have something to ask," he said. He asked the crowd not to be afraid to tell him if they know of such person. A man by the name of Salvador Lopez spoke and denounced to him the president of the "Samahan Magsasaka," Leonardo de Vega, for alleged racketeering and the bad practice of allotting choice lots to his friends and favorites. The President promised to do something and ordered the provincial commander to investigate the matter and to see that no harm will happen to the fellow who had the courage to denounce the president of the association. Incidentally, I learned later that our trip was made through the request of Mr. Jeremias Montemayor, the president of the "National Federation of Free Farmers" of which the "Samahan Magsasaka" is a branch in Daet.

In spite of the invitation of the petitioners to serve lunch for our party, the President declined because he does not like poor people to spend money which they badly needed for the sustenance of their families. This is a trait which should be emulated by all government officials who make inspection trips to the provinces.

We started the return trip to Daet airport at about 2:00 o'clock. The reporters with me and Director Castrillo in the car were speculating that we would probably have a sumptuous lunch in the municipality of Daet. To our surprise, the car of the President proceeded to the airport. There, he ordered a can of biscuits and some soft drinks from the airplane. A few minutes later, bananas, sardines and bread arrived apparently bought by the aides upon the order of the President. We did not have either spoons or forks. Seeing the President eat with his hands, we did likewise.

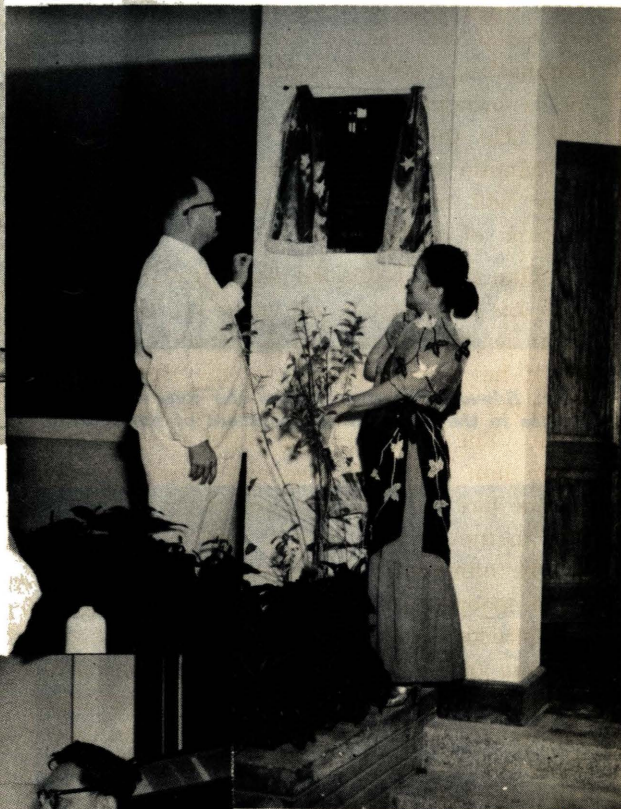
We started our return journey at about 3 p.m. arriving at Manila past 4 o'clock. Before we parted Governor Panotes and Congressman Pajarillo asked me through the President to start right away the land clas-

(Continued on page 42)

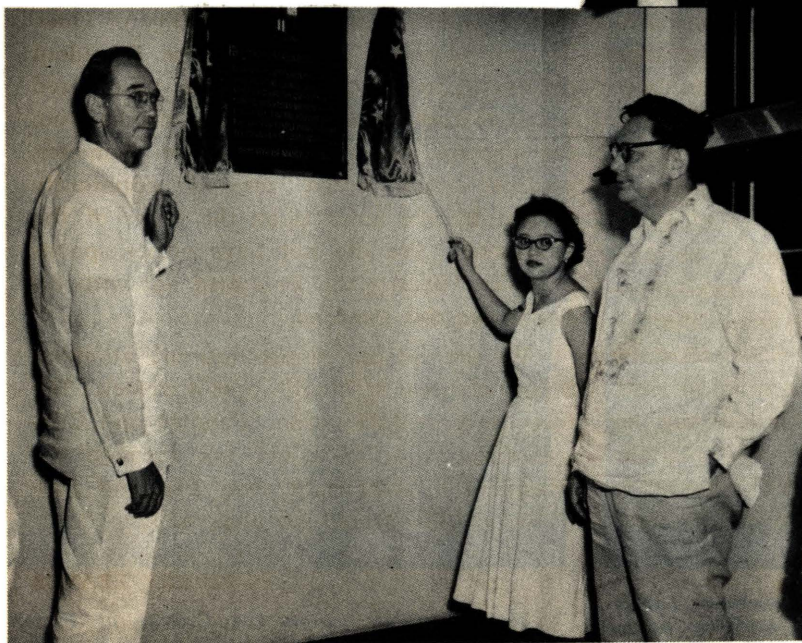
Inauguration & Moving Up Day Scenes



Mr. Cruzillo and Mrs. Jacobo Gonzales unveiling the College of Forestry Building plaque as President Tan, Secretary Araneta and Congressman Gonzales look on.



Mr. Emerson of the Foa and Mrs. Dominador Ipieco unveil the Forest Experiment Station plaque.



The Unveiling of the Forest Products Laboratory Building plaque by Mr. Ray Johnson and Miss Araneta. Secretary Araneta looks on.

Inauguration & Moving Up Day Scenes



Mr. Edward Prentice stresses the role of forestry graduates in the economic development of the country.



Mr. Crucillo emphasizes the need for the protection and wise utilization of our forest resources.



....Sec. Araneta accepts the Forest Products Laboratory and Forest Experiment Station buildings on behalf of the Department of Agri. and Nat. Resources.



President Tan accepts the College of Forestry building on behalf of the University of the Philippine



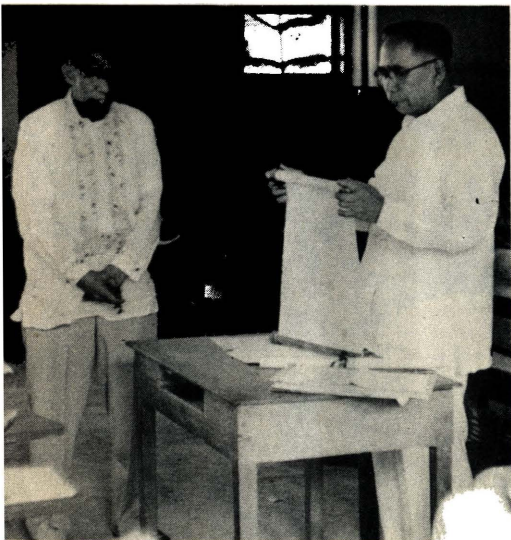
Mr. Crucillo turning over the college of forestry building and the forest products laboratory and experiment station buildings to Pres. Tan and Sec. Araneta respectively.



Miss Grace Turla of the U.P. Conservatory of Music thrills the audience with her rendition of "Trees".



A portion of the audience in the College of Forestry Auditorium. Left to right—For. Sajor, Messrs. Johnson, Crucillo, Cong. Gonzales, Pres. Tan, Sec. Araneta.



U.P. College of Forestry Alumni Association President dela Cruz reads citation to Dean Felipe Amos, the most distinguished alumnus of the year.



Sec. Araneta, Director Amos, Congressman Gonzales and Prof. de la Cruz looking at newly installed machines in the Forest Products laboratory.

Here & There



The DANR booth at the Guihulñgan Rural Improvement Festival, May 23-24, 1955



The Forestry booth at the Bangued Town Fair & Exposition, February 21-24, 1955.



Secretary Araneta planting a camagon tree seedling at the Caniaw Reforestation project, Bantay, Ilocos Sur on April 29, 1955.

The Tree's Time Table Today

By ROLAND S. B. ESCALANTE
Office of Agricultural Information
Department of Agriculture and Natural
Resources

By a recent presidential proclamation, the TREE in our country today has been given a special "place in the sun." Indeed the tree's time table here is now unique. For, no longer shall we honor "Mr. Tree" for just one day in September, but rather for one week in July — ending on the last Saturday of such month.

Thus, this year we welcome "Arbor Week." And — with a 'sorry na lang' sigh, at the same time thanking President Mag-saysay — we bid goodbye to "Arbor Day" with which we have been acquainted for a long, long time.

Why such a change? — you may probably want to ask. Well, it's because in the past we seem to have turned "vandals of the forest" — making wanton destruction of trees for *kaiñgin*. And even in many a town and city, trees are either neglected or destroyed by cutting their branches and doing all sorts of manipulations on them which would make them cry for mercy had they been given the power of speech. Reason behind this is perhaps the ignorance of many of our countrymen about the importance of trees.

Our people surely need a real tree education. Quite a lot, for instance, never know that trees not only beautify places, purify the air and give shade from the sun's rays, but also — and this is most important — prevent peak floods and their effect on soil. Outside the circle of foresters, very few understand that a porous, permeable soil (as made possible by trees) absorbs rainfall faster than a cultivated soil. A runoff of much surface water that may not be

absorbed quickly is retarded by a soil covered with litter, brush, and tree stems. And trees have many other uses for us.

Joyce Kilmer once ended a poem of his on "Trees" thus:

*"Poems are made by fools like me,
But only God can make a tree."*

So that taking this as a hint, we are duty-bound to protect trees — they being creatures of God, too. By illegally killing trees, we only become somewhat like murderers — criminals, and such bad actions will only lead to our detriment in the long run.

If only at least one-half of our people studied forestry, maybe we wouldn't have many tree problems as we do have now. But since we can't all be foresters, we must nonetheless have a working knowledge of tree importance to make us more tree-conscious and tree lovers. Once we begin to love trees — governed by the principle that "we don't hurt the ones we love" — we will not harm trees anymore — at least we'll not do anything illegal against them.

It is a truism that if a tree is treated as a living organism, with an understanding of its vital functions, it will be a constant source of profit and pleasure to man. Poor cutting of trees increases the waste of our forests. And in regard to planting of trees, it is done so not for the very planters but for posterity.

Coming to the life span of trees, there are differences, but tree age is specific. In the United States, it is known that gray birch is old at 40. The sugar maple lives

(Continued on page 42)

I WENT WITH . . .

(Continued from page 40)

sification along the Calauag-Lobo national highway. I told him that we already had a party doing the work in that region.

Upon our landing, the President asked if we had any transportation. Upon being informed that we had none as we did not know the time of our return, he asked Col. Molina of the air force to provide us with a car which conducted Undersecretary Ferrer and Director Castrillo to their offices and Congressman Pajarillo and myself to our respective homes. Thus ended a very memorable day for me — a day with the President.

THE TREES . . .

(Continued from page 41)

up to 500 years. And while some oaks live up to 1,500 years, junifers are able to reach 2,000 years. Some of the giant sequoias are even believed to be about 4,000 years. I think we should take care of young trees as we would our babies and treat old trees as we would respect our grandparents.

Because some trees live very much longer than the longest life span of a man (Adam lived up to 900 years old only perhaps), trees have become landmarks and memorials and have carried their associations with great persons from one generation to another. According to statistics, there are trees still living that were planted by the first President of the United States States (George Washington).

And so as we initiate our "Arbor Week" observance this July 24-30, 1955, we hope that we may become as tree-conscious as the Americans are. We hope too that the Magsaysay tree, which the President will personally plant, will live for many generations to come just like the Washington trees.

Any one can become angry—that is easy; but to be angry with the right person, and to the right degree, and at the right time, and for the right purpose, and in the right way—that is not within everybody's power, and is not easy.

—Aristotle

FEASIBILITY OF . . .

(Continued from page 32)

should be freed to the greatest possible extent from sub-professional work, and devote the maximum amount of time to the determination of the optimum cutting system for all areas. Sub-professional personnel should be trained and used to handle the sub-professional work.

4. In areas where selective logging is required, concessionaires must use diesel yarders with not more than 150 h.p. each.

