

FORESTRY

LEAVES

ORGAN OF THE COLLEGE OF FORESTRY
UNIVERSITY OF THE PHILIPPINES

FEB 7 1955

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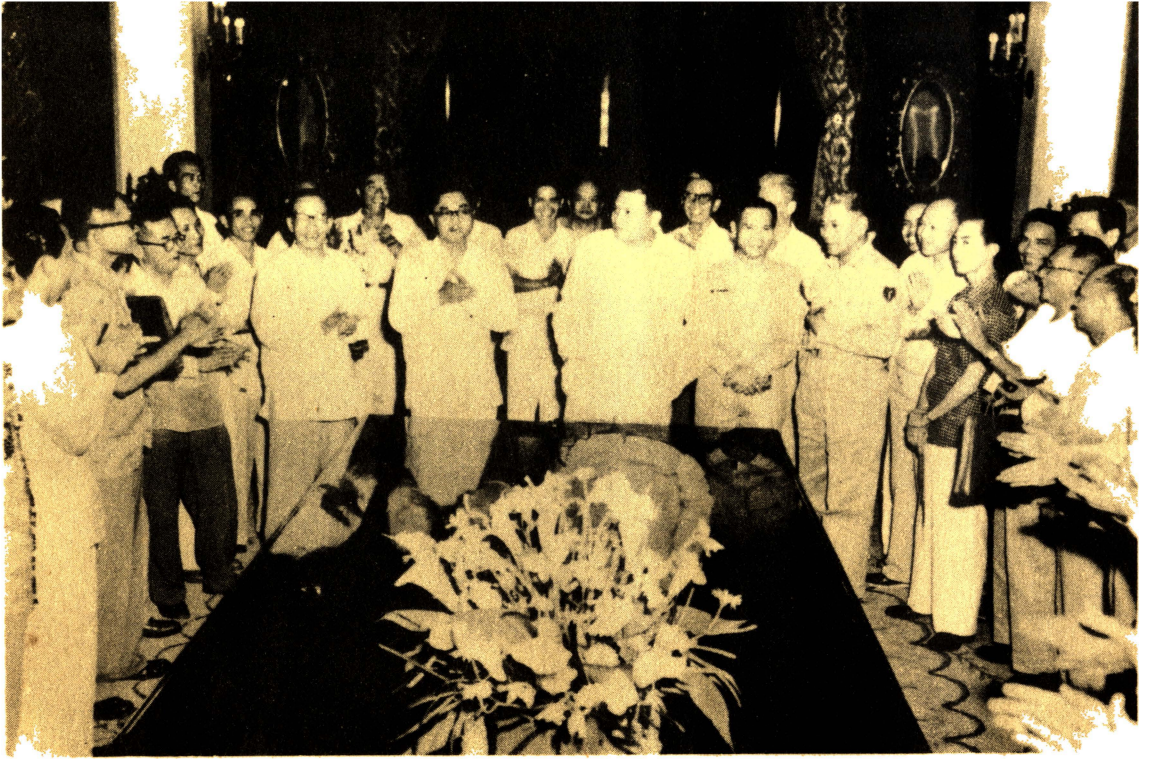


FORESTRY IS OUR HOPE FOR SURVIVAL

—FENSHA

LC989
AIF7

College of Forestry Float
Loyalty Day, October 10, 1954



President Ramon Magsaysay with the District Foresters on October 4, 1954.

“ . . . Wood has been the Firm Companion of Man, in all Circumstances . . . He is drawn to it, because it offers him infinite aspect, infinite utility, and because in his Being, the concept of his Cathedral . . . Nothing will ever tear from Man his love for Wood, his friendship for Trees—and though he wanders for a space in the stark halls of Modernism, the loneliness of the sepulchre which descends upon a Place where Wood is Not, in due course will move his Return to that Material which, alone of all, has the Verisimilitude of Life.”

—*Carl Ruskin*

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

Arbor Day Celebration (1954)

September 11, 1954

M E S S A G E

Today, September 11, is Arbor Day. This is an occasion which comes only once a year to salute man's most faithful friend—the trees. Personally, I do not think a particular day should have deserved to be honored for just one day—only to be forgotten afterwards.

Few people realize the importance of trees in our daily existence. From time immemorial, trees have been loyal to mankind whether in time of peace or in war. Yet, we have failed to reciprocate them properly. While they have been constantly faithful to us, we have been unfaithful to them. No nation on earth can long exist without trees. Our country has been endowed with majestic towering trees. But it is sad to note that some people recognize the utility of trees only from the commercial point of view. In their desire to make money, they have exploited our forests to the prejudice of this and future generations. Various forms of vandalism are being perpetrated in our forests today.

On this day, let us turn our thoughts to the trees and other things which spawn verdantly in this land of ours. Let us start a nation-wide campaign to stop acts of commission and omission destructive to our forest. Every farmer should plant trees or maintain a woodlot not only to supply his needs for forest products but also to keep the fertility of his farm. But it is not enough to plant trees. It is even more important that we protect what we already have. We should utilize our forests wisely and not destructively so that nature will automatically reforest for us our cut-over areas. We are depleting our forests at a rate much faster than we could plant. If we could only stop *kaiñgins*, prevent forest fires and practice more conservative methods of logging, we shall have solved our major problems in forest conservation.

(Sgd.) FELIPE R. AMOS
Director of Forestry

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Forest Conservation and Reforestation Program

Approved October 1, 1954

by

The First Philippine Forest Conservation
and
Reforestation Conference

I—NECESSARY BALANCE OF FOREST COVER

1. Determine as soon as possible but not later than three years the permanent forest areas of the Philippines; to be classified as follows:

- (a) Protection forest including National Parks.
- (b) Production forest.

2. A Protection Forest Committee, composed of the Director of Bureau of Forestry as the Chairman, a representative each of National Power Corporation, Bureau of Public Works, Bureau of Mines, and Mr. Juan Arellano, will be created by the Secretary of Agriculture and Natural Resources to define, determine and advise the Department what are the areas to be declared protection forest areas;

3. In the determination of the Protection Forest, give priority to the determination of watershed protection areas and still higher priority to the watershed protection areas of our main rivers and lakes traversing big agricultural areas;

4. The Protection Forest Committee will in turn appoint three-man field groups which will undertake the field survey and recommend the actual protection forest areas for each of the river systems of the Philippines, as may be defined and tentatively determined in the maps by the Protection Forest Committee. This will be composed of a representative each of the Bureau of For-

estry, the Provincial Governor and the Bureau of Public Works or National Power Corporation;

5. Protection forests shall be subjected to minimum logging operations;

6. Unforested areas of protection forests that are still public lands shall be given priority in reforestation to be undertaken either by the Government, including participation of the Department of Education, or by private initiative including civic organizations (See No. VI). The Committees mentioned in Nos. 3 and 4 will determine which portions shall be reforested by the Government and which portions will be leased to private parties as woodland farms or tree farms;

7. The necessary legislation will be recommended for the reforestation and/or soil conservation of private lands within watersheds as above defined;

8. Permanent commercial forest and permanent grazing lands shall be so classified within a period of three years by the Secretary of Agriculture and Natural Resources upon the recommendation of a Soil Classification Committee composed of the Director of the Bureau of Forestry as Chairman, the Director of the Bureau of Soil Conservation and the Director of the Bureau of Lands as members. This committee in turn will appoint three-man field groups representing each Bureau to make a comprehensive survey of such areas by provinces. Instead of spreading the work of these field

groups throughout the whole Philippines, work should be concentrated first in a few provinces, gradually moving to other provinces;

9. In the planning of the location of national or provincial roads, as much as possible these roads should not be run through permanent forest areas;

10. It is important to maintain and even recoup the daily afternoon showers formerly prevalent in Mindanao and to this end, it is necessary that the forest cover of Davao and other provinces of Mindanao be returned to what it was two or three decades ago. For this purpose, a Mindanao Forest Committee will be created by the Department Secretary to determine the permanent forest areas of Mindanao. The Committee will be composed of the five-man Protection Forest Committee mentioned in No. 2, together with the Director of Weather Bureau and a farmer of Mindanao to be designated by the Secretary;

11. In provinces or areas where the forest has already been reduced to an amount less than the required minimum, no new forest concession will be granted until the area of forest has again reached the required minimum, provided, however, that this prohibition will not apply to forest capable of sustained-yield management;

12. The Committees mentioned in Nos. 2, 8, and 10 shall submit to the Department Secretary the personnel and budget needed to finish the classification work above mentioned within the period of three years. The Secretary of Agriculture and Natural Resources, thru the President of the Philippines, will request Congress for the necessary amount to undertake the work outlined herein.

II—LOGGING SYSTEM UNDER SUSTAINED YIELD

1. Logging operations on all areas declared permanent forests or areas not yet declared permanent forests but likely to be

declared as such, will be under sustained yield management. To this end, in all such areas, as a general rule, the selective logging system will be enforced by the Director of the Bureau of Forestry. In areas where selective logging in the opinion of the forest licensee should not be enforced, the licensee shall apply to the Director of Forestry for an exemption. He shall describe the portion or portions of the concession where in his opinion the selective logging system should not be employed, and after the proper investigation to be conducted by the Bureau of Forestry at the expense of the licensee, the Director may grant the exemption required, on any of the following grounds:

- (a) the area very likely will not be declared permanent forest; or
- (b) a modified selective logging system, including the uniform treatment system, because of the special conditions of the forest, may bring about more economically a sustained yield management. In this connection, the silvicultural system to be adopted should take into consideration the economics of logging, but without sacrificing the objective of sustained yield management.

This new regulation will be enforced beginning July 1, 1955.

2. All cutting rules shall be enforced strictly by the Bureau of Forestry;

3. Licensees who have cooperated fully in the efficient management of the forest will be granted an extension of their licenses up to 25 years, renewable for another 25 years. Licensees who have managed properly their respective areas shall be granted priority in the operation of the same even after the expiration of the 50-year license;

4. Forest research should be intensified;

5. Study and recommend to Congress such changes in the law on reforestation fees, in line with the new policy, including changing its name to forest conservation fees.

III.—FOREST UTILIZATION IN RELATION TO FOREST CONSERVATION

1. The Secretary of Agriculture and Natural Resources will create a Departmental Committee to—

- (a) Promote the commercial utilization of by-products from logging and sawmilling operations for possible manufacture into paper, paper pulp, wall-board, wood distillation, etc.;
- (b) Encourage the utilization for commercial and industrial purposes of the bulk of tree species in Philippine forests not at present utilized but left to die and rot;
- (c) Study the economic use of wood shavings and sawdust especially for fuel of trucks;
- (d) Coordinate the researches to be undertaken by the Forest Products Laboratory and the Institute of Science and Technology;
- (e) Accelerate the experiments on the seasoning and preservation of woods and other forest products by chemical and other processes in order to lengthen the life of woods; and
- (f) Promote the reduction of sawmilling wastes through the use of improved and more efficient methods.

2. All new industries, under No. 1 should be tax-exempt, and the RFC shall be requested to provide adequate financing for the same;

3. The Secretary of Agriculture and Natural Resources shall study the advisability of regulating the exportation of logs to any country to an amount not exceeding the local consumption requirements of the importing country—and to this end a Committee will be created by the Secretary.

IV.—PHYSICAL PROTECTION OF THE FORESTS

1. Boundaries of permanent forests will be clearly marked as soon as they are determin-

ed by stenciling trees (or some other means) along the boundary with a legend "PERMANENT FOREST", the legend to be at intervals of one in English to every five in the local dialect;

2. Provide one forest guard to protect a forest sector of about 2,000 hectares each, and wildlife therein giving preference to the protection of the perimeter of the forest. The guard shall live right in his sector so as not to require expenditures in traveling and *per diem*. In the appointment of forest guards, preference should be given to married men having an able-bodied dependent willing to live with him in the forest. Each guard will be allowed to cultivate a lot of not more than two hectares to enable him to raise temporary or permanent food crops for his needs and those of his family. The cultivated lot shall be planted to trees before it is abandoned;

As funds may permit, forest guards will be equipped with a badge and a uniform, and with a two-way radio communication system to enable them to be in frequent contact with the district headquarters. When practicable, forest guards will be provided with a horse or a horse allowance;

3. In the expenditure of reforestation fees, priority shall be given to protection of forest ahead of reforestation. To this end, use a big portion of the reforestation fees to pay for the salaries of the 540 new forest guards to be appointed; provided, only, that the present nurseries will not be discontinued;

4. Priority in the areas to be guarded will be given to—

- (a) recently cut-over areas, to insure that the seedlings and small trees of the cut-over area which will bring about the natural regeneration of the forest is not burned and destroyed by *kaiñgineros*;
- (b) reforested areas;
- (c) strategic areas within watershed of headwaters;
- (d) strategic areas of forested national

parcs when they are necessary to supplement the forest guards appointed and financed within the limited income of the National Parks Commission; and

(e) strategic areas of commercial forests not yet applied by a logging concession.

5. Request Congress for an additional appropriation of one million pesos a year for additional forest guards;

6. The Philippine Air Force has agreed to carry in its planes whenever possible forest officers to detect and report kaiñgin makings in the forest especially during the dry season, when kaiñgineros are most active in destroying the forests. A group of forest officers will be detailed with the Philippine Air Force to do this work;

7. Request the Philippine Air Lines and flying clubs to cooperate along the same line;

8. The Philippine Constabulary and the Department of Public Works will cooperate with the Bureau of Forestry in the enforcement of Forest Laws and Regulations, and to this end, proper deputation will be extended to members of the Constabulary, and to personnel of the Department of Public Works;

9. A coordinating committee of three officials of the Philippine Constabulary, two officials of the Bureau of Forestry, one from the Department of Justice and one from the Department of Public Works will be jointly appointed by the Department Heads concerned, which will meet not less than once a month to achieve a more effective implementation of the enforcement of Forest Laws;

10. The present appropriation of P100.00 granted to the Bureau of Forestry to cover traveling expenses of persons not employees of the government should be increased to P10,000.00. At present, forest officers find difficulty in securing witnesses for court cases against kaiñgineros. The witnesses do not like to serve as such in court trials because they lose their day's work in going to the

town for which they are not compensated. Witnesses should be given per diems not more than P4.00 per day and a reasonable allowance for transportation;

11. The requirement to have timber concessionaires employ forest guards should be extended to holders of ordinary timber licenses covering a forest area of 1,000 hectares or more, as follows:

1,000 to 5,000 hectares	—1 Guard
Over 5,000 to 10,000 hectares	—2 Guards
Over 10,000 hectares	—2 Guards plus 1 guard for every additional 10,000 hectares and fraction thereof, if necessary, at the discretion of the Director of Forestry.

12. Surveyors and other persons who enter the public forests and forest reserves with the intention to survey lands and mining claims without authority from the Director of Forestry should be prosecuted. The surveyors should be warned now;

13. The services of the Community Development Councils, and other semi-official civic organizations, especially in the barrios, shall be enlisted to render voluntary service to help forest guards in the protection of forests;

14. The Secretary of Agriculture will make the necessary representations to the Department of Finance so that Provincial and City Assessors will stop accepting assessments of land within forest areas.

V.—REFORESTATION BY THE GOVERNMENT

1. Accelerate the present rate of 1,000 hectares being reforested annually until at least 4,000 hectares a year is attained;

2. Give priority in reforestation work to critical barren areas within watersheds of hydroelectric, irrigation projects and watersheds of destructive rivers, such as the Agno, Abra, Cagayan, Pampanga, and other rivers. Reforestation work should not be spread thinly as it is now done in the 38 projects in operation but should be confined to not more than 20 projects;

3. As reforestation by direct seeding is faster, it should be employed when warranted;

4. Reforestation by plane, the gun and pelleted method should be studied and experimented;

5. Reforestation in the upper ridges rather than in the lower slopes should be generally preferred, as it is less likely to be destroyed by *kaiñgineros*, and in time it may provide the natural reforestation of the lower slopes;

6. Reforested areas should be given adequate protection, more especially during the dry season;

7. The reforestation carried out in Cebu by the Bureau of Public Schools should be extended to other provinces, and to this end, the Department of Education will be requested to detail in the main office of the Department of Agriculture and Natural Resources one of its officials to direct and coordinate the reforestation activities of the Public Schools and Community Development Councils along this line;

8. The Secretary of Agriculture and Natural Resources will direct the Bureau of Forestry and the Bureau of Agricultural Extension to plant forest trees along public roads, and to request the Department of Public Works to attend to this work;

9. Establish more forest nurseries to supply not only the needs for seedlings for public reforestation, but also for private reforestation; the Bureau of Forestry will extend help and cooperation to the nurseries of the Public Schools as may be requested;

10. Request Congress for an additional appropriation of three hundred thousand pesos annually; and for aid to provinces in the establishment of provincial nurseries;

11. The boundaries of the reforested areas should be marked with a legend "PERMANENT FOREST", in durable signboards or stenciled on trees as prescribed for permanent forests;

12. The Department of Agriculture and Natural Resources will draft the necessary legislation for presentation to the Congress

of the Philippines, with the end in view of creating an "Emergency Conservation and Reforestation Corps" to be composed of graduated or graduating high school students, whose purpose it will be to act as emergency personnel under the direction of the Director of Forestry at a minimum compensation to be determined by Congress;

13. Prepare two programs of completing the reforestation of the permanent forests, one in 10 years, and another in 20 years, and submit the same to Congress for necessary additional appropriation.

VI.—REFORESTATION THROUGH PRIVATE INITIATIVE

1. To encourage the reforestation of denuded areas, in permanent forest areas, the Secretary of Agriculture and Natural Resources, upon recommendation of the Director of Forestry, may grant leases to qualified applicants. Leases may be of two kinds: (a) Tree Farm Lease, or (b) Woodland Lease. A tree farm lease is for the planting of economic or medicinal trees that are not for lumber utilization, like coconut trees, rubber, coffee, citrus, bananas, etc. A woodland lease is for the planting of trees good for lumber utilization.

2. A tree farm lease shall be subject to the following conditions:

- (a) It shall not exceed 1,000 hectares for each person or corporation;
- (b) They shall be for a period of 25 years renewable for another period of 25 years at the option of the leasee;
- (c) The leasee shall be allowed to cultivate not more than four (4) hectares of the land under lease for agricultural purposes to plant temporary food crops for the use of the men employed by the leasees; Provided, that for areas under lease of 100 hectares or less, only one (1) hectare will be allowed for cultivation and for areas less than 10 hectares, only one-tenth (1/10) of the area will be allowed for cultivation;

(d) The leasee shall pay the rental fixed by the Secretary of Agriculture and Natural Resources in Forestry Administrative Order No. 4-5;

3. A woodland lease shall be subject to the following conditions:

(a) It shall not exceed 2,000 hectares; Provided, that, an amendment to the law will be recommended to authorize to increase the same to a maximum of thirty thousand;

(b) The land under lease shall be planted only to forest trees, the species to be approved by the Director of Forestry;

(c) They shall be for a period of 25 years starting from the time of the first harvest renewable for another period of 25 years;

(d) Areas developed under woodland lease agreement will be free of rental; Provided, that, one-half of the regular forest charges rates on trees planted under this lease agreement are paid to the government at the time the same are cut, collected and removed for sale by the leasee.

4. Enforce strictly Lands Administrative Order No. 16 requiring applicants for public lands to plant 10% of the area applied for with forest or economic trees;

5. Distribute free of charge seedlings of forest trees, under receipt, to public or private schools, rural and civic organizations and individual farmers to encourage the planting of forest trees on two or three rows along boundary lines of farms, and for general reforestation.

VII.—EDUCATIONAL CAMPAIGN FOR FOREST CONSERVATION

1. Materials on forest, forestry, and horticulture for inclusion in textbooks for elementary and high schools shall be prepared. For this purpose, a Committee will be created by the Department Secretary to gather and edit materials. Meanwhile, a unit on trees and their values should be incorporated

in the social studies curriculum in the elementary and high school levels;

2. A wider and more practical observance of Arbor Day should be followed. Arbor Day should be supplemented with a program of continuous tree plantings and maintenance of trees throughout the year. Active participation of all elements of the community should be the goal and quotas of number of trees to be planted and taken care by each element should be established. In the case of school participation, the pupils and teachers should participate actively in the tree planting projects. The cooperative spirit of schools, community development councils, barrio councils, civic organizations and municipalities should be aroused. Brochures and pamphlets on forest should be made available for use by leaders of various community groups to generate enthusiasm and give them working knowledge on the conduct of the campaign;

3. Regular lectures and instructions in all schools and community assemblies, both in English and vernacular, should be given by competent men;

4. Utilization of more visual aids to help in awakening forest and horticultural consciousness, especially at barrio levels, shall be undertaken. Posters, cinemas, charts, cartoons and slides should dramatize the soil-conserving and rain-producing functions of trees and forests;

5. Books and literature on elementary and horticulture should be made available in town libraries;

6. Public relations and informative campaign work should be given more emphasis in the curriculum of the College of Forestry;

7. Kaiñingeros should be contacted either personally or at least with printed material thrown by plane and advised of the damage that their practice is occasioning the country. They should be resettled as fast as possible to agricultural areas, and on non-Christian reservations;

8. Public recognition must be given to
(Continued on page 75)

Logging Methods Under Sustained Yield

By

FELIPE R. AMOS
Director of Forestry

For almost half a century, power logging has been carried on in the Philippines with little or no interest in the production of future timber crops. This statement is not intended particularly as a reflection on those engaged in lumbering. Practically all our forests are owned by the Government and timber licensees are mere leasees of the Government, who quite naturally are interested primarily in logging methods as an economic measure. It is the policy, however, of the Government to protect and conserve our forests to insure a continuous supply of valuable timber for the future. This policy is expressly provided under Section 1817 of the Revised Administrative Code.

Continuity of production, or sustained yield, is the very essence of forestry. In order to attain this objective, however, logging methods must be determined not only on the basis of costs but also on the silvicultural requirements of the forest.

There are four main silvicultural systems or methods of harvesting timber designed to bring about the continuous production of future crops. These are briefly as follows:

1. *The clear-cutting system.*—In clear-cutting system, the whole area is cut clear in a single felling. The cleared area is then regenerated either naturally or artificially. This is a practical method to use where the trees in a stand are all of merchantable size. However, a disadvantage of this method is that the cleared area induces conditions which are often adverse to the growth of seedlings. Also, it offers poor protection

against soil erosion, landslides, and rapid run-off water.

2. *The seed tree system.*—Under this method, the area is cut clear in a single felling operation, but seed trees are left on the area either singly or in groups. The seed trees are to provide the seeds for the natural regeneration of the area. The operation and application of this method are the same as in the clear-cutting system, except that instead of cutting down and removing all the trees as in the clear-cutting system, trees are left to naturally regenerate the cleared area.

3. *The shelterwood method.*—This method “involves the removal of the stand by a series of partial cuttings, resembling thinnings, that remove the entire stand within a period of years which is a small fraction of the rotation age”. The cleared area is regenerated naturally, with the surrounding shelter trees providing the seeds. Two or more partial cuttings may be needed to gradually free the reproduction. These partial cuttings are:

- (a) *Preparatory cuttings.*—As few of the matured trees, as are necessary, are cut merely to create favorable conditions for the seed germination.
- (b) *Seed cuttings or seed fellings.*—The canopy is carefully opened up so there is just sufficient light for the germination of seeds disseminated by the dominant trees. The cutting also ought to insure survival of the seedlings.

* Paper read in the first Phil. Forest Conservation and Reforestation Conference, Sept. 30-Oct. 1, 1954.

(c) *Removal cuttings.*—More of the trees are removed at intervals in order to admit more light to the seedlings. When reproduction is well established, the final felling is made by cutting down and removing all the shelter trees.

For the successful application of this method, it is necessary that there be a demand for small-size and low-grade timber.

4. *The selection system.*—Under this system only the oldest or largest trees in a stand are harvested. Hence, in one felling operation, harvesting could be done throughout the stand as the oldest and largest trees may be scattered singly or in groups all over the area. The almost continuous cover of trees in the area is maintained, the openings made being small and scattered. This affords the area a high degree of protection at all times.

From our limited experience in Basilan Forest Reserve, which is the only managed forest in the Philippines, and from indications shown in the operations of the Bislig forest under the Bislig Bay Lumber Company, which is the only lumber company so far voluntarily harvesting its timber on the basis of selection system, it appears that the selection system is highly suitable to most of our virgin forest areas which are covered by trees of all sizes and which must be under forest cover at all times for effective protection against soil erosion, landslides and rapid run-off.

It is, however, risky and dangerous to prescribe the use of any silvicultural system or system of harvesting the timber without first making the proper survey and study of the particular forest involved. The forest area that is contemplated to be managed under a sustained yield basis should first be surveyed, mapped and inventoried. Data on growth and yield are also very essential. These information form the basis in the formulation of a management plan which will prescribe, among other things, logging and silvicultural operations to be followed.

The present practices of logging are destructive to reproductions and young timber. Our regulatory measures, which are in the form of cutting rules, (copy attached) are primarily intended to ensure natural regeneration and for the protection of the cut-over areas. These rules are flexible enough in the sense that any part thereof could at any time be amended or entirely deleted to suit any particular condition. The result obtained from these rules are in general disappointing and these are due to two main reasons: (1) inadequate protection in cut-over areas from *kaiñgins* or squatters and fires; and (2) a seemingly lack of sympathy for and understanding of the policy of sustained yield. There is, therefore, the need of more forest guards, who may be paid from the reforestation fund.

I should like to point out also the need of strictly limiting the use of donkey engines to those with horse power not exceeding 150 for yarding purposes to rough and steep places only. Tractors, which are less destructive, should be assigned to level and rolling areas where they are adaptable.

The destruction to reproductions by *carabao* logging is practically insignificant. The danger, however, in this method from the forestry standpoint lies in the fact that very often only the smaller sizes of trees and those of high market value are utilized. Thus the forest tends to degenerate into a mere "culled" forest. There should therefore be a condition or rule in the license whereby this method of "high-grading" timber could be stopped by either closing the area or, at least, minimizing the amount to be cut.

Timber marking is rather a drastic measure but it should be resorted to when the need therefor arises.

All the foregoing rules, if strictly enforced, should result in the leaving of more residual timber and reproductions which would insure, at least, the natural regeneration of the cut-over areas. Of course, there would inevitably be small bare and open areas caused by donkey settings which could hardly be

expected to be regenerated naturally. These would simply be covered up by artificial planting.

The importance of the preparation of management plan for every forest cannot be over-emphasized. A management plan embodies the guiding principles and measures necessary for the development of any given forest area consistent with the government policy of sustained yield. As already mentioned, logging methods under sustained yield should take into account silvicultural requirements besides costs. For lack of funds and personnel, it is, however, impossible to prepare management plan for every forest area.

In order to enable us to manage all our forests, our field force of technical men (about 600) should be increased three-fold. Even if fund is available, the matter of getting the needed additional technical personnel would still offer a serious problem. The reason is that we have only the College of Forestry in Los Baños from which to draw the technical personnel. The College of Forestry is graduating annually only about 20 to 25 rangers and about 6 to 10 degree holders (B.S.F.). The best that could be done under present circumstances is to carry on the desired objective gradually. We have now in Mindanao timber inventory and land classification parties who will jointly establish the permanent forest line and collect detailed forest data necessary for the preparation of management plans. It is understood that areas to be managed are permanent forest areas previously classified as such.

To give an idea of the personnel and funds needed in the collection of data for a working plan for a forest area of about 90,000 hectares, the following estimate is given:

Personnel:

- 5 foresters
- 10 rangers
- 45 laborers

Expenses:

Salaries and wages	₱18,400
Traveling expenses, etc.	11,400
Total	₱29,800

Period to accomplish the field work	2 months
Office work (mapping, computation of data, etc. and preparation of the working plan)	3 months

I should like to give below also an idea of the personnel and annual expenses needed for the same area to enforce the cutting rules necessary to insure natural regeneration and the leaving of more young timber in order to shorten the period of the second cut. These cutting rules, it must be remembered, are the only regulatory measures to control logging while the management plan is still pending preparation.