COMPOSITE STAND TABLE
Area Logged in 1951
(Dipterocarps per Hectare)

Diameter Class	April 1952	April 1953
(Inches)		
2	0	1.5 (1.5)
3	7.7 (1.5)	6.2
4	12.3	9.2
5	4.6	6.2 (3.0)
6	7.7	7.7 (1.5)
7	4.6	4.6 (1.5)
8	16.9	13.8 (1.5)
9	9.2 (1.5)	9.2 (1.5)
10	9.2 (1.5)	7.7 (3.0)
11	3.0	3.0 (3.0)
12	9.2	9.2 (3.0)
13	9.2	9.2 (3.0)
14	3.0	4.6 (3.0)
15	6.2 (1.5)	4.6 (1.5)
16	9.2	7.7 (1.5)
17	4.6	6.2 (3.0)
18	6.2	7.7 (1.5)
19	4.6	3.0
20	9.2	7.7 (1.5)
21	0	1.5 (1.5)
22	7.7	6.2 (1.5)*
23	1.5	3.0 (3.0)
24	3.0	4.6 (1.5)
25	1.5	1.5
26	3.0	1.5
27	3.0	4.6 (1.5)
28	3.0	3.0
30	1.5	1.5
41	1.5	0
42	0	1.5 (1.5)

* Increased two classes.

LEARN TO LAUGH

A good laugh is better than medicine. Attend to your own business; few people can do that well. Say kind things; nobody ever resents them. Avoid hasty remarks; they cause much of the world's trouble. Stop grumbling; see some good in the world and keep the bad to yourself. Hide aches with a smile; nobody is much interested anyway. Learn to laugh; it pays.

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Ipil-Ipil—A Firewood Crop Prospectus

By FELIPE R. AMOS

Director of Forestry

Ipil-ipil (*Leucanea glauca* (L.) Benth.) is a small leguminous tree found scattered widely throughout the Philippines in second-growth and grass areas. It is an excellent species for primary planting in grass areas, is of extremely rapid growth and has a high value for fuel, especially in regions where wood is scarce.

In addition to the name ipil-ipil, the name Santa Elena is in very common use throughout the country. Other common names for the species are agoho (Panay), datels (Leyte), comcompitis (Ilocos Sur), cypress (Quezon), in some provinces (Savite, Pampanga, Aizal, Nueva Ecija, etc.) erroneously called ipil which properly belongs to *Intsia bijuga*.

As a fuelwood, it is well known to owners of bakeries. Previous investigation shows that a cubic foot of dry wood (moisture free) of ipil-ipil found in Laguna produces 93,447 calories of heat while this volume at 30 per cent moisture content will produce 88,514 calories. Its percentage of ash is lower than that of any other firewood. Bakers claim that it is easier to remove the residue of ipil-ipil from the oven than that of bacauan.

It is a recognized fact in commerce that firewood is not an elastic commodity. It always has a ready market. In almost all districts of the City of Manila wholesalers and retailers of firewood occupy large and expensive establishments. But though an inelastic commodity in commerce the supply of firewood is subject to exhaustion thru unwise management.

Private landowners have been shy to venture in planting trees with the object of producing fuel as an industry, because it has

not been definitely demonstrated that a firewood plantation, say of ipil-ipil, is a secure and profitable enterprise.

As in any commercial undertaking, the profitableness of fuel production should be figured out before planting on a large scale. The results of the estimate will serve as good guide in handling the enterprise.

MANAGEMENT

Planting:

Ipil-ipil is not a difficult species to establish in areas covered with cogon grass, as the seeds retain their viability for long periods. Those seeds which do not germinate at once may remain in the soil for several months and, if not destroyed by rodents or birds, will eventually germinate at the beginning of the rains.

If it is not desired to obtain a stand of ipil-ipil the first year and if seeds can readily be obtained, broadcasting will be found to be a successful method of propagation. If broadcast sowing is practised, it should be carried out at the beginning of the rainy season and the grass area which it is desired to plant up should be burned over at the last possible moment before the rains set in. The amount of seeds necessary to successfully broadcast one hectare is from 45 to 50 liters. Following the above practice, a good stand should result at the end of about three years. At the end of the first year the number of trees per hectare would amount to approximately 1,000 but, as the species begins to shed seeds at the end of the first year, the stand rapidly closes up and by the end of the third year should fairly dominate the area and be well started toward the production of the first crop of firewood.

Much better and quicker results could undoubtedly be obtained if the area to be sown were plowed over just after the grass is burned off. This would prevent the quick return of the cogon in the early stages of the crop and would do away with competition between the small plants and quick-growing cogon which often sets the crop back a year or more. Plowing would also prepare a much better seed bed for the species and would result in a greater number of young plants at the start. For small reforestation projects and for commercial plantations this practice is recommended, although it would probably be too expensive for any large reforestation project.

The successful reforestation of cogon areas, of course, depends entirely upon adequate fire protection for the first three years after sowing. Fire, which is so commonly occurs in cogon areas during the dry season, will absolutely destroy the crop at any time up to the end of the third year at which time the stand should be dense enough to prevent the entrance of fire.

In some places the success of young plantations is endangered by field mice and rats which seems to relish the tender bark and soft roots of the young plants and sometimes eat up the freshly sown seeds. All that can be done to protect young seedlings from such attacks is to spread poison throughout the area to be planted some two or three months previous to the time of planting. Where the seeds are only eaten, the damage may be prevented by soaking the seeds for half an hour in a two per cent solution of carbolic acid. A 10 per cent solution will kill the embryo of the seeds.

The Planting Plan:

1. Area:—Public Land. 2,500 hectares of arable, cogon and open land, rolling in topography, where tractor plowing can be employed. Condition of area is similar to that obtaining in Novaliches, Rizal.
2. Objective:—To establish Ipil-ipil Plantation to produce firewood as a crop.

3. Organization of Area:—

- a. To allow 100 hectares as non-plantable or otherwise to be devoted to other uses for administrative purposes of the plantation, leaving a net area of 2,400 hectares for plantation purposes.
 - b. To divide the area into eight (8) annual planting units of 300 hectares each. Availability of planting materials (seeds) is a great limiting factor at the start to plant up to the third annual planting units. Seeds for the fourth annual planting unit can very well be obtained from the established plantation.
4. Preparation of Ground:—To plow and harrow the planting units twice with the use of a tractor.
 5. Planting Materials:—At the start, to use seeds at the rate of 15 gantas to a hectare.
 6. Method of Planting:—Broadcast sowing by hand (manpower).
 7. Period of Planting:—300 hectares a year. For the total area of 2,400 hectares, in 8 years.
 8. Protection of Plantation:—This is an important phase of the planting plan, especially during the first three or four years, particularly from grass fires and animals. For protection from grass fires, animals and trespassers, constant patrol will be necessary and the establishment of fire lines, width depending upon risks, dividing the plantation into protection units. Grazing animals should be kept out of the plantation because they feed on the young plants.

The Cutting Plan:

The management of ipil-ipil, once a close stand has been obtained, is very simple. The only rules necessary for the successful management of such stands are to cut the stumps to the lowest practicable height, preferably 10 centimeters or less, and to make

the cuts as clean and smooth as possible to the end that there will be no damage to the bark. Apparently, stands may be cut over on as large areas as desired, for stool shoots develop at once and grow rapidly enough to preclude the entrance of undesirable weed species. To avoid fire danger, ipil-ipil stands should be harvested only during the rainy season as fire is practically the only enemy of the crop and ipil-ipil is thoroughly fire resistant when uncut. However, when stands are cut over at the height of the dry season, the chances of fire running over the area and charring the stumps and killing the seedlings upon which reproduction depends would be very largely increased, and the probability of the entrance of undesirable weed seedlings after such a fire would amount to a certainty.

Once a stand of ipil-ipil is established, no care is necessary leading to the reproduction of such areas as are cut over, other than the exclusion of fire from the areas. The species is a most vigorous sprouter and the stools apparently retain their vitality for several rotations. However, the number of seedlings constantly on the ground underneath the main stand is sufficient to take the place at once of any stool which becomes exhausted.

1. Rotation:—Six (6) years after sowing is already a profitable age of the stand. It is therefore expected to harvest the first planting unit in the seventh year after sowing. For sprout stand, the rotation is five (5) years.
2. Yield:—With a rotation of six (6) years, which is the age of the stand after sowing, the yield per hectare is 144.5 cubic meters of stacked firewood.
3. Harvesting:—The crop will be harvested in the seventh year. The first planting unit will be harvested in this year, the second unit in the eighth year, etc.
4. Management After the First Rotation:—The regeneration after the first rotation comes from coppice and

seeds. The resulting stand is composite. During the second rotation, the period of harvesting may be shortened, as the coppice (sprouts) grows faster than those trees coming from seeds. No cost on formation will be incurred. Consequently, the net income in the succeeding rotations will be considerably increased.

FIXED INITIAL INVESTMENT, OPERATING EXPENSES AND PROBABLE RETURNS

In reckoning the investment and probable returns for plantations of ipil-ipil which are to be managed on a six-year rotation, it is necessary to figure on the cost of establishment of one annual planting unit of 300 hectares and on the yield of the same area as the annual return.

Fixed Initial Investment:

1. Machineries:		P33,500.00
a. Two—Westrak tractor, Crawler type, 36-40 h.p., @ P14,000.00		P28,000.00
b. Two — Three-disc plow with 28" discs @ P1,550.00		3,100.00
c. Two—6'x8" cut, cover type harrow (16-22" discs) at P1,200.00		2,400.00
	Total	P33,500.00
2. Buildings:		14,000.00
a. One — Mixed material administration building, (tool room, bodega, tractor garage, etc.)		P 6,000.00
b. Ten — Laborers' quarters		8,000.00
	Total	P14,000.00
3. Animals:		P 1,050.00
a. Three — Horses for patrol @ P350.00 with saddle		P1,050.00
4. Office equipment, furniture and fixtures		5,000.00
	Total	P53,550.00
Pro-rated cost per hectare (53,550.00 ÷ 2,400)		22.31

Personnel:

One—Plantation foreman	₱2,580.00 p. a.
One—In charge of office	1,200.00 p. a.
Four—Tractor drivers @ ₱5.00 daily	20.00 daily
Four—Tractor driver helpers @ ₱4.00 daily	16.00 daily
Three—Plantation guards @ ₱3.00 daily	9.00 daily
Six—Laborers @ ₱3.00 daily	18.00 daily

Operating Expenses:

A. Cost of formation per hectare	₱86.10
1. Twice plowing and harrowing per hectare	₱60.00
a. Basic data:	
(1) Two tractors	
(2) 25 working days a month	
(3) 5 hectares daily once plowed ground	
(4) 10 hectares daily once harrow- ed ground ..	
(5) 17 days once plowing a month —85 hectares	
(6) 8 days once harrowing a month—85 hectares	
(7) Twice plowing and harrowing— 42.5 hectares a month	
b. Daily expenses:	
(1) Diesel fuel, 32 gal. @ ₱0.60	₱19.20
(2) Lubricating oil, 2 qt.	2.00
(3) Grease, 1 lb.	0.80
(4) Four tractor driver helpers @ ₱4.00 a day	16.00
(5) Four tractor drives @ ₱5.00 a day	20.00
(6) Six laborers @ ₱3.00 a day .	18.00
(7) 20% depreciation on machin- eries	22.33
(8) 4% interest on cost of machin- eries	3.67
Total	₱102.00
c. Cost per hectare:	
(1) Cost of twice plowing and har- rowing per month (25 x 102.00)	₱2,550.00
(2) Cost per hec- tare (2,550 ÷ 42.- 5)	60.00
2. Cost of seeds per hectare	₱22.50
3. Cost of transporting seeds per hectare	1.00
4. Cost of broadcast sowing per hectare	2.00

5. Cost of firelines per hectare	0.60
Total	₱86.10

Cost of formation per unit (300 x 86.10)	25,830.00
Cost of formation from the fourth year per unit (source of seeds being from planta- tion)	25,530.00

B. Cost of administration, yearly

1. Plantation foreman .	2,580.00
2. In charge of office .	1,200.00
3. Tools, supplier and accessories	2,000.00
4. 20% depreciation on buildings and office equipment	3,800.00
5. 4% interest on cost of buildings and of- fice equipment	760.00
Total	₱10,340.00

The cost of adminis-
tration is prorated
on the number of
planting units es-
tablished and main-
tained yearly.

C. Cost of protection, yearly

1. Three men @ ₱3.00 for 365 days	₱3,285.00
2. 20% depreciation on cost of animals ...	210.00
3. 4% interest on cost of animals	42.00
Total	₱3,537.00

The cost of protec-
tion is constant
yearly for each
planting unit.

Total yearly expenses

Probable Returns:

A. Cost of producing the crop from seed (stumpage price):	
1. Pro-rated cost of per- manent improvements per hectare	₱22.31
2. Cost of formaton per hectare	86.10
3. Cost of administra- tion and protection per hectare	46.26
4. Rotation	6 years
5. Rate of interest 4%	
6. Cost per hectare	₱421.30
B. Cost of producing the crop from sprout:	
1. Cost per hectare	₱250.96
2. Cost per cubic meter	1.74

C. Cost of harvesting per cubic meter	4.18
D. Cost of transportation to market per cubic meter	3.91
E. Net Income:	
1. Stand from seed:	
a. Per cubic meter	P0.99
b. Per hectare	143.06
c. Per unit	42918.00
2. Sprout stand:	
a. Per cubic meter	P2.17
b. Per hectare	313.56
c. Per unit	94,068.00

As may be seen from the attached table, net income is realized in the 7th year, but this income is still not enough to cover the operating expenses for that year. Beginning from the 9th year, however, the net income more than pays for the operating expenses for that year.

The total cumulative net income up to the end of the 14th year is substantially above the corresponding total cumulative operating expenses and the difference will more than pay for the fixed initial investment. From the 15th year, therefore, the plantation will be operating on clean profit:

FORMULA FOR DETERMINING STUMPAGE PRICE:

$$Ivn = Sc(1.op)^n + C(1.op)^n + \frac{e}{.op}(1.op^n - 1)$$

Where:

- Ivn = Total cost value
- Sc = Porated cost of permanent improvements
- C = Cost of formation—preparation of ground, planting, cost of seeds, etc.
- e = Net annual expense—administration and protection
- .op = Rate of interest (4%)
- n = Rotation (6 years)

COST OF HARVESTING AND MARKETING

Harvesting per cubic meter:	P4.18
a. Felling, cutting and stocking	P2.00
(one man at P4.00 a day can easily make one talaksan a day).	
b. Transportation to roadside to be picked up by truck	2.18
(To use tractor hauling 16 cu. m. a day costing P34.96)	
Total	P4.18
Transporting to market (Manila) per cubic meter:	3.91
a. Equipment—(To be purchas-	

ed in the 8th year):

Basis of calculation:

One 3-ton Chevrolet truck	P8,000.00
Two deliveries a day	2
20 working days in a month	
Load: 8 cu. m. per delivery	16 cu. m. per day

Personnel: — One driver	P150.00 a month
(P150.00 + 20)	7.50 daily
Two helpers	8.00 daily

b. Truck operation (daily)	
80 liters of gasoline at P0.24	19.20
Grease 1/2 lb	0.40
Lubricating oil, 1 qt.	1.00
9 tires yearly at P315.00 (2,835.00)	11.81
<u>240.</u>	
20% depreciation (1,600.00)	6.66
<u>240.</u>	
c. Loading on truck (daily)—	
2 men at P4.00 a day to help truck helpers and to do other work while not loading	8.00
d. Total daily expenses:	
1. Truck personnel	P15.50
2. Truck consumption	32.41
3. Loading	8.00
4. Depreciation	6.66
Total	P62.57
5. Per cu. m. (62.57)	3.91
	<u>16</u>

Cost of seeds:	P22.50
To sow 15 gantas to a hectare	
15 x 300 = 4,500 gantas of seeds yearly need	
Cost per ganta pick-up Los Baños	P1.50
Cost of seeds per Hectare (1.50 x 15)	22.50
Cost of transportation of seeds:	P1.00
To hire 2-1/2-ton truck which can load 45 sacks of 25 gantas each or 1,125 gantas	P70.00
Cost per ganta (70.00)	0.62
<u>1,125</u>	
Cost per hectare (15 gantas)	1.00 (rounded)
Cost of Broadcast sowing:	2.00
To hire skilled laborer at P4.00 a day who can sow two hectares in a day	
Cost of broadcasting per hectare	P20.00

(Continued on page 62)

PROTECT THE TREES

By CATALINO Q. FERRERIA
District Forester, Lucena, Quezon

The tree is a creation of God, which grows for man to use and not to abuse. It thrives on land—from the margin of the seas to the tops of the mountains. It grows out from under the surface of mangrove waters and in the arid and rocky soil so that it is everywhere within the easy reach of man for his shelter and materials for his clothes, medicines, food and other necessities of life. You can find the story of its life in the books and its noble deeds told in the songs and poems of men. Old folks bent with age cast their leaden eyes on the trees that hold significant events in life and you can see a reminiscent smile parting wrinkled lips for the pleasant memories of their younger days.

Trees grow anywhere. To the kaiñinero the trees are his enemies. He cuts the trees in the green mountain side just so he could have a spot to raise his temporary crops even with the thought beforehand the balding mountain tops where he planted his crops only yield a good harvest while the trees around are there untouched by his axe. It takes just some minutes to fell a tree that took centuries to grow. It will take many men to share the benefits from a tree. But it will take just one kaiñinero to destroy many trees.

Trees keep the springs alive with cool water that flows into the brooks. They keep the country moist with fresh air and keep the rains coming to our town. Of the one that has done the greatest use of its life, I think the tree did the most. God commands His creatures to be noble with deeds but only the trees did the noblest.

Indeed poets are fools for they know trees only in their poems and songs. Do you know that a single tree destroyed means a thousand lives deprived? Let us protect the trees. Let us grow and let them grow anywhere in our lot where no other plants

Do Not Make Kaiñgin in the Public Forest

THIS IS BAD FOR YOU AND FOR THE WHOLE COUNTRY.
REMEMBER THAT—

Kaiñgin making in the public forest is against the law. Anybody making kaiñgin without authority from the Director of Forestry will be punished by our courts.

Cutting trees in, or mere occupation of, the public forests without permit from the Director of Forestry is also against the law. Anyone who commits such act will also be punished by our courts.

BEAR IN MIND THE FOLLOWING DISASTROUS RESULTS AND BAD EFFECTS OF KAIÑGIN-MAKING:

FIRST—Our lands and mountains will be denuded of trees which are necessary to our livelihood;

SECOND—Erosion and floods will destroy life and property;

THIRD—We will have no more lumber with which to build our homes, make our furniture, and supply us of our fuel and other necessities;

FOURTH—Birds, deer, and other game animals will be deprived of trees serving as their shelters;

FIFTH—Scenic spots of our country will all disappear;

SIXTH—Lack of trees will cause climatic changes which may aggravate the danger to our health.

—Public Relations Section
Bureau of Forestry
Manila

(Translated into the local dialects, copies of this warning will be airdropped on kaiñgins during the Arbor Week)

will grow. Let us not plant them in our poems and songs alone. Let us plant them with pleasant thoughts, deep in our hearts.

Solutions to Squatters, Kaingin Problem Seen

By TIMOTEO QUIMPO
District Forester

Since liberation, our country has always faced the problem of rice shortage. Our government has lent millions of pesos in order to raise this crop. Our government has always in mind the self-sufficiency of our people, to study how our rice production could be increased. The Secretary of Agriculture and Natural Resources has his technical men study on how the production of this crop could be increased. After a scientific study had been made, these men recommended that the Margate system of rice planting should be adopted in our country. They claimed that in ordinary planting our rice farms produce only as much as 20 to 50 cavares of rice per hectare.

If the Margate system should be followed by farmers there is no doubt that our rice production could be increased to such a colossal proportion as to enable us not only to supply the country's needs but also to export to some other countries, thus earning the badly needed dollars for our country. These dollars may then be used to finance productive industries to increase national wealth by employing the unemployed as well as by improving the living conditions of our people.

Recently, Secretary Salvador Araneta, ever mindful of the common good, sponsored a plan to revise the minimum Wage Law. According to his plan, higher wages must be given in places where cost of living is high, and lower wages in rural places where the cost of living is low.

I believe he did this not because he likes to lower the present wage of laborers but because he does not like to see many of us unemployed. Because of his plan, he be-

came very unpopular, but he has not given up his efforts to help those out of work.

His recent order to the Forestry director to speed up the granting of tree farm leases is another step to help the needy. Under the term of the tree farm lease, the leasee gains possession of the land for 25 years, renewable for another 25 years. The land leased will be used for raising agricultural crops, like coffee, cacao, citrus, mangoes, and other permanent agricultural tree crops. The lease may also be granted in areas covered with grass so that the leasees could plant trees. This will not only help the lessees but also the government in its reforestation project.

We can not depend on the government alone to reforest the over five million hectares of cogon lands. The people whom the government helps with lands to till should also help the government to plant trees so as to regulate the waterflow and lessen soil erosion. By so doing, our help will redound to our benefit.

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Gandara, Samar

VENANCIO ALVERO

Rattan Licensee

Tacloban City

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**Public Relations & Statistics Section Press Releases**

By T. SANTOS, P.R.O.

**PRESIDENT MAGSAYSAY URGES COUNTRY
OBSERVANCE OF ARBOR WEEK**

June 18, 1955

President Ramon Magsaysay, in his Arbor Week message received today by the bureau of forestry, urges every citizen, agency and organization to join in the national tree planting campaign during the observance of Arbor Week from July 24, to 30 this year, it was learned from Director Felipe R. Amos.

Our home lots, our streets and highways, the premises of our public buildings and factories, the plazas, all these can be made more beautiful and comfortable with some trees, the President said.

Director Amos said that the President is donating a trophy to be awarded to the winner in a national contest which the National Forestry Council is sponsoring in connection with the celebration. Magsaysay also informed Amos that he will personally lead the observance by planting a tree during the week with the hope that every one will do his share.

It will be remembered that the President, in a proclamation issued sometime last March, changed Arbor Day to Arbor Week "to give all elements of the community a chance to participate in the national tree planting movement."

Meanwhile Director Amos revealed the other day that the bureau of forestry is ready to distribute one million tree seedlings, available from the bureau's 38 forest nurseries and reforestation projects all over the Philippines, during the week-long celebration.

* * *

**BUREAU OF FORESTRY TO DISTRIBUTE
1 MILLION TREE SEEDLINGS**

The bureau of forestry is ready to distribute 1 million tree seedlings of assorted kind for transplanting during Arbor Week, July 24 to 30, Forestry Director Felipe R. Amos reported today.

The seedlings will be available in all the 38 forest nurseries and reforestation projects of the bureau of forestry scattered in different parts of the country, Amos said.

In a recent memorandum to district foresters, the director instructed all forestry personnel in

the field to give all possible assistance to the provincial and municipal forestry councils who are leading the week-long celebration and in some cases to lead the celebration themselves.

Amos also said that posters and leaflets on Arbor Week are being prepared by the public relations section of the bureau of forestry and the Office of Agricultural Information which will be distributed to provincial, city and municipal forestry councils in time for the celebration.

Expected to give out the biggest number of seedlings as in previous years are the forest nurseries in Los Baños, Laguna; Diliman, Quezon City; Cebu City; and in the Central Luzon provinces.

During this year's celebration emphasis will be stressed on the importance of taking care of the trees after they have been planted, according to Agriculture Secretary Salvador Araneta, chairman of the national forestry council which is sponsoring the observance.

The general program for the week prepared by a committee headed by Education Undersecretary Martin Aguilar, Jr. was released recently by Araneta.

* * *

**SELECTION SYSTEM OF CUTTING TIMBER
URGED**

The selection system of cutting timber trees under the sustained yield management whereby the smaller forest trees are preserved, thereby permitting the timber concessionaires to log in his area for as long as he wants, has proven to be a practical and profitable method, it was revealed by Ferrer following his trip to Basilan yesterday. Ferrer stated that the system is working very well in Basilan where all the concessionaires are following it.

In view of the decision of the Agriculture Department to introduce the sustained yield management plan throughout the country by July 1st of this year, Ferrer has recommended that the following steps be taken to implement it:

1. That the country be divided into regions of the same or similar forest types and/or climate.
2. That in each region a forester be detailed

and designated as the working plan officer of the region besides his other duties.

3. That thereafter and not later than next month, a seminar or a workshop for the working plan officers be held in Basilan for at least a month under the supervision of the District Forester of Basilan.

Ferrer requested the Basilan District Forester to prepare a plan of instruction and demonstration for the workshop.

* * *

PHILIPPINE LUMBER & LOG EXPORT CONTINUES TO RISE

June 1, 1955

Philippine lumber and log export continued to rise in April despite the currency problem obtaining between the Philippines and other countries, Forestry Director Felipe R. Amos said yesterday.