Personnel:

- 1 forester in charge
- 4 rangers

Salaries and Wages	₱16,680
Traveling expenses	3,300
Total	₱19,980

Many lumber operators have invested in equipments and lumber plants with capacities well beyond the yield of their respective areas and as a result they have actually over-cut the forest. Some of them are already seeing the end of their supply of raw materials with no prospect for a second cut in many years to come, if at all. These operators have been operating for many years and around their operation communities have already grown up and developed; they and those dependent on their business for their livelihood will find themselves in a very difficult situation when and if drastic curtailment of their production is made in consonance with the policy of sustained yield. I feel that these operators should be given a reasonable period of readjustment.

Thus, I feel that with what logging had so far done all these years, it is inevitable to conclude that:

(1) Power logging practices in the Philippines have been destructive to reproductions and young timber;

(2) In harvesting, no one method of logging, neither of silvicultural system, should be prescribed uniformly for all our forests. Every particular forest must first be studied and

and based on the data and information gathered, a management plan should be formulated whereby the silvicultural systems and the method of logging should be prescribed with the end in view of insuring natural regeneration and, if possible, a continuous operation year after year. Continuity of production or sustained yield, has always been and must always be the essence of forestry;

(3) In the interest of sustained yield and the natural regeneration of logged-off areas, there is immediate need of:

(a) Strict enforcement of the present license cutting rules and others that may be prescribed by the Bureau of Forestry to insure natural regeneration and sustained yield;

(b) Considering and/or regarding all public lands as *forests* until released for agriculture. Our people consistently believe that all lands are potentially agricultural. To correct this wide-spread misconception which encourages squatters to occupy and clear forest lands, all areas that are to be permanent forests should be determined and declared as such within five years;

(c) Soliciting the cooperation of all law enforcement agencies of the Government;

(d) Employment of more forest guards and pay them well; and

(e) Formulating working (management) plans for big companies within one year and for all the smaller concessions.

(4) To operate on sustained yield basis, the concessionaire's license agreement should be extended to 25 years with option to renew for another 25 years; and

(5) Concessionaires should willingly and fully cooperate with any system of cutting prescribed by the Bureau of Forestry as necessary for forest conservation.

CUTTING RULES

for

Timber License Agreement No. 46

of

FIRE

1. Forest fires shall be kept out from your cutting areas within permanent timber-

lands. To this end all your donkey engines and locomotives shall be equipped with efficient spark arresters. A reasonable number of spark arresters shall be kept in stock in order to insure immediate replacement—especially important during the dry season—of any arrester that is broken or in any way rendered ineffective.

2. During the fire season, you shall, in addition to your regular guards or watchmen, maintain a special fire patrol along your railroad line, donkey set-ups and other places in and around your concession where the fire risk is great with the end in view to detecting and suppressing promptly any fire that may start from whatever cause.

3. The following acts are hereby prohibited and you shall therefore see to it that all your woods' force, including your contractors and their employees, are properly warned accordingly:

a. Setting fire in any portion of your logged-over areas for the purpose of raising some agricultural crops.

b. The practice of burning a donkey set-up for any purpose whatever after the operation thereof has been completed.

c. Clearing of the underbrush by fire to facilitate skidding.

d. Allowing fires, caused by sparks from locomotives, donkey engines or from any other source, to burn or smoulder without putting it out.

e. Throwing cigarette or cigar stub in a place where it is likely to start and develop into a forest fire due to the presence of a sufficient amount of inflammable material, such as dry underbrush and debris.

f. The leaving of unextinguished fire used in cooking or heating food in the woods.

g. Getting rid of slash and debris by fire to clean up a new donkey set-up.

4. If required, you shall place your men at the disposal of any authorized Forest Officer for the purpose of fighting a forest fire, unless prevented by circumstances beyond your control.

5. In short, you shall in accordance with Paragraph XIX—13 of your license agreement do all in your power to prevent and suppress forest fires within your cutting areas from any cause whatever and shall require your woods' force, including logging contractors and their men, to do likewise. Should fire occur in your concession, despite preventive measures taken, you will be held liable for the damages that may be sustained by the forest due to the above cause.

DIAMETER LIMIT

1. The cutting of Tindalo, Akle and Molave less than 60 centimeters in diameter, breast height, is prohibited. (Act 3572)

2. Unless so authorized under special license, the cutting of trees bearing edible fruits is prohibited. (Act 2812)

3. Diameter limit for First Group, 60 centimeters; for Second Group, 40 centimeters; Provided that no trees of Lauan, Apitong, Palosapis, Tangile and other dipterocarp species belonging to the Second or lower groups less than 50 centimeters in diameter, breast height, shall be cut, except in the rights-of-way and agricultural areas.

4. No tree of any diameter or species marked by an authorized forest officer for seeding or protection purposes shall be cut.

5. The cutting of undersized trees valuable for seeding purposes, left standing in logged-over areas within permanent timberlands for firewood, ties, or other purposes, unless specially authorized by the Director of Forestry, is prohibited.

6. Likewise, no undersized trees shall be cut in areas that are still being logged-over or are to be logged-over for railroad ties, skids, telephone poles and for building and other construction purposes, except in the rights-of-way, or agricultural areas. "Right-of-way", in this connection, is understood to mean either railroad right-of-way or runway for yarding cable.

7. Firewood for donkeys and locomotives may be taken, free of charge, areas and right-of-way, or downed unavoidably in the process

of felling. Firewood obtained from merchantable logs or trees, however, will be paid for at the regular rate, whether in timberland or agricultural areas.

8. Trees cut in violation of the above requirements under 3, 4, 5, and 6 shall be paid for at four times the regular rate.

FELLING AND YARDING

1. The felling of trees shall be done insofar as practicable in the direction where it could cause minimum damage to valuable poles, saplings and seedlings.

2. All felling and bucking shall be done with saws.

3. All guy lines for spar trees and gin poles, and cable riggings shall be slung from stumps of trees, which are to be felled.

4. Insofar as practicable, the choker will be placed around the end of the log to be yarded, nearest to the runway for the main cable. This is to minimize destruction of young reproduction as much as possible.

5. In yarding, care shall be taken so that saplings and poles are not unnecessarily destroyed. Not infrequently many a valuable tree is sacrificed for the sake of speed when all that is to be done when a log being yarded is hung up to stop the engine, replace the choker so that the log is pulled around the obstacle, thus preventing the uprooting of or serious injury to the tree.

6. Trees unnecessarily damaged or destroyed in logging shall be paid for at the regular rate, provided that if they are undersized they shall be paid for at four times the regular rate.

7. The foregoing requirements under this paragraph apply only to permanent timberlands:

HIGH STUMPS, MERCHANTABLE TOPS, SNAGS, ETC.

It will be of distinct advantage to you to observe the following practices since any merchantable portion of a tree cut and abandoned, whether in permanent timberlands or agricultural areas, shall invariably be paid for:

1. To cut the tree at a height from the ground not exceeding its diameter. In case of a buttressed tree, it should be cut not higher than the top of the main buttress.

2. The following should be cut, or removed, and utilized:

(a) Merchantable tops to a diameter of 30 centimeters (12 inches, approx.)

(b) All merchantable trees cut in the rights-of-way.

(c) Merchantable trees, each containing at least two 5-meter logs, still standing but so seriously injured in logging as to make them useless for protection or seed trees.

(d) All merchantable snags if found profitable to remove after felling.

3. No tree shall be left lodged in the process of felling.

4. To cut the logs into proper lengths so as to avoid waste of merchantable tops.

5. Insofar as practicable to buck logs so as to avoid serious splits, which may not be allowed for in scaling.

6. Logs less than 33-1/3% of their gross volume sound in the case of First Group and less than 50% sound in the case of Second Group and lower Groups may, however, be left in the woods as they are not to be charged for.

AGRICULTURAL AREAS

1. In agricultural areas, all merchantable timber, regardless of size or species, shall be cut and utilized. "Merchantable" in this sense is understood to mean all timber which can be logged with profit.

2. As far as practicable, logging shall first be confined to agricultural areas before operation in absolute forest lands is begun.

TRAILS

All permanent trails, rights-of-way, or other easements which pass thru or adjoin the logging areas shall be kept from obstructions of any kind of public use.

.....
Director of Forestry

Compliments of

WESTERN MINDANAO LUMBER CO., INC.

Member: Philippine Lumber Producers' Asso., Inc.

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Malate, Manila
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GAUDENCIO E. ANTONINO
President and General Manager

MAGNOLIO W. ANTONINO
Asst. Gen. Mgr. & Secretary-Treasurer

*Forest Exploitation in Relation To Forest Conservation **

By

CARLOS SULIT

Actg. Chief, Administrative Division

BUREAU OF FORESTRY

The importance of this First Philippine Conservation and Reforestation Conference, cannot be over-emphasized. It is important because it is in line with the policy of the present administration concerning the development of our natural resources. It is important because it will focus the attention of our people to the part that forests play not only in the economic, industrial, social and agricultural development of the country, but also in the influence of forests on weather and climatic conditions of a locality and their effect on soil conservation, and regulation of floods. It is important in order to restore the forest consciousness which we have developed before the war but which, unfortunately, suffered a serious setback due to the demoralization of the people as a result of the Japanese occupation and the last Pacific war. This conference should make our people realize that our forest is not inexhaustible but a replaceable natural resource, which if properly treated and utilized, could render direct and indirect benefits to our country and our people for generations to come. They should, therefore, be managed accordingly so that the forest can help by providing the necessary raw materials for our lumbering and other wood working industries, give employment to thousands of laborers and develop our export trade. It is, therefore, important that we properly evaluate the basic relationship between forest exploitation and forest conservation.

FOREST CONSERVATION has been defined in many ways. However, for our use at present, we might say that it is the wise utilization of our forest resources so that we could get the best and maximum use. Its principal object is to make the forest render the greatest good to the greatest number in the longest time possible. It should not be confused with the notion of the over "sentimentalists" that the forest should be looked from all kinds of uses, including logging and lumbering. This is *FOREST PRESERVATION* which is an economic waste. Neither does forest conservation mean the cutting of forest trees as rapidly as possible without due regard to replacement. This is *TIMBER EXPLOITATION* which has for its object the securing of the highest possible production in the shortest time only to abandon the area later leaving afterwards what are generally known as "ghost towns". It is just as much an economic waste as forest preservation, although it is more destructive. We should, therefore, call the harvesting of trees as *TIMBER UTILIZATION* which if carried out in a rational manner, is not opposed but is essential to forest conservation. For forestry is essentially a business undertaking dealing not only with the raising but also with the harvesting of tree crops. Timber utilization, together with forestry practices like silviculture, protection and management which are complimentary to each other forms an important part of forest conservation.

* Paper read in the first Phil. Forest Conservation and Reforestation Conference, Sept. 30-Oct. 1, 1954

But forest conservation has never been popular in any country especially at the early stages of its development. To many, the objectives of lumbering and forest conservation seem to be contradictory. In fact sometime in the past foresters and lumbermen were in a sort of undeclared war, each believing that one exists simply to make life difficult for the other. There were times when a lumberman and the so-called pioneer looked upon the forester as a sentimentalist and dreamer who always talked about forest heritage and in the interest of posterity and future generations that his obsession in life was to delay, obstruct, defeat and otherwise frustrate the purpose and effort of the lumberman to cut timber and make profit, and that the sole object of the Bureau of Forestry is to collect revenue. On the other hand, the forester considers the lumberman as that species of mankind whose one passion in life is to cut as much timber as he can, circumvent all the forest laws and regulations and make the most profit in the shortest time without regard to the perpetuation of the forest. Happily, these are of the past and now both foresters and lumbermen recognize that they could not only exist together, but also are essential in the practice of forestry, and thru the sympathetic understanding of many lumbermen they have come to accept that after all the foresters, for that matter the Bureau of Forestry, have also the best interest of the lumber industry, and whatever rules and regulations the bureau prescribes, which may appear antagonistic to the lumbermen, are for the protection, wise utilization and conservation of our forest.

Our increasing population, with the corresponding increased demand for lumber and the reduction of our forest area due to agricultural development, will require better and more intensive forest management to keep our forest in productive condition. Excessive or unlimited exploitation of our timber resources will reduce the forest capital which will lead to forest depletion. Such a condi-

tion will be disastrous both to the Lumber Industry and to Forestry. We must, therefore, start rational timber utilization through the practice of selective cutting and placing our forests under sustained yield management. Lumbermen will play an important role in this undertaking.

Sustained yield has for its main object the harvesting of the timber crop equivalent to the growth or increment that the forest, as a capital, may produce. This can be partly attained by selective or selection cutting which is the "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." This will result in the maintenance of the stand in continuous production thru natural regeneration by leaving enough residual stand to constitute succeeding economic cuts within reasonable periods of time.

The lumbermen's main objection against the application of this forestry practice is that it is not economically feasible. They maintain that with the heavy investment they have it is necessary that they should get the most from the forest to make their investment pay. However, thru improved management methods and close utilization, it is possible to lower the cost of production and realize reasonable profit, and at the same time have assurance of the stability of the industry in the succeeding years.

History of other countries, especially the United States, showed that at the beginning this forest practice met with persistent and strong opposition on the part of the lumber operators, but later on they were the ones who realized its importance in the stability of the lumber and allied industries so that at present they are strong advocates of sustained yield management not only in the government forests but also in those privately owned.

In view of the peculiar condition of our

forest which in many* cases are over-matured, the application of this system of cutting should be made gradually and only in areas where it is feasible both from the forestry and economic points of view. At present this system is being practiced voluntarily on the part of the operator in the Bislig Bay Concession in Surigao. It is also being practiced in Basilan Island through the cooperation of the Bureau of Forestry and the lumbermen themselves. In both places it was found to be economically feasible and although it may work hardship on the part of the operators at the beginning, in the long run it will be to their advantage as their heavy investment is assured of future supply for successive cuttings.

In the application of this system of cutting, we have to divide our timber operators into two classes:

(1) Where the operation of a licensee is already going on, and

(2) where the privilege of cutting will be given to new licensees.

The latter will involve less complicated problems than the former inasmuch as the Bureau of Forestry will be in a position to stipulate the conditions under which the operation should be conducted as well as the investment and kind of machinery to be used. It is in the former class that the cooperation of the lumbermen is especially needed as they have already put up a great deal of capital in the form of logging and sawmill machineries. However, selective cutting should be applied on permanent forest lands where conditions and distribution of size classes warrant. In areas that are potentially agricultural or where the trees are over matured, some degree of clear-cutting and logging under the present system of diameter limit may be allowed to continue. Since varying conditions of stand exist in various parts, this cutting system should not be applied uniformly in all areas but should be flexible and varied to suit different conditions. This will require good professional judgment not only on the part

of the Bureau of Forestry but also on the part of the operators who, together with the members of the felling or logging crews, should be indoctrinated to this present day kind of forestry thinking and practice.

Another way in which forest exploitation can help in the conservation of our forest is by reducing or utilizing the wastes in the logging and sawmilling of our trees and in utilizing woods which at present are not well known in the markets. It is figured that about 25% of the tree is wasted in the logging process and 50% in sawmilling. This is shown below:

Wastes in the forests

Stumps	5%
Tops, limbs and branches	14%
Defective and shattered stems .	5%
Miscellaneous	1%
<hr/>	
Total	25%

Wastes in lumber manufacturing

Bark	8%
Slabs	10%
Sawdusts	12%
Edgings, trimmings & choppings	10%
Seasoning	5%
Remanufacture	3%
Miscellaneous	2%
<hr/>	
Total	50%

This means that for every 1,000 board feet in a tree about 250 bd. ft. are left in the woods in the form of tops, branches, stumps, etc. and about 500 bd. ft. are lost in the sawmills in the form of bark, sawdusts, slabs, edgings, and trimmings. Through improved methods and closer supervision in logging and lumber manufacture, these tremendous wastes could be made into usable products like wood pulp, wall boards, etc. or thru chemical process they could be made to produce alcohol, tar and other products of wood distillation. At present some companies are utilizing edgings and trimmings in the manufacture of chair stocks and box shooks. Slabs of Benguet Pine are being utilized in the manufacture of picture frames and electrical wire mouldings. With the adoption of

a system of integrated industries, wastes in lumber manufacture could be minimized. In some countries, these wastes has been reduced to about 20%, as compared with our present estimated waste of 75%. By means of wood preservation and using the proper species and dimensions in construction work, a great amount of wood could be saved. This of course requires tests and studies. By prolonging the life of our logs and lumber through the application of preservatives, the drain on our forests could be reduced. Treated Apitong has been found to last 8 to 13 times longer than untreated ones. They are being used now to replace Molave, Yacal and Ipil for railroad ties. The sapwoods of our important trees, like Narra and some of our so-called secondary species in the forests when treated with preservatives can be protected from decay and insect attacks so that their usefulness could be prolonged. The Forest Products Laboratory which is now under construction by the Bureau of Forestry at Los Baños, Laguna could help solve many of these problems.

Of the 464 billion bd. ft. as estimated volume of highland forests, 75% belong to the dipterocarps. The percentage distribution by most common species all over the Philippines, is as follows:

White Lauan	19.52%
Apitong	12.36%
Tangile	9.47%
Mayapis	9.11%
Red Lauan	8.76%
Guijo	5.06%
Yakal	3.51%
Benguet Pine	2.30%
Mangachapui	2.05%
Palosapis	1.32%
Bagtikan	1.31%
Narra	1.18%
Almon	1.00%

The other species represent less than one percent.

In our forest are found more than 3,000 arborescent species that attain a diameter of 30 centimeters. However, only about 200 of these have been studied for their wood structure and working qualities. Aproximate-

ly 60 species are handled by the sawmills and only 15 species are generally available in the Manila lumber yards. Many of these 3,000 woody plants are as good or even better than some of the marketed species both for construction work and cabinet making. With the cooperation of the lumber industry and the Bureau of Forestry, the use of these woods, many of which are at present considered as wood species can be popularized. Among the less known species several years ago which at present are in demand in the lumber market may be mentioned Dao and Mangasinoro. After their physical properties and drying requirements were studied they became popular not only locally but also abroad for plywood. This will help in relieving the drain on our important commercial trees, some of which are now difficult to obtain.

One aspect of unrestricted forest exploitation is the unlimited exportation of our logs and lumber. There is a great demand for our logs in Japan. These are manufactured into plywood and lumber and later exported to the United States. In view of the cheap and efficient Japanese labor, close utilization and lower freight rates, these wood products can undersell our lumber and plywood in the United States.

During the last fiscal year our total exportation of logs and lumber amounted to 676,075,795 board feet valued at ₱69,766,439.72. Of these, 516,165,810 board feet valued at ₱51,717,772.50 representing 82.4% and 74.1%, respectively, went to Japan. Only 68,821,679 board feet or 11% went to the United States, our principal market which led to agitation on the part of some people to limit this exportation. This is due to the fact that it does not only deprive the country of the labor employment necessary in processing logs into lumber, compete with our trade on these products in the United States but it also depletes our forests. Since it is not a good policy to stop entirely our export trade, it is suggested that the export-

(Continued on page 77)

*Techniques and Practices of Forest Products Laboratories and Industries in the U.S.**

By EUGENIO DE LA CRUZ, TA-92 FR 351
Chief, Forest Products Laboratory

(Continued from last issue)

Timber Harvesting and Grading Section

Logging and milling cost studies were the first to be undertaken. The time required to log different types of timber and the manpower involved were studied covering typical forest conditions. In these time studies, the logs of the tree cut are followed to the mills and different lumber grades sawn out of each log of the tree is accurately recorded. From these studies the log grade was evolved.

The original intent of all these studies was to solve the problem of the operators in eastern and southern states. The big operators in the Pacific Coast are capable of taking care of their own.

But about ten years ago, more and more small operators appeared on the scene cutting some of the second growth forests of the West Coast regions. So the Laboratory has to turn its attention in this direction to help these operators.

Cost and production studies have been the major job of the Laboratory, but it has already overgrown it. This work is now being done by the Forest Experiment Stations through their respective Economic and Forest Management Divisions.

Due to lack of necessary information, other than the opinion and judgment, and to the principles embodied in the methods used, the early efforts by industry and technical agencies to establish hardwood log grades fell short of desired results. In this, they

made use of provisions limiting the size and frequency of defects, a method better suited for softwood log grading in which the end product is construction lumber. So the Division introduced entirely a new grading of hardwood log on the basis of clear areas between defects. This is due to the fact that former attempts at grading hardwood logs, based on the size and frequency of defects, proved unsatisfactory.

With this end in view the section conducted intensive mill studies to get basic relationships between surface characteristics of logs and the grades of lumber resulting from them without any preconceived ideas as to what the grade provisions should be. Logs of similar lumber-grade yields were carefully analyzed to determine what visible characteristics they had in common that could be used as grading factors. It was found that the principles used in grading hardwood lumber when applied to logs gave the closest correlation of any between log characteristics and lumber-grade yields. There were used in this study about 16,000 hardwood logs.

The section has now turned its attention to log grade for softwoods—the study of Douglas-fir veneer logs. There are at present grading rules used by log scaling and grading bureaus but they slightly differ from each other. There is now a concerted effort on the part of the industry, the scaling bureaus and the Laboratory to iron out these

* Fourth of a series on the report of Prof. E. de la Cruz.

differences. A committee with adequate representation from these entities was organized to develop a uniform system of grading rules. A partial report on this work on Douglas Fir are the Log Study Progress Reports, Nos. 1 and 2. There is one coming out soon, Report No. 3.

The next step from log grading is tree grading. There is a plan being prepared that takes into consideration other factors beyond the mere quantity and quality of lumber obtainable from a tree which includes the silvicultural stand point. For example: Tree 1-A or Tree-B or Tree 2-A, etc., where 1 signifies class of lumber while A represents the silvical quality of the tree being healthy and dominant.

The work on barkers and chippers was already mentioned elsewhere in the report of the general activity of the Division, but it is this section that particularly attends to this as part of the Timber Harvesting. As a general rule, barkers of the drum type used by Pulp and paper mills can only handle 4" diameter billets. A study is now being made how to separate bark from wood after chipping for the benefit of high grade pulp producers. Kraft-mills are not bothered by this because they can use bark in tolerable quantities.

This year, this section will devote its time to the study of new barkers being developed for small mills.

For the benefit of small mill operators the section is in constant search for new development of new efficient equipment which tends to increase efficiency and minimize wastes. These are studied carefully, photographed, and a detailed report on their extraordinary performances is prepared in the form of leaflets which are distributed and given wide publicity so as to reach all those who are expected to derive profit from them.

Small Sawmill Improvement Section

About 1925, Mr. Greeley, Chief of the Forest Service, thought that there should be an agency in the Forest Service which ought to carry on an educational campaign

based on the results of research studies that bring about improved cuttings and manufacture on the part of the small mills. Once these conditions are attained great benefits will also be brought to the private timber owner as well as the Government, because with the improvement in manufacture the small mill owners could sell their lumber at a much better price and therefore can afford to pay higher stumpage.

This section, therefore, is nothing more than a clearing house for improved practices which are gathered for the benefit of the small mill owners besides helping them sell their lumber through the cooperation of the extension agents of the Agricultural Department of the States. They are taught also how to pile their lumber. Whenever some things go wrong in the mills the owners are shown the right method of manufacturing to prevent production of poor grades of lumber. The men of the Laboratory keep in close touch with all new improvements on equipment that may make small mill operation efficient. Reports are made of these devices and right away brought to the attention of the small mill owners.

From time to time meetings which last two to three days are organized with the idea of bringing together the small mill owners, the State Agricultural Department agency, as well as the federal men, mainly to help the small mill owners by telling them what to do to improve their business. As this accumulate momentum, even the help of some universities and colleges are sought. Some schools of forestry are willing to put up a school for sawmilling using small mills, like Syracuse State University of South Carolina at Raleigh, and Georgia State College at Athens. There are 53,000 mills in the United States but about 50,000 belong to the category of small ones, mostly operating very poorly and are poorly financed.

The section answers numerous letters asking information on many problems even those related to what kind of saw-teeth to use and preparing a mill plan.

The Army also gets its advice from this section about mills to be used in war times. All new developments on sawmills are secured and reports made for the benefits of the small mill owners.

Just to show what other type of work the section may be called upon to do: After the New England disaster where a tremendous number of trees were blown down, the Federal government decided to organize a salvage outfit to handle the work consisting of 1,800 Forest Service men, brought in 1,953 portable mills from other states besides the 120 mills already in the states and put to bids salvaged logs to each mill. The government paid \$8.00 per thousand for sawing and plus other expenses including piling, the total cost of the lumber went up to \$15.00 per thousand. The sale price was \$24.00 per thousand but the government possibly lost about 50 cts. per thousand. There was a total of 300 million board feet handled employing about 15,000 people. The main object of the government is to remove the fire-hazard and clear the debris which has blocked roads and other utilities so as to restore the normal functioning of the afflicted areas in the least time possible.

Studies have been made to determine the energy requirements for insert-point circular headsaws by putting a little instrument in it which made it possible to explore the amount of power it takes to saw under varying conditions which the mills might meet. The following specific points were studied in order to determine how power consumption varies with: (1) feed rate, (2) width of sawed face, (3) wood density, (4) kerf width, (5) hook angle, (6) temperature (frozen compared with unfrozen), (7) feed against tooth travel (normal) and with tooth travel (climb cutting), (8) knotty compared with clear areas, (9) saw diameter, (10) number and style of teeth, (11) dull compared with sharp saws, and (12) what gullet space is required per unit of wood removed. The immediate objectives were, first, a tabulation of horsepower requirements for

circular headsaws operating within the range normally encountered; and second, the limits of cutting rate imposed by gullets: namely, the optimum ratio between gullet space required and wood removed.

Plan of work—it is proposed to explore the applicability of thin saws (circular) to say 1/8" from 3/8" and 9/32".

Wood Fuels and Burners Section

During the last fifteen years practically nothing has been done along this line of work in the Laboratory except casual inquiries about the use of wood as fuel but mostly of the complaint type—such as why creosote is developed in wood burning in hesters, or in cooking stoves.

The only work done in recent years is the development of a furnace with thermostatic control for tobacco curing barns. The main idea behind this is to encourage the use of weed-species which abounds in the tobacco region. Out of the one and one-half million barns there are about 50% of these using fuel from wood. The reason for not being able to win everybody to using wood burner is that it costs more than ordinary coal burners. But when the farmers cut their own wood, they have the distinct advantage of cheaper fuel than those using coal.

There was an effort made on the part of the Laboratory to popularize the use of sawdust as a heating fuel in these tobacco barns, but the farmers due to possible fire hazards were reluctant to use it.

While wood fuel is being replaced by oil, coal, and electricity in the cities, still the rural homes are using plenty of it and so are the industries where fuel other than wood waste is an expensive item. Wood waste may not be a deluxe fuel—except in the form of alcohol or briquets—but its irregularity, bulk, and varying moisture content are offset in many instances by its renewability, availability, and low cost. It can be logged or chipped to relatively uniform size for better handling and better fuel-bed

conditions. In manufacturing plants utilizing their refuse for fuel, synchronization of production and consumption is a real advantage not lessened by the bulkiness of the fuel. Where extensive shipping and storage are involved, bulk is objectionable. No special storage tanks are required, however, as for oil, and in outdoor storage there is no risk of spontaneous combustion that often occurs with coal.

The volume of wood cut for fuel (2,002 million cubic feet a year) is second only to that cut for lumber (2,145 million cubic feet a year) and therefore merits serious consideration, not only as a drain from the Nation's forests, but also as a means of improving timber stands and salvaging waste. It is estimated that an additional 2,478 million cubic feet of wood annually wasted in making various wood products is used as fuel.

The Pacific Northwest is still a heavy user of wood as a fuel by which it produced 175 billion kilowatt hours of electric power in 1924 at an average rate of 635 kilowatt-hours per unit (200 cubic feet) of Douglas-fir waste.

Selection, Machining and Quality Evaluation Section

Some of the everyday working qualities and machining characteristics of American hardwoods have been under systematic study at the Laboratory during recent years. But unlike the physical, chemical and mechanical properties, machining properties of wood have had little systematic study and there are few publications in this field.

With the object of helping wood turners, cabinet makers, furniture manufacturers, and other wood workers, a study was made on the machining and related characteristics of a number of southern hardwoods that are practically unknown to the woodworking industries. Lack of information concerning their machining properties has been an obstacle to wider use.