During April the Philippines exported 53,556,222 board feet of lumber and logs valued at ₱5,458,815.12, according to the bureau of forestry. This shows an increase of 9,455,256 board feet or ₱938,841.34 over the export for the preceding month of March. Export for March consisted of 44,100,966 board feet valued at ₱5,397,657.46, Amos said.

Director Amos said that there is a big demand at present for Philippines sawn timber which is generally known abroad as "Philippine mahogany" because of the building construction boom in Korea, Japan, Hawaii, Australia, Guam, and other countries.

Visiting businessmen from Australia, Hawaii and other countries said Philippine lumber and logs have a ready market in their respective countries but find difficulty in trading because of the currency problem. Korea was reported to have issued a bid for 3,000,000 board feet of lumber from the Philippines, while Japan has allocated \$5,800,000 for importation of Philippine lauan and heavy lumber, according to recent announcements by the department of commerce and industry.

Among the top importers of Philippine lumber and logs in April were: Japan, 48,080,370 board feet worth ₱4,556,682.24; United States, 3,905,843—₱656,55.44; South Africa, 544,952—₱142,497.90; Taiwan, 344,662—₱37,256.88; British Borneo, 270,776—₱28,431.50; Korea, 226,000—₱18,948.00; Hongkong, 175,804—₱15,822.36; Guam, 7,815—₱2,588.80.

* * *

FOA-PHILCUSA LAND CLASS. TEAMS CLASSIFY OVER 269,000

May 25, 1955

Forestry Director Felipe R. Amos today announced the forestry land classification teams under the FOA-Philcusa counterpart projects have classified and demarcated a total of 269,216 hec-

tares of public forest lands during the third quarter ending March 31, 1955 of the current fiscal year.

Of this total 100,678 hectares have been demarcated as alienable and dispensable lands and 168,538 hectares as timberland, according to the quarterly report of the project director for the period in review.

The bureau of forestry has 40 field teams especially doing land classification work scattered in different parts of the Philippines: 21 are in Mindanao, nine in Luzon, two in Samar, two in Leyte, and one each in Negros, Mindoro, Palawan, Polillo, and TawiTawi, according to Amos.

Of the total appropriation for expenditures of ₱1,527,300.00 authorized for the current fiscal year, ₱346,923.73 have been spent for the third quarter. The average cost per hectare of land in its classification and demarcation is ₱1.12, Amos said.

Land classification work under the FOA-Philcusa counterpart projects has been going on continuously for the last 38 months. The operation started on February 1, 1952 under the FOA aid, and shall extend up to five years, according to the project-plan of the MSA, now FOA. It is expected to classify 400,000 hectares of public forest lands a year, or 2,000,000 hectares at the end of five years.

As of December 31, last 1,462,030 hectares of the public domain have been classified. With this much it would take at least 42 years to finish demarcating the existing unclassified public forest lands which amount to 16,754,943 hectares, Director Amos said.

* * *

PHILIPPINE EXPORTS OVER 44 MILLION BD. FT.

The Philippines exported a total volume of 44,100,966 board feet of lumber and logs with a total cost of ₱5,397,657.46 during the month of March (1955), Director Felipe R. Amos of forestry announced today.

The figures represent an increase of approximately 28% over the export for the preceding month of February, Director Amos said. The export for February was 36,481,082 board feet of logs and lumber valued at about ₱4,461,636.33, according to the records in the bureau of forestry.

Japan topped all other importers of Philippine logs with 34,716,862 board feet worth ₱3,482,264.65 followed by Korea which imported 3,023,464 board feet costing ₱257,396.86 for the given month.

The United States imported during the month in review a combine total of 5,180,181 board feet of lumber and logs valued at ₱1,362,476.29. Of these total 3,941,175 board feet worth ₱859,902.49 represent sawn timber.

Among the heaviest importers of Philippine lumber and logs were the following countries: Japan, 34,716,862 board feet costing ₱3,482,264.65; United States, 5,180,181—₱1,362,476.29; Korea, 3,023,464—₱257,396.86; Africa, 611, 264—₱166,430.66; Hongkong, 198,359—₱17,340.30; Belgium, 122,676—₱42,190.54; and Dublin Eire, 93,325—₱18,364.86.

* * *

MODERNIZATION OF FORESTRY BUREAU RECOMMENDED

Agriculture Secretary Salvador Araneta today favorably recommended to the National Economic Council the proposal to modernize the Bureau of Forestry, patterned after the Bureau of Lands.

In endorsing the plan, the Agriculture head disclosed that among the bureaus in the Department upon which greatly increased volume of work have been placed as a result of the Administration's land utilization program are the Bureau of Lands and the Bureau of Forestry.

With the assistance of the management consulting from Booz, Allen and Hamilton, Secretary Araneta said that the modernization work at the Bureau of Lands has produced impressive results in increasing the over-all efficiency of this Bureau, particularly in the issuance of land patents, the output rose from 16,000 in 1954 to 50,000 in 1955.

Secretary Araneta said that considering the importance of the Bureau of Forestry, a similar program of modernization is needed to enable it to discharge its responsibilities properly.

* * *

REMOVAL OF LUNETA RECREATIONAL RIDES

Meanwhile, the immediate removal of all recreational rides and other obstruction located on the premises of the Luneta to give way to the preparations being made for the coming Arbor Week celebration was recommended by the National Forestry Council in a letter sent to Malacañang yesterday.

Roberto Villanueva, Executive Chairman of the Council, invited the attention of Malacañang to the fact that numerous plantings have been undertaken on the Luneta area but every time expositions and fairs are allowed in the premises the plantings are destroyed.

In order to make Luneta a real park rather than a sore spot, the Forestry Council suggested:

1. That future fairs and expositions be held elsewhere;
2. Removal of all recreational rides and other destructions; and
3. That no further permission be granted for the lease or use of any portion of the Luneta for fairs and expositions.

INAUGURATION OF CAWAG FOREST NURSERY

May 31, 1955

The Cawag forest nursery in Subic, Zambales, was inaugurated and formally opened to the public last Sunday (May 29) by Forestry Director Felipe R. Amos with Mrs. Amos cutting the ceremonial ribbon, it was learned from the bureau of forestry.

The opening of the nursery was hailed by the provincial officials and residents of Zambales as well as the bureau of forestry personnel as a tangible step taken by the administration towards forest conservation and reforestation of denuded areas and watersheds in Subic and its vicinity.

Councilor Jose Molina of Subic spoke at the conference in the afternoon in behalf of the townspeople thanking the director of forestry for his initiative in opening the project. He said that there was a previous resolution and petition in the past requesting for the reopening of the nursery which was totally destroyed during the war.

Director Amos delivered the closing remarks and urged the people of Zambales to cooperate with the nursery personnel in the drive to conserve the forest wealth within the area. The nursery should serve as the show-window of forest protection and reforestation through artificial means to the rest of the community, the director said.

Other speakers during the program were Foresters Adriano Valdes, Florencio Asiddao, Jose Viado, and Mrs. Pilar Acuña-Amos, wife of the director. She made the observation that trees should not only be planted but must be properly cared for after planting. Mrs. Amos accompanied her husband to the recently-concluded Asia-Pacific Forestry Conference under the U.N. Food and Agricultural Organization (FOA) held in Tokyo, Japan.

Actual work in the reconstruction of the nursery began about the end of last June. Since then 47,364 seedlings of agohe, mahogany, fire tree, balitbitan, narra, and other economic trees have been planted. In addition 15 liters of ipil-ipil seeds have been broadcasted over an area of about 12 hectares.

There are also 85 seedbeds already constructed in the nursery. It has 5,650 potted seedlings of which 3,250 are agohe ready for transplanting, it was said.

The nursery has a recreation hall constructed out of bohos, talahib, grass, and trees taken from the nearby forests. It has a rest house about 20 square meters near the beach ideal for picnickers and excursionists. The nursery is about four kilometers from Subic and is easily accessible by boat.

More than 400 guests composed of provincial officials and prominent residents as well as bureau of forestry officials and employees from Manila attended the inauguration. Lunch was served at the nursery mess hall.

The affair was managed by Mr. Antonio A. Quejado, project accountant of the FOA-Philcusa counterpart project of the bureau of forestry. He was assisted by Mr. Teofilo A. Santos, Adriano Valdes, F. Marañon, F. A. Payumo, Gaudencio So-ria, and others. Mr. Luis A. Quejado is in-charge of the nursery.

* * *

FERRER URGES ROMBLON DEVELOPMENT

Agriculture Undersecretary Jaime N. Ferrer recently requested the heads of various bureaus and offices to immediately act upon the problems of Romblon, the Department of Agriculture and Natural Resources revealed today.

To save the farmers, especially the rice tenants from usurious rates of interest charged them by unscrupulous money lenders, Ferrer asked the ACCFA administrator to organize a FACOMA in each of the three islands composing Romblon.

He issued a memorandum to the forestry director that:

1. Foresters in the Central Office, not yet assigned in the field should be assigned in small, neglected provinces like Romblon;

2. Carabao Island, being already denuded, should be reforested;

3. The kaiñgin cases in Badajos and Odiongan should be re-examined to determine which cases deserve to be withdrawn and the parties concerned given land in the Sibuyan Island for cultivation; and

4. The Provincial Forestry Council has not yet been organized.

Along farming lines, he informed the director of the agricultural extension bureau that the Romblon provincial agriculturist has no work animal for his project in the nursery. The Undersecretary further requested the BAE director to take action on the following:

1. There are only 4 municipal agriculturists and one home demonstrator for the whole province;

2. DANREA members are handicapped by insufficiency of selected seeds for planting;

3. One of the main projects of the governor in cooperation with the BAE is the planting of coffee and cacao, and at least one cavan of coffee berries and one-half cavan of cacao seeds be sent for propagation purposes; and

4. The provincial home demonstrator tendered her resignation and services of such are needed, there being no municipal home demonstrator to take her place. The services of a 4-H club leader who can organize the youths in the province are also badly needed.

On fertilizers, Ferrer found out that the stock of fertilizers in Sibuyan Island is rotting because of poor storage. He learned further that the sale of fertilizers this year amounted to only ₱400, be-

cause many farmers are reluctant to buy on cash basis.

Another reason on poor sales is that farmers could not be attended to by the lone fertilizer supervisor. The Romblon governor suggested the delegation of municipal treasurers as authorized vendors of fertilizers, making them accountable for the fertilizers under their respective custody.

Along these matters, Ferrer requested immediate action and or comment and recommendation from the Fertilizer Administrator.

* * *

FERRER WANTS ILLEGAL TIMBER CUTTERS STOPPED

Agriculture Undersecretary Jaime N. Ferrer today referred to the Directors of Public Works and Public Education a copy of a letter of Dominador T. Colinares, a timber licensee of Basey, Samar, who complained of certain alleged irregularities committed by some high officials under said offices, the Department of Agriculture and Natural Resources disclosed.

Colinares informed Undersecretary Ferrer that procurement of lumber for bridges in the public works and school buildings are purchased mostly from illegal cutters. He also observed that public bidding is seldom resorted to by the officials concerned.

Another irregularity observed by Colinares is the method of making it appear that such illegal cutters are employed by such agencies and by allowing them to use the gratuitous license of the officials concerned.

Ferrer, in his communication to the Bureau Directors, said "it is the desire of this Office that this bad practice be immediately stopped and the undersigned is then therefore seeking your cooperation in attaining this end."

* * *

AGRICULTURAL LAND RELEASED

Four lots, aggregating 11,400 hectares, have been declared as agricultural lands and placed under the control of the Bureau of Lands for administration and disposition to the landless, the Department of Agriculture and Natural Resources reported today.

The areas designated as alienable and disposable are located in the following places:

Aborlan, Palawan, 5,726 hectares; Bongabon, Mindoro Oriental, 3,406 hectares; Kapatagan, Lanao, 1,830 hectares; and Camiling, Tarlac, 439 hectares.

The same source revealed that in said areas, there are reserved as timber lands a strip of 15 meters in width on each side of any public trail which will be used as outlet for timber and other forest products, and a strip of 40 meters in width

from the highest bank on each side of any stream for stream bank protection.

* * *

EARLY FILING OF APPLICATIONS FOR RENEWAL LICENSES URGED

June 13, 1955

Applications for renewal of licenses to cut, collect and remove forest products for commercial purposes from any public forest will be received by the bureau of forestry until June 30, Director of Forestry Felipe R. Amos announced today.