The study included as far as practical

the influence of some of the factors within the wood and in the various machines that affect machining results. Since such factors can be combined in literally hundreds of ways, it was impracticable to explore the possibilities of all combinations; instead, one or more sets of fairly representative working conditions were selected for each operation and applied uniformly to all woods. These of course could not be the optimum for all woods, but the results show rather what actually happens under the specified conditions.

It was expected that shipments of any given wood from different mills may vary significantly in weight, in texture, and in workability because of differences in forest and growth conditions. So in order to get a fair cross section of such variations the test samples were largely collected at 34 different sawmills scattered in selected areas from Western Virginia to Eastern Texas, the region that yields about two-thirds of the yearly cut of hardwoods. To provide some basis for comparing these less known woods with the established northern hardwoods, additional samples were obtained from one Wisconsin source. Besides, two high class cabinet woods were also included for comparison—mahogany from Central America and black walnut from Indiana, Kentucky, Tennessee, and Missouri.

For samples, 4-foot boards were used. These are considered large enough to permit making all the different machining tests on the same material. The additional data secured from these samples were: Specific gravity, number of annual growth rings per inch, cross grain, warp, and shrinkage, all of which affect either the machining or the utility of the woods.

As a criterion of workability, smoothness is considered more important than the power consumed but there is no mechanical device so far discovered that is capable of measuring smoothness of a machined surface. Instead a visual inspection was developed; each test sample was examined for mach-

ining defects and graded on a numerical scale—A grade of 5 was considered excellent, 4 good, 3 fair, 2 poor, 1 very poor, and 0 a reject.

Fifty samples of each wood were used in each test or where one kind of wood was collected in two well-established producing regions, 50 samples from each region. Data on specific gravity, number of rings per inch, and shrinkage were based on several hundred samples of each wood as a rule, including the foregoing 50 samples. The machining samples were commercial flat grain and did not include the 5% extremes of weight and number of rings per inch.

DIVISION OF TIMBER PHYSICS

Functions

1. "Plans, directs, coordinates, and conducts fundamental and applied research on the physical properties of wood including wood-liquid relations, shrinkage and swelling, electrical properties, thermal properties, plasticizing and bending, seasoning, moisture relation and control of wood in use, and training demonstration in dry kiln operation.

2. "Analyzes and interprets research data and prepares and reviews reports and publications incorporating the results of research on timber physics.

3. "Consults with technicians and other officials, both public and private, on research policies and plans on the application of the results of research on the physical properties of wood.

4. "Develops and maintains cooperative relations with public and private agencies to further research in timber physics and to advance the knowledge of the physical properties of wood."

At first, kiln drying became the principal activity of the Division which started before the 1st World War, when there was a great and urgent demand for the drying of heavy pieces of oak for frames and wheels of cannon carriages and also gunstocks. The Laboratory was called upon to tackle the problem. Then came the growing demand for

drying wood for aircraft, particularly the propeller. Out of this effort, The Tieman Water-Spray Kiln was developed, the operation of which is described elsewhere in this report.

For a successful kiln drying of wood instead of natural circulation which is very slow, artificial and controlled circulation is necessary. From the different drying studies of various species of woods, the drying schedules were developed by the Laboratory.

Following the 1st World War, the use of internal-fans was developed as a necessary feature of the most modern type of dry kiln, which give more positive and more rapid air movement.

There were developed other types of dry kilns—the external blowers but the Laboratory authorities are not very enthusiastic about them.

Then came the direct gas-fired kilns which are used for drying partially dry-wood. The operation of these has been described elsewhere in this report.

In an effort to find the best and fastest method of drying lumber, Mr. Tieman experimented in the use of super-heated steam or dry steam.

The following were also tried:

Drying wood by the use of high frequency electric fields.

Drying wood by the use of infra-red light.

Drying wood by the use of vacuum.

Drying wood by the use of oscillating conditions.

Drying wood by the use of vapor drying.

Drying wood by the use of chemicals. In chemical seasoning, the chemical should be used to treat wood prior to seasoning. As in the case of southern oaks and beech which check badly, the chemical is used on green wood only on the surface. Common salt is excellent for this kind of work but very corrosive, and has the tendency to destroy the kiln. A commercial product uses common salt (90-95%) as a base but is non-corrosive. It is known as Soligna or Morton's Lumber's cure, using urea and am-

monium phosphate. The principle involved in the use of chemicals is to keep the surface of the wood moist at all times during the process of drying.

Another important feature of the work of the Laboratory along kiln drying of wood is the issuance of drying schedules after they have been duly revised based on the studies made on the moisture content of different woods by the Division.

No less important is the development of an instructional course in kiln drying that became a regular feature of the Laboratory's activity after World War I and in World War II, mainly on aircraft materials drying.

To popularize the use of dry kiln all over the country, kiln drying clubs were organized in many parts of the country where members could discuss their problems and try to find proper solution to them. Oftentimes men from the Division are called upon to give talks in these clubs.

Air Drying of Lumber Section

There is no fundamental difference between air-drying and kiln drying of wood, with the exception that in air-drying there is no absolute control of the conditions prevailing in the yard. But there are three main requirements in a yard pile so as to effect a favorable air-drying:

1. Piles should be so arranged that air can get to the lumber.
2. Piles should be mechanically sound, not likely to topple over.
3. Piles should be protected from the elements.

On account of existing wide range of climatic conditions all over the United States whatever informations accumulated in air drying remain as mere generalities and principles as they could not be of any definite value because of the different conditions prevailing in different regions and of different species. It is common knowledge, however, that softwoods dry faster than hardwoods and that the bigger the dimensions the longer it takes to dry them.

But air-drying has attained a peculiar importance as a prerequisite to final drying of hardwoods needed for saw handles, gunstocks, etc. While there have been many studies done in the Laboratory on air-drying, they are still doing studies in more specific cases. To be of any value, studies should involve a large supply of lumber, and this can only be carried out in cooperation with large companies which are willing to do most of the work and collect the data needed. So far there are few of these companies ready to undertake a cooperative project.

To illustrate what could be done to improve air-drying in a yard, the Diston people who dry woods for their saw handles usually stack their lumber for 10 months in their yard but with the strict observance of the 3 main requirements in air-drying this could be reduced materially to 3-1/2 months.

Air-drying is not only interesting but it is somewhat complicated with the appearance of the piles in packages by machine, which is different from hand-made piles, much higher, generally crowded, close to the ground, and placed horizontally. During the last three years studies in the yard have been conducted on the unit package as regards to how much space between the piles and between the rows be allowed. Packages are usually 3-1/3 to 4 feet in height and if they are intended finally for the dry-kiln they are made to suit the size of the kiln. If sufficient space is allowed between the rows and between the piles there will be more air circulation. In red-woods this is six feet between the piles but for other species it is not yet known. The big drawbacks in package piling are that there is no overhang, no pitch, and no firm foundation. At least there should be a foot clearance at the bottom of the pile and a straight passage should be left between rows like a shooting gallery.

The hand stack pile has a definite advantage in that the foundation besides being firm is given a tilt of 12 inches of pitch and a space between boards for tall piles known as chimneys.

Roofing is necessary to be placed over the piles, but this will largely depend whether it is economical to do so or not. For valuable woods it is generally done, but for cheaper woods it is not considered necessary.

No publication in this work has as yet been put out pending the completion of the project.

Moisture content of wood in use—The ideal conditions is to make wood shrink before it is put into final use, and that it must maintain its form and shape and not get out of glue joints. This is very necessary considering the fact that in the United States, usually houses are heated during cold weather so that furnitures and wood works may dry as low as 6% moisture content in the northern part while in the south 9%. Depending upon the moisture content of the air, woods in use may shrink in dry weather and swell in wet climate. So it is necessary to have the prevailing humidity determined and set the moisture content of the woods just one degree below the middle point and it will stand little swelling.

Wood bending, an ancient craft, is of key importance in many industries today—notably furniture, boats and ships, agricultural implements, tool handles, and sporting goods. Of the several methods commonly used to produce curved parts of wood, it is perhaps the cheapest, least wasteful of material, and most efficient from the standpoint of the strength of the finished part. Wood is elastic and plastic at the same time and when subjected to steam heat and wetted it will assume a new form. When a piece of wood is bent, it is stretched along the outer, or convex side of the bend and compressed along the inner, or concave side. The convex side is said to be in tension, and the concave side in compression. Wood could stand very little tension but can stand about one-third of its size in compression.

The object in bending, therefore, is to compress the wood and restrain it from stretching along the convex side. The usual method of doing this is to place a metal

strap around the convex face of the piece and pressure blocks and fittings at its two ends; together the strap and pressure blocks function to prevent, or at least greatly minimize, tension in the convex side as bending force is applied.

Despite its long practical history and advantage over other methods, however, there is no method of wood bending that guarantees 100% success. Long experience has evolved practical bending techniques, and skilled craftsmen apply them. Yet commercial operators are often plagued with serious losses due to breakage during the bending operation or the fixing process that follows. There is a long felt need for more reliable knowledge about such factors as (1) selection of bending stock, (2) seasoning and plasticizing of wood to prepare it for bending, (3) efficient machines for the bending operation, (4) drying and fixing the bent part to the desired shape, and (5) the effect of bending on the strength properties of wood.

Moisture Effects in Buildings Section

This section is chiefly concerned at first with what are the suitable moisture contents of wood that go to constitute the different parts of the building or house. When unseasoned framing lumber is used, subsequent shrinkage may result in excessive plaster cracks, distortion of door and window openings, the binding of moving parts, doors that will not latch, loosening of nails that weakens the structure, pulling of fastenings, openings and cracks that permit air infiltration, decay hazards, and other defects too numerous to mention but which add to upkeep, disfigurement and annoyance. This is true when drying facilities were still meagre or because the people were not aware of the importance of using seasoned lumber, a practice very common in the Philippines today, in spite of the availability of seasoned lumber in the market.

The situation in the United States during the war emergency period and even after

the war made it almost imperative to use any kind of wood available to meet the tremendous demands for housing that grew entirely out of proportion. Great was the demand that most buildings have been constructed of framing lumber that has not been adequately seasoned. In fact, in some cases, it was almost as green when it was installed as when it came out of the sawmill. Above the floor level this material gradually dried out after erection and developed the usual defects expected from unseasoned lumber. Over basementless structures the floor beams and joists sometimes did not dry out, decay set in within a few months, and expensive repairs were necessary.

Construction materials are divided into two classes: (1) those which constitute the framing classed as yard lumber—beams, joists, studs, rafters, and sheathing; and (2) those that are classed as finishing lumber—flooring, finish, trim, doors, and windows. Those in group (1) are mostly and customarily air-dried, while all (2) finishing lumber should be kiln dried. This difference in seasoning practice is largely a matter of expediency, since it is possible to kiln-dry framing lumber in items up to 2 inches thick if suitable kilns in adequate numbers are available.

The study of factors connected with moisture condensation came in later. This work was not treated as research at first but was a great deal educational in nature.

Twenty-five to thirty years ago, or sometime before the depression, houses were made much bigger, more roomy and not as air tight as they are now. At that time too, the paints used were of much better grade, with 100% white lead as base. Besides, the type of construction in vogue with sufficient overhang at the eaves around the edge of the entire house roof afforded plenty of protection to the outside walls. Paint failures could hardly be found anywhere.

Then came the modernization of the home which involved changes not only in its appearance, but in size, in the insulation of

its walls, and even in its heating devices. The eaves were eliminated, the big house became much smaller and made more compact, better insulated, no more fireplace which was used largely as a decorative feature yet a very important factor in home ventilation replaced by modern electric or oil burners, and even the paint, being of lower grade base with hardly 35% white lead. All these changes were effected in the effort of lowering the cost of the home for the low income masses. This is particularly true in all Federal Housing projects where the contractors were bent to reduce the cost of the houses just to increase their profits.

Considering the fact that in the so-called modern homes, people continue to do their house chores—like cooking, washing, bathing, etc., proportionately there is more moisture inside the small well-sealed house than in the old type which is bigger.

The condensation problem is not new, always having been rather common in barns during severe winter weather, but only in recent years has it become a general problem in houses. Water stains on walls and ceilings are the common signs of this condensation, but often the damage is more serious. Stain and decay in sheathing, studs, and roof members; loosened plaster; outside paint failures on siding, and door and window trim; and afforescence on brick and stone are frequently the result of this condensation. The question naturally arises as to why condensation should be more of a problem today than it used to be. It may look strange because these were brought about, as has been pointed above, by the improvements introduced in the houses to increase the comfort of the occupants and decrease the operating expenses.

We who live in a tropical climate are not confronted by this problem. But in the United States the problem of condensation of moisture in their houses occasioned by the cold climate prevailing during winter months
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Reforestation with Government Fund*

By

JOSE VIADO
Senior Forester
Bureau of Forestry

Too often people cannot appreciate the value of a thing until they have lost it. History has fully demonstrated this in the case of forests. People destroyed this important heritage not knowing that forests are the life of a nation. They did not realize until in comparatively recent past, that in order to insure the permanence of agriculture in the lowland, the upper slopes of the mountains must be kept forested. This is true in the more advanced nations of the world, but in the Philippines only the people in denuded regions are beginning to realize it. This indifference of a great many of our people should be dispelled and the government should show the way.

As early as 1910, the government started to prove that the open grasslands can be made productive by planting them to trees. The Legislature, reflecting the general public sentiment, voted sums of money to reforest denuded barren lands. The financial condition of the government, however, could not allow huge sums to be appropriated for the purpose. Before the last war, appropriation for reforestation had to be intermittent and inconstant, hence work had to stop now and then.

In spite of this state of affair, however, just before the outbreak of the last war, we have the following:

Number of reforestation projects in operation	35
Areas extensively studied	2,111,070 Has.
Areas intensively studied	1,851,960 Has.
Found needing reforestation	972,670 Has.
Areas to be reforested in the 35 projects	476,692 Has.
Area of established plantations	27,983 Has.
Area of cinchona plantation	334 Has.
Amount so far spent for reforestation—over 3-1/2 million pesos.	

The last war practically wiped out all the improvements and when an inventory was conducted, only 5,230 hectares of plantation was left.

After liberation, work in reforestation could not be started right away as fund for the purpose was not immediately available. The pre-war difficulty of financing reforestation again presented itself. Congress had been thoroughly convinced of the necessity of carrying on reforestation, so it had to

look for a steady and permanent source of fund to finance this work. Thus was enacted Republic Act No. 115 which ordained that "There shall be collected, in addition to the regular forest charges provided for under Sec. 264 of Com. Act No. 466, known as the National Internal Revenue Code, the amount of ₱0.50 on each cubic meter of timber for the 1st and 2nd groups and ₱0.40 for 3rd and 4th groups cut out and removed from any public forest for commercial pur-

* Paper read in the first Phil. Forest Conservation and Reforestation Conference, Sept. 30-Oct. 1, 1954

poses." The Act specifies clearly that "the amount collected shall be expended by the Director of Forestry with the approval of the Secretary of Agriculture and Natural Resources for reforestation and afforestation of *watersheds, denuded areas and cogon and open lands* within forest reserves, communal forests, national parks, timberlands which are found needing reforestation or afforestation or needing to be under forest cover for the growing of economic trees for timber, tan-

nin, oils, gums and other minor forest products or medicinal plants, or for *watersheds protection, or for prevention of erosion and floods . . .*"

The law took effect June 7, 1947 and since then a total of ₱7,177,343.83 had been collected. This gives an average of ₱890,000.00 annual expenses.

As of July 1, this year, we have the following:

Number of reforestation projects in operation	38
Number of nurseries for cooperative planting	12
Total area nurseries	174 Has.
Total area of existing plantations left after the war	5,230 Has.
Area of plantations established after the war	6,470 Has.
Total area of plantations under maintenance	11,700 Has.

From the above figures, it will be seen that only 11,700 hectares have so far been established as plantations. This may appear too expensive considering the expenses already involved. But it will be noted that only about 1/5 of the established plantations before the war is left and the greatest bulk of expenses after the war have been directed toward rehabilitating the projects, building sheds, constructing water system, paths sides, seed and transplant beds, etc.

Recommended Action

With the present "Reforestation Fund" available, the reforestation activities can be pushed much farther by, at least, double the present rate of over 1,000 hectares of planted areas annually. This can be carried out by adopting the following measures:

1. Concentrate reforestation work in the watersheds of destructive rivers such as in the Agno, Cagayan, Abra, Laoag, Pampanga, and Santo Tomas Rivers all in Luzon and Mananga River in Cebu. The areas covered in these watersheds comprise about 330,000 hectares needing planting. Progressively, plantings can be increased, double the present rate until 4,000 hectares or more per year can be planted. At this rate, the whole area may be planted in about 80 years. With

more funds available we can expect to do the job in less number of years of course.

2. Direct seeding will be intensified with the use of tried species such as Ipil-ipil, Lumbang, Baguilumbang, Benguet Pine, Teak, Narra, Mahogany, Dipterocarps, etc. where soil and climatic conditions are favorable. This will hasten the rate at which we are planting.

3. Concentrate fire protection work in planted areas and existing plantations during the dry season. Newly planted areas and young plantations are susceptible to grass fires.

4. All personnel in the reforestation plantilla should be made to work in reforestation. As it is now, about 25% of the funds appropriated annually for reforestation are diverted to activities not actually reforestation.

5. It is maintained that in using the "reforestation fund" priority be given to that intended by law (Rep. Act No. 115), "for reforestation and afforestation of *watersheds, denuded areas and cogon and open lands . . .*"

6. Experience has shown that District Foresters who are already overburdened by administrative work and Supervising Foresters of Reforestation Projects used as district foresters cannot effectively supervise the refor-

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Forestry Problems of Oriental Misamis

By

TIMOTEO QUIMPO

District Forester, Forest District No. 38

When Atty. Floreindo called at my Office and invited me to be your Guest Speaker today, I told him that I am now too old to make speeches. But when he told me that there would be singing, a free meal and the possibility of your cooperation, then I answered that to disseminate forestry knowledge to our people, I would not forego such an invitation.

Today, we are faced by a great problem in forestry. Our forest which once we believed to be inexhaustible is being cut by *kaiñgineros* and squatters in such proportion, that, if the practice is not stopped on time, it will result in greater calamity to our country. The present personnel of the Bureau of Forestry is not sufficient to cope with this work, and it is believed that it is the duty of every civic-minded citizen to help so that the destruction to our forest could be minimized and its effect would not be felt by our people.

The province of Oriental Misamis and the City of Cagayan de Oro are not an exception to this wanton destruction. Although we can still say we are yet on the credit side from an economic point of view, but if this destruction is not stopped it will not be long before we will be on the red, that is, our remaining forest will be less than what will be actually needed to balance our forestry and agricultural needs. Today, you will notice, if you ride on a boat entering the Cagayan de Oro port, that on the west side of the province, the island is yellow and only

patches of green are visible. In this area the forest has long been cut and the soil is already marginal or sub-marginal for agriculture; this condition will require more care and work to enable the inhabitants to eke out a living. In fact, if one has to stay in this place, he will notice that the climate is at the extreme, the flood swift and strong, drought common, and soil erosion when it rains terrific, and the people are not so progressive as those of the eastern side of the province where the forest is yet in many places untouched. In this side, the climate is tempered, flood is not as swift, drought is an exception, and soil erosion is not bad. The people are progressive and contented because their crops yield good harvest. The island of Camiguin, because of the method of cultivation of the people, is always green. Had it not been for the eruption of *Hibok-hibok*, it would have remained the Paradise Island of the South which once it was.

The following are figures which may make you drowsy but ought to be known by the members of this internationally well-known Club, notwithstanding the fact that many of us do not know the area of our own province.

Oriental Misamis and the City of Cagayan de Oro have total land area of 391,681 hectares. Of these, 162,549.87 hectares have been classified as alienable and disposable, 8,814.10 were established as timber lands, 2,994.60 as communal forests, 1,224.45 as forest reserves, and 102 as communal pas-

* Speech delivered by Sr. Forester Timoteo Quimpo, District Forester of Forest District No. 38 and concurrently Supervising Forester of Reforestation Projects in Mindanao and Sulu before the Rotary Club of Cagayan de Oro City on September 23, 1954.

tures. Of the remainder, 215,995.98 hectares which are unclassified, 78,743 hectares were granted to 23 timber licensees, 9,166 hectares to 56 pasture permittees, 2268 hectares to 604 special use permittees and the balance of 125,877.98 hectares is yet undisposed or inaccessible.

The timber licensees in the province have a capital investment of over ₱3,000,000.00 and have cut 233,174.13 cubic meters of timber and paid the amount of ₱250,678.58 for forest charges. There are four sawmills operating in the province and they have produced 7,024,025 board feet of lumber which has a market value of approximately ₱1,404,800.00. These licensees besides giving income to the government have been absorbing thousands of laborers who, otherwise, would have been unemployed.

The total income of the government from the forest in this province last fiscal year is ₱424,310.19 while the expenses of the Bureau of Forestry for the same period is only ₱45,921.37.

So much about the income. Let me bring to your attention the work of the Bureau of Forestry which, though not known by everybody, will, in affecting the maintenance of the necessary forestry and agriculture balance, also affects us vitally. Sufficient forest cover has to be maintained to counterbalance the opening of wider fields for cultivation so as not to affect climate, rainfall, flood, the aesthetic view, as well as wild life. In short, agriculture and forestry must go hand in hand if we are to progress economically and live in comfort.

The people of Cagayan de Oro have always been complaining of water shortage. Although the Malasag Reservoir is too small and could not catch up with the increase of population of the City, there would have been not only sufficient but more water if the forest which we had planted in 1927 at the expense of the then municipality of Cagayan had not been cut and burned. We have tried to protect this forest but the best we could do is not enough. Hence, it was found

necessary to request this Club to lead in the information or educational campaign for the protection of the forest around the Malasag Reservoir.

It is our duty to be vigilant in the conservation, protection and wise use of our forest resources but this is difficult of attainment without the help and cooperation of the people. I hope that with your assigned mission of service above self, you would help us to educate our people in the importance of the forest so that we of the present generation may with pride and satisfaction transmit to the future generation this resource unhampered and undiminished.

Before closing, I would like to bring to your attention the Proclamation No. 63, of the President of the Philippines, declaring September 26 to October 2, 1954 as Forest Conservation Week. I hope I shall not be imposing too much on this Club proverbially known for its courtesy, liberality and generosity, by suggesting that it sponsor the First Conservation Week in this province in consonance with the Proclamation No. 63. By so doing, it would be rendering a great service to the country and for which the future generation would be grateful.

Great things never do really happen to anyone; that is, the great things always come in shoals of countless little things, which look insignificant atoms, as we pass through them, and only seem a shoal when we have passed beyond them.

—Mrs. Charles

* * *

Each day is like a furrow lying before us; our thoughts, desires, and actions are the seed that each minute we drop into it, without seeming to perceive it. The furrow finished, we commence upon another, then another, and another; each day presents a fresh one, and so on to the end of life... sowing ever sowing. And all we have sown springs up, grows, and bears fruit, almost unknown to us... Is there not a thought in this that should make us reflect?

—Charlotte M. Yonge

* * *

Nothing comes by chance, for, in all the wide universe, there is absolutely no such thing as chance. We bring whatever comes. Are we not satisfied with effects, the results? The thing then to do is to change the causes.

"Forestry" in Public Schools of the Philippines *

By

FRANCISCO N. TAMOLANG
Forester, Bureau of Forestry

In submitting this paper, my purpose is to present a scheme of forestry in public schools which has been found to be successful in Australia, New Zealand, and the United States. This scheme is not only an arbor day once a year but an arbor day throughout the year; in short, it is forestry all-year-round. My boldness in treating this hinges on the assumption that the public school teachers who may soon shoulder the brunt of implementing this scheme have hospitable and fertile minds to accommodate (or may I say include) it at least in their school curriculum. Besides, some teachers particularly Mr. Aldemita of the Lopez Elementary School to whom I have broached the idea encouraged me to elaborate on the subject.

In a rapidly-developing agricultural country like the Philippines, it is particularly important to promote an intelligent "forest mindedness", because our record in regard to our forests is similar to that of most pioneering nations in that we are repeating their misfortunes which we ought to have avoided after noticing their honest mistakes. As a result of these pioneering activities, immense quantities of valuable timber have been destroyed to make room for the farmer and settlers, and have been sent up as smoke to an offended heaven and converted into ashes on a hard-baked wailing earth. A recent report shows that over a million pesos worth of standing timber was destroyed wantonly by squatters in Cotabato. This destruction still goes on with the perennial and incessant nibbling by "illegal kaiñgins" and timber stealing on the nation's forest. Right in Mt.

Makiling alone, which is supposed to be the princess of national parks, "illegal kaiñgins" have converted what was once a verdant forest into an almost bald and receding one. But these forest destruction and evil practices may be minimized considerably, and eventually stopped through a concerted effort of developing "forestry mindedness" among our people. Along this effort, the public schools can play the major role. It is, therefore, on this premise of producing an educated public opinion favorable to forestry that I present this scheme.

If we trace the history of arbor day in this country, celebrations alone particularly last year, have netted the country with 4,582,055 trees planted, although these trees were extolled for one day only each year. For conservative estimate, since the inception of arbor day in this country (say thirty years ago), and with an average annual planting of only a million trees, then, there ought to have been planted by now about thirty million trees which are enough to cover an area of 3,000 hectares (about the size of Mt. Makiling) with a spacing of one meter by one meter. But where do we find these trees now? Only a few remains can be found in public plazas, parks, and public school grounds, which have miraculously withstood the odds of neglect, drought, and vandalism. In pointing out this unfortunate experience, I am not against arbor day nor am I advocating for its abolition but I am more for its continued, practical and prolonged observance by the whole nation. The public schools, I believe, are best qualified

* Read at Conference of School Principal Teachers of Laguna, at Pagsanjan, Laguna on October 7-8, 1954.

and the proper institutions which through all the year round may carry it out along in their class instruction. To my mind, arbor day should not be concerned only with the planting of trees but should include their care and protection which cover at least 95 per cent of the total activities in the growing of a tree.

Forestry by public schools, or let us call it "public forestry" is not far from the practice of gardening, which is never as hard as nor harder than its care, instruction and implementation. It differs only in the time element involved; that while gardening is concerned with agricultural and short-time crops it treats of trees that are long-time crops. Any small waste neglected or eye-sores of a school yard may be made into a forestry plot for the purpose.

As a part of the school curriculum, if this is possible, a weekly lesson plan for instruction as the case may be, may be prepared and carried out as a forestry project to conform more or less with the following points outlined:

I. Why plant a tree?

1. Posts, poles, firewood and timbers for farm and home use may be grown in a short time.
2. Christmas tree plantations may yield quick returns.
3. Saplings or small tree plantations for landscaping and park plantings may yield handsome returns.
4. Important timber and reforestation species in plantation may yield early financial returns from their seeds.
5. Careful management of forest trees will result in the production of much merchantable material.
6. Irregular areas not used for agricultural purposes may be planted.
7. Open or cogon lands may be made more productive by planting trees.
8. Many communities and cities are planting trees on idle land such as the reservoir area of the city.
9. Planting will restore forest cover to lands which are not suited to agricultural use.
10. Windbreak trees protect farm lands.

11. Soil erosion may be checked and eroded areas made to produce timber products by planting trees like ipil-ipil and other species.
12. Trees will prevent wind erosion, or serious problem on sandy soils like kakauate trees in Luna, La Union.
13. Trees furnish shade and invigorate the climate.
14. Trees help improve the soil. Where agricultural crops fail to grow, trees may succeed and eventually restore the fertility of the soil.
15. From the cradle to the grave, trees serve mankind.

II. What is a tree?

1. Parts
2. Functions
3. It has life.
4. It has symbiotic relation to man.

III. How to grow a tree.

1. Seed collection.
2. Planting.
 - a. By direct seeding or sowing.
 - b. By nursery (gardening) method.
3. Methods of plantnig.

IV. When to plant?

V. What to plant?

VI. Preparation of planting site

VII. How to plant forest trees.

VIII. Care and protection of trees

1. Fencing.
 2. Protection from man (Why is the kainginero the enemy No.1 of the forest?).
 3. Protection from insects and fungi.
 4. Protection from animals and other agencies.
 5. Proper and timely pruning and thinning. It has been observed that trees along the roads to Manila from Laguna are pruned of their branches during the hot season when their shade is most needed.
- IX. Measurements and valuation of timber.
- X. Dissemination of the "Tree's Prayer."
 "Ye who would pass by and raise your hand against me, hearken ere you harm me. I am the heat of your hearth on cold winter nights, the friendly shade screening you from the summer sun, and my fruits are refreshing droughts quenching your

thirst as you journey on. I am the beam that holds your house, the board of your table, the bed on which you lie, and the timber which builds your boat. I am the handle of your hoe, the door of your home, the wood of your cradle, and the shell of your coffin. I am the bread of kindness and the flower of beauty. Ye who pass by, listen to my prayer—'Harm me not; I am a tree!'"

In this connection, teachers who may be charged with the duty of implementing this scheme, may be given in-service training during summer or vacation time as the case may be by competent forest officers within the province or by those assigned by the Director of Forestry. I believe that the Director will be more than glad to help in this training venture.

For practical purposes, the school premises, roadsides, parks, plazas, vacant lots, seashores, waste lands, private farms, etc., may be planted to trees for the project. A case in point of successful plantations already established are the mahogany trees in front of the College of Forestry, U.P. and Division of Forest Investigation, Makiling National Park, which were planted in 1928 and are now merchantable trees worth several thousand pesos. Also, the 1/10-hectare molave plantation in the Makiling National Park which was planted in 1913 is worthwhile looking into especially for the Manila Railroad Company which I presume may be willing to have its vacant lands along the railroad tracks planted to molave trees. Likewise, the agoho trees of the Lopez Elementary School which were planted during the arbor day in 1947 have been furnishing seeds to the College of Agriculture and the Bureau of Forestry aside from the timber and beauty they have added to the landscape. Recently, too, Congressman Gonzales secured several dozens of mahogany trees for planting in a barrio schoolyard of Bay, Laguna. For this growing enthusiasm, there may be more propitious time by appropriate representation to proper authorities that pu-

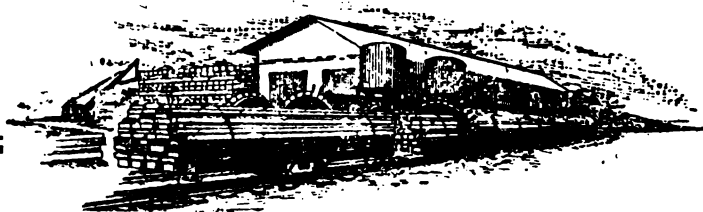
blic schools located near forest reserves necessitating planting and reforestation as those in Ilocos, Pangasinan, Cebu and others may be able to obtain by lease or special permit a reasonable portion of these lands for the forest project. By then, at this stage, we should have reached the point where other nations have already succeeded.

Public school forestry was born in Victoria, Australia in 1923. Later, the idea spread to the adjoining States, that in 1928 in Marburg, Queensland the first of its kind was established. Up to 1949 there were maintained in cooperation with the Queensland Department of Public Instruction and Sub-Department of Forestry 228 school plots most of which are now giving monetary returns to that State. In Wisconsin, U.S.A., the scheme was adopted and in addition boy scouts were trained as junior forest rangers.

With the examples and success of other countries aboved-mentioned, we have no alibi to offer for being cold and indifferent to this forestry proposition. We have nothing to lose but everything to gain by adopting the scheme. Therefore, our prospective school forestry plantations, although how humble in size they may be, will be a challenge to the municipalities throughout the country to use their waste lands and make them more beautiful and more profitable, and to private land owners to realize that they, too, may have an important part to play in providing timber for their own use and profit. To the *kaiñgineros* and the PTA, here is a concrete example that their children in public schools have not only painstakingly done to plant, protect, and conserve the forest but also respected it as a public trust or property by proper and diligent citizenship training acquired by them in public schools. By then, will they and others throughout the land realize that *so long as there are growing children in the public schools there must be growing timber for them and the generation to come*; otherwise, God bless them during the time of timber failure.

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Preliminary Studies on the the Survival and Growth of Seedlings and Wildlings of Narra in Transplant Beds

By

TEODORO DELIZO

College of Forestry, U.P.

Narra, *Pterocarpus indicus* Willd. of the family Leguminosae, the national tree of the Philippines, is found throughout the archipelago mostly on coastal plains back of swampy lands and along streams below one hundred meters elevation. It is very well distributed but does not form pure stands. It is found in fairly open forest associated with other species. The tree has irregular fluted trunk sometimes attaining a height of forty meters and a diameter of two meters. The sapwood is light-colored and very distinct from the heartwood which ranges from pale yellow to blood red. The wood is comparatively light heavy and moderately hard. It is the very nature of the wood that it is highly prized for all sorts of high-grade furniture, veneers, cabinet, piano and radio-phonograph cases, show cases and others requiring strong, durable and beautiful wood. Narra is one of the species that belong to the first group under the Bureau of Forestry standard.

Studies had been conducted about this species but there is none so far on the survival of Narra seedlings and wildlings when transplanted in transplant beds during the dry season. If wildlings will do well as seedlings in transplant beds, then it would be more advantageous to handle them for expenses in handling the nursery would be avoided. It has been observed that reproduction is heavy under mother trees in the plantation but the wildlings are either cut down or die of suppression after a year or two. If the wildling could only be gathered

and transplanted before they die under the mother trees, it would be a saving in the cost of handling in seedbeds. It is the purpose of this study to find out whether wildling could be used to advantage in our efforts of reclaiming our denuded areas with this valuable species.

The study was conducted in the Makiling National Park from March 13, 1954 to August 9, 1954 with the objective of comparing the per cent of survival and height growth of seedlings and wildlings of Narra when transplanted in the nursery during the dry season.

MATERIALS AND METHODS

The seedbeds were prepared on an area exposed to direct sunlight except late in the afternoon. The soil is of deep clay loam. The transplants were gathered on March 13, 1954 during the dry season. The idea is to find out the percentage of survival when transplants are handled during a part of the dry season and part during the wet season. While the ideal time to transplant seedlings in exercises is during the rainy season, yet there are instances when transplanting had to be done during the dry season to provide transplants for fixed planting and in case of nursery sown, to make seedbeds available for sowing. The amount of rainfall for the months of January to May is only 8.7 inches while that of June to August is 33.7 inches as based from a 5-year period. Two sets of transplants were handled, namely, those rais-

ed in nursery beds and volunteers (wildlings) found under mother trees in the Bureau of Forestry plantations in the Makiling National Park. The average height of the transplants both wildling and seedling was seven (7) centimeters. Lifting of the planting stock was with the use of a trowel to save as many of the root system as possible. The soil around the roots was, however, shaken off gently to render the seedlings bare-rooted. Immediately after lifting, the root systems were wrapped with moist gunny sack and taken under heavy shade and the leaf area was reduced by about one-half and the injured roots were trimmed.

Six transplant beds 1 meter by 5 meters were prepared during the first week of March. On March 13, 1954 the seedlings were planted in the following order: Bed No. 1, seedlings—241; Bed No. 2, seedlings—112 and wildlings—100; Bed No. 3, wildling—254; Bed No. 4 wildlings—261; Bed No. 5, seedlings—96. The seedlings and wildlings were planted together under similar soil condition as much as possible hence the above arrangement. The transplants were planted two centimeters apart along the rows. The rows were spaced twelve centimeters to permit crown and root development.

Immediately after transplanting, the seedbeds were watered thoroughly. Because planting was done during the dry season, it was necessary to water the beds at least once in two days and sometimes every day late in the afternoon. From the later part of June, 1954 up to August 9, 1954, the end of the experiment, no watering was necessary being a portion of the rainy season of the year.

Weeding was done but twice: first, when the seedlings and wildlings were in beds for 100 day; and second, when they were 140 days in beds. It was observed that more weeds grew where the wildling were planted because the expression of dominance was rather very slow, the stand being fairly open during the period of the experiment.

RESULTS OF DISCUSSION

At the end of the 122 days period, well within the rainy season, the survival was determined. It was found that the seedlings had a percentage of survival of 91 and a mortality of 8.9. This percentage of mortality compares favorably with the percentage mentioned by Claveria (1929) of 6.2—9.2. The wildlings had a percentage of survival of 86.0 and mortality of 13.9. The percentage of survival compares favorably with what Lantion (1938 found in the case of *Dipterocarp* species of only 9.5%. The seedlings had higher percentage of survival of the seedlings over that of the wildlings by about 4.9% is to be expected because of the condition of the root system and condition of the soil where the latter developed just after germination. The seedlings have greater number of fibrous lateral roots because they were raised in cultivated and friable soil in contrast with the wildlings that developed in uncultivated soil and in partial shade and subjected to competitions.

Considering the conditions under which the seedlings and the wildlings grew before transplanting, however, the advantage of the former over the latter in matter of survival is not considerable. Seedlings were cared for since the seeds were sown until they were transplanted and the wildlings were just volunteers transplanted to transplant beds.

From the month of March up to the end of May, which is the hottest part of the dry season, height growth was practically nil for both the seedlings and wildlings. During the last week of May, there was one heavy rain followed by others in June. After a month of occasional heavy rains, the transplants put up new growth. On July 12, 1954, when the trees were 121 days old, the first height measurement was made. The mean height growth of the seedlings was 48.8—2.1 centimeters and the wildlings 14.4—1.0 centimeters. The second height growth was taken on August 9, 1954 when the transplants were 149 days old from the date of transplanting. The seedlings then had a

mean height of 80.3—3.4 centimeters and the wildling with 34—1.7 centimeters. In this case, the seedlings exceeded the wildlings by 46.3 centimeters in height.

With the advent of the rainy season about the end of May, the seedlings picked up growth very much faster than the wildlings. The height growth was more variable in case of the seedlings than the wildlings as could be seen on the standard deviations. Expression of dominance of the seedlings was accomplished rapidly.

The gain in height of the seedlings over the wildlings of 32.4 centimeters after 121 days after planting and 46.3 centimeters after 149 days after planting could be due to the fact that the root systems were better developed and had greater initial vitality in early life. Another contributing factor why the wildlings lagged in height growth could be the suppression which they suffered before they were transplanted, coupled with the sudden exposure to direct sunlight in the transplant beds. Based on the facts presented above, it is evident that seedlings and wildlings could very well be handled in transplant beds. Wildlings, however, could not be used for field planting after one season in transplant beds because of their slow growth.

SUMMARY

Bare-rooted seedlings and wildlings of Narra could be transplanted in the nursery during the dry season with relatively high percentage of survival provided watering is thorough and regular. The percentage of survival for seedlings was 91.02 and that of the wildlings 86.00.

Seven-centimeter wildlings when transplanted in transplant beds during the dry season will not be big enough for planting during the following rainy (planting) season because they will make only an average height growth of 34—1.7 centimeters. The seedlings, on the other hand, attain an average height of 80.3—3.4 centimeters.

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* Administrative Officer

Timber Seasoning Methods in Australia

By DOMINGO LANTICAN
College of Forestry

(Continued from last issue)

D. THE PREDRYER

1. *Description.* The predryer is a huge unit used to dry timber to an air dry state at an accelerated rate.

It is similar to a kiln in operation but the main difference lies in that the predryer has much bigger capacity say, 160,000 bd. ft. at one loading, and so designed as to dry the timber to an air dry state with moisture content of about 25%. For this reason, predryers have lower steam consumption per thousand board feet capacity than those of kilns.

The pre-dryer has no dividing walls in between stacks as in a kiln. It has an air circulation unit and a main heating and a humidifying unit, but in addition it has a reheat or booster coil in between stacks.

2. *Essential parts.* a. *Heating units.*—The primary heating units are steam coils located above the timber pile at the entering air side of the stack and is of the return-bend-header type.

The reheat coils are of the same type but are so distributed that each bank of reheat coils are located in between the stack.

b. *Circulation system.*—Circulation is furnished by flat blade propeller fans which may either be longitudinal or cross shaft. The number and size of the fans vary with the size of the pre-dryer. For a five-line predryer, fourteen 48" diameter fans are used.

c. *Humidifier Unit.*—The humidifier unit consists of a bank of perforated steam pipes, located above the timber pile. Vents are also used to control the humidity.

V. SEASONING METHODS

A. AIR DRYING

Air drying which under certain conditions is the simplest and cheapest of the seasoning methods is practised in Australia. Such method is used for two purposes, namely: (a) as a means of seasoning entirely from the green to the dry state; and (b) as a means of preliminary drying for stacks to be dried in the kilns or to be re-conditioned.

1. *Preparing the timber charge.* — The usual size of stack used in Australia is 6 ft. high, 6 ft. wide and 20 ft. long especially those that are to be finally dried in the kiln.

For average size stacks, the boards are spaced by means of strips 3/4" x 1-1/2" which are placed about 24" between centers. In air drying stacks, the boards are arranged in such a way that vertical flues of about 1 or 2 inches are provided between boards. Care is practised to have the spacing between boards straight from the bottom up. The use of the spacing strips and the flue is to provide a good air circulation.

The timber are stacked on supports which are 12-18 inches from the ground to provide necessary air circulation.

For stacks 20' x 5' x 6', a space of 48" to 24" spacing is commonly used and for larger stacks of the same width and height, 36". For stacks which are higher and longer, 4-6' spacing is provided. Two or three feet spacing are provided between ends of the stacks.

Space for handling and for access varies with the transportation method used. In

yards using Christensen lift truck, the space is usually 30 feet.

For uniform length, piling is not much of a problem because the length of the stack is governed by the length of the boards.

For mixed stacks, the longest boards are placed at the bottom and the shortest on top. Such method avoids overhanging ends of boards.

For stocks to be finally kiln dried, the usual practice is to box stack, that is, the ends of the pile are flushed. This is achieved by placing short boards end to end to make up for length. Some gaps although present in the center of the pile has been found better than having stacks with few long boards at the bottom and short boards toward the top because of the difficulty of baffling the ends of the stack during the kiln run.

2. *The drying procedure:* a. Control of the drying condition.—In air drying, air circulation is the only factor that could be controlled. This is done by providing vertical flues of about 1 to 2 inches between boards to provide a continuous flow of air from top to bottom.

Putting of strips is another means of controlling air circulation rates. Generally, the thinner the stock, the thicker is the strips and vice versa. The reason for this is that thicker material requires slower drying.

Where very refractory materials are being dried, sometimes canvas covers are fitted along the sides of the stacks during the early stage of drying.

b. Measures to minimize degrade.—Control of air circulation is in itself a means of controlling degrade as a result of the control of the drying. However, certain measures are necessary to control degrades which could not be attained by controlling the air circulation alone.

In air drying, the ends of the boards at the outer end would always dry faster than towards the inside. To prevent this, end coatings of special paints are applied. Application is done either hot or cold.

To prevent warping and checking, the stacks are covered with canvas or boards to protect them from exposure to sun and rain.

B. KILN DRYING

In Australia, kilns are used for the following purposes: (a) drying lumber from the green, (b) drying partially air dried lumber, (c) drying collapse-susceptible species for both preliminary and final drying.

1. *Control of conditions in the kiln:*

a. Temperature.—Most Australian kilns do not use automatic control instruments because drying from the green is not usually practised. Manual control is more common.

At the start of drying, all the coils are put into action until the desired temperature is reached. The number of coils in operation are then reduced and the minimum number of coils sufficient to maintain the required conditions are left in operation.

The initial conditions are usually lower than those toward the end of the drying although the highest temperature which the species could stand is initially used. The reason for this is that an excessively high initial temperature could result in degrades of the materials being dried. As the drying goes on, higher temperature could almost without danger be used especially so when the moisture content of the lumber is below fiber saturation point.

The increase of temperature as the drying goes on varies with the species. That is why a drying schedule for each species is necessary to obtain good results.

b. Air circulation.—Air circulation in the kiln is maintained at about 500 to 600 feet per minute to provide an adequate air flow. However, even at that speed, there is no doubt that drying at the entering air side of the stack will be very much faster than that at the leaving air side. To offset this, the circulation is reversed at intervals depending on the moisture content and the thickness of the materials. Materials with higher moisture content require frequent reversal of circulation as the air easily gets

saturated. Similarly, thinner stacks need frequent reversal of circulation due to the fast drying at the entering air side.

1. Internal circulation.—It is the movement of air within the kiln and on it depends the evenness of drying within the timber charge. Since the circulation system is so designed to provide a constant air speed and to deliver an optimum volume of air within a given time, what is controlled in internal circulation is the evenness of air flow through the stack. Baffling of the fans to insure positive air flow and baffling of all openings around the stack to minimize short circuiting of the air is resorted to.

(2) External circulation.—External circulation refers to the inflow of dry air from the outside and the expulsion of saturated air from the kiln. This is one of the very important factors governing the rate of drying as humidity largely depends on the amount of saturated air expelled and fresh air taken in. Control of external circulation is done by regulating the opening of the vents.

c. Humidity.—The easiest means of controlling the humidity is by means of the steam spray, which could be done automatically although manual control is more favored in Australia because of the expense involved in installing automatic control instruments. The only disadvantage that arises in using the steam spray is that at very low temperature run, it could raise the dry bulb as well. Besides, it increases the need for steam.

Vent control could be used at times although it requires more attention particularly so when automatic vent control is not used.

In most firms, however, the combination steam spray and damper control is commonly used depending on which is more convenient to use for any particularly stage of drying. There are cases when humidity continues to rise even when the steam spray is closed. In such instances, the dampers

are used to lower the humidity by increasing the vent openings.

2. *Determination of the progress of drying:*

a. Rate of drying.—The rate of drying of the timber pile is determined by the use of sample boards which are inspected daily. The moisture content is determined by weighing the samples from time to time and comparing its current weights with that of the calculated oven dry weight of the board. In Australia this method is used commercially if kiln drying commences from the green. For partially dried materials, most operators find the use of resistance type electrical moisture meters more convenient.

b. Determination of stresses.—Determination of stress present in the wood is determined by the use of prongs cut from the sample boards. This is done from time to time during the drying.

Experienced operators, however, rely on daily inspection of the boards inside the kilns to determine the stress through the early signs of degradations as checking and splitting. Although, of course, these are just for precautionary measures because kiln operators follow standard drying schedules prepared by the C. S. I. R. O. Division of Forest Products.

3. *Drying non-collapse susceptible species:*—In drying non-collapse susceptible species, drying may be done from the green. Some softwoods dry in a few days, say 4 or 5 days while hardwoods may take a week or two or even longer.

The most important consideration in drying from the green is the tendency of some species to check at high temperature during the early stages of drying. Initially, therefore, mild drying schedule is used and as drying goes on, more severe drying conditions are applied particularly so when the moisture content has gone below fiber saturation point. The success of drying lies in the use of suitable drying schedule for a given species.

For partially air dried stacks, shorter kiln

runs are used because the wood at that stage is almost if not entirely below fiber saturation point and would stand severe drying conditions.

The final moisture content to which timber in Australia is dried is dependent upon the locality where the wood is to be used. In Victoria, the final moisture content is about 12 to 16% and as much as 17% in some places in Queensland. Generally, it is lower in the interior and higher toward the coast. As a guide to operators, the C.S. I. R. O. has published wood moisture content chart for wood for different parts of Australia based on certain species.

4. *Kiln drying collapse susceptible species:*

a. Preliminary drying.—Preliminary drying is the drying of timber either from the green or from the air dry state with the purpose of bringing the wood to a moisture content most suitable for reconditioning, i.e., a moisture content of about 15 to 17%.

In such preliminary run, the temperature and humidity is the most important factor that is considered due to the danger of using too high temperature which could cause permanent collapse or checking and warping of the material.

Such runs may take about 4 or 5 days depending upon the initial moisture content of the wood, very much longer if dried from the green. Drying refractory species from the green is not usually done in Australia.

The usual practice is to kiln dry partially air dried materials only due to the fact that collapse takes place at the stage of drying when wood is still above fiber saturation point.

5. Reconditioning.—Reconditioning as applied to seasoning of timber is the process of steaming collapsed material in a closed chamber for a certain length of time at a temperature of from 180° to 212° F with the object of restoring the collapsed cells to their normal shape.

(1) The treatment.—The stack to be reconditioned is placed in the reconditioning chamber and the doors tightly closed. Sa-

turated steam is introduced into the chamber for a period of four to eight hours depending upon the species, severity of collapse, the thickness of the stack and the density of the timber.

Such treatment causes the cells to recover their normal shape so that the material assumes a size which it would have really attained during the drying had collapse not set in.

Care is practised to steam the stack just to the point of maximum recovery because of the possibility of the stack to assume a green state with the danger of recollapsing during the redrying process.

Inasmuch as reconditioning treatment is most effective when the moisture content is between 15 to 17%, drying is not carried to lower moisture content than what is required during the preliminary kiln run.

c. Other effects of reconditioning of timber.—Reconditioning sometimes causes checking in some species in which case a lower temperature is used, say 180°F, and allowing the charge to cool off before removal from the chamber. In some cases, checks which have opened and subsequently closed during the preliminary drying reopens during the reconditioning process.

Internal checks, on the other hand, close during the treatment but aside from improving the appearance, no advantage with regard to strength properties is gained.

d. Final drying.—Aside from an increase in moisture content in the outer shell of the wood, the steaming treatment causes reverse stresses to develop which makes final drying necessary to dry them to an even moisture content as well as to relieve any stress that may have occurred.

Final drying is the same as the preliminary run with respect to the drying schedule used.

c. Use of the kiln as a means of relieving stresses.—Stresses in timber may be removed by subjecting it to a steaming treatment or high humidity treatment.

For stacks in which the core has a mois-

ture content of 18% or higher and the core above fiber saturation point, steaming treatment is used. Otherwise, a high humidity treatment is applied. The reason for this is that steaming very dry timber might result in reverse case hardening which could not be ordinarily removed.

C. PRE-DRYING

Pre-drying is not yet commonly practised in Australia and is done only in Tasmania and in some places in Victoria. Such practice is essential in places where dry periods during the year is too short.

Green or partially green timber are dried in pre-dryers to a moisture content of about 25%. Whereas it would take about three or four months to dry a charge of timber, it takes only about three or four weeks to dry them in a pre-dryer.

The procedure used in the operation of pre-dryers is very much similar to kilns and standard schedules prescribed by the C.S.I.R.O. Division of Forest Products are used.

VI. POSSIBLE APPLICATION OF THE METHODS TO PHILIPPINE TIMBER SPECIES

Philippine timber species are hardwoods some of which are very refractory. Ordinarily, the practice is to air dry to 39 or 40% moisture content which takes about 30 to 90 days (and a year or more before it dries to 18 or 17%). At such moisture content, no real advantage is gained as far as stability is concerned because it is only the free moisture that would have been removed. At this stage, the material is still at its maximum size and would shrink as the moisture content goes down and develops stresses as well.

It must be remembered that wood begins to shrink only when it begins to dry below the fiber saturation point (25 to 30% M.C.).

Opening of joints in wood walls and floors and furniture; splitting and cupping of table tops; twisting of doors; loosening of windows; and other similar defects are in general due

to assembling undried if not altogether green material. Even twisting and cupping and warping of coreboards and plywood may be attributed to this factor. Such defects do not only cause wooden structures and furniture to become unsightly but also to weaken the structure resulting in expensive repairs and reassembling.

Aside from such defects in finished articles, great amount of waste is incurred after milling due to checking and splitting and warping which are due to unregulated drying condition.

Other effects other than those caused by stresses in the wood during drying are fungus and insect attacks. Staining of lumber would occur only when the lumber is wet or when there is sufficient moisture in the material to support fungal growth. Some borers attack timber when it is wet and do not reinfest it once it has dried.

All these defects could be avoided and minimized if not altogether removed if seasoning is practised.

Air seasoning if done properly would suffice to minimize the causes of most if not all defects. The only disadvantage of air seasoning is that drying is rather slow and in places where cost of land is high it may become very expensive aside from tying up of capital in the drying yard. Besides, the high temperature used in the kiln which above certain limits sterilizes the wood could not be taken advantage of.

Kiln seasoning could be done and has been done for years in small scale by firms in the Philippines. Although it entails capital to install a kiln, it sometimes becomes less expensive in the long run due to the shorter time required to dry the material.

Combined air and kiln seasoning as is commonly done in Australia could very well be done in the Philippines. Although the handling method is such that the pile of timber is built on the truck itself before going into the kiln and then breaking it again before the truck could be used for the next

(Continued on page 80)

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Helpful Tools of the Bureau of Forestry

By JULIAN R. MEIMBAN, JR.
Junior Forester, Public Relations Section
Bureau of Forestry

Just what does Public Relations mean? According to Mr. Lyle H. Seymour, Resident Forester, Roaring River Tree Farm, Scio, Oregon, "Public Relations are those functions of an enterprise that acquaint the general public with its activities, purposes, policies, and accomplishments."

In discussing it, he propounded on the ways by which a forester can promote public relations within a local community, one of which is by taking interest in the people and their community affairs. This is of paramount importance to foresters and rangers who commune not only with big lumbermen, concessionaires, and government officials in carrying out their work, but also with the greater mass of people in the rural communities. Accordingly, the following are the ways a forester can take interest in a community of farmers, part-time farmers, farmer-mill workers, farmer-loggers, berry growers, and bean growers:

1. Learn something about the cultivation of the soil, breeding and raising of farm animals to enable you to listen intelligently to someone's problems.

2. Join local organizations and clubs as this is a faster way of getting acquainted with people in the community than by meeting them one at a time. Associating with a group of people in a little friendly "bullfest" promotes public relations.

3. Accept a responsible position in an organization because turning down offers will lead people to think that you are not interested in their community affairs but rather only in your personal well-being.

4. Give talks to the local grade and high schools and get together with teachers and offer to put on various types of programs for the school children, as getting them interested in a project is always good public relations.

5. If you have "tree farms" or "woodlots" sell some of your products such as posts, poles, firewood and other construction materials to supply the needs of the people, if this is fitted to your management plans.

6. Never enter into local feuds not directly concerning you, and if one ever concerns you, be as tactful as possible. Listening to both sides with no comments, either publicly or privately, can be done without degrading yourself.

With these pointers in mind, the forester and ranger may be able to strengthen their knowledge in public relations work. In our attempt to scan a few activities of the Bureau along this line, the following may be mentioned:

Propaganda work of the Bureau of Forestry dates back to the time of its first Director, Major George P. Ahern, who in his Annual Report in 1908-1909 mentioned that Forestry, although practiced in the Philippines since 1863, has never been well understood by the people. They realized neither the value of the forests nor the benefits derived from them if properly managed. As an endeavor for the proper care of the forests without the aid of the people was a difficult undertaking and that forest laws and regulations were of little avail unless public sentiment sanctioned it, it was conceived to

start a systematic campaign of propaganda. A Filipino forester, graduate of Yale Forest School was detailed to give a course of illustrated lectures in awakening the forest consciousness of the people and interest of high school boys in the forest service. This work consisted of 61 illustrated lectures delivered by forest officers, with 41 newspaper bulletins issued to 36 newspapers and other periodicals printed in English, Spanish, Tagalog, Visayan, Bicol, and other vernaculars creating widespread interest.

Public relations work was not only confined within the bounds of the archipelago but was extended also to foreign countries by distributing to the various educational and scientific institutions in Europe and in America about 2,400 wood specimens in the early stage of the Bureau's organization. From then on the Bureau of Forestry has spurred an intensive information campaign and relentless drive under the new administration apprising the general public of its objectives, policies and accomplishments.

It is probably difficult to evaluate the work that has been done and is being done by the Bureau along this line in terms of cash dividends, but it might be said that various information media such as magazines, pamphlets, and dailies have been disseminated and circulated here and abroad. During Arbor Day and other celebrations, posters and mimeographed leaflets showing the "Eight Mortals Sins Against Trees", "Plant Trees and Conserve the Nations' Wealth," "13-Point Forest Conservation Program" and many others have reached all and sundry. Students from public and private schools in the city visit annually the Bureau of Forestry Office in Manila for its various exhibits open to the public. In addition, the *Forestry Leaves*, official organ of the alumni, faculty and student body of the College of Forestry in Los Baños, has become a good medium of information and a connecting link among lumbermen, alumni, friends, different local and foreign institutions of learning. "The Forester", official gazette of the Society of Fil-

ipino Foresters, has also been a source of a great deal of information regarding forestry research through its scientific articles. Co-operative planting has likewise been extended to both public and private enterprises. From the radio broadcast to the showing of films depicting the importance of trees, a good number of people have at long last come to realize the role of the Bureau of Forestry.