Because all ordinary timber and minor forest products licenses will expire on that date in accordance with standing rules and regulations of the bureau of forestry, Director Amos is appealing to all holders of such licenses to file their applications for renewal earlier to avoid the last minute rush.

Amos revealed that there are 1,434 ordinary timber licenses and 1,567 licenses for ordinary minor forest products issued by the bureau of forestry since July 1 last year which will automatically expire on June 30 unless the holders file their renewal applications.

Licenses that have already expired and no applications for renewal have been filed before their expiration date cannot be revived, Amos said. The area covered by said licenses shall be disposed of accordingly. The director will declare open the forest area for utilization and new bids will be received by the office according to him.

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NATIONAL FORESTRY COUNCIL
Republic of the Philippines
Manila

APPENDIX "A"

MODEL PROGRAM FOR ARBOR WEEK

July 24-30, 1955

July 24, Sunday — OPENING DAY

This day will be devoted to church services, with the local forestry councils making the necessary arrangements with the local parish priest and/or ministers. The latter may include in their sermons and talks the importance of trees and the significance of the Arbor Week celebration. The church services will be followed by literary-musical programs after which local leaders and ranking government officials will plant trees in public squares or parks previously selected for the purpose.

July 25, Monday — SCHOOL TREE-PLANTING DAY

This day will be devoted to the planting of trees around public and/or private school grounds and campuses. Students, pupils, teachers, and parent-teacher associations will participate in this.

July 26, Tuesday — PUBLIC BUILDINGS AND FACTORIES TREE-PLANTING DAY

This day will be devoted to the planting of trees around government and/or public buildings,

Army installations, churches, and factories or business establishments. This should be undertaken by the employees in the public buildings concerned, by Army personnel, by the parishioners of the church, and by the employees of the factories or business establishments.

July 27, Wednesday — STREET AND HIGHWAY TREE-PLANTING DAY

This day will be devoted to the planting of trees along streets and highways to be participated in by the various local organizations like the Rotary Club, the Lions Club, the Jaycees, the Women's Club, the Girl Scouts, the Knights of Columbus, the Chamber of Commerce, the Puroks, the PRRM, etc.

July 28, Thursday — MOUNTAIN TREE-PLANTING DAY

This will be devoted to planting of barren and denuded areas on watersheds previously chosen by the local Forestry Council to be participated in by the Boy Scouts, the 4-H Clubs, the PRRM, the Puroks, and other groups. Representatives of the Bureau of Forestry in the field will take charge of this.

July 29, Friday — HOME-LOT TREE-PLANTING DAY

This day will be devoted to the planting of trees in home-lots and in places immediately surrounding the homes. This will be an affair of families under the over-all supervision of a committee composed of representatives of civic and religious organizations who should be responsible for the success of the planting.

July 30, Saturday — EVALUATING DAY

This day will be devoted to the evaluation of the accomplishments during the whole week. A general rally may be undertaken during which reports of accomplishments may be rendered by the various groups. A board of judges to determine the groups excelling in the various aspects of the week's celebration, such as in the number of trees planted, number of young trees cultivated, etc., may render its decision on this occasion. Prizes or certificates may be distributed.

The over-all report on the accomplishments of the week will be the responsibility of the local Forestry Council and should be submitted to the National Forestry Council, Manila, for compilation.

SUGGESTIONS

The success of the observance of Arbor Week will depend principally upon the thoroughness of the preparations made for the celebration. It is essential that seedlings for planting be made available reasonably in advance of the occasion. Representatives of the Bureau of Forestry and of the Bureau of Agricultural Extension may be contacted for this purpose. Perhaps it is even necessary that the holes for planting and the materials needed for

fencing the seedlings planted be made ready before the first day of the week. Those in charge of the Arbor Week celebration will do well, therefore, to assure themselves that this phase of the project is not overlooked.

* * *

PRESIDENT APPROVES

President Ramon Magsaysay gave the green signal for the beautification of the Luneta area when he approved the plan submitted at the cabinet meeting yesterday by the national arbor week committee.

The improvement will consist of beautification plantings to be started in connection with the nationwide observance of tree planting week from July 24-30. The President himself will personally plant his tree to lead the nation in this annual event.

The plan was presented to the President by Agriculture Secretary Salvador Araneta; Education Undersecretary Martin Aguilar; Roberto Villanueva, executive chairman, and Nicolas P. Lansigan, executive secretary of the national forestry council.

Attempts have been made in the past to beautify the Luneta premises as it has been a perennial eyesore to Manila and to the whole nation. Generally, it is this bayfront area in which visitors and tourists first get their glimpse of Manila and in its present condition, the impression has always been not very good. It was observed that numerous plantings have been made but every time the site is used for a fair or exposition, the plantings are destroyed. This time, with presidential approval of the plan, fairs and expositions may be held elsewhere.

The Luneta beautification will follow the plan developed by the National Planning Commission. The plantings will be under the auspices of the Arbor Week Committee in collaboration with the Bureau of Public Highways and Forestry.

* * *

FOREST CIRCLE ELECTS OFFICERS

The Forestry Circle, an association of officials and employees of the bureau of forestry, recently elected the members of its board of directors for the year 1955-56.

The newly elected officers who assume office on July 1, are the following: Dr. Rizalino V. Tuico, Roman R. Aquino, Manuel Añonuevo, Florencio Asiddao, Valeriano Emralino, Estanislao Samonte, Miss Lourdez Zaballero, and Mrs. Gloria Alegre. Forester Jose Viado was elected adviser of the association.

* * *

BASILAN HOLDS TWO-WEEK SELECTIVE LOGGING AND MANAGEMENT FORUM

Some 25 selected district foresters and high executives of the bureau of forestry will converge

in Basilan City today for a two-week observation and study on selective logging and forest management, it was learned from Felipe R. Amos, director of forestry.

The seminar which opened July 6 will last up to Wednesday, July 20, included lectures, open forums, visits to lumber companies practicing selective logging, demonstrations, and forest sight-seeing, according to Director Amos.

Scheduled in the tentative program to be visited are the following lumber companies: Sta. Clara Lumber, Basilan Lumber, Western Mindanao Lumber and other logging operators in the area.

The names of the district foresters who attended the conference as released by the office of the director of forestry were: Mamerto Azurin (Cagayan & Batanes), Angel F. Miguel (Isabela), Jose Makil (Nueva Viscaya), Tranquilino Orden, Jr. (Nueva Ecija), Primo A. Andres (Zambales), Deogracias A. Juni (Bataan), Felix Jucaban (Laguna), Catalino Q. Ferreria (Quezon Province), Enrique K. Santos (Camarines Sur), Mamerto M. Villanueva (Oriental Mindoro).

Vicente G. Gobuyan (Occidental Negros), Juan Corales (Oriental Negros), Francisco Abijay (Leyte), Justino A. Ybañes (Samar), Julio de Luna (Palawan), Jose Flores (Occidental Misamis), Teodorico B. Capeda (Lanao), Timoteo Quimpo (Oriental Misamis), Vicente Marababol (Agusan), Patricio Valenzuela (Surigao), Quiro Ruiz (Zamboanga, del Norte), Hegino D. Rebosura (Zamboanga del Sur and Sulu), Hipolito B. Marcelo (Basilan City), Miguel Pato (Cotabato), Rufino A. Sabado (Davao).

Forester Florencio Asiddao and Paul H. Beddard, forestry adviser, left Manila by plane July 6 morning to attend the conference.

* * *

FORESTER SEREVO MAKES GOOD AT YALE

A Filipino student of forestry now studying at Yale university is reaping honors for himself and his country, according to reports received by Director R. Amos of the bureau of forestry.

Tiburcio S. Serevo, the student, obtained honors for his final grades in four of his eight subjects and "high pass" grades for three, Amos said, the eighth subject is an audit course only.

Upon advice of Dean Garrat of Yale, Serevo enrolled as a regular student for 16 credit hours and one audit course during the spring term at Yale.

In his letter to Director Amos, Serevo reported that his article on "Conservation of Philippine Forest Resources" will come out in the fall issue of the *Yale Conservation Studies*. He also said that his paper on "Tropical Forest Products" may be published in the spring issue of *Tropical Woods*.

Forester Serevo is a bachelor of science in

forestry (BSF) degree holder from the U.P. College of Forestry in Los Baños. He left last September for the United States for further studies in forestry under the FOA technical assistance aid program. He is a senior forester in the bureau of forestry.

Amos said that Serevo will soon proceed to Wisconsin, Missouri, and Oregon to observe forest practices and watershed management in those places before returning to the Philippines. He is expected to be back here by the middle of August.

* * *

BUREAU COLLECTS OVER A MILLION PESOS IN FOREST CHARGES

The bureau of forestry collected ₱1,111,341.25 in forest charges on timber and logs cut under various licenses for the second quarter of 1955 ending June 30, Forestry Director Felipe R. Amos reported today.

The amount collected represented ₱288,440.59 as reforestation fund and ₱822,900.66 as forest charges on 761,489.20 cubic meters of timber and logs measured and invoiced by the bureau of forestry for the period beginning April 1 and ending June 30, Amos, said.

Not included in the total was ₱21,309.73 forest charges on 15,120.41 cubic meters of logs manifested and invoiced during the same period cut under the U.P. Land Grant which goes to the coffers of the state university, Amos also said.

The collection for the quarter immediately preceding ending March 31 was ₱954,161.55 as forest charges and ₱336,637.53 as reforestation fund on 871,994.44 cubic meters of logs cut.

During the same period last year (April 1 to June 30, 1954) records in the forestry bureau show that there were 772,530.57 cubic meters of logs manifested and recorded with a corresponding forest charges of ₱813,947.19 and a reforestation fund of ₱287,678.72 collected.

Director Amos said that of the total ₱822,900.66 representing forest charges will go to the coffers of the national government while only ₱288,440.59 as reforestation fund will go to his bureau to be spent in its 35 reforestation projects throughout the country.

* * *

NEW SET OF RULES ON GRANTING OF LICENSES

A new set of rules and regulations governing the grant of licenses to use forest products was promulgated recently by Secretary Salvador Arana of the Department of Agriculture and Natural Resources and they took effect immediately after promulgation, Forestry Director Felipe R. Amos announced yesterday.

Forestry Administrative Order No. 11-9 gives the director of forestry the full power to deter-

mine the best qualified applicant for ordinary timber or ordinary minor forest products licenses under certain conditions.

In determining the winning proposal, the director shall be guided by the following: (a) most appropriate and efficient logging equipment, sawmill and/or processing plant; (b) sufficient available capital for the purpose; (c) assurance that applicant possesses the necessary know-how or can provide services of competent personnel; (d) assurance 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 (e) preference to be given to applicant who shall dispose of his products directly to consumers.

According to the same administrative order the application form becomes a part of the license. Declarations contrary to facts to be found therein will be sufficient ground to reject the award or cancel the license later on.

Applications for renewal received after the expiration of the old permit cannot be considered and the area applied for shall be disposed of accordingly by the director of forestry.

* * *

THIS YEAR'S ENROLLMENT, A NEW HIGH

Forestry Director Felipe R. Amos, concurrently Dean of the U.P. College of Forestry in Los Baños, today announced enrollment in the country's only school of forestry hit a new high this school year with a total of 498 students enrolled for the first semester.

Of the 380 freshmen as against last year's semester of 261, 281 are new and 118 are advanced students, Amos said. There are 72 sophomores as against last year's 40; 16 juniors as against last year's 17; and 11 seniors as against last year's 9.

Dean Amos also said that there are at present 10 foreign students studying at the state forestry college. Of these there are three Vietnamese who are all freshmen, and seven from Thailand who are juniors.

Amos said that the Ministry of Agriculture in Bangkok is dubbed in Thailand as the "Ministry of Los Baños" because all the keymen in the department are graduates from the College of Forestry in Los Baños.

The increase in the present enrollment in the college may be attributed to the growing consciousness of our people in the wise conservation and utilization of our forests and forest products, Dean Amos said.

* * *

B. F. PUBLIC RELATIONS SECTION DISTRIBUTES A-W LITERATURE

All is set for the coming Arbor Week celebration, July 24 to 30, with posters, pamphlets,

leaflets and other printed materials ready for distribution by the bureau of forestry, Director Felipe R. Amos said today.