It is interesting to note that our government thru the Office of Agricultural Information of the Department of Agriculture and Natural Resources has spent the amount of ₱20,000.00 to implement the information campaign of the Bureau for a documentary film entitled "Our Heritage" depicting the importance of our forest and the evils and disastrous effects of *kaiñgin* and destructive logging. (This film is now being shown at the Fourth World Forestry Congress in Dehra Dun, India).

The proclamation by the President of the Philippines of the "First Philippine Forest Conservation and Reforestation Conference" which was held in Manila from September 30 to October 1, 1954, attests to the growing concern of our government for our forests. In that conference, public relations through the Press was, among other things, emphasized. With a veteran newspaperman, a civic-minded leader and Vice-President of the *Manila Chronicle* in the person of Mr. Roberto Villanueva, heading the Committee on Educational Campaign, it is expected that a more effective public relations work will be enhanced through the long years in bringing forestry closer to the people.

In the past, public relations work was belittled by many, who, at that time, did not realize its importance in the dissemination of forestry knowledge and awakening in the public an interest and appreciation of the work being done by the Bureau of Forestry. Today, we may exultingly say that both public and private concerns recognize the gigantic task of the Bureau, and this is a healthy
(Continued on page 76)

• Forestry Confab Sidelites •

Forester TEOFILO A. SANTOS
PRO, Bureau of Forestry

The First Forest Conservation and Reforestation Conference held on September 30 to October 1, 1954, at the U.P. Rizal Hall, Padre Faura, Manila, was called by President Magsaysay under Administrative Order No. 57 (text printed elsewhere in this issue).

* * *

Prior to the conference, a one-week technical meet was held at the instance of energetic Department Secretary Salvador Araneta at the conference room of the Department of Agriculture and Natural Resources. Ranking officials of the Bureau of Forestry, FOA experts, prominent lumbermen and some technicians participated in the pre-conference discussions.

* * *

It was during this preliminary meeting that the former director and the incumbent found themselves in opposite camps. Former (retired) Director Florencio Tamesis, first Filipino director of forestry, 1937-1953, presently connected with the Nasipit Lumber Company and other big lumber enterprises, arguing as a lumberman, spoke on the theory of sustained yield but doubted its applicability and success. Director Felipe R. Amos, on the other hand, urged vigorously the adoption of sustained yield, a practice he has long advocated in order to save "Our Heritage", the forest. Amos said that this was long necessary because some lumbermen were cutting trees merely as sources of marketable commodities for financial gains without regard to and with little or no interest in the protection of future timber crops.

* * *

Forester Nazario Peñas, a lumberman, too, sided with the former director. On the other hand, Forester (Col.) Jacobson, a senior member of the Society of American Foresters and manager of the Bislig Bay Lumber Company, joined Director Amos in advocating sustained yield management which is now being practiced in the former's enterprises. Forester Tiburcio S. Serevo, an FOA pensionado now in the United States, also expressed approval of the theory and suggested immediate implementation.

* * *

Secretary Araneta asked for a clearer definition of watershed following a spirited debate. The secretary was for the priority of the protection phase of forestry over reforestation. He said that the remaining forests should first be protected. However, he did not totally relegate reforestation to

the background. Moreover, protection is now more urgent.

* * *

The district foresters and outstanding forestry officials in the central office also held a preliminary meeting presided over by Director Amos. They all had some recommendations to advance the cause of forestry in their respective jurisdiction.

* * *

Forester Nicolas P. Lansigan did a fine job as secretary of the conference. He edited various technical articles. In this task, he was ably assisted by Forester Juan Daproza and the writer.

* * *

The preliminary discussions were thoroughly "covered" by the Public Relations Section of the Bureau for Manila dailies. Supplements featuring the role of forestry as an important balance in our economy and presenting the problems confronting the bureau and the forest industry were published in the metropolitan papers on the eve and opening day of the conference.

* * *

Executive Secretary Fred Ruiz Castro addressed the conference in lieu of the President who was then in conference with U.S. dignitaries. He conveyed the President's appreciation for the way Secretary Araneta was ably handling his job and the presidential exhortation upon the staff to protect our forest resources for the present and future generations.

* * *

Other speakers were General Florencio Selga of the Philippine Constabulary, who promised the full cooperation of his organization in the campaign against *Kaiñgineros* and Secretary of Commerce and Industry Oscar Ledesma who pointed out the direct and indirect dependence of commerce on forestry.

* * *

The technical papers discussed included "Logging Systems Under Sustained Yield" by Director Felipe R. Amos; "Necessary Balance of Forest Cover" by Valentin Sajor; "Forest Exploitation in Relation to Forest Conservation" by Forester Carlos Sulit; "Physical Protection of the Forest" by Forester P. Buenaventura; "Reforestation with Public Funds" by Forester Jose Viado; "Reforestation Through Private Initiative" by Jose Mapa Gomez; and "Educational Campaign for Forest Conservation" by Mr. Roberto Villanueva, vice president of the Manila Chronicle.

Retired Forester Doroteo Soriano, a senatorial aspirant from the province of Pangasinan, tried to hold his ground in a lively discussion with Secretary Araneta regarding the forest map of the Philippines. NPC boss Filemon Rodriguez suggested that watersheds which are possible sources of power should be protected. Forester Sajor also took the floor "armed" with maps.

* * *

The documentary film of the Bureau of Forestry, OUR HERITAGE, depicting the evils of destructive logging, kaiñgin-making and the role of forests to the well-being of the nation, was shown at the U.P. meeting hall.

* * *

The closing of the two-day conference was highlighted by a dinner at the Philippine Columbian Club offered jointly by the Philippine Lumber Producers' Association and the Philippine Chamber of Agriculture. Guest speakers for this occasion were Senator Fernando Lopez, Chairman of the Senate Committee on Agriculture and Natural Resources; Rep. Guillermo R. Sanchez, Chairman of the House Committee on Forests; and Col. Harry A. Brenn, FOA chief.

* * *

The Society of Filipino Foresters tendered a luncheon at Los Baños, College of Forestry for the Conferees and visitors on Saturday, October 2. The conferees had a field day and they visited the forest plantations, Central Forest Experiment Building, the new College of Forestry building and the Forest Products Laboratory.

* * *

A post-conference informal meeting of the district foresters, division chiefs and other ranking forestry personnel was held at the office of the director. Undersecretary Jaime N. Ferrer and Director Amos heard the various problems of the district foresters, most of which are common to all. Mr. Ferrer said that it was the Christians who started forest destruction. He urged the foresters to organize themselves with other DANR employees for better harmony and coordination. The director expressed hope that the district foresters would collectively help implement the resolutions approved at the conference.

* * *

The 46 district foresters from north to south, I mean from Batanes to Sulu, including Forester Jose R. Claveria, the only Chief of Land Classification Party present, returned to their respective districts with the very pleasant and unforgettable memory of having shaken hands with the President when they called on the Chief Executive on October 4, 1954. They were accompanied to Malacañang Reception Hall by Secretary Ferrer and Director Amos. President Magsaysay, in his almost one hour chat with his callers, urged the foresters to con-

tinue their good work and promised to take the matter of increasing their present low pay with the reorganization commission. It was observed that the President addressed Tony Quejado, the PHILCUSA Project Accountant, intimately. Palawan Forester Julio de Luna prides with a picture taken of himself side by side with the President.

* * *

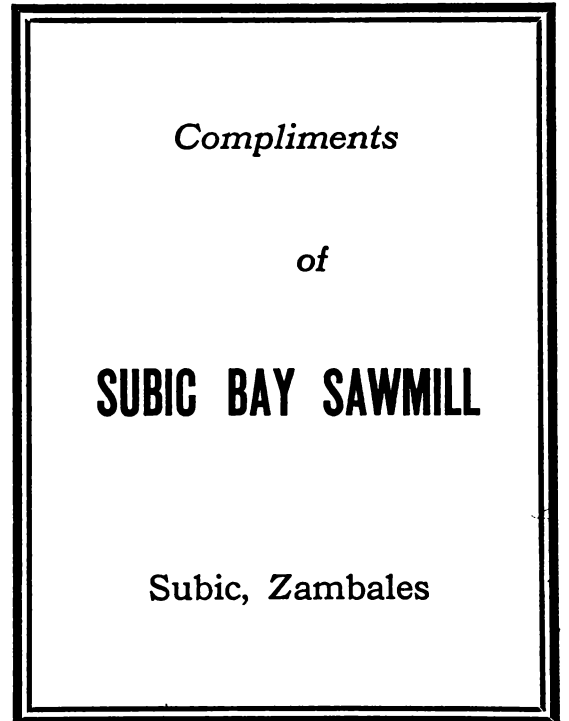
Left behind, just after the conference to put things (resolutions) in order, as ordered by the DANR Secretary Araneta, were Foresters "Malapayaya" Vicente Marababol of Agusan, "Bagtikan" H.B. Marcelo of Basilan Island and "Molave" R. A. Sabado of Davao, who was substituted by "Ipil" Martin R. Reyes, apostle of management.

* * *

"Men of the Forest We" ever united we must be. Let us not fail the President in particular and the people in general. We have been known here and there not only for our loyalty and devotion to the forest service, but also for our unequalled *esprit the corps* which we have cultured and seasoned under the invigorating atmosphere of Mount Makiling. Let us keep it up.

* * *

With the keen interest and encouragement given by the President together with the vigorous and relentless support of the foresters, the lumbermen and the general public, it is hoped that the conference would bring about concrete and lasting results destined to protect, conserve and utilize wisely the nation's patrimony—the forests.



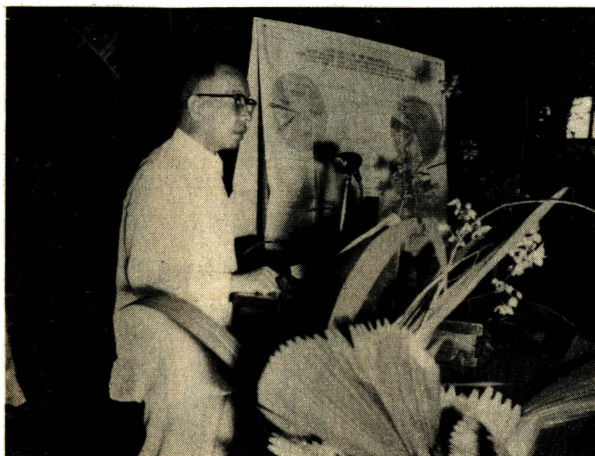
CONSERVATION & REFORESTATION CONFERENCE SPEAKERS



Gen. F. Selga pledges support of P.C. to forest conservation.



Sec. Castro delivers Pres. Magsaysay's Message to the conferees



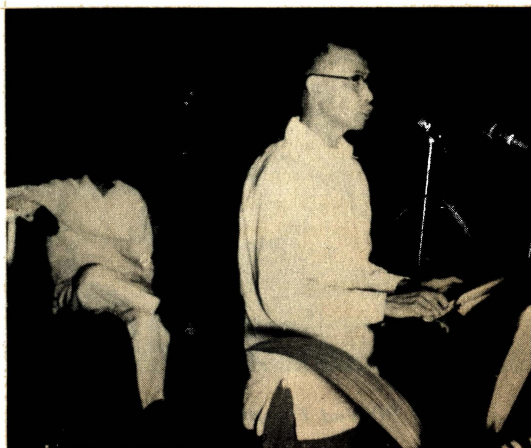
Director Amos emphasizes value of sustained yield management.



Sec. Araneta explains the purpose of the Conferer.

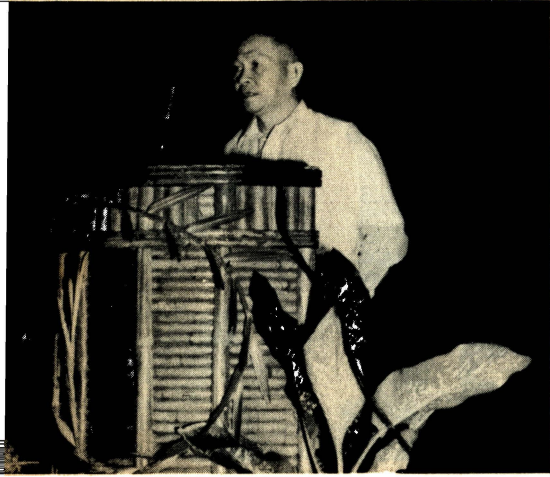


Forester Sulit stresses the role of forest influences in the life of a nation.



Forester Sajor urges the necessary balance of soil cover.

OCTOBER 2 CONVOCATION FOR DISTRICT FORESTERS SCENES



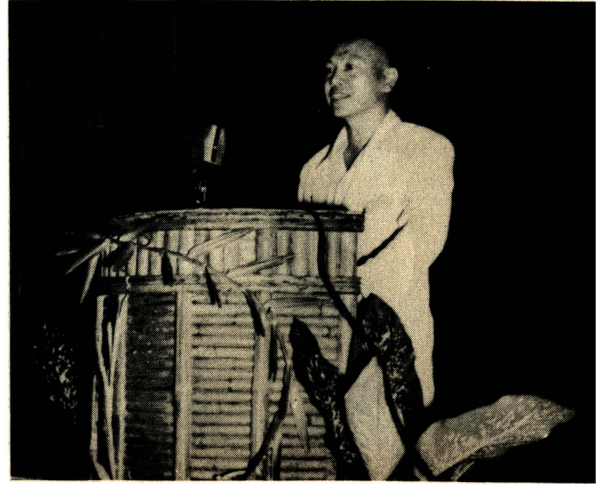
Prof. G. Zamuco welcomes the district foresters . . .



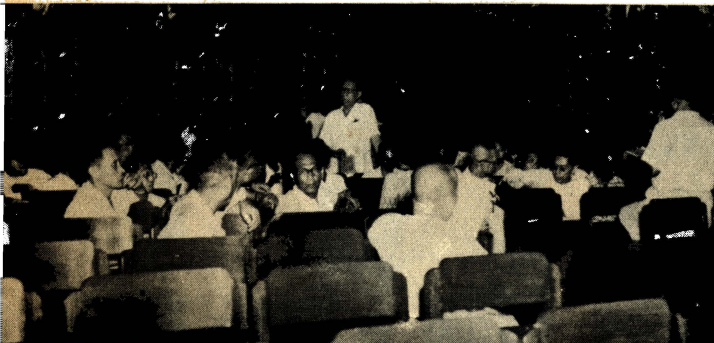
Prof. Blando appeals to the conferees for the College of Forestry's P. A. system



Part of the interested audience



Forester Vicente Marababol speaks for the district foresters . . .



The Society of Filipino Foresters meeting, Forestry Pavilion.



Forester D Soriano talks on the land classification work.

Forestry Day Scenes



*Forester-in-Charge Calixto Mabesa
introduces For. Sulit*



*B. F. Adm. Div. Chief
Forester Carlos Sulit
13th Forestry Day
Guest Speaker*



The wreath laid on the Cenotaph despite the rain

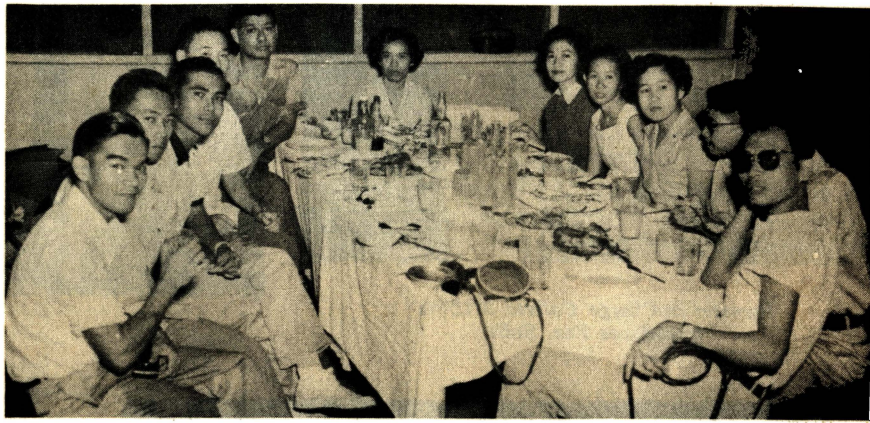


Part of Forestry Day audience



The students and visitors partaking of the food in banana leaf-sheaths in the Forestry Mess Hall at the Luncheon; the Forestry Co-eds were the KP's.

Miss Herminia J. Jundos and Thai students in the University of the Philippines also enjoy the Luncheon.



In the Barn Dance at the Pavilion

• Sunshine Corner •

MISINFORMED

"How are you going along?," the professor asked a girl from the North one afternoon after the field Dendrology class.

"The course is very hard really, sir. Especially Dendrology!," the sweat-drenched girl wailed.

"Ah, that subject is one of the easiest here because Professor Mabesa is making it easy for you. Why, when we were taking it, we went to the Peak every time."

"My God, I thought before it is not like this", she said, showing her wet clothes and muddy jeans. "The forester in our town told me before I came here that the course is just chicken feed. *Primero pay laeng natinnagac idiy creeken ket natulidtulidac payen.* (Just beginning and I already fell and rolled down the creek.)

* * * *

WANNA FIGHT

The initiation rites terminated rather late that night. A group of neophytes tired and perspiring, slowly inched their way up the College gate when they were accosted by the gate guard.

"Halt! Who goes there?," yelled the guard.

"N-e-o-phyte," chorused the group.

"Want to fight eh?" the guard challenged—cocking his carbine.

"Oh no no!," pleaded one, "we don't want to join another fraternity. We have had enough!"

* * * *

COACH FIX

At the third game of our basketball team in Baker Hall at the College of Agriculture with the Freshman Aggie Team, many students attended and cheered our team. As the game progressed towards the end and our team was being "murdered," one of the upper classmen, standing behind the coach, nudged his friend and muttered:

"Hey, see our coach. Every time a shot from our forwards fails to drop into the basket, our coach pulls his hair. By the rate he pulls them out his entire hair will disappear after the game!"

* * * *

SENSIBLE SPEECH

In one of the English 3 tests under Miss Herminia Jundos, Kaspas began his speech this way "If I had a daughter, I would have her marry a forester. If I were a girl, I would marry a forester. If I were a forester, I would marry a Siamese girl...."

At the applause of the audience, he forgot the rest when he laughed also so Pat continued for him: "...and then God help you."

REFORESTATION IMPORTANT

During a convocation at the beginning of the school year, two sophies were late and the guest speaker was already on the stage. The faculty were seated at the front seats listening interestedly. One, afraid to enter at that time, peeped thru a hole in the closed window beside the front row of seats. Instead of the guest speaker, the thing that caught his attention was the light reflected from the heads of the professors. He withdrew and beckoned the other to take a look inside. After a brief peep, he told to the first boy: "Friend, have you seen what I saw?"

"Yes," replied the first boy, "the guest speaker is emphasizing that reforestation in our denuded lands is and should be of first consideration. If I were he, I would demand immediate reforestation of those denuded...!", he pointed inside.

* * * *

LUMBERING MAYBE

Prof.: When the inserted teeth of a saw are dulled already and need to be sharpened, what do you do?

Student (at the farthest row) whispered: "Call a dentist".

* * * *

Prof.: What does S 2 S mean?

Student: S 2 S is a lumber which has its 2 sides passed through a surfacing machine.

Prof.: Ah! so only the 2 sides passed through? How about the other 2 sides?

* * * *

QUIEN ES?

One of the questions in the Spanish 12 final exam is like this: *Margarita is the daughter of.... Pareja?* In the usual discussions outside the test-room afterwards, I overheard this very interesting dialogue:

Vic: What did you put as the father of Margarita?

Fred: *Raymundo Pareja*—that is from "La Camisa de Margarita".

Vic: Ha? Naku po! I could not recollect the first name of that Pareja hombre so I put *Vitaliano Pareja*.

Fred: Ha, ha, ha. That is our *librarian!*

* * * *

KNOW HOW

Sophie: Hey, Joe, come on, let's go and swim.

Freshie: All the time, partner.

Sophie (ready to dive already into the pool): Do you know how to swim?

Freshie: I am not sure. The first time I swam was in the ROTC initiation...and that was on the grass! I have not tried yet in a swimming pool!

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• Campus Notes •

FORESTRY DAY NOTES

Despite typhoon "Tilda" the College of Forestry celebrated its 13th Forestry Day on November 30, 1954.

At 7:00 p.m., November 29, the bonfire was lighted in the Football Grounds after a torch parade around the campus. Skits were presented by the different class organizations and an amateur singing contest was held. Scalding coffee neutralized the effect of the chilly Makiling weather. The four lechons for the Luncheon the next day were cooked over the embers of the bonfire by students during the night.

At 6:30 a.m., November 30, Field Mass was held in the Forestry Pavilion, officiated by Fr. Collins of the St. Therese Chapel, College of Agriculture. After the mass, the boys changed into working clothes and cleaned the campus.

At 10:00, convocation was held in the Forestry Pavilion. Introduced by Forester-in-Charge Calixto Mabesa, Guest Speaker Forester Carlos Sulit, Chief of the Administrative Division, Bureau of Forestry, delivered his interesting speech. He expressed surprise at the high mortality of students last semester and pinpointed unpreparedness of the new students in high school and their lack of a proper system of study as the causes of the low percentage of survival. He admonished the students to be tolerant, to study well and to retain the knowledge they obtain in school so that they will survive the competition in the field after graduation. He emphasized that a student "must learn the ropes" in school and then "apply" them in the field later on.

At 11:30, SBO Adviser Prof. Jose B. Blando with Mrs. Simeona Franco, SBO President Eduardo Llapitan and the class presidents laid the Wreath on the Cenotaph. The luncheon, originally planned to be served in the Panglomboien Grove, was served in the Forestry Mess Hall in banana leaf sheaths picnic style because of the uncooperative weather.

In the evening, a barn dance was held in the Forestry Pavilion. Prizes were awarded to the best dancers in Waltz, Tango, Mambo and Boogie.

* * *

THEY RETURNED

After a brief respite in the field, three ranger graduates are back in college to finish the B.S.F. degree.

Mr. Primitivo Galinato, who left the College in 1941, is back to finish the course. Now married and with 5 kids he is incumbent vice-mayor of Binalonan, Pangasinan. He was president of the SBO last semester.

Ranger Generosa Cañeda, Ranger Class 1953, re-

signed from the Bureau of Forestry last June to continue her studies so she could be of greater service to the country. The daughter of the Chief Clerk in the Division of Forest Investigation, College, Laguna, she is the only lady ranger in the country. Two years hence, she will be the first lady forester in the Philippines.

Ranger Filiberto Pollosico, Ranger Class 1952, resigned from his job in the Bureau of Forestry to continue because he observed that the degree holder has more chances and opportunities for advancement than a mere ranger. He expects to finish the course in 1956. He was SBO vice-president last semester.

Engineer Jose M. Ilagan is back after a successful operation for goiter in the Philippine General Hospital, Manila. We expect him to be a forester by 1956 now that he is in top shape. He is holder of the Nasipit Lumber Co. scholarship.

The return of these old-timers shows they love the College and all what it stands for. We hope that similar ranger graduates will also return for further studies in the future to take over the jobs of the old soldiers that are fading away fast.

* * *

CAISA

Students from Cagayan and Isabela in the Colleges of Agriculture and Forestry formed the CAISA (Cagayan-Isabela Association) last August. The purposes of this organization are: to enhance brotherhood and cooperation among students here from both provinces (which is far away from home) and promote closer relationships with their fellow men.

Elected officers from Forestry are: Eduardo Llapitan (Cag.) vice-president; Francisco Empedrad (Cag.) secretary; Isabelo Tobias Jr. (Cag.) treasurer; Rogelio Baggayan (Cag.) PRO; and Quirico Tan (Cag.) auditor. Congratulations, may your organization live long.

* * *

FOR BETTER OR...FOR WORSE

The Seniors, in their Public Speaking Class under Miss Herminia Jundos, held an open panel discussion on September 22, 1954. The theme was "What is Wrong in the College of Forestry". Some results of the discussion which are of interest are: (1) The College of Forestry, U.P. is squatting in the grounds of the Makiling National Park—it should have a ground or campus of its own; (2) English is only 6 units while Spanish 12 units in the Ranger Course. This means that we are stressing more on Spanish rather than on English in the Ranger Course!; (3) As compared with other 4-year courses, the B.S.F. degree course is heavily loaded

with units; (4) There should be sent to the College by the University authorities (?) a librarian with a Bachelor of Science in Library degree to be with Mr. Vitaliano Pareja, the present librarian; (5) There is lack of dormitories to accommodate students duly enrolled in the College; (6) There is a sad lack of College recreational facilities; and (7) There is lack of official seal.

* * *

CONVOCATION FOR CONSERVATIONISTS

A convocation was given by the Forestry SBO and faculty on October 2 to honor the district foresters-delegates to the first Philippine Forest Conservation and Reforestation Conference. Starting the program, Prof. Valentin Sajor, Chief, Division of Forest Investigation, called the roll of the district foresters. Mr. Primitivo Galinato, 1st semester SBO President, welcomed them with a short speech. Miss Remedios Chavez and Mr. Bernardo Pareja gave musical numbers. District 40 Forester Vicente Marababol discussed the role of forestry men in Mindanao and invited everybody to go south. India's Mr. C. Purkayastha, Chief, Forestry and Forest Products Working Group for Asia and the Pacific of the FAO of the United Nations, compared aspects of forestry in India with that in the Philippines and advised the students not to feel hard of the prospects of a graduate but must be serious always. Then Prof. Jose B. Blando, SBO adviser, pleaded for the district foresters' support to the acquisition of a new public address system for the College of Forestry.

After the convocation, the visitors were accompanied by Bureau of Forestry personnel detailed in Los Baños to see the Forest Products Laboratory building, the Forest Experiment Station, the College of Forestry building, the Nurseries and other scenic spots of the Forestry Campus. A luncheon was given them by the Division in the Forestry Swimming Pool.

In the afternoon, the Society of Filipino Foresters had its annual meeting in the Forestry Dancing Pavilion. A merienda was given them by the SBO after the meeting.

MORE THAI STUDENTS

Four new Thai students arrived on the campus last September to pursue the degree course. Welcome to Forestry.

Mr. Udhai Chanphaka, Thai forest ranger, is a record holder of the 15-kilometer marathon in Thailand. Mr. Som Pherm Kittinanda, Chief of Teak Reforestation in the eastern part of Thailand, is a prospective member of our Soccer Football Team. Mr. Somphong Pachotikarn, Thai forest ranger, specializes in the 100-meter dash, broad jump and hop step and was once featured star of a film entitled "Forestry" in Thailand. Mr. Vinai Bhandhaburana,

forest ranger, expects to be in the Forestry Soccer Football Team. Already here for a year are Messrs. Kaspas Aganidad and Patived Arayasastra, Provincial Foresters in Thailand.

In previous years, Siamese excelled in our Football Team. We expect that our Thai brothers now enrolled here will keep the colors flying for Forestry in the athletic events.

* * *

FORESTRY FLOAT WINS

The float of the College of Forestry won second prize in the Loyalty Day celebrations in the College of Agriculture last October 10.

The forestry float was a miniature mountain—one side of which was covered with forest and the lowland below it was progressive; while the other side was devoid of trees and eroded and the lowland below it was wasted land. The float pictured the contrast between the effects of a land with sufficient protective forest cover and that of one without. It drew enormous applause from the crowd and even from President Magsaysay and his corps of reviewers.

* * *

ON SPORTS

The Forestry Volleyball Team again won the Los Baños Colleges Volleyball championship this year. By superior skill, they humbled the Aggie Junior Team, the only team that threatened to dethrone them last November 18. As a tradition, the team always won. The team is captained by Artemio Caccayan and coached by Forester Cesar Recto. Congratulations!

The Basketball Team, also, did it again this year—they lost. But it was the team that *first defeated* the Aggie Seniors on *its last fight*. Mr. Alfredo Eugenio is captain and Forester Rosario Cortes is coach.

There are still 15 girls in our College—how about a girls softball team. Coach?—well...Miss Herminia Jundos! This would be the first time in history that the College of Forestry has a team to compete with the Aggie lassies. Push on, ladies, we are going to win.

The Forestry Soccer Football Team was strong before but this year it faded. With the arrival of 4 more prospective Thai members maybe... The team's coach, Forester Cesar Recto, will show us.

The Forestry Tennis Club was organized last July. It is composed of faculty members and students who could wield the tennis racket. Members pay a monthly membership fee of ₱0.50. A new net and balls were bought recently by the Club. The courts are now always clean and prepared for games.

Almost every afternoon, the girls are flexing their muscles and sharpening their eye-sights in badminton. The small open space between Dorms No. 1 and No. 2 serves as a grassy court. The set is owned by Messrs. Aganidad, Arayasastra and Komkris.

Our two varsity athletes, Mr. Herman Agpawa (400-meters) and Mr. Filamor Yadao (Pole Vault) are now practicing for the track and field events. If the two Thai runners will join them, we may be able to bring home to Forestry more points in the coming meets in Rizal Memorial this semester.

* * *

SOLICIT FUNDS

To follow up the appeal of Prof. Jose B. Blando for contributions for the new College public address system from the district foresters last October 2, Mr. Modesto Tobias, FORESTRY LEAVES Business Manager, is sending letters to the fieldmen. Funds are lacking still for the purchase of the desired address system. Through the FORESTRY LEAVES, the student body organization pleads to our college sympathisers and friends to please help us push through this project.

SBO President Llapitan also appeals to the fieldman.

* * *

NOW FOREST PRODUCTS LAB MEN

Some members of our College Faculty who are specialists in research were attached to the Forest Products Laboratory's technical staff. The Laboratory being very near the College, these faculty members can still have time to continue their instructional work.

Prof. Eugenio de la Cruz, Sr. Forester, Bureau of Forestry and CF Professor of Forest Policy and History, is the Chief of the Laboratory. He holds B.S.F. (*cum laude*, 1926) from the State University of Idaho and M.F. (1927) from Yale University. He has been chief of several divisions of the Bureau, the last of which was the Division of Forest Management.

Prof. Emiliano Roldan, CF Asst. Professor of Forest Pathology, is now forest pathologist of the Laboratory. He holds B.Agr. (1918), B.S.A. (1922), and M.S.A. (1923) from the University of the Philippines and M.A. (1930) from the University of Illinois.

For. Rosario Cortes, CF Instructor in Wood Technology, is now a physicist in the Laboratory. He holds B.S.F. (1930) and M.F. (1931) from the University of Washington.

For. Martin Lagrimas, CF Instructor in Wood Technology, is now a Sr. Forester in the Laboratory. He holds A.S.C. (1929) from National University and B.S.F. (1950) from the University of the Philippines.

For. Francisco Tamolang, CF Instructor in Dendrology, is now a Sr. Forester and in charge of Wood Anatomy in the Laboratory. He holds B.S.F. (1947) from the University of the Philippines and Grad. Dip. in Forestry (1952) from the Australian Forestry School.

For. Domingo Jacalne, Instructor in Silviculture,

B.S.F. (1950) University of the Philippines, assumed the duties of For. Cortes in the Division of Forest Investigation, Bureau of Forestry.

Other members of our faculty but are personnel of the Bureau of Forestry are expected to be attached to the technical staff of the Laboratory later on.

* * *

IN THIS CORNER

Led by the Division of Forest Investigation, the Forestry Community at College, Laguna observed the Barrio Farmers' Week from October 23 to October 31, 1954. Fruit trees were planted around the different houses on the campus during the Forest Conservation Day. Tilapia fishponds of residents were visited during the Fish Conservation Day. During the Rural Youth Improvement Day, games were played. The Faculty won over the Pensionado Club in basketball, and over the S.B.O. in tennis. Prizes were given the victors in the games.

Foresters Domingo Lantican and Domingo Jacalne lectured to visiting students from the Concordia College on November 13.

Mr. Lantican lectured on the values of plants to mankind: aesthetic value, value as windbreak, sanctuary of birds and wildlife, conservation of water supply and amelioration of climate. He explained by illustrations the effects of forested areas to agriculture. He described the parts of a tree and the uses of each.

Mr. Jacalne lectured on plant propagation both sexual (by seeds) and asexual (by propagative parts) methods. He explained the processes in sowing seeds, care of the seedlings, lifting of the seedlings, and planting. He showed them the correct processes of budding, grafting, layering and propagation by leaves.

They accompanied the visiting students to the nursery after the lecture.

In connection with the celebration of the Philippine National Science Week, November 21-27, 1954, the four institutions, namely, Division of Forest Investigation, Forest Products Laboratory, Forest Experiment Station and the College of Forestry, U.P., opened up their laboratory departments to the public for people to see the different forestry exhibits and other features that are of interest. The personnel of the aforementioned entities also held a special meeting in which papers were read. A program was held also to commemorate the week. The man behind this affair is the energetic Chief of the Division of Forest Investigation, Prof. Valentin Sajor.

* * *

X'MAS PROGRAM

To commemorate the birth of our Savior, the College of Forestry faculty and student body and residents of the Forestry Community held a pro-

gram on the evening of December 16, 1954 in the Forestry Pavilion.

The different classes presented skits and carols wherein the Freshmen and the Sophomores won respectively. In the Lantern Contest, two classes tied for first place but the Senior class won over the Freshman by fair *Jack and Poy*. In the Spanish conjugation contest, Ernesto Corpuz won by correctly conjugating the Present Perfect Subjunctive of the Spanish verb CABER. The Quiz Honor number was much applauded by the audience. Vocal numbers were rendered by Mr. Pachotikarn (solo) and Misses Prima Sumague and Marcelina Espregante (duet).

The faculty members gave their X'mas messages to the students. Refreshments in the form of

gift packages were given the audience by the SBO. SBO President Eduardo Llapitan read the message of Dean Felipe R. Amos who failed to attend. The affair ended with the Student Body mass singing of "Silent Night" by the audience.

The affair was made successful through the efforts of the faculty and student body adviser. Officers of the SBO for the second semester, 1954-1955 are: Eduardo Llapitan, President; Artemio Cabanday, Vice-President; Filamor Yadao, Secretary; Gregorio Principe, Treasurer; Florencio P. Mauricio, Auditor; George Batoon, Athletic Manager; Mariano Valera and Aquiles Esber, Sgts.-at-Arms; Juan B. Galo (Senior) and Alfredo Eugenio (Junior), Representatives to the U.P. Student Council; and Prof. Jose B. Blando, Adviser.

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- i. He shall be given a short (about one week) and intensive training by the District Forester or his representative;
- j. He may be assigned to perform such other duties as the Director of Forestry may subsequently determine.

Compensation and Privileges—

- a. He shall be appointed as laborer at ₱4.00 per day and designated Deputy Forest Guard. As soon as positions for permanent Forest Guard at ₱1440.00 per annum are available, he may be appointed as such subject to civil service rules in such cases applicable;
- b. Since he has to live and work only within his sector, he shall not be entitled to per diems and traveling expenses, except if he owns a horse to be used in his patrol work within his sector when he may be given a horse allowance of ₱10.00 monthly;
- c. Subject to availability of funds, he may be provided by the government with a badge and one set of uniform. Additional sets of uniform must be provided at his personal expense;
- d. Subject to the same condition, he may also be provided with a uni-wave, two-way radio set for frequent contact with the Forest District Headquarters;

- e. He shall be allowed to cultivate a lot of not more than two hectares for food-crops, but the time to be spent by him in cultivating the land shall not be considered a part of his regular duties. That is why he should have an able-bodied member of his family live with him to help him in developing this lot.

4. One Forest Guard shall be assigned to protect the forest and wildlife in a definite forest sector of about 2,000 hectares along the perimeter of the forest.

5. Priority shall be given to the following areas in the assignment of forest guards:

- (a) recently cut-over areas to insure that the seedlings and small trees of the cut-over areas which will bring about the natural regeneration of the forest are not burned or destroyed by kaiñgineros;
- (b) reforested areas;
- (c) strategic areas within watershed of headwaters;
- (d) strategic areas of forested National Parks, when they are necessary to supplement the guards appointed under the National Parks Commission; and
- (e) strategic areas of commercial forests not yet applied for logging concession.

6. A committee to screen and recommend applicants to these positions is hereby created in each province, consisting of the following:

- (a) The District Forester, Chairman;
- (b) The President of the Provincial Agricultural Council, Member;
- (c) The Provincial Commander of the Philippine Constabulary, Member.

7. The Forest Guards shall be under the immediate supervision of, and shall report to the Officer in Charge of the local Forest Station, and the District Forester.

8. This Order shall take effect immediately but the appointments of the Deputy Forest Guards shall be prepared as soon as funds therefore are authorized.

(Sgd.) SALVADOR ARANETA
Secretary of Agriculture
and Natural Resources

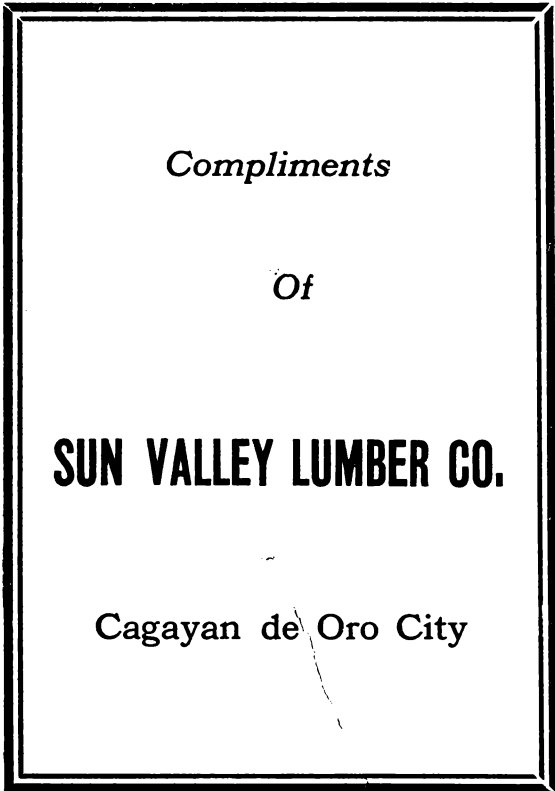
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Republic of the Philippines
Department of Agriculture and Natural Resources
BUREAU OF FORESTRY
Manila

Forestry Administrative
Order No. 4-5

June 28, 1954

SUBJECT: *Amendments to Forestry Administrative Order No. 8-3, known as the Revised Regulations*



Governing Special Uses of Forest Lands, as amended by Forestry Administrative Orders Nos. 4, 4-1, 4-2 and 4-3.

1. Section 3 of Forestry Administrative Order No. 8-3 of July 1, 1941, known as Revised Regulations Governing Special Uses of Forest Lands, as amended by Forestry Administrative Order No. 4-3, is hereby further amended to read as follows:

"3. *Schedule of fees, rentals and area.*—Except as hereinafter provided, the forestry fees, rentals and maximum area for each kind of special uses of forest lands shall be as follows:

Kinds	Forestry fee (a) for each application	Rental (y) per hectare or fraction	Maximum area in hectares
Bathing Establishments	₱5.00	₱5.00	24
Hotel Site	5.00	5.00	24
Nipa and/or other palms and bācauan plantation	5.00	3.00	200
Private Camp or residence	2.00	2.00	24
Right-of-way	5.00	5.00	200(x)
Saltworks	5.00	5.00	200(x)
Sanatorium	5.00	5.00	24
Sawmill Site	5.00	5.00	24
Lumber Yard	5.00	5.00	24
Timber Depot	5.00	5.00	24
Logging Camp Site	5.00	5.00	24
Log Pond	5.00	5.00	24
Kaiñgin	1.00	1.00	1
Lime and Charcoal Kiln	2.00	5.00	24
Pasture	(b)	0.60	2,000
Plantation of medicinal plants or trees of economic value	(b)	0.60	2,000(x)
Other (uses) lawful purposes	2.00	2.00	24
Miscellaneous—Vegetable: Garden (Mt. Province)	5.00	100.00 or ₱0.01 (x) per sq. m.	

be renewed for another period of twenty-five (25) years. The combined period of the original lease including renewal shall not exceed fifty (50) years."

3. Section 26, of the same Forestry Administrative Order No. 8-3, is hereby amended, by inserting paragraphs (g) and (h) immediately after paragraph (f) (3) as follows:

"(g) Miscellaneous—Vegetable Garden (Mt. Province):

(1) Areas under permits.—Only areas actually planted to vegetables along the Mt.

N.B.—

- (a) Payable only to the Director of Forestry, Manila.
 - (b) Five pesos (₱5.00) for every 500 hectares or fraction thereof.
 - (x) Republic Act No. 121, June 14, 1947.
 - (y) May be paid to the Municipal Treasurer.
 - (z) Computation of rental shall be on per sq. m. basis but minimum rental shall not be less than ₱2.00.
2. Section 9 (b) of said Forestry Administrative Order No. 8-3 is hereby amended to read as follows:
- "(b) A lease agreement shall run for a period of not more than twenty-five (25) years. At the expiration of this term of twenty-five (25) years, if in the opinion of the Secretary of Agriculture and Natural Resources, the conditions of the area or public interests so require, or the lessee shall have made important improvements on the premises, the lease may

- Trail from Baguio up to and including Mt. Data National Park, Benguet, Mt. Province, shall be covered by this kind of permit.
- (2) Actually occupants who are qualified to hold special use permits under this Order are hereby required to apply for and shall be issued special use permits, and to pay the necessary fees and rentals therefor.
- (3) The permittee shall be required to terrace the area under permit, provided that portion thereof needed for protection of sources of water supply must be planted to trees by the permittee.
- (4) No new clearing shall be allowed. Any maker of new clearing or kaiñgin shall be strictly dealt with according to law.
- (5) Precaution against fire.—Precaution shall be taken by the permittee to prevent

the occurrence of forest fires that may cause damage to the adjoining forest. In case of fire outbreak in the vicinity of the area under permit, the permittee, including his agents and laborers, shall be called upon by the Director of Forestry or his duly authorized representative to help suppress and control such fire."

"(h) Plantation of medicinal plants of trees of economic value:

- (1) *Species for planting.* — Only medicinal plants or trees of economic value shall be planted in the area under permit or lease. When public interests so demand, the Director of Forestry or the Secretary of Agriculture and Natural Resources may prescribe the forest tree species or any tree species that shall be planted by the permittee or lessee.
- (2) *Products gathered from plantation exempt from forest charges.*—Medicinal plants or trees, including products therefrom, planted by the permittee or lessee may be gathered, cut, collected and removed free of forest charges, provided that same are invoiced and manifested in the same manner as forest products cut under a gratuitous permit.
- (3) *Barren areas planted to forest trees.*—On the discretion of the Secretary of Agriculture and Natural Resources, rentals of barren land occupied under this permit may be waived; *Provided*, That the land under permit is planted to forest trees: *Provided, Further*, That forest charges on the trees so planted are paid to the government at the time the same are cut, collected and removed for sale by the permittee: and *Provided, Finally*, That the government may provide technical assistance in the planting and harvesting of trees planted under this permit.
- (4) *Merchantable trees cut.*—The permittee or lessee shall pay the corresponding regular forest charges to the municipal treasurer concerned on all existing merchantable trees as may be cut in the course of the development of the plantation.
- (5) *Right-of-way for timber outlet.*—The Director of Forestry or the Secretary of Agriculture and Natural Resources reserves the right to permit, when public interests so demand, the opening of such portions of the area under permit or lease as may reasonably be required for timber outlet.
- (6) *Areas not open for permit or lease.*—

Areas designated by the Director of Forestry for lumber or timber production purposes shall not be open for permit or lease."

4. *Date of Taking Effect.*—This Order shall take effect on July 1, 1954.

(Sgd.) SALVADOR ARANETA
*Secretary of Agriculture
and Natural Resources*

Recommended by:

(Sgd.) FELIPE R. AMOS
Director of Forestry

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Republic of the Philippines
Department of Agriculture and Natural Resources
OFFICE OF THE SECRETARY
Manila

Forestry Administrative October 12, 1954
Order No. 22

SUBJECT: *Amendments to Forestry Administrative Order No. 11, Known as the License Regulations, as Amended.*

1. In conformity with the recommendations approved in the First Philippine Forest Conservation and Reforestation Conference held in Manila on September 30 and October 1, 1954, Paragraph (s) of Section 34 of Forestry Administrative Order No. 11, known as the License Regulations is hereby amended to read as follows:

(4) Holders of ordinary timber licenses covering a forest area of 1,000 hectares or more shall be required to employ Forest Guards as follows:
1,000 to 5,000 hectares 1 Forest Guard
Over 5,000 to 10,000 hectares 2 Forest Guards
Over 10,000 hectares 2 Forest Guards
plus 1 Forest Guard for every additional 10,000 hectares and fraction thereof, if necessary, at the discretion of the Director of Forestry.

The salaries and/or wages of Forest Guards under this Section shall be in accordance with existing laws and regulations and the same shall be borne by the licensee concerned.

Forest Guards employed by holders of timber licenses, as herein provided, shall be appointed and deputized as Forest Officers by the Director of Forestry. They shall be under the direct supervision of the Director of Forestry or his authorized representative. The main duties of every Forestry Guard shall be to patrol the area covered by the license; apprehend illegal cutting and removal of forest products, illegal kaiñgineros; help put out forest and/or grass fire within the licensed area or its vicinity; and perform such other activities relative to the enforcement of Forest and Internal Revenue Laws and Regulations and in the protection and conservation of forest resources.

2. *Date of taking effect.*—This Order shall take effect upon its approval.

(Sgd.) SALVADOR ARANETA
Secretary of Agriculture

Recommended by:

(Sgd.) FELIPE R. AMOS
Director of Forestry

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FIELDMEN LAUD CIRCLE

1953-54 Forestry Circle President Teofilo A. Santos received from fieldmen letters of appreciation over the concerted efforts of the Circle to bring forestry personnel closer together. The Circle established a dental clinic, strengthened the medical clinic, published the FORESTRY PANORAMA, donated books and periodicals to district offices, and purchased electric fans for the various divisions of the bureau. The newly elected officers were Teofilo A. Santos, president; Valeriano Emralino, vice-president; Delia Habito, secretary; Rebecca Velez, treasurer; Estanislao B. Samonte, PRO; Cayetano Villarubia, auditor; Vicente Pagtalunan, business manager; and Director Amos, adviser.

* * *

FORESTER TO TRAIN IN FOREST ECONOMICS

Sr. Forester Tiburcio S. Serevo, Chief of Forest Protection, Bureau of Forestry, enplaned for the United States on Sept., 1954 for training and specializing in Forest Economics under FOA-PHLCUSA Type A Technical Assistance Program. He will be abroad for 12 months. New developments in the field of Forest Economics in the Washington Office of the U.S. Forest Service, in two U.S. Forest Service Regional Offices, in the New Hampshire, Pennsylvania or Michigan State Forestry Departments and in the Crossett Lumber Co. at Arkansas and/or in the Union Bag and Paper Co. at South Carolina will be made available to him. He will also specialize in forest economics and finance at Yale or Syracuse University. He will interview leaders in forest economics while in his stay there.

* * *

FORESTRY FLOAT WINS

D-29, *Fabrica, Neg. Occ.*—Acting officer-in-charge Adolfo E. Allado revealed that the forestry placard "IF THE NATION SAVES THE TREES, THE TREES WILL SAVE THE NATION" won first place during the Independence Day celebration.

* * *

SORIANO ENLIGHTENS 'EM

D-33, *Tacloban City*—Forest Coordinator Doroteo Soriano, introduced by District Forester Inocencio Ramirez, extemporaneously spoke before local officials on the functions of his office in connection with the disposition of public agricultural lands. Soriano ably answered all questions asked.

PVL FORESTRY POST

World War veterans, Philippine Veterans Legion Forestry Post, Bureau of Forestry were inducted in a simple but impressive ceremony at the "Selecta", Manila on October 2. The officers of the Forestry Post are Commander Roman R. Aquino, Vice-Commander Antonio A. Quejado, Adjutant Estanislao B. Samonte, Finance Officer Jose Aquino, Judge Advocate Jose B. Elpa, Auditor Juan N. Ravelo, Historian Segundo P. Fernandez, and Sergeant-at-arms Felipe S. Enriquez. Committeemen are Jose Manglicmot, Feliciano Lauricio, Amando Salamatin, Marcelino Vallarta, Teotimo Sevilla, Lorenzo Versoza, Justino Ibañez, Manuel Morales, Pedro Cagalawan and Leonides Rodriguez. Inducting officer was Col. Frisco San Juan and assisted by Col. Gaccad. The guest of honor was Director Felipe R. Amos.

* * *

DROUGHTS TRACED TO DEFORESTATION

Agriculture Secretary Salvador Araneta recently traced the cause of recurrent droughts to "alarming depletion of forest cover" and warned that unless we protect and preserve our forest cover, the country risks heavy floods in rainy seasons and protracted droughts in summer. The country receives very slack rainfall except during storms and he pointed out the need for intelligent conservation.

He said trees act as pumps of water from the subsoil into the air and enhance the condensation of water from clouds, thus supplying rain of local origin, providing light and regular rainfall beneficial to agriculture. Watersheds with trees and top soil cover absorb most of the rainfall and prevent floods and will provide sufficient water to streams and rivers which can be used for irrigation during dry months.

In order to derive utmost utility and benefit from our forests, the Bureau of Forestry has prescribed the minimum forest requirements for each province depending on the total area. The future of this country depends upon the awakening of the people to the need for sound forest conservation. If nature's processes are protected and preserved and water carefully husbanded, the country can look forward to a bright economic future!

AMOS COMMENDS LC PARTY NO. 23

Marbel, Koronadal, Cotabato—LC chief of party Emiliano Sonico and his men were the recipient of a certificate of merit from the municipal mayor for their participation in the July 4th festivities. It was learned that the float was made possible through the collective efforts of the LC Party No. 23 which shouldered the expenses because, according to the party, the Bureau was financially handicapped. Director Amos wishes to express thru the FORESTRY LEAVES his appreciation for the sacrifices of the LC Party No. 23.

RIGHTS OF LICENSEE CANCELLED

The ordinary timber license of Pedro Panaligan, Naujan, Mindoro was cancelled by the Bureau of Forestry because he sold to a Chinese his "right and license to cut and carry and own all wood and timber of every kind and description" within the area covered by his rights.

It was found out that Panaligan sold his right and interest over his timber license; that the area in question was actually being operated by the Chinese-owned Community Sawmill Co., Ltd.; that Panaligan himself has never been seen to visit his licensed area; and that the salaries and wages of the laborers working in the logging operations in the area were paid by the Community Sawmill Co., and that Panaligan kept no accounts for purchase of fuel and other lubricants for use of the two tractors which he claimed were being used by him.

* * *

TO PLANT PINE TREES IN PUBLIC LAND

Governor Bado Dangwa of Mountain Province circularized all mayors in his province to require each family head to plant from 500 to 1,000 pine tree seedlings on hilly public lands. All trees planted by the people will be owned by them except the land so that they will care for and protect trees.

To protect and conserve the Ambuklao watershed area, the committee chairmanned by Gov. Dangwa recommended the following: (1) the reforestation of the 12,000 hectares in the area; (2) the planting of alnus trees on cliffsides and mountainsides of active and progressive erosion; (3) the prevention of forest fires and stopping of kaingin practice; (4) the absolute banning of cutting Christmas trees; (5) stiffer penalties for violators of forestry laws; (6) the assignment of one forest guard for every 500 hectares logged over; (7) the reservation of the Ambuklao Watershed into a national park; and (8) the teaching of the people to love trees.

* * *

OLIVEROS DESIGNATED FOREST COORDINATOR

Sr. Forester Severo Oliveros was designated as acting chief, division of land classification and concurrently acting forest coordinator of the bureau of forestry effective September 10. A former assistant forest coordinator, Oliveros succeeded Sr. Forester Doroteo Soriano who retired last September 9. He started in the forestry bureau in 1912 as a forestry pensionado and rose to ranger, ranger-scaler, lumber inspector, forest supervisor, chief lumber inspector, assistant forester, forester and senior forester.

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PUBLIC LAND APPLICANTS REQUIRED TO PLANT TREES

Agriculture Secretary Salvador Araneta announced recently that all orders of approval of homestead

applications and each order of award of sales and leases of public agricultural lands will require applicants to keep not less than 1/10 of the land applied for planted to trees of economic value (Administrative Order No. 15 issued September 14, 1954). Purposes of this action were: (1) to conserve our forests; (2) to mitigate the effect of floods; (3) to prevent soil erosion; (4) to temper extreme climatic conditions; (5) to preserve aesthetic and unique sceneries; and (6) to preserve grazing areas as well as wildlife.

* * *

FERRER ORDERS IMMEDIATE ACTION ON SAWDUST PILE

Undersecretary Ferrer urged the Directors of Plant Industry and of Forestry to immediately direct their respective personnel to investigate and take immediate action on the reported mountain-pile of sawdust in Pilar, Bataan and to be always on the alert against similar foci of pest infestation. The pile was alleged to be a breeding place of insect pests destructive to local trees and plants.

Pilar Mayor Joaquin R. Banson reported that the sawmill responsible for the hazardous sawdust pile is situated in the very heart of Pilar, along the national highway and near the Talisay River. It provided a dangerous breeding place for coconut black beetles and sugar cane and coconut grubs. The mayor also revealed that thousands of coconut trees in his municipality have already been badly affected by coconut beetles, and unless proper steps are taken, the pests may spread to sugar cane and coconut plantations.

* * *

AGGIE OFFICIALS HOLD PRELIMINARY CONFAB

Because the field of forestry is too broad and too complex for a two-day Forestry Conference only, Agriculture Secretary Salvador Araneta held a preliminary discussion with forestry men and other technical groups last September 20 at the conference room of the Agriculture building. Secretary Araneta exhorted forest experts to work out practical and wise ideas toward the speedy prosecution of the country's forest conservation program. Sr. Forester Valentin Sajor, Chief, Division of Forest Investigation read "Necessary Balance of Forest Cover". Two committees headed respectively by forestry director Felipe R. Amos and former director Florencio Tamesis were created.

* * *

FOREST CONSERVATION COMMITTEE

Forestry Director Felipe R. Amos designated Foresters Vicente R. Marababol (Agusan), Hipolito B. Marcelo (Basilan City), and Rufino Sabado (Davao) to implement the Forest Conservation and Reforestation Conference Program approved on October 1, 1954. The committee has been given blanket author-

ity to call on any member of the different divisions of the Bureau for consultation and information to make the program a success. Also, it will prepare the various instructions, propose legislations, circulars and orders necessary to carry out the program.

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FAO FORESTRY OFFICIAL VISITS BASILAN

Mr. C. Purkayastha, Chief, Forestry and Forest Products Working Group for Asia and Pacific of the FAO of the United Nations visited the managed forest in Basilan. He observed that the problems in Basilan are more of management than silviculture, due to the intensive cutting by the operators there. He recommended longer cutting cycle for the first operation to be followed by shorter cycles in the succeeding operations, to allow for reasonable adjustment by licensees who are already allowed cutting operations in those forests. He suggested that improvements on the residual stand be concentrated in a limited portion of the logged over areas to increase the yield and to have the minimum expenses.

* * *

AMOS IN SOIL CLASSIFICATION COMMITTEE

Forestry Director Felipe R. Amos was designated member of the newly created soil classification committee that will determine the permanent commercial forests and permanent grazing lands in the Philippines and the areas to be released for agriculture. The committee is composed of the soil conservation bureau director as chairman, the lands bureau director and the forestry bureau director as members. It shall appoint three-man field groups representing each of the three bureaus to make a comprehensive survey of such areas by provinces. The work of these field groups will be concentrated in the provinces as warranted by circumstances, gradually moving to other provinces. The committee may call upon any unit or personnel of the agriculture department for assistance in its work.

* * *

POBLACION IN EXPORTATION REGULATION GROUP

Forester Gregorio Poblacion, acting chief of the division of concessions and sawmills of the forestry bureau was designated a member of the committee that will study the advisability of regulating the exportation of Philippine logs to foreign countries to amount not exceeding the local consumption requirements of an importing country.

The committee is composed of Secretary Salvador Araneta of the Agriculture Department as chairman, Ralph W. Dempsey, a lumberman, Manuel Diaz, Fernando Remedios, a representative of the foreign affairs department, Central Bank and forestry bureau, as members.