Actual distribution of the 1955 Arbor Week poster began last week when Director Amos ordered several copies of the poster be sent to all the 46 forest district offices located in different parts of the country. Earlier the office of agricultural information sent 20,000 copies to all division superintendents of schools through the bureau of public schools.

Director Amos said that leaflets depicting the evil effects of kaiñgin will be dropped from airplanes during the celebration particularly in the areas where kaiñgin-making is rampant. The leaflets will be in the local dialect of the region where they are to be air-dropped, Amos said.

Meanwhile, interested parties who may wish to secure copies of posters, leaflets and pamphlets may call at the Public Relations Section, bureau of forestry, 244 Juan Luna street, Manila, or go to the nearest district forester. Seedlings of economic trees are also available for planting from the different forest nurseries throughout the Philippines.

Civic organizations, clubs and societies participating in the observance may also avail of the services of the bureau of forestry fieldmen, Amos said. They were previously instructed by the director of forestry to give all possible assistance to all the participants in the celebration.

* * *

FORESTER DUEÑAS CAPTURED BY HUKS

May 6, 1955

A survey party of the bureau of forestry doing land classificatoin work in Isabela province was held captive for one day recently by unknown men believed to be dissidents in sitio Tuba, barrio of Bacolod in Cauayan, Isabela, according to reports reaching the bureau of forestry.

The armed men, numbering about 15, demanded for money, foodstuff, medicine and confiscated the only firearm of the group, a Llama calibre 38 pistol belonging to the chief of the party, Forester Santos E. Dueñas. Dueñas said in his official report to the director of forestry that his party was taken by surprise and held captive by the Huks in the morning of April 29. They were released later in the afternoon of the same day.

During their period of captivity, Dueñas said, their captors preached to them the gospel of the HMB movement and program. They were warned not to report the matter to the authorities under penalty of liquidation. However, he said, he reported the incident immediately to the 11th BCT detachment in sitio Dipalsing, barrio Bacolod, Cauayan, when they reached the place before 6 p.m. of the same day.

Forester Dueñas, in his report, requested forestry director Felipe R. Amos for their return to Manila for security purposes and asked for a new assignment to another place. Amos was reported to be seriously considering the request.

* * *

FORESTER JUNI RETURNS FROM FOA OBSERVATION TRIP

Forester Rosales A. Juni returned recently after eight months of study and observation trip abroad under the sponsorship of the FOA.

A UP College of Forestry alumnus, Juni studied forest research and watershed management and visited progressive forest establishment in Washington, D.C., New Orleans, Puerto Rico, Pacific Northwest and California.

Before his departure last September 12, Forester Juni was the officer in charge of the Cinchona Plantation in Malaybalay, Bukidnon. According to him forestry practice in America can be adopted in our country provided more trained personnel, equipment and funds are made available.

Director Felipe R. Amos of forestry has assigned Juni to take charge of the Fifth Forestry Experiment Station at Malaybalay, Bukidnon, where he can apply the knowledge he has gained abroad.

* * *

FORESTER AZURIN RETAINED

An old time employee of the bureau of forestry who was due for automatic and compulsory retirement under the law was retained in the service for another year "for lack of trained and experienced men to handle his work", it was learned from the director of forestry.

Mamerto C. Azurin, district forester for Cagayan province and the Batanes islands group, was given an extension for one year to remain in the service effective May 11, 1955, the date he reached the age of 65 years, until May 10, 1956. The decision was contained in a recent communication received from assistant executive secretary Mariano Yenke, Jr., taking exception to a Cabinet resolution adopted on February 19, 1954, regarding the matter.

The retention in the service of Forester Azurin was recommended by forestry director Felipe R. Amos because of his long service and experience as a district forester which makes him especially qualified to administer further our forests and forest wealth in his district. At present the bureau of forestry lacks experienced foresters to handle class—A forest districts and therefore the continuance in the service of Azurin is very necessary, Amos said.

Forester Azurin, when informed of the executive secretary's decision, said he was happy and was

(Continued on page 63)

• Campus Notes •

FORESTER SAJOR ON THE DIVISION OF FOREST INVESTIGATION

According to Forester Sajor, the present functions of the Division of Forest Investigation is less than in the previous years because some of its previous work is now handled by the Forest Products Laboratory. In addition to the investigational work, the Division also takes charge of the Makiling National Park; grants commercial and gratuitous licenses therein, conducts studies in reforestation and afforestation work with native and exotic species in collaboration with the Division of Reclamation and Reforestation. The Forest Experimental Nursery and forest plantation in Los Baños are also under the administration of the Division of Forest Investigation. This Division takes charge of research work of the Bureau of Forestry and carries out the activities thru the (a) silvics and silvicultural section, (b) forest products section, and (c) forest protection section.

The research work on the utilization side has been taken over by the Forest Products Laboratory, on the production side by the Forest Experiment Station, and the Administration of the Makiling National Park by the commission on Parks and Wildlife.

Thru its cooperative planting, the division has contributed to the line of shady trees along the Dewey Boulevard and the Luneta. It had a part in the transformation of the Clark Field and the Subic Bay Navy Yard from barren land into beautiful landscapes. It had been also supplying various schools and local government sites with ornamental trees and bushes. Different reforestation projects throughout the country receive seeds of various kinds from this Division. It also cooperates with the College of Forestry by supplying some of its professors and instructors and has been carrying silvicultural and Forest Utilization research work.

ROMEO ULANGKAYA

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LOS BAÑOS NURSERY ARBOR WEEK PREPARATIONS

"A day is too short for an occasion like this especially if it pertains to a nation's economic stability, so important that many should meditate not for a day but for a week, at least, on the importance of trees," thus commented Sr. Ranger Francisco Rola, in-charge of the forest nurseries in the Makiling National Park, when asked his opinion why Arbor Day was changed to Arbor Week. About the transferring of the date from September 11 to

July 24-30, he remarked that September is the beginning of the dry season in the north (he is from the north) and therefore not favorable to planting.

The distribution of plants started last July 6 and at present, about 7,000 plants of different species were already sent out. So far, the distribution is still in progress and is expected to end at the end of the month. Requests from district foresters for more available planting materials are still pouring in. These in turn will be given to municipal mayors, school, hospitals and government as well as private entities in their respective provinces. In Pangasinan alone, 5,000 seedlings are needed to meet the demands of the different organizations and civic-minded citizens.

He expressed the hope that after a few years when taken care of properly, these trees will grace the provinces, towns, plazas, yards of government buildings, schools and hospitals throughout the islands, the full blossoming forth of the plantings of the first Arbor Week.

—LEONARDO O. ANGELES

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MORE THAI STUDENTS ENROLL

With this academic year, eight more Thai students have been added to the list of Thai students on the campus. Having graduated from the school of Forestry, Kasetsart University, a government institution, at Prae, Thailand, where they obtained their Associate in Forestry degree, they were sent by the Thai government to pursue their B. F. course here. They are: Vinai Bhandaburana, Sompherm Kintinanda, Udhai Champhaka, Somphong Pachotikarn, Boonsong Sabhasri, Sanga Sabhasri, Chongrak Prechananda, Thaew Sindhpongsa.

—T. SINDHIPONGSA

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CAMPUS ELECTIONS

A few weeks after the opening of regular classes this school year, the College of Forestry Student Body Organization and the different class organizations elected their officers. As in previous years, the FSBO election was characterized by campaigns and rallies by the different parties and candidates. The elections were orderly and clean and the results are as follows:

* * *

ELECTED OFFICERS

Student Body Organization

Pres., Rogelio B. Baggayan; Vice-Pres., Simplicio Alegre, Jr.; Sec., Felipe Abraham, Jr.; Treas.,

Pelagio Sumabat; Auditor, Adolfo Galam; Athletic Manager, Vicente Zapanta; Reps. to the U.P. Student Council, Primitivo Galinato, Francisco Milan; Rep. to Phil Collegian, Board of Management, Jose M. Ilagan; Sgts.-at-Arms, Juanito Ugalino, Marcelliano Pobre; Adviser, For. Caesar Recto.

* * *

SENIOR CLASS

Pres., Filiberto S. Pollisco; Vice-Pres., Josue Tadle; Sec., George Batoon; Treas., Roberto Espiritu; Auditor, Simplicio Alegre, Jr.; PRO, Rogelio Baggayan; Reps. to the U.P. Senior Council, Primitivo Galinato, Jose M. Ilagan; Adviser, Prof. Jose B. Blando.

* * *

JUNIOR CLASS

Pres., Lucio Quimbo; Vice-Pres., Pelagio Sumabat; Sec., Benigno Lomibao; Treas., Rosie Cañeda; Auditor, Jaime Albay; Rep. to S.B.O., Modesto Tobias; PRO, Adolfo Galam; Bus. Mgr., Carlos Wandisan; Ath. Mgr., Romeo Ulangkaya; Sgt.-at-Arms, Somphong Pachotikara, Damian Lagura; Reps. to the U.P. Junior Council, Isidro Serrantes, Brigido Balcita; Adviser, Dr. Artemio Manza.

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SOPHOMORE CLASS

Pres., J. D. Lamanilao; Vice-Pres., Jessie Amihan; Sec., Teresita Bañaga; Treas. Carlos Ismael; Auditor, Vicente Veracion; PRO, Tomas Reyes; Sgts.-at-Arms, Policronio Aggabao, Sabado Batcagan; Adviser, Dr. Artemio Manza.

* * *

FRESHMAN CLASS

Pres., Teodoro Deliza, Jr.; Vice-Pres., E. Chavez; Sec., C. Salazar; Treas., Betty Tiam; Auditor, S. Borja; Bus. Mgr., N. Busa; PRO, I. Zamuco; Rep. to SBO, P. Piansay; Ath. Mgr., A. Marquez; Sgts.-at-Arms, A. Pascua, Jr., J. Torres; Adviser, Dr. Artemio Manza.

—JOSE M. ILAGAN

* * *

PROF. GUISE MEETS THE FACULTY

Professor Cedric H. Guise of Cornell University, at the request of the Philcusa-Foa, (now ICA) came to the Philippines last June 28, 1955, to survey the needs of the College of Forestry, U.P. and to see whether the contract sent by this college could be handled by the university.

After his meeting with the members of the faculty, he expressed the opinion that the present curriculum for the forestry course is quite heavy . . . even heavier than any college of forestry in the United States. He also stressed the fact that the work in mechanical drawing should be intensified so as to produce better maps and better results. But what we actually need here is more money—lots of it to buy more books and equipment, to expand our college library and to have more personnel in the teaching staff.

Another point he emphasized was that, in order to have the best college of forestry in the far east, it should be divorced from the mother institution or it should be independent from any other college of the university of the Philippines. The limitation of enrollment must be given careful attention and that the degree course should be more encouraged because if the ranger course is given more encouragement, forestry in the Philippines will remain strictly confined to patrol work and merely to regulate the cutting of timber. What we are in dire need of at present are men to conduct intensive research work, men to handle and to develop our vast natural resources.

Dr. Guise is expected to leave for the United States on July 25 via Hongkong, Tokyo and Honolulu to submit the report of his findings as his recommendations for the College of Forestry, U.P.

—F. POLLISCO

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DR. ELEQUIN TALKS ON "HOW TO STUDY EFFECTIVELY" AT CONVOCATION

Dr. Eleanor T. Elequin of the U.P. Personnel Services was the guest speaker at the first convocation of the College of Forestry. Her lecture addressed to the freshmen, emphasized the need for and the proper methods of effective study.

The Dean in his closing remarks stressed the demand of the government for more men to take care of our forests, men who will help implement the selective logging system, a more practical way of conserving our forests.

After the convocation, a faculty lunch was served at the Forestry Mess Hall.

* * *

LOS BAÑOS FORESTRY NURSERY FURNISH ARBOR WEEK SEEDLINGS

The plants to be planted at the International Fair Ground are: (a) Araucaria; (b) Banaba; (c) Bauhinia purposes; (d) Fire tree (e) Golden shower; (f) Nacranda ovatifolia; (g) MacArthur palm; (h) Narra (i) Almaciga; (j) Brazilian fire tree; (k) Mala-almaciga. The above plants will be furnished by the Los Baños nursery, Laguna.

High government officials from the President including Cabinetmen, Congressmen, Senators, etc., in Manila will celebrate the Arbor Week, beginning July 24 to July 31, 1955 by planting different species of trees at the International Fair Ground formerly known as Wallace Field. The purpose of which is to lead the people plant trees and to inject the habit of planting trees.

Meanwhile, seedlings of Fire trees totaling four hundred (400) were given to Dr. Almace, a representative of the Philippine Red Cross in Quezon Province, for planting during the Arbor Week.

AQUILES G. ESBER

• Forestry in the News •

GUN and TACKLE

By VIRGILIO I. TALUSAN

(From the Daily Mirror, June 4, 1955)

The government is avowed to President Mag-saysay's land-for-the-landless program. But to allow *kaiñgeros* uncontrolled in the forests would result in the destruction of soil which belongs, not to us, but to future generations.

The President can fulfill his promise and at the same time save the soil by encouraging the people to take advantage of the distribution of government lands for tree farm purposes.

In the tree farm system, any individual can lease from the government a piece of public land for the planting of economic trees or perennials like coffee, cacao, lanzones, coconut, abaca and other similar plants.

The lease is P0.60 a year for each hectare for the first five years and thereafter, the rental shall be on the basis of a percentage of the gross income but not exceeding 7 per cent for the crops.

The lessee tills not more than four hectares to raise food crops within the area for the subsistence of the workers. Since the planting of the trees shall be under the guidance of government experts, both the lessee and the soil are protected.

Already many thousands of hectares have been approved for lease under this system. There are many thousands more that await other lessees.

Turn the attention of *kaiñgeros* to tree farming and give them the land to cultivate. This is the only sane and immediate solution to the problem. By all means, do not just let them loose in the forests.

* * *

FORESTRY MAN KILLED BY FALLING TREE

Sandakan, April 27, Mr. Virgilio Fabian (26) of the Forestry Department died yesterday of injuries sustained when an old tree trunk fell on him whilst he was traveling in a motor boat.

The accident occurred at Sungei Yabock across the Bay. Mr. Fabian and his men were returning to Sandakan from an inspection trip and had to pass through a V shaped gorge over which an old tree trunk was wedged crosswise. The tide was up and everybody who was on the deck of the motorboat ducked to avoid the tree. An eyewitness said that Virgilio stretched himself out prone on the deck front. When Fabian was directly underneath the tree trunk, it became dislodged and crashed down on his back. When the Serang and members of the crew succeeded in chopping through the

tree to get Fabian out, he was already dead. The accident occurred at midday.

The body was brought to Sandakan and taken to the Duchess of Kent Hospital at about four-thirty. Burial will take place in the Roman Catholic Cemetery at 7:00 A.M. on Thursday the 28th April.

This is the second time that young Fabian met with an accident. Earlier in the month his motorcycle bumped into the rear of a motor car driven by his friend Mr. Nick Rodriguez. They were on their way to get some ice to be used at the Filipino Association Party. When he was traveling very closed behind the car, the motorcycle collided with the car. He suffered a cut lip.

Young Fabian was a likeable fellow and was the most enthusiastic and active member of the Filipino Association. His sudden death is a great loss to the community in general, and to the Filipino Association in particular.

Virgilio Fabian came here just over a year ago and during his stay here has made many friends.

He is survived by a twenty-four-year wife and a four-month old baby.

(North Borneo News)

* * *

US NEED OF PI LUMBER REPORTED

Manila International Airport, May 6—(PNS)—An American lumber executive said last night a survey had disclosed that the United States was importing more lumber and plywood from the Philippines each year.

Edwin Sturchel, president of the Eclipse Lumber Company of Everett, Washington, said this finding should serve as an inducement to local producers to increase their lumber output meet the Philippines than from any other country," Sturchel said. "This is because the quality of your hardwood has been regarded as excellent."

Sturchel reported that the steady market being enjoyed by Philippine hardwoods in the U.S. was a strong guarantee for increased production here.

Sturchel arrived by Pan American Airways from Hongkong together with Raleigh Chinn, an executive of a plywood firm bearing his name. The two businessmen are here to negotiate the purchase of lumber and plywood with the International Plywood Company—*Manila Times*.

* * *

SURVEY P.I. TIMBER, PLYWOOD INDUSTRIES

Two business executives—an American and an Australian—who arrived recently from Hongkong,

said they came to explore possibilities for importing timber and plywood products from the Philippines.

The executives were Henry T. Dessauer, president of Pan Pacific Overseas Corp. and Far Eastern representative of Pan American Trade Development Corp. in New York, and Warrick G. Pearse, sales manager of Minney-Allen Co. of Darwin, Australia.

Dessauer, who came by Pan American Airways plane, said his firms were interested in importing quantities of Philippine mahogany and plywood in view of the increasing demand for them in the United States.

He said he planned to contact a number of local hardwood firms to make inquiries regarding his mission and to find whether he could appoint one of them to represent his company here.

Dessauer, who is on a three-month trip to the Far East, said his firms had been importing some five to 10 million square feet of plywood from Japan each year. This quantity would be augmented by imports which he planned to draw from the Philippines, he said.

Pearse, who is enroute back to Australia from a business trip in Hongkong, said he would confer with officials of Philippine Terminal Co. during a week-long visit.—*Manila Bulletin*, July 14, 1955.

* * *

SACRED BUDDHIST TREE NOT DYING

CALCUTTA, June 30 (AFP)—Fears that the sacred Bodhi tree which the world's 150,300,000 (M) Buddhists venerate is dying were allayed here today by leading Indian botanist Dr. K. P. Biswas, who spent a week examining the tree at Bodh Gaya.

Dr. Biswas told the *Agence France-Presse* that the 2000-year-old tree, under which Sidharta Gautama, the Buddha, attained enlightenment, is "full of vigor."

He pointed out that because its growth eastward had been blocked by a temple, the tree is expending its energies in developing westward. Some of its branches sag nearly to the ground.

Biswas recommended that some of its lopsided branches be pruned and others propped up. However, he said, it is impossible to get anyone willing to take the risk of "profaning" the tree by pruning it.

He admitted he himself was unwilling to undertake this task. In India pibal trees such as the sacred Bodhi tree and which botanists call *ficus religiosa* are venerated by Hindus and Moslems alike.

The only damage done to the tree, Biswas said, has been caused by pilgrims breaking twigs as sacred relics. Bonfires have also scorched its bark, branches and leaves, he added.

"Unless natural calamity overtakes it," Bis-

B. F. NOTES . . .

(Continued on page 60)

still very willing to serve the bureau. I feel, in spite of my age, that I am still strong and healthy to render that service, he said.

* * *

SEC. ARANETA ORDERS SPEEDING UP OF TREE FARM LEASES

Agriculture Secretary Salvador Araneta today ordered the speed up of the granting of leases for tree farms on bare denuded public lands under the jurisdiction of the bureau of forestry. In a conference with Director Felipe R. Amos of forestry and Forester Nicolas P. Lansigan, he called for faster action on these leases as the people have to start planting with the rainy season.

Araneta explained that the tree farm lease is one of the most generous steps the government has taken to help out the needy, especially the *kai-ñineros* and squatters in public forest lands. Ordinarily, he pointed out, the squatters have to be ejected from the land and for the government to reforest the area. Under the lease terms, however, the leasee can have possession of the land for twenty-five years, renewable for another twenty-five years. The land will be used for the raising of agricultural crops like coffee, cacao, citrus and others that live from year to year.

Secretary Araneta also disclosed that the lease may be granted only for areas that are presently bare or covered with grass. "The idea," he said, "is to have a tree vegetation on these bare lands. We can not depend on the government alone, with its limited funds, to reforest over five million hectares of cogonales. But with these leases the people, while being helped with land to till, will also be helping the government establish a tree vegetation. This will check soil erosion and regulate water flow."

Persons interested in tree farm leases are advised to see the nearest forestry official or headquarters.

IPIL-IPIL . . .

(Continued from page 47)

Cost of constructing fire lines:	0.60
To use two tractors in two days to construct fire lines	₱204.00
Cost per hectare (204)	0.60 (rounded)
	300

was declared, "the tree will continue to grow and flourish for several years to come."—*Daily Mirror*.

• Sunshine Corner •

TONSORIAL OPERATION

"I had an operation yesterday", remarked the hoaxer.

"That's too bad; I hadn't heard of it", replied the Easywork. "Was it severe?"

"Well, I had a growth removed from my head."

"Terrible! But how is it you are up and around, and looking fine? I can't understand it!" exclaimed the anxious Easy work.

"Well, why not?" replied the hoaxer. "I just had a hair cut".

* * *

NO CURE

Manager: Why did you leave your last job?

Applicant: Illness.

Manager: What sort of illness?

Applicant: My boss said he was sick of me.

* * *

KILL JOY

Wife brandishing garden tools between loafing husband and television set: "May I interrupt with a local bulletin? THE SUN IS SHINING!"

—Ralph Hersheberger

* * *

A HAD-BEEN

Wedding Guest to groom: "Congratulations! . . . You'll be hearing a great deal about me . . . I'll be the fellow she should have married . . ."

—Lichty, *Field Enterprises*

* * *

SLOW BUT SURE

Shoe Salesman to woman: "Shall I show you the right size first, or would you rather work up to it little by little?"

—Hoifjeld in *FARM JOURNAL*

* * *

MORAL SUPPORT

Motorist: "Aren't you the fellow who sold me this car two weeks ago?"

Salesman: "Yes sir."

Motorist: "Well, tell me about it again. I get so discouraged."

—*Times of Brazil*

* * *

WHAT A KNOCK!

The Mechanic looked the car over carefully, but couldn't find a thing wrong with it. "At what speed did you say the car knocks?" he asked.

"Eighty."

"Nothing wrong with the car," the mechanic stated flatly.

"It must be the Lord warning you."

—*Catholic Digest*

AURAL TORTURE

Anguished Father to little boy pounding at piano: "Why don't you try to get out of practicing, like other boys do?"

Ross in *THIS WEEK*

* * *

WHAT A PROFILE!

Bridget was applying for the position of maid in a household where the mistress was very particular.

"Have you any references?" asked the mistress.

"Oh, yes, ma'am, lots of them," replied Bridget.

"Then why didn't you bring them with you?"

"Well", the maid explained, "to tell the truth, they are like my photographs—none of 'em do me justice".

—*The Lookout*

* * *

HUSBAND to jeweler: "What's good for the fourth day after a wife's birthday?"

Ben Roth in *GAGS*

* * *

INSPIRATION SANS PERSPIRATION

A city girl, telling friends about her brother-in-law's farm, said: "It's one of those experimental farms where the cows have calves without any bulls around—they call it artificial inspiration.

—Kathryn Donnelly

* * *

IN A SPANISH CLASS

Professor: (explaining family relationship): Your future wife will be a *nuera* to your father.

And your father, her *suegro*.

Student: And what will be my relation to my future father-in-law.

Professor: If you are good, you'll be the *verno*, son-in-law. If bad, you will be the son-outlaw!

* * *

A small boy was asked to give the definition of steam. His answer was: "Steam is water gone crazy with the heat".

* * *

If you keep you mouth shut long enough, somebody will suspect that you have more than the usual amount of common sense.

* * *

Nothing is opened more by mistake than the mouth.

* * *

After you have climbed so high, the world is usually more interested in your possible tumble than in your further ascent.



June 16, 1955

Hon. Felix A. Fuentebella
House of Representatives
Manila
Sir :

With reference to your letter dated June 2 and received at this Office on June 10, 1955:

I have the honor to inform you that two scholarships offered by private entities are available in this College, namely the Santa Clara Lumber Company Scholarship and the Nasipit Lumber Company Scholarship. The former carries an annual stipend of ₱1,200. It stipulates that the recipient should be selected by a committee from the most promising of the upper classmen, i.e. from the juniors or seniors of this college. The latter consists of an annual grant of ₱1,500. It stipulates that the recipient must be a graduate of Mechanical Engineering course or at least must be ready to enter the senior year of the mechanical engineering college of reputable standing.

It is evident that outside of the two groups the College of Forestry has no scholarship available.

Very respectfully,
FELIPE R. AMOS
Director of Forestry
and
Dean, College of Forestry
* * *

Republic of the Philippines
Department of Education
OFFICE OF THE SECRETARY
Manila

June 16, 1955

The Editor, Forestry Leaves
College of Forestry
College, Laguna
Sir :

In view of this year's national celebration of Arbor Week from July 24 to 30, of which I am the Committee Chairman, I shall greatly appreciate it if you could extend to us your cooperation in publicizing the event.