CUTTING OF CHRISTMAS TREES PROHIBITED

Forestry Director Felipe R. Amos instructed the district forester of Baguio and Mountain Province to take every precaution to prevent the cutting of Benguet Pine trees for sale as Christmas trees.

He ordered Forester Edilberto Madrid to make an announcement before the coming of the Christmas season that the cutting of trees in the Mountain Province for shipment to the lowlands is prohibited and punishable by law. He further said that every exit from the province must be guarded so that no christmas trees will be allowed to be shipped out of the area.

* * *

MAGSAYSAY MEETS DISTRICT FORESTERS

President Ramon Magsaysay entertained the district foresters headed by DANR Undersecretary Jaime N. Ferrer and Forestry Director Felipe R. Amos in Malacañang on October 4. He assured the district foresters the following: (1) To recommend to Congress the raise of salaries of district foresters as worked out by a committee from the Bureau of Forestry with the Reorganization Commission; (2) To support decisions of district foresters in the proper exercise of their duties for the interest of the country; (3) To have the Constabulary help enforce forest laws and regulations; and (4) To support the Bureau of forestry in its program of forest conservation and reforestation.

He urged Director Amos to have the reforestation planting done under bid, payment to be made on the basis of growing trees after two or three years. This is very practical because the planter will be induced to plant more and be obliged to guard his plants from being destroyed or burned during the period when he is not yet paid. He suggested that in preventing further destruction in beautiful forest spots, the services of old occupants who could be trusted will be utilized. These, when given guns, will protect their sectors from new kaiingeros. He directed the DANR to reclassify the lands fast to avoid costly and unnecessary prosecution of people starving for land. He told the delegation that "public service means missionary zeal, sacrifice, real work and as an apostle you get crucified even". He emphasized that in the exercise of duties, government officers must be tactful in dealing with the public to prevent friction but achieve unity. He praised the Bureau of Forestry for its good work and urged those present to continue maintaining its good name and great service to the people.

* * *

PRESIDENTIAL PROCLAMATION NO. 63
Declaring the Period from September 26 to October 2, 1954, as Forest Conservation Week.

WHEREAS, our forest resources are of utmost im-

portance to the welfare and economic well-being of our people;

WHEREAS, these forest resources constitute a valuable heritage that must be passed on to those coming after us;

WHEREAS, wanton damage to these resources has been going on through kaiñgin making and destructive logging practices; and

WHEREAS, it has become necessary to stop such destruction and to impress upon our people the need of conserving these resources to the end that the benefits we derive from them and the services they render us would not only remain unimpaired but also made available to succeeding generations:

NOW, THEREFORE, I, RAMON MAGSAYSAY, President of the Philippines, by virtue of the powers vested in me by law, do hereby declare the period from September 26 to October 2, 1954, as Forest Conservation Week and designate the Department of Agriculture and Natural Resources to take charge of, and coordinate all activities in celebration of the Week.

IN WITNESS WHEREOF, I have here unto set my hand and caused the seal of the Republic of the Philippines to be affixed.

Done in the City of Manila, this 6th day of September in the year of Our Lord, nineteen hundred and fifty-four, and of the Independence of the Philippines, the ninth.

(Sgd.) RAMON MAGSAYSAY
President of the Philippines

By the President:

(Sgd.) Fred Ruiz Castro
Executive Secretary

* * *

ADMINISTRATIVE ORDER NO. 57

Calling a Forestry Conference and Naming the Secretary of Agriculture and Natural Resources to Take Charge of the Conference

WHEREAS, our forest resources are essential to the welfare of our people and the economic well-being of our country;

WHEREAS, wanton destruction of these resources has been going on through illegal kaiñgin making and destructive logging practices;

WHEREAS, the aftermath of such destruction is now seen in the loss of soil fertility in areas depleted of forests, in unregulated flow of rivers resulting into destructive floods and failure of irrigation systems during periods of critical need, in unfavorable climate

IN MEMORIAM

NAPOLEON OLIVEROS, Cl. '42

Died on Jan. 10, 1955

conditions and in the general hardship of our people;

WHEREAS, it has become necessary not only to stop such destruction but also to find ways and means for the orderly utilization and proper conservation of these resources;

NOW, THEREFORE, I, RAMON MAGSAYSAY, President of the Philippines, by virtue of the powers vested in me by law, do hereby call a Forestry Conference in Manila from September 30 to October 1, 1954, and designate the Secretary of Agriculture and Natural Resources to formulate plans, to take charge of, and coordinate all activities relative to it and empowering him to call upon any agency or instrumentality of the Government for such assistance he may require for the purpose.

Done in the City of Manila, the 10th day of September, in the year of Our Lord, nineteen hundred and fifty-four, and of the Independence of the Philippines, the ninth.

(Sgd.) RAMON MAGSAYSAY
President of the Philippines

By the President:

(Sgd.) Fred Ruiz Castro
Executive Secretary

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**BASILAN FORESTRY BOOTH
WINS FIRST PRIZE**

Of three booths—agricultural, handicraft and forestry put up as a special activity of the Public Schools Division Athletic Meet held in Basilan City on November 24-27, 1954, the forestry booth of Forest District No. 44 won first prize for objective presentation. The main attraction was the miniature mountain range, forested on one side and bare on the other, with the derived benefits and disastrous effects, respectively, on the lowlands. Other attractions were seedlings and wood of commercial species, different wood products, grades of lumber and living rattan and its products. Forester Martin R. Reyes was in charge while District Hipolito B. Marcelo was chairman of the three educational exhibits.

* * *

WITH THE TIMBER INVENTORY

Butuan City, Agusan. Five Field parties under Philcusa C. P. No. 482 are at present performing timber inventory work within the concession of the Nasipit Lumber Co. to establish permanent forests and gather data for the preparation of working plans.

The field parties have their temporary headquarters in the Tuñgao Logging Camp of the NALCO where they are hospitably accommodated by the logging superintendent, Mr. Jesus Natonton. The field parties are as follows: T.I. Party No. 1—For. A. Garcia, chief, Sr. Rangers, C. Serna, J. Avellano, and C. Melchor, members; T. I. Party No. 2—For.

(Continued on page 80)

• Forestry in the News •

DELEGATION TO MAHOGANY CONVENTION OPPOSES MOVE TO CURB PI LOG EXPORTS

Gaudencio E. Antonino, Philippine delegate to the annual meeting of the Philippine Mahogany association at Portsmouth, New Hampshire recently, reported that the two-man Philippine delegation favored an upward revision of the grading rules for Philippine mahogany manufactured in Japan but opposed any move, if there should be any, to curtail the exportation of the Philippine logs.

"On the contrary," Antonino said, "we should open additional markets if the Philippine lumber industry is to survive."

Antonino, president and general manager of Western Mindanao Lumber company, and Nicolas Capistrano Jr., president and general manager of Misamis Lumber company, represented the Philippine Lumber Producers' association at the New Hampshire conference.

Antonino explained that the higher the mahogany association fixes the grades for Philippine mahogany coming from Japan, the better it would be for the Philippine lumber industry. He cited his reasons as follows:

1. "The quality of Philippine mahogany exported from Japan will be excellent and distribution in the United States will therefore be a boost to the good name of Philippine mahogany.
2. "Prices of Philippine mahogany from Japan will have to be higher than present prices and may not therefore be able to disturb our present price levels in the United States.
3. "Philippine mahogany from Japan will at least temporarily fill the voids created in the market due to the increased demands which cannot be supplied by the Philippines."

Antonino said he and Capistrano appealed to the members of the mahogany association "not to limit the distribution of Philippine mahogany to the aristocrats (wealthy class), to the exclusion of our No. 2 and No. 3 common" grade of lumber.

Antonino said: "We explained (before the mahogany association meeting) our problem of marketing locally our lower grades if we have to go to extensive lumber manufacturing, and unless they (the mahogany association) can buy our low grade lumber, together with the higher grades, it will not be profitable for us to cut more lumber. . . Our local market can only accommodate so much quantity at reasonable prices, and any tendency to increase the local supply tends to wreck our local prices. The individual members of the Philippine Mahogany association were sympathetic to our problems and many

of them have promised to exert more efforts in selling our lower grade lumber."

Antonino said Capistrano had told the mahogany convention that if the members of the mahogany association wanted more lumber from the Philippines, "they should help us (1) in our request for a reduction of the freight rate, (2) buy more of our lower grade lumber and (3) pay us higher prices."

Antonino said the mahogany association thought of revising the grading rules because the first shipment of Philippine lumber from Japan was very poorly graded and most of the importers were not only disappointed but disgusted.

He reported that tests on apitong conducted by the Timber Engineering company at the request of the mahogany association showed that apitong could be used for structural members, truck bodies, shipbuilding, rolling stock, flooring, tanks and baths for acid and alkaline solution. "Apitong, therefore, according to the result of the tests, has a great prospect in the American market," he said.

He said the subject of freight rates for lumber from the Philippines to the United States was not officially taken up during the convention but appeals had been made with the members of the mahogany association to help the local lumber association make representations for the reduction of the freight rate.

—*Manila Daily Bulletin*, Aug. 13, 1954

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LUMBER RATE CUT REJECTED

The Associated Steamship Lines has denied the request of the Philippine Lumber Producers' association to reduce further the freight rate on Philippine lumber shipped to the United States.

Commerce Secretary Oscar Ledesma, chairman of the Philippine maritime committee, was told by A.S.L. representatives at a hearing over the weekend that the freight rate of Japanese lumber is lower than that of local lumber moving to the United States because of "special factors" in Japan.

One factor that the A.S.L. representatives said was the cut-throat competition prevailing in Japan. Japanese shipping lines and the Isbrandtsen company charge rates even lower than cost, the A.S.L. men said.

The fact that not all participants in the shipping conference are carrying lumber from Japan to the United States led the A.S.L. to deny the request of the Filipino lumbermen, and to continue the present emergency rates for a longer period, a commerce department release said.

An aggressive foreign trade policy, involving even indirect subsidies, was given as one of the reasons

why Japanese vesels have been able to carry lumber from Japan to the United States even below cost.

It was cited at the hearing that the Philippines had better equipment for the processing of lumber than Japan but that cheap labor in Japan as well as subsidies offset the advantage of the Philippine lumber industry.

The local shipping combine felt that the problem posed by the present situation was how to save the American market for Philippine lumber, it was pointed out.

Agriculture Secretary Salvador Araneta said he was contemplating to recommend the banning of log exportation to Japan only to such quantities as are needed by Japan in order to prevent the Japanese from processing the log to lumber and then sell them to the United States in competition with Philippine-sawn lumber.

Ledesma told the Filipino lumber association to make a study of how to reduce freight rates and improve the lumber industry.

Those present at the hearing included: Secretary Ledesma, Secretary Araneta, Carlos Fernandez, Pacifico Ocampo, E. H. Bosch, Fred Spengler, James Baldwin and Manuel E. Buenafe, executive secretary of the Philippine maritime committee.

* * *

REPORT DAMAGE TO FOREST AREAS

Some 26,000,000 board feet of lumber and 79,360 lanzones trees worth a total of about a million pesos have been destroyed wantonly by squatters on forest areas of Cotabato, according to acting District Forester Ebad U. Ulangkaya.

The forestry official complained that politics had made the squatters so fearless as to thwart attempts of rangers to check up on their activities. He also claimed that criminal complaints filed against the squatters have been frozen in the courts.

Instead, Ulangkaya said, forest rangers were being accused by squatters of setting fire to their homes and stealing their belongings. Some rangers reported having been threatened with bodily harm.

The squatters' charges were of course, absurd because the rangers were there to look out for small fires and prevent their becoming disastrous and bigger fires, the forester commented.

Ulangkaya charged further that squatters:

1. Were cutting trees at night and during rainy days in order to avoid forest patrols.
2. Cleared forest areas and later sold the clearings to other squatters at a profit.
3. Owned homesteads, but kept on clearing other areas without any intention to settle on them.
4. Were cutting down newly planted trees in reforested areas.

Ulangkaya estimated that at the rate of one meter

of forest lost daily, thousands of pesos in revenue were being lost to the government.

As a result of the wanton destruction of forests, Ulangkaya said floods have become frequent recently. In some places the flooded area covered three kilometers inland from the banks of the Rio Grande river. Several hectares of crops were often laid waste and more than 22 kilometers of the Dulawan-Koronadal road became impassable.

Floods in turn caused the rapid erosion of river banks. The eroded earth filled the river bed which changed course in several places when strong rains came.

Unless the destruction of forests is stopped, droughts will also follow, Ulangkaya fears.

The forester said that of the 1,323 hectares of the first block of the lanzones reservation near the Mt. Apo national park in Kidapawan, 792 hectares have been destroyed and destruction was still going on.

Another group of squatters destroyed about 200 hectares of the 1,305 hectares in the second block of the same reservation.

—*Manila Bulletin*, Aug. 23, 1954

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LUMBER TRADE ACCORD SIGNED

The Philippine lumber industry was placed in a favorable position to export local sawn lumber to the United States in competition with Japanese shipments of Philippine mahogany following the signing of a contract between a number of American firms. The contract was signed by Robert M. Bartholdi, executive vice president of the American-Philippine Trading and Development company of San Jose, California.

After six months of negotiations and surveying local business trends, Bartholdi announced the beginning of a series of regular large shipments of Philippine sawn lumber to the United States.

The initial shipment will cover an export order for 100,000 board feet of sawn lumber. An additional order for 500,000 board feet is scheduled for shipment in the middle of this month and approximately 500,000 board feet monthly thereafter, with a possible increase to 1,000,000 board feet every 60 days.

From the local offices of the American-Philippine Trading and Development Co. at 220 Samanillo building, Bartholdi announced that his firm has embarked on a venture that will "most definitely aid the economy of the Philippines."

Bartholdi explained further that his firm represents "practically every well-known manufacturer in the United States who, through us, can offer many commodities at prices that are guaranteed to bring down the existing prices of commodities in the Philippines."

—*Manila Bulletin*, Sept. 6, 1954

ARANETA STRESSES FOREST PROTECTION

Secretary of Agriculture and Natural Resources Salvador Araneta stressed yesterday the importance of protecting public forests against kaining, fire and other destructive agencies.

Presiding at the third day technical discussion of the problems of forest conservation and protection held at the Agriculture Department conference room, Secretary Araneta pointed out to ranking FOA and forestry officials and lumbermen that it is cheaper and practical to undertake an effective system of patrolling all forest areas than to expose them to destruction and later to repair them by artificial regeneration commonly known as reforestation which is an expensive process.

He also said that forest guards would be provided with radio communication for better control and protection of forests and to minimize the employment of supervisors. Private initiative, he suggested, should be encouraged to plant trees in the mountainsides and other barren areas.

—*Sunday Times*, Sept. 26, 1954

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LUMBERMEN'S MEMORANDUM

Prepared by the Philippine Lumber Producer's Association for the Laurel Mission

1. The tariff duties imposed on the importation of lumber and lumber products into the United States are contained in (1) Section 3424 of the Internal Revenue Code, as found in Title 26 of the U.S. Code Annotated and (2) Paragraph 412 of the Tariff Act of 1930 as amended by the various Reciprocal Trade Agreements.

2. Section 3424 of the Internal Revenue Code provides as follows:

"Lumber, rough, or planed or dressed on one or more sides, except flooring made of maple (except Japanese maple), birch and beech, \$3 per thousand feet, board measure; *but the tax on the articles described in this section shall apply only with respect to the importation of such articles.* The tax imposed by this sub-section shall not apply to lumber of Northern white pines (*Pinus strobus*) Norway pine (*Pinus resinosa*), and Western white spruce."

The \$3 rate per thousand board feet, however, has been reduced by the General Agreement on Tariffs and Trade to 75c per thousand board feet on granadilla, mahogany, rosewood and satin-wood lumber not further manufactured than sawed and to \$1.50 per thousand board feet on such lumber which has been further manufactured than sawed. The tax on certain other species of lumber have also been reduced, but the maximum reduction is to 75c per thousand board feet.

3. The Tariff Act of 1930, Paragraph 412, establishes various ad valorem rates on different manufactures of wood, and these rates have been lately amended by the various Reciprocal Trade Agree-

ments. The rates differ according to specific articles, for instance.

Bed Rails and Thresholds, 20% adv.

Door Jambs 16-2/3% adv.

Furniture parts, 20% adv.

Box shook, 3-3/4% adv.

Crates, cases, etc., not for complete, closed box, 16-2/3% adv.

Furthermore, the rates have been adjusted by successive trade agreements. For instance in the original Tariff Act of 1930, furniture wholly or partially finished and parts thereof were levied 40% ad valorem tax. By successive trade agreements, this rate has been reduced to 20% on chairs, to 12-1/3% on other furniture and to 20% on parts of furniture.

4. As can be seen, Timber and Lumber are subject to the specific tax provided in the U.S. Internal Revenue Code but which makes the tax applicable only with respect to the importation of such articles. Also, certain specific kinds of lumber such as Norway pine, Western white spruce and Northern white pine have been declared exempt of this tax. Other species of timber, including Mahogany, have had the tax reduced from \$3 to 75 cents per thousand bd. ft. We recommend that efforts be made to have Philippine Mahogany and other species of Philippine timber included in the tax exempt group, or should this fail, that they be included with Mahogany and other timber species paying the reduced specific tax of 75 cents per thousand bd. ft.

5. As regards the tax contained in the Tariff Act of 1930 on manufactures of wood, the problem is slightly more complicated. The criterion used to distinguish timber and lumber on one side and manufactures of wood on another side is whether the article involved is dedicated to be used for only one purpose or to be made into only one product. For instance, sawn lumber either rough or planed, and either green or air dried or kiln dried, is free of the ad valorem tax, but when the lumber is manufactured into paneling and a shipment is all of one specified length, it is no longer considered as lumber because it can only be used for one purpose. Likewise, when Bed Rails and Thresholds and Door Jambs are shipped in one specific length, they again become subject to the ad valorem tax.

6. The problem, then, is how to include manufactures of Philippine wood in the tax free list of the Tariff Act. Otherwise, the result will be that our exports to the U.S. will be definitely limited to raw timber in the form of logs or sawn lumber, not further manufactured than planed. This development would be unfortunate, because the present trend is precisely to have more manufacturing done in the Philippines in view of: (1) the advantage in wage rates between United States and Philippine labor,

and (2) the gradual but steady improvement of our Philippine sawmills towards producing lumber specially processed to suit the demands of the U.S. market. Thru careful study of the requirements of the American consumers, Philippine sawmills can be expected to ship their lumber in an increasing percentage of semi-finished articles. This would have the great advantage of eliminating the necessary cost of freight on the waste component which necessarily accompanies lumber when shipped rough. Only thus can we hope to augment the value of our exports while at the same time increase the opportunities for employment in the Philippines.

7. Our recommendations, therefore, are as follows:

A. Philippine Mahogany and other species of Philippine timber should be exempt of the specific tax imposed by the U.S. Internal Revenue. If this is not possible, Philippine timber should at least be classified together with Mahogany, against which it competes, and should therefore be subject only to the reduced rate of 75 cent per 1,000 bd. ft.

B. Manufacturers of Philippine woods should be exempt of the tariff duties provided by the Tariff Act of 1930. In particular we are interested in such manufactures as the following: Bed Rails, Thresholds, Door Jambs, Paneling, Box Shooks and Box Car Decking. The foregoing articles are the principal manufactures which can be expected to enter our export trade to the United States, and if specifically exempt of the rates of them reduced, our trade would be safely protected.

8. Finally, it might be well to mention that the Philippine Lumber Industry has patiently and steadfastly maintained for the last forty years an organized and persistent campaign to create an active demand in the U.S. market for Philippine Mahogany. This has involved a heavy expenditure to establish the trade name of "Philippine Mahogany" and to obtain trade acceptance and consumer preference for our lumber. This effort is still being continued in cooperation with the group of U.S. importers organized as the "Philippine Mahogany Association, Inc." It is only lately that the detrimental effects of stoppage of supplies during the Japanese occupation has been successfully overcome, and U.S. consumers have again shown their ready preference for Philippine timber. The imposition of U.S. tariffs or excise taxes at this time would greatly increase the marketing problems of Philippine producers and might tend to nullify the good work which had been done in the past year.

—*Sunday Times*, Sept. 19, 1954

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ARANETA STRESSES IMPORTANCE OF FIRST NATIONAL FORESTRY CONFERENCE

The deteriorating climatic conditions in many parts of the country, the dwindling forest resources

and the excessive erosion taking place have made urgent the calling of a national forestry conference, according to Secretary Salvador Araneta of agriculture and natural resources.

"This is the most propitious time to rally our people to forest conservation," the secretary emphasized.

He said the past drought provides the proper dramatic background for this conference, adding that the ideal climatic and physical conditions in many regions of the country are no longer existing because the forest resources that made them ideal had been wantonly destroyed.

But more than the drought, the secretary emphasized, the sorry plight of our forest inventory that has been reduced to a figure lower than the barest minimum must provide the determination for dramatic action on our part.

The main issue in the conference, he stressed, will be the immediate benefit on one hand against the farsighted restrained view of conserving the capital of our forest resources intact for sustained yield and future generations.

He pointed out that the forest conservation philosophy will have to face three strong forces: first, the *kaiñgineros*, second, the farmers (all hungry for land, and who would want forest land to be released for agriculture immediately); and third, a few lumbermen who only think of themselves and of how to get rich quick.

The foresters and the conservation men will lose this fight, according to him, if our government and our people should fail to extend to them their wholehearted support.

Secretary Araneta called attention to the fact that there is more than gold, more than logs and lumber, in our forests. The indirect benefits of forests to the national economy and national well-being amount to more than gold, he said, for they constitute the bread of the country—invaluable, immeasurable.

He expects the conference to formulate a practical program to effect forest conservation.

Manila Bulletin, Sept. 30

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LEDESMA, SELGA ALSO GUEST SPEAKERS; FORESTRY PROBLEMS TO BE THRESHED OUT

The first Philippine Forest Conservation and Reforestation conference opens this morning at the University of the Philippines' Rizal Hall on Padre Faura Street, with President Magsaysay as the principal speaker. Others scheduled to address the conference are Commerce Secretary Oscar Ledesma and Gen. Florencio Selga, chief of the Philippine constabulary.

During the two-day meet, which was called under administrative order No. 57, lumbermen, technicians,

foresters and others interested in forest conservation and reforestation will thresh out problems related to the maintenance of the necessary balance of forest cover, logging systems and the physical protection of Philippine forests.

Agriculture Secretary Salvador Araneta, general chairman of the conference will preside during the morning session today and in the afternoon session tomorrow. He will also give the opening remarks, and introduce the President.

Presiding this afternoon will be Forestry Director Felipe R. Amos and tomorrow morning, former Forestry Director Florencio Tamesis.

The conference will close with a dinner to be held tomorrow evening at the Philippine Columbian club on Taft Avenue. Guest speakers of the occasion will be Rep. Guillermo R. Sanchez, chairman of the house committee on forests; Col. Harry A. Brenn, chief of F.O.A. Philippines; and Senator Fernando Lopez, chairman of the senate committee on agriculture and natural resources.

Papers bearing on the various aspects of forest conservation and reforestation will be read by the following during the meet: Forester Valentin Sajor, Forestry Director Felipe R. Amos, Forester Carlos Sulit, Forester P. San Buenaventura, Forester Jose Viado, Jose Mapa Gomez, Jr., president of the Sugar Planters' association; and newsmen Luis Serrano and Roberto Villanueva. Open forums will follow the reading of these papers.

Panel discussions will also be held on sanctions on forest violations and clear-cut policy on "kaiñgineros". Taking part in the discussions will be representatives of the provincial governors, the Philippine constabulary, department of justice, National Resettlement and Rehabilitation administration, bureau of lands, bureau of labor and bureau of forestry.

A special feature of the conference will be a trip by the delegates Saturday morning to Los Baños, Laguna, to visit the forest plantation of the bureau of forestry and the U.P. college of forestry.

Manila Buletin, Sept. 30

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LUMBERMEN URGED TO HELP CONSERVE WATER RESOURCES

Forestry and lumber licensees were urged by Artemio E. Gesmundo of the bureau of soil conservation to help the government conserve the soil and water resources of the country.

Gesmundo, addressing a group of forestry men and lumber concessionaires at Naga City during a welcome program for district forester Enrique K. Santos, suggested that:

1. Our forests should and must not be denuded.
2. Sufficient forest cover should be maintained in order not to diminish our water power and waste our valuable soils unnecessarily.

Emphasizing the relation of forest trees to the

soil and water resources of the country, Gesmundo said that if the trees in the mountains and hills had not been depleted there would now be an abundance of water power in Naga city and, for that matter, in many other sections of the country.

"Because the equilibrium of the protective trees was disturbed and the covering trees in the highlands were cut down and destroyed," he said, "the water supply at Naga, as also in many other places in the Philippines, is now greatly reduced. The water pressure here in Naga is very low because of insufficient water supply."

Water, according to him, dries out easily and fast in uncovered places. "Unreforested areas are dry and eroded," he said. "This is a common sight everywhere in the country."

Gesmundo said the wanton removal of trees in our forests is a serious threat to our agriculture. The evil practice of the "kaiñgineros" of cutting down trees and clearing the forests—although the areas are not appropriate for agricultural purposes, even for one reason—must be discouraged, he said.

He called upon the bureau of forestry field personnel to be always on the lookout for what he called "these enemies of sound agricultural practices."

Manila Bulletin, Sept. 30

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MAGSAYSAY, ARANETA URGE LUMBER OPERATORS TO CONSERVE P.I. FORESTS

The first Philippine Forest Conservation and Reforestation Conference in the Philippines opened yesterday at the former Rizal Hall of the University of the Philippines with both President Magsaysay and Agriculture Secretary Salvador Araneta exhorting their listeners to do all they can to conserve the nation's valuable forest reserves.

The two-day conference, which closes this afternoon, was attended by lumbermen, foresters and other groups interested in the nation's forest resources, who heard a representative of the President and Mr. Araneta at yesterday's opening ceremonies underscore the importance of maintaining careful watch over these resources against the incursions of natural and man-made forces.

But the first day did not touch directly upon a number of vital points which informed sources in the bureau of forestry and the department of agriculture said might well be the touchstone of all planning in the forestry resources field.

These included, among other things, observations that:

1. President Magsaysay's recent announcement "soothing" fears of landed officials was bound to have a deleterious effect upon certain interests who currently hold large concessions on different islands.

2. Aliens dominate the nation's lumber merchandising business.

3. An as yet undetermined number of Filipinos are "fronting" for alien lumber groups.

4. Critical examination of the nation's forest resources has become a virtually impossible task owing to the limited funds available for the traveling expenses of the bureau's rangers.

Department sources told the Bulletin yesterday that the President's announcement the other day comforting the government officials who have acquired public lands in places where they are assigned notwithstanding the prohibition contained in an order issued before the war might encourage or abet the land scramble further.

These sources said that while this was true mainly to agricultural lands, the same things are now becoming true to timber areas, which many speculators—some of them relatives of high local and national officials—are applying for.

A bureau of forestry informant told the Bulletin that in one specific instance only three weeks ago, a tract of land in Oriental Mindoro which was supposed to have been given out for bidding to a small applicant from Luzon was "suddenly and mysteriously" withdrawn and in the name of the applicant was substituted the name of a brother of a ranking Oriental Mindoro official.

The bureau informant said that while this had happened in connection with grazing land, the same situation was true in greater or lesser degree among applicants for forest grants.

He cited the case of a ranking Nacionalista senator whose timber concession in Oriental Mindoro was being sought for release by department officials as agricultural land to accommodate hundreds of Ilocano settlers.

"We recommended that this land be released so it could be distributed as agricultural land, but the senator blocked the move and managed to stay the order.

Other department sources underscored the importance of maintaining the 42 per cent forest land and 58 per cent agricultural land proportion, warning that unless something was done to keep this balance, the nation may expect to sustain floods, droughts and other calamities. These sources stressed that at the rate the better timber lands are being exploited today, time may come when these areas will be totally denuded.

A second point brought up in connection with yesterday's forestry conference was the observation by a department official that a substantial portion of the retailing of lumber and lumber products in the country was being handled by aliens.