To arouse the attention and interest of our people on the value of planting trees and the need of taking good care of them, the Committee decided to hold a "greening week" from July 20 to July 30 as the main feature of the Arbor Week celebration.

You will recall that in previous years, this annual celebration was held on a single day during the year. However, due to the ever increasing importance of trees in our country, President Magsaysay has deemed it wise to make the occasion a whole week affair. It is for this reason that I am seeking your valuable cooperation to help us publicize the forthcoming affair.

By arrangements with the Office of Agricultural Information, Department of Agriculture and Natural Resources, write-ups and miscellaneous materials on Arbor Week will be sent to you by this Office from time to time.

Should you desire to run a supplement on this coming celebration, please let us know at the earliest possible time.

Very truly yours,
MARTIN AGUILAR, JR.
Undersecretary of Education
as
Chairman, Arbor Week Committee
* * *

Republic of the Philippines
Department of Agriculture and Natural Resources
BUREAU OF FORESTRY
OFFICE OF THE DISTRICT FORESTER
Naga City
D-17, Z—Public Relation
Del Gallego, Camarines Sur

June 14, 1955

The Director of Forestry
Manila
Sir :

With reference to the letter of this Office dated May 12, 1955:

I have the honor to inform you that this Office participated in the Agricultural and Industrial Fair on May 21-22, 1955, during the town fiesta of Del Gallego, Camarines Sur.

A Bureau of Forestry Booth has been prepared by the personnel of Forest Station, Del Gallego, Camarines Sur, under my personal supervision. The booth was a unit of the Department of Agriculture and Natural Resources exhibits in which all Bureaus under the said Department, except the Bureaus of Lands, Mines and Fisheries, were represented. The Department's booths occupied the central portion of the shade with an area of about 120 square meters constructed by the Municipality for the purpose. On both ends of the shade were



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Barrio booths where local agricultural and industrial products were displayed.

We enlisted the cooperation of the local forest licensees by furnishing us with finished and rough lumber, rattan, almaciga, furniture, plywood and specimens of the different woods. Posters on manila paper were placed on the front siding of our booth bearing the following inscriptions: "Conserve our forests by wise use", "Plant ipil-ipil on your vacant lot for firewood purposes", "If we conserve our forests, we conserve our water supply and avoid soil erosion" and "Provide your carabaos".

There were about 1,000 people who visited our booth during the two days of the exposition. In this participation, the amount of ₱1.25 as spent for manila paper, pins and nails. Also, an amount of ₱3.90 was spent for transportation of the two crates of plywood from Naga City to Del Gallego which I took along with me on May 19, 1955.

Very respectfully
For and in the absence of the
District Forester:
PEDRO ADUISO
Administrative Officer

* * *

REPUBLIC OF THE PHILIPPINES
PROVINCE OF NEGROS ORIENTAL
MUNICIPALITY OF GUIHULŊGAN

WILLIAM V. VILLEGAS
Municipal Mayor
Office of the Mayor

June 13, 1955

The Director
Bureau of Forestry
Manila
S i r :

As General Director of the Guihulŋgan Town Fiesta and in the name of the Board of Directors, we extend our heartfelt thanks for the participation of your Bureau which made the festival colorful and meaningful.

The display and demonstrations made in action by your Bureau enlightened the people of Guihulŋgan as well as to the neighboring towns of how your department can really benefit the common tao. It is the first of its kind in the province of Negros Oriental where different Bureaus or Units are being invited to participate in a town fiesta for the purpose of letting the inhabitants feel that they are not neglected and forsaken and to depict the utmost desired program of President Ramon Mag-saysay.

The cooperation, labor and the food for thought, exerted with willingness by the head and personnel of your Bureau in this province manifested inwardly and outwardly, brings incentive to the people to put more impetus in their daily task for

a better living. The aim of the President to bring the government closer to the people and his plans for Rural Improvement has at long last blossomed into reality in this municipality. It is only by this means (in action) that we can win back the faith and confidence of our people in our government.

And now I close with all happiness in my heart and in the name of the Board of Directors of the Guihulŋgan Rural Improvement Festival, allow me to reiterate once again our deepest thanks and gratitude.

Very sincerely yours,
(Sgd.) WILLIAM V. VILLEGAS
Municipal Mayor

* * *

JAUN S. ALANO
Pres.-Gen. Manager

April 21, 1955

Mr. Hipolito B. Marcelo
District Forester
Isabela, Basilan City
Dear Mr. Marcelo:

This will acknowledge receipt of the 500 mahogany seedlings you sent me. Thank you very much.

Of the seedlings you sent me last year, only twenty are growing and they are now 8 ft. high. I would like to request for as many as two thousand whenever you deem it feasible and convenient.

I am taking this opportunity to express my sincere and full appreciation for the extraordinary activities being undertaken by your office in the propagation of real mahogany trees in Basilan. I hope and wish that the same is being done in the other parts of our country for the enhancement of the lumber industry and general economy.

We are proud to have a District Forester like you, who has shown from the start an unselfish devotion to the conservation of our valuable forest lands. I can assure you of my wholehearted cooperation in your activities, so that Basilan will become a model in the scientific conservation and utilization of our natural resources for the benefit of future generations.

Reiterating my heartfelt thanks, I remain.

Very sincerely yours,
(Sgd.) JUAN S. ALANO

"Every day you wait, you lose," says a man of life's experiences. "All my life I have been planning and hoping and thinking and dreaming and loitering and waiting. All my life I have been getting ready to do something worth while. I have been sitting for the winter, and waiting for the spring—waiting and dawdling and dreaming—until the day is almost spent."

MORE DORMITORIES ON THE CAMPUS NEEDED

Housing condition on the campus have become one of the most vital problems of the College of Forestry today. With the ever-increasing enrollment that we have from year to year, the college authorities concerned are seriously pondering over the matter of where to house the newcomers and how to deal with the old-timers.

At long last, a temporary solution to remedy the situation has been reached. All upperclassmen must vacate the dormitories to give way to the incoming freshmen. The old-windowless roof-leaking army barracks is being used to accommodate the upperclassmen and some freshmen who could not be accommodated in the dormitories. Despite this arrangement, however, the dormitories with a normal capacity of thirty (30) students each that is using double-deck beds, are literally choked. Some are obliged to use the study table as their beds and still others are compelled to be "floor leaders." By "floor leader" is meant those students who have to sleep on the floor. The worst part of it is that those who have to sleep on tables have to wait until everybody is through studying. The conditions that now obtain are not only very inconvenient but are a menace to the health of the occupants. It goes without saying that overcrowded rooms are favorable to the spread of communicable diseases.

The Forestry profession is actually gaining grounds among other walks of life as evidenced by the pouring in of students from all over the islands every beginning of the school year. This is borne out by the expansion and rehabilitation of the College building and of another establishment like the Forest Products Laboratory. But the construction of more dormitories which we are in dire need of has been painfully neglected and forgotten. We appeal once more to the university authorities to do something about it.

—Filiberto Pollisco—

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

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FOOTNOTE TO TREE PLANTING

Trees are among Nature's best gifts to man. Through all the ages, they have contributed immeasurably to human progress. Although old age comes to trees, as to all beings, they have been at all times man's faithful friends. If the tongues in trees could only convey their message of the past to the generations of the present and the future, they would probably say "Love Me and Let Me Live."

Trees have all for us kindness. They only want to live, to grow, develop and reproduce for the benefit of mankind. They should be prized and fully recognized for the benefits they give to all people, irrespective of age, creed or color.

The Arbor Week planned by our National Forestry Council and declared by President Magsaysay from July 24 to July 30, 1955, this year is a remedial measure to restore our forests that have been stripped of their valuable trees, a way to bring back ghost towns to progressive communities, idle lands laid waste through destruction and use by loggers and kaiñgineros, to a state of productiveness.

In this week every citizen is expected to go out into the field and plant at least a tree, to take care of it and cherish it for posterity. Our country's population has been increased tremendously to 20 million Filipinos. It stands to reason that we need more trees to give us food and the things we need in our daily life. If only the one million tree seedlings that will be distributed by the Bureau of Forestry's 38 reforestation projects all over the country could be planted and cared for, then there would be a million more of them along our streets and highways, around our buildings, in our plazas, our backyards and the eyesores in the sites of our factories and mills will disappear.

But planting a tree is not the "end all and be all of it all." Trees, like children, need to be protected from harm and destruction by animals and unscrupulous men.

It has been the practice for years to keep planting and planting from one Arbor Day to another. And every year after every Arbor Day, thousands of these forgotten seedlings died before they had the chance to prove their usefulness, love and loyalty to Man.

Let us resolve on this Arbor Week that the trees that we plant shall not have been planted in vain.

—JULIAN MEIMBAN, JR.

UNUSUALLY HEAVY CURRICULUM

The students of the College of Forestry since the time this Department of Forestry was founded in the College of Agriculture in 1910, have been carrying an unusually heavy academic load. Unlike other courses, the forestry training in this country demands of the students a high degree of physical stamina and mental ability. Ever since, it has always been the case of the "survival of the fittest."

For many years, the students have sweated it out tooth and nail, climbing steep ravines and leaving their footprints on untrodden ways at the sacrifice of their own health. The unusually heavy curriculum makes it so. Prof. Guise, a professor from the Cornell University, said in his meeting with the faculty members of this college that "The curriculum for the degree course in the College of Forestry, U.P. is heavier than that of any school or college in the United States." As a consequence, not a few have tasted the bitterness of a failing mark. However, believing that a brighter prospect in life is awaiting them, they redoubled their efforts and concentrated their energies merely for one thing—to finish the course within the allotted time.

But the question arises, what is the prospect of a new ranger or a new BSF graduate?

That is the million dollar question facing many a young ambitious man of this college. After all those many years of physical toil and mental drudgery, what chance has he to progress in this strife-ridden world through his chosen profession?

It is a fact which cannot be denied that regardless of the unusually heavy curriculum, new graduates of this college are given very little encouragement by the government in terms of financial rewards. Cannot the proper authorities concerned alleviate the already heavy mental, physical as well as financial burdens that oppress the students of this college by seeing to it that the salary scale for the Bureau of Forestry be raised, commensurate with the time, money and efforts spent and the sacrifices made by them?

—FILIBERTO S. POLLISCO

THIS CASE OF NEPOTISM

A year ago, an order from the Undersecretary of the Department of Agriculture and Natural Resources created a furor among the DANR personnel particularly those who had members of their immediate family working in the same bureau as they were. This circular expresses in no uncertain terms that the rule on nepotism disqualifies a son from being employed in the same bureau as his father. However, there is a clause which exempts from this rule those positions of highly technical nature. And thus, graduates of the College of Forestry applying for ranger positions were exempted from the rule.

However, a recent ruling as of July 14, 1955, if followed to the letter, apparently prohibits and restricts the employment of relatives in the same bureau irrespective of whether the position is technical or not in nature; and those relatives transferred to another bureau are disqualified from getting any promotion.

The dreams of many a father is to see his son follow his footsteps. That is why we have a good many sons of foresters in our college because their fathers believe that their sons could carry on the task they had chosen to do. But what opportunity has the son of a forester after graduating from the College of Forestry if this rule on nepotism hinders rather than helps the fulfillment of his father's dream? What incentive has the profession for those who plan to follow their father's footsteps? MacArthur and Eisenhower have followed their sires' footsteps and they have reached the highest goal of their profession. Hence, it is hoped that this clause on the rule on nepotism be given a more liberal interpretation, especially if it applies to these young men who have decided to throw in their lot with their fathers in the forestry service, inasmuch as they, too, are trained and qualified as well as capable.

—F. S. POLLISCO

WIN ONE HUNDRED PESOS

*With this issue, Vol. VIII, No. 1, we are using a new format for cover. In the Inauguration Issue, March 1955, the supplement issue cover, we used narra (*Pterocarpus indicus*) leaves over a pine tree (*Pinus insularis*) veneer. In this issue, we have used other species for the leaves and for the veneer.*

With subsequent issues, the staff will endeavor to use different leaves and veneers for each issue. Beginning with this issue, Vol. VIII, No. 1, a prize will be given to any subscriber or advertiser who can correctly guess the leaves and veneers used from Nos. 1 to 4 (Vol. VIII).

Members of the staff are disqualified from participating in the contest.

The Management