The official said the control extended not only to retailing but sometimes also to actual operation of sawmills and logging sites. He said reports had

been received by the department of agriculture on such operations especially in Quezon province, Mindoro and Mindanao but because of the refusal of witnesses or the dummies themselves to testify, the department was being hampered in its work of ferreting out these dummies.

Still another vital point stressed in connection with the conference was the statement of a bureau of forestry employee regarding the virtual impossibility of keeping close tabs on the exploitation of the nation's forest resources.

* * *

This source pointed out that the bureau's small and inadequately financed ranger force was being obliged to operate on an annual transportation allowance, making it impossible for the rangers to make comprehensive surveys of their respective areas.

"About the only intensive traveling possible for them comes when their trips are financed by big companies who ask them to survey and examine for them tracts of forest lands in which they are interested" this force said. "They cannot go out as often as they should because they do not have the money. The sacrifices they must undertake are great, and the ₱50,000 appropriation for them is woefully inadequate."

Notwithstanding these sour notes, yesterday's more than 400 delegates at the forestry conference listened with keen interest to Secretary Araneta and Fred Ruiz Castro, the President's representative, make sundry recommendations for the conservation of the nation's forest resources.

Among the recommendations were stricter control of "kaiñin" practices, increase in the pace of reforestation activities, especially in areas where heavy logging operations have taken place, and a request for ₱300,000 more from congress to be spent for various reforestation projects and campaigns in all critical provinces.

Tomorrow morning, the delegates will motor to Los Baños to visit the bureau of forestry office and the U.P. college of forestry.

—*Manila Bulletin*, Oct. 1

* * *

P.I. REFORESTATION CONFERENCE ENDS

The first Philippine forest conservation and reforestation conference in the Philippines adjourned last night with a special dinner at the Philippine Columbian club on Taft avenue after two intensive days of discussions on ways and means of conserving the nation's dwindling forest resources.

Speeches by F.A.O. director Harry Brenn, Senator Fernando Lopez and Rep. Guillermo Sanchez highlighted the dinner program which capped the two-day conference that brought together more than 400 delegates from the ranks of lumbermen, government officials, technicians and others interested in the country's forest wealth.

Today, the delegates plan to motor to the bureau of forestry reservation in Los Baños, Laguna, to inspect first hand the forestry projects and experiments being conducted there.

They are also expected to visit the University of the Philippines' college of forestry, which conducts parallel activities, in the same town.

Former Director Florencio Tamesis presided over yesterday's second and last day of the convention, which had Commerce Secretary Oscar Ledesma delivering a speech pointing up the importance of forest products to the economic wealth of the nation.

Later in the day, papers on forestry conservation were read by Jose Viado, general inspector of the department of agriculture, and Jose Mapa Gomez, president of the Sugar Planters association.

Yesterday afternoon, Secretary Araneta presided over the session, during which other papers were read on diverse subjects by Luis Serrano and Roberto Villanueva. A number of resolutions were passed shortly before the conference broke up to repair to the Philippine Columbian for the last phase of the convention.

—*Manila Bulletin*, Oct. 2

* * *

BASILAN'S SQUATTERS

To the Editor:

I have read the article, "Troubles of the Landless," in your issue of September 11 and would like to offer a few comments on the part pertaining to Basilan.

The local office of the bureau of forestry has not acted drastically or hastily toward the squatters in the forest reserve. They have been given ample time to make up their minds to transfer to an area of about 870 hectares earmarked for release for agriculture.

I can assure you that the area now occupied by these people is not suited to agriculture, being rough and having poor soil. The area selected for them is now being cleared. It is adjacent to the Tairan Plantation of ex-Congressman Juan Alano. Mr. Alano has offered to donate free seedlings of coconuts, coffee and palay; Basilan Lumber Co. will give free lumber for temporary houses; and Watts Philippine Selective Timber, facilities for transportation.

The economy of Basilan City is definitely forestry-agriculture. Last year the exports of logs, lumber and plywood amounted to ₱12,261,268.07, of copra to ₱5,222,615.56. The 11 lumber companies operating here pay annually over ₱700,000 in forest revenues and other taxes. They also pay monthly almost ₱300,000 in wages to 2,500 laborers having some 10,000 dependents. To preserve this valuable industry, the forests of Basilan must be managed carefully and scientifically.—Hipolito B. Marcelo, district forester, Basilan City, *Free Press*, October 2, 1954.

SANCHEZ REPORTS ON LOG MARKET

The market position of Philippine logs and lumber is only assured on the "surface", declared Rep. Guillermo Sanchez (N, Agusan), chairman of the presidential barter trade mission to Japan in his report to President Magsaysay.

Sanchez also said that Japan refused to agree on direct barter arrangements for sugar and other commodities which she badly needs from the Philippines.

The Philippine mission's proposal for exchanging raw sugar for essential Japanese commodities of equivalent value was turned down by the Japanese ministry of international trade and industry.

The Agusan solon said that the problem of local lumber producers has not been entirely solved, because Japan has consistently reduced her foreign exchange allocations for imports from all areas, thereby giving rise to the possibility that the MITI (Japan's ministry of international trade and industry) would later on restrict the importation of Philippine logs and lumber regardless of the "assurances given to our mission" by the director of the bureau of international trade and industry.

He added: "Such a possibility becomes even more patent if we recall that last year Japan's imports from the Philippines were more than twice the value of her exports to us, resulting in an adverse balance against her imports amounting to \$28,695,000."

—*Sunday Times*, October 10

* * *

PROTECTION FOREST COMMITTEE CREATED

The creation of a Protection Forest Committee to define, determine and advise the Department of Agriculture and Natural Resources what are the areas to be declared protection forest areas was urged by foresters during the first Philippine Forest Conservation and Reforestation conference held in Manila recently, the Department of Agriculture and Natural Resources announced yesterday.

The Committee, to be created by the Secretary of Agriculture and Natural Resources, will be composed of the director of forestry as chairman, and a representative each of the National Power Corporation, Bureau of Public Works, Bureau of Mines and Juan Arellano, as members.

—*Sunday Times*, October 10

* * *

ANOTHER NEGLECTED BUREAU

Traffic jams are a common sight outside the one-story main building of the Bureau of Forestry on Manila's Juan Luna St. Inside the building, one has practically to shout to be heard over the roaring din. Dust stirred up by the procession of cars, trucks, busses, and calesas, freely enters and settles in the poorly ventilated rooms, once aptly described by former Vice-President Lopez as "dark and hot."

ARANETA ISSUES 2 FOREST ORDERS

The Bureau of Forestry is another neglected bureau also when it comes to finances. A few months ago the Bureau of Forestry did not have money to replace the old time clock which had broken down. For the good of the public service, employees chipped in the handsome sum of ₱1,000 for a new one. And though it seems obvious that low-salaried workers should be given free medical treatment, Bureau of Forestry personnel, few if any of whom can be described as overpaid, pay for it themselves through their own organizations.

Employees find little financial security. One man with the bureau for almost 14 years still gets the minimum salary of ₱120 a month. However, because of his temporary status—after 14 years still temporary—as an assistant illustrator, he faces the terrifying prospect of leaving his family without a centavo when he dies. And, shamefully, many other Bureau of Forestry employees with long service are in the same boat.

And it isn't that the employees are not efficient. The Bureau of Forestry, from top to bottom, takes pride in an excellent record. For example, the critically explosive Bell Report found the Bureau of Forestry to be "efficiently managed." It should be fully apparent that there can not be efficient management without efficient employees.

Some changes are sorely needed. The Bureau of Forestry first of all should be rewarded with a better building away from clanging traffic snarls. And similarly veteran employees should be rewarded with more adequate financial security for faithful service rendered.

—Nicomedes O. Mirafuente, *Free Press*,
October 30.

* * *

MORE TREES NEEDED

Actual forest cover in the country is far below the minimum requirements for purposes of utility and benefit, it was recently disclosed by Agriculture Secretary Salvador Araneta. The secretary pointed out that each province should hold at least the minimum percentage of forest area in relation to its over-all land area.

The inadequate forest area, he revealed, is a critical problem in the following provinces: Abra, Antique, Albay, Batangas, Bukidnon, Cebu, Ilocos Norte, Iloilo, Laguna, Marinduque, Misamis Occ., Mt. Province, Pampanga, Romblon and Tarlac.

Administrative Order No. 15 issued recently by Secretary Araneta upon the recommendation of Lands Director Castrillo, requires that in the future all Orders of Approval of homestead applications and Orders of Award of sales and leases of public agricultural land will require applicants to keep not less than 10 per cent of the land applied for planted to trees of economic value.

—*Free Press*, October 30

Better enforcement of laws protecting the forest is anticipated with the issuance Thursday of two orders by Agriculture Secretary Salvador Araneta.

One of the orders is expected to bring about the much desired coordination of efforts by the various law-enforcement agencies. It was pointed out that there should be effective teamwork among the personnel of the bureau of forestry, Philippine Constabulary and the department of justice.

Likewise, since newly opened roads penetrate forest areas, public works officials in charge of road projects could help much in forest protection. Secretary Araneta has, therefore, designated a coordinating committee representing these four government agencies. This committee will meet once a month and formulate needed plans and recommend the necessary directives.

The second order tries a new system of guarding the forest. A forest guard is to be assigned his 2,000-hectare sector along the perimeter of the forest area. Instead of living in town as forest guards at present usually do, the guard will live right in his sector.

In the choice of the forest guard, a married man is preferred with a male dependent who will be allowed to cultivate more than two hectares in the sector for the raising of food crops for himself and his family.

—*Sunday Times*, Oct. 31

Agriculture and Natural Resources Secretary Salvador Araneta today instructed Forestry Director Felipe R. Amos to stop the illegal cutting of undersized trees in the Ambuklao watershed reservation for delivery to the mines by seeking the cooperation of the mining companies through the bureau of mines. This is an implementation of the resolution approved at the first Philippine conservation and reforestation conference.

Forestry Director Amos said that the holders of ordinary timber licenses affected by the Ambuklao watershed reservation would be allowed to continue their operations. Currently there are eight holders of licenses inside the reservation. For the cutting of timber in their respective concessions the following additional rules shall be enforced:

- 1) Only matured trees are to be cut of a diameter not less than ten inches determined at breast-height;
- 2) Cutting shall be absolutely restricted to the few small patches of virgin pine stand;
- 3) No dirt roads shall be opened, skyline yarding shall be employed and transporting of logs over the concession area shall be done by tramlines;
- 4) Only trees marked by a duly authorized forest officer shall be cut;

(Cont'd on page 80)



Yale University
SCHOOL OF FORESTRY
New Haven, Connecticut

March 10, 1954

Mr. Vicente Caguioa
College of Forestry
University of the Philippines
Laguna, P.I.

Dear Caguioa:

I was shocked to learn from your letter of the death of Placido Dacanay, '21, on February 10, 1954. The death of this outstanding Philippine forester and graduate of the Yale School of Forestry is a great loss. The Faculty of the Yale School of Forestry wish to extend their sympathy to the family of Placido Dacanay and to his many friends among the Yale foresters in the Philippines. The fine record of his accomplishments in the Philippines will always stand as a memorial to his long career of service.

Most sincerely yours,

(Sgd.) H. J. LUTZ

Professor of Silviculture

(Sgd.) H. H. CHAPMAN

*Secretary, Yale Forest School Alumni
Association*

* * *

Republic of the Philippines

Department of Commerce and Industry
BUREAU OF THE CENSUS AND STATISTICS
Manila

May 10, 1954

Mr. Vitaliano M. Pareja
Librarian
College of Forestry
University of the Philippines
College, Laguna

Dear Sir:

In reply to your request dated 28 April 1954, please be informed that in view of the limited stock on hand, we can only send you one copy of the Journal of Philippine Statistics, Volume VII, Nos. 1-3.

Please acknowledge the receipt of the same for record purposes of this Bureau.

Very truly yours,

(Sgd.) LEON MA. GONZALES

Director

December, 1954

Library
COLLEGE OF FORESTRY
College, Laguna

April 28, 1954

Director Leon Ma. Gonzales
Bureau of the Census and Statistics
Aviles, Manila
Sir:

With reference to your advertisement in the Manila Times, this 27th inst., regarding the "Journal of Philippine Statistics (Vol. VII, Nos. 1-3)" which is now ready for a limited distribution, please furnish our Library a copy, or if it is for free distribution, send us two or three copies for the use of our faculty members.

An early reply to the above request will be highly appreciated.

Very respectfully,

(Sgd.) VITALIANO M. PAREJA
Librarian

* * *

Library
COLLEGE OF FORESTRY
College, Laguna

September 2, 1954

Mr. Gumersindo Borgo
c/o Fibracel, S.A.
Apartado 71
Ciudad Valles, S.L.P., Mexico

Dear Sir:

This is to acknowledge with thanks the receipt of your gift, a book "El Secado de Maderas En Estufa." This book will be used in Kiln Drying Laboratory for reference of the Forestry students as well as the Faculty members, and a good addition to our College Library.

We are grateful for your thoughtfulness.

Sincerely yours,

(Sgd.) VITALIANO M. PAREJA
Librarian

* * *

Library
COLLEGE OF FORESTRY
College, Laguna

September 9, 1954

The United Nations
Lake Success, New York, U.S.A.

Dear Sirs:

I am very much pleased to receive a package containing two books, one copy of the Index of the "Proceedings of the United Nations Scientific

Page 71

Conference on the Conservation and Utilization of Resources," Vol. VIII, this new volume will complete our file in the Library, and the other copy is "An International Index of Films on the Conservation and Utilization of Resources". These books are good additions to our College Library.

With much appreciation of your thoughtfulness.

Sincerely yours,
(Sgd.) VITALIANO M. PAREJA
Librarian

* * *

ROTARY CLUB OF CAG. DE ORO
Cagayan de Oro City
The Philippines

September 24, 1954

Mr. Timoteo Quimpo
District Forester
Cagayan de Oro City
Dear Mr. Quimpo:

On behalf of the members and officers of the Rotary Club, I wish to convey our appreciation and gratitude for the enlightening speech that you delivered at our last meeting.

Please feel free to drop in at our future meetings and break bread with the Rotarians who consider you as among them.

Yours sincerely,
(Sgd.) E. M. TAMPARONG

* * *

Republic of the Philippines
Department of Agriculture and Natural Resources
BUREAU OF FORESTRY
Forest Station
Echague, Isabela

D-5; Public Relations
Arbor Day (1954) September 27, 1954
The Director of Forestry
Manila
Sir:

I have the honor to inform you that this office participated in the celebration of Arbor Day on September 11, 1954 within the subdistrict. A speech entitled "The Farmer and the Forest" was delivered by the undersigned as guest speaker in the Arbor Day Program of the Echague Rural High School, Echague, Isabela, held on September 11, 1954 in the premises of the said school. After the program, 25 Ipil, 20 Mahogany, 20 Siar, 20 Benguet Pine, 66 Teak, 20 Banaba, and 5 *Caña Fistula* seedlings were planted in and around the premises of said school with our technical assistance.

A number of seedlings were obtained from the Magat Reforestation Project with the use of the government pick-up of the Echague Rural High School which was supplied with gasoline donated by different sawmill operators and lumber dealers in the subdistrict. These seedlings were distributed before

September 11, 1954 to the different schools within the subdistrict, distribution being as follows:

Cauayan Elem. Sch.	Echague Elem. Sch.
10—Pine Tree	10—Pine Tree
20—Ipil	10—Ipil
64—Teak	50—Teak
12—Banaba	10—Banaba
10—Mahogany	10—Mahogany
	10— <i>Caña fistula</i>
	5—Siar

Angadanan Cent. Sch.	Alicia Cent. Sch.
30—Teak	50—Teak
17—Banaba	10—Banaba
10—Mahogany	10—Mahogany
10—Ipil	10—Ipil
5— <i>Caña Fistula</i>	5—Siar

Arbor Day posters were also distributed to the following public and private schools and Municipal Mayors within the subdistrict with the number of posters furnished indicated opposite each school or Municipal Mayor:

(Continued on page 76)

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Tel. 3-34-07

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• Excerpts & Abstracts •

PRELIMINARY STUDY ON BREAKAGE IN FELLING AND BUCKING TREES*

By NAPOLEON T. VERGARA

The study was conducted to determine the causes and extent of damage to the boles of trees as they are felled and bucked in the forest.

Work of the felling and bucking team was carefully studied and observed inside observation sites clearly established within concession areas in Camarines Norte. In the North Camarines Lumber Co., in whose concession the first hectare of fifty-one merchantable trees was studied, a team was composed of three men. The first man selected the trees to be cut, made the undercut with a double-bitted axe and made the platform when necessary; the other two followed with a bucking saw and made the felling cut. The trees were power-hauled by tree-lengths so were bucked in the log deck except where the trees were too large or were perpendicular to a line running straight from a proposed spar tree, which trees were bucked in the forest. The arbitrary log length used was five meters and the diameters were measured at five-meter intervals. In the two hectares within the concession of the Philippine Manufacturing Co., only two men composed a felling and bucking crew. The trees were bucked in the forest. The log lengths ranged from 4.7 to 9.7 meters and the diameters were measured at the points where the trees were bucked.

The use of the Smalian formula in computing for the volumes necessitated the measurement of diameters inside bark (d.i.b.) at both ends of a log. The average cross-sectional area of both ends of a log was multiplied by its length for its volume. The thickness of the bark was measured and subtracted from the measured diameter outside bark (d.o.b.) for the diameter inside bark. The natural defects and the breakages incurred in both felling and bucking were also scaled and their volumes computed.

It was found out that the over-all damage in felling under natural forest conditions is about 3 per cent. The damage in felling that occurs in the merchantable portion of the tree is about 1 per cent. The damage in bucking is negligible, being only about 0.08 per cent. Other results obtained were: (1) The damage in felling increases as the

(Continued on page 77)

PRESERVED WOOD AND ITS USE

By B. J. BING

Sales Manager

American Celcure Wood Preserving Corp.
Jacksonville, Fla.

(From the *Southern Lumberman*, October 1, 1954)

Authorities agree that a wood preservative, in order to be suitable for outdoor industrial use, should be permanent, non-leachable, highly penetrative, safe to handle and use, harmless to wood and metal, plentiful and economical. For building purposes and many special uses it also should be clean, paintable, odorless, non-toxic to plant and animal life, and burn no more readily than untreated wood.

Up to 20 years ago there was still a great supply of original-growth pine lumber that needed little, if any, protection against rot or termites. This may be proven by the use of this lumber for many years in the tropical islands to the south of us. As we all know, this supply is now sadly diminished, and we cannot deny the gibes of metal men that much of the wood sold today is short-lived. We can answer this by making available a supply of properly treated lumber at a price they cannot meet with their products. Custom is on our side, and we must not let the public switch from their present preference for wood, which they will do only if they become convinced that wood is too perishable to be invested in.

It is true that lumber cannot hope to compete with concrete for some uses, but there are few places in the home where lumber is not more desirable—if it can be made rot-proof and termite-proof. Treating lumber can lengthen its life by more than triple the normal expectancy. We are faced now with the problem of conservation of our forests, so we should be even more treated-lumber conscious.

Concrete is now being used in many places where wood should be used. To build a house with concrete walls and floor that will compare with a frame house, so far as dryness and warmth are concerned, is an extremely hard thing to do and one that very few are doing or have ever done. You can't build one that will meet the requirements of an ideally built home unless you are sure that the materials used will stand the attack of rot and termites. Termites will not eat the blocks, but they will eat the wood unless we do something to it.

—F. P. M.

* Investigation paper presented to the College of Forestry faculty in partial fulfillment of the requirements for the degree of bachelor of science in forestry, 1954.

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FOREST CONSERVATION . . .

(Continued from page 8)

outstanding civic leaders by offering rewards and certificates of recognition;

9. Civic organizations, Provincial Agricultural Councils and Provincial Boards should be encouraged to establish at least one botanical garden, one forest nursery, or one forest park in each province and city to instill in our people the love and beauty of trees.

VIII—POLICY ON KAIÑGINEROS

1. Early resettlement of old kaiñgineros on tree farms on leased forest lands to be terraced, or in agricultural lands and non-Christian reservations and to obtain the cooperation of NARRA and EDCOR to this end;

2. Strict application of the penalty for violating the Forest Law, on new kaiñgineros, especially "the professional squatters" and old kaiñgineros who refuse to resettle. Se-

cure the cooperation of the Philippine Air Force, of the Philippine Constabulary, of the City and Municipal Officials, the Provincial Boards, the Provincial Fiscal, the Department of Public Works, and the Department of Justice to this end.

IX—IMPLEMENTATION OF THE PROGRAM

Recommend to the President the creation of a National Forestry Council to implement this program by the different Departments of the Government with the cooperation of the civic organizations and the public. Copies of this Program be furnished the President, members of Congress, the Cabinet, Provincial and Municipal officials, civic organizations and schools.

The Secretary of Agriculture and Natural Resources shall exert every effort to secure from Congress adequate financial support to implement this program, and shall seek the cooperation of FOA.

Season's Greetings to all our Friends:

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AND

VALDERRAMA LUMBER MFRS. CO., INC.

Log and Lumber Manufacturers & Exporters

P. O. Box 157
Bacolod City

T. H. VALDERRAMA
President & Gen. Manager

HELPFUL TOOLS . . .

(Continued from page 46)

sign indeed. As a public service and in cooperation with this line of endeavor, the Philippine Chamber of Agriculture and the Binalbagan-Isabela Sugar Co., Inc. have published in the *Manila Chronicle*, October 9, 1954 issue, the Resolutions and Policies of the Bureau of Forestry approved by the First Philippine Forest Conservation and Reforestation Conference.

The writer has also observed that despite his busy hours in Office, Director of Forestry, Felipe R. Amos, since he assumed the directorship, has buckled himself to work and has exerted every effort to meet all kinds of callers: senators, congressmen, lumbermen, concessionaires, small and big sawmill operators so he can stress to each and every one of them the imperative necessity of Sustained Yield Management by the "Selection System of Cutting" to insure future reproductions. Some of them probably may have been at variance with our Director's present views and clear-cut policies for these to them would entail a great deal of sacrifice on their part. To them these policies would mean a retarding of the immediate financial returns which they expect from their heavy investments. But by and large these policies if effectively carried out will redound to the welfare of the whole nation.

It is hoped that this year will mark the beginning of a reawakening of greater and more genuine interest of the general public in the conservation, protection, and wise utilization of our forest resources by cooperation with or full support of the administration's forest policies.

After a lengthy, heated debate in Congress, one Representative stalked out of the House only to meet his tailor on the street.

"Excuse me, sir," said the tailor, "but did you get the bill I sent you last month?"

"Certainly I got it," came the dignified reply. "And it has already received its first reading."

—Contributed by Peter Agure

FROM THE MAIL . . .

(Continued from page 72)

Municipal Mayor

Aglipay—4
Alicia—4
Angadanan—4
Cabatuan—4
Cauayan—4
Cordon—4
Diffun—4
Echague—4
Jones—4
San Agustin—4
Santiago—4
San Mateo—4
Reina Mercedes—4

District Supervisor

Aglipay—12
Alicia—20
Angadanan—20
Cabatuan—40
Cauayan—20
Cordon—26
Diffun—12
Echague—92
Jones—40
San Agustin—40
Santiago—40
San Mateo—40
Reina Mercedes—40

Private Schools

Echague Chinese School 4 copies
Legarda Memorial High School 4 copies
Northeastern College, Santiago 4 copies
La Salle High School, Santiago 4 copies

Public High School

Principal, Echague Farm School 4 copies

Very respectfully,

(Sgd.) TORIBIO V. MANZANO
Officer in Charge

* * *

Republic of the Philippines
Department of Agriculture and Natural Resources
BUREAU OF FORESTRY
Malaybalay Reforestation Project
Malaybalay, Bukidnon

October 22, 1954

The Editor
Forestry Leaves
College, Laguna

Sir:

The Malaybalay Reforestation Athletic Club, Malaybalay, Bukidnon, respectfully requests for the Musical Notes of the song "Men of the Forest We". The members said that it is worthwhile knowing the song inasmuch as we are Forestry men. This song is especially important during celebrations and programs.

For this reason, I request that the same be published in the *Forestry Leaves* the next issue.

Very respectfully,

(Sgd.) CATALINO AMA
President, Malaybalay Ref. Ath. Club

Ed. Note: *We are publishing the "College of Forestry Song" at inside back cover of the LEAVES in this issue.*

FOREST EXPLOITATION . . .

(Continued from page 18)

tation of logs to Japan be limited to what that country needs for local use.

In order to help in the conservation of our forest and insure the stability of the lumber industry, it is recommended that (1) selective method of cutting should be applied on permanent forest lands where conditions warrant; (2) reduce and utilize wastes in logging and sawmilling through improved methods of manufacture and by establishing a system of integrated industries; (3) lessen the drain on our forest through the use of less popular but just as good wood and by means of wood preservation; (4) conduct studies on the chemical and physical properties of woods through the Forest Products Laboratory; and (5) limit exportation of logs to Japan to at least what that country actually needs for her local use.

TECHNIQUES AND . . .

(Continued from page 26)

still remains to be a serious one. Millions of dollars are spent every year on painting, decorating, maintenance, and repairs, because of disfigurement and damage caused by cold weather condensation.

Another problem which this section has been doing a lot of work in preliminary studies is how to prevent water entering between outside wall sidings caused by capillarity. It has not been only causing failures in paints but has also been the root cause of decay, thereby shortening the life of the building.

Thermal insulation is another study that is considered of great importance because of the peculiarly cold climate during winter and the exceedingly hot weather during summer. To make the houses as comfortable as possible during the period of climatic extremes the houses should be properly insulated.

The inflow of heat through outside walls and roofs in hot weather or its outflow during cold weather has important effects not

REFORESTATION WITH . . .

(Continued from page 28)

estation projects. It is, therefore, to the best interest of the public if the reforestation projects be removed from the responsibility and supervision of the District Foresters and be placed under the five Supervising Foresters who should devote their full time supervising the projects under them. These Supervisors will in turn be responsible to the Director of Forestry through the Chief, Division of Reclamation and Reforestation. This set-up will reduce the span of control, hence less red tape and better efficiency.

EXCERPTS AND . . .

(Continued from page 73)

diameter of the tree above buttress becomes bigger; (2) The damage in felling increases as the tree grows taller; (3) The damage in felling increases with the volume of the tree; (4) The damage in felling increases with the per cent of slope if the trees are felled downslope; (5) The damage in felling largely occurs in the unmerchantable tops with a ratio of 1 per cent damage for every 2 per cent in the unmerchantable top; and (6) The damage in bucking is low and negligible. These findings may not be applicable to all cases since conditions in different places are different.

—P. D. Bautista

A good reputation; a clear conscience; appreciation of nature; a peaceful heart; the knowledge of having given happiness to others; a trained and well-filled mind; satisfaction from duty well done; faith in the outcome of right; contentment; well-adjusted social relationship: these make for true happiness.

only on the occupants but also on the furniture and fixtures as well as the building materials of the house. Besides, during cold weather, such heat flow also governs fuel consumption to a great extent. Most structural and finishing materials used in building are low in resistance to heat transmission. Hence, the necessity for the use of insulating materials to be incorporated in exterior walls, ceilings, and floors so as to increase resistance to heat passage.

(To be continued)

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Fieldmen Answer to FSBO Appeal

"To the alumni we are grateful for everything. All that we see around us: the stage curtains, the piano, the public address system, the movie projector, the fountain and artistic benches—all these are patent expressions of the love of the alumni for the college and their loyalty to it. We know of no one to turn to in our hours of need save the alumni. When we needed most encouragement when the going was rough as we worked for H.B. 324 for the rehabilitation and expansion of the College building, even some of the people from whom we expected moral backing were skeptical that we would succeed. But the alumni again appealing to their congressmen gave us the support that we needed most . . . and we succeeded. Soon we shall see a new building, bigger and more beautiful, to answer the country's call and need for more men, technically trained in forestry, to carry on the task of forest conservation. It will be a building that you and every future student of the College will be proud of. At its inauguration, we shall need a better and bigger public address system to replace the old one, which has more than done a yeoman's service and will soon "fade away." It is to you, alumni, that we appeal once again to lend us a helping hand so that at the college inauguration we, too, shall be able to offer a new public address system as a joint donation of the alumni and the student body, to our Alma Mater," thus spoke one of the faculty members at the convocation program given in honor of the alumni delegates to the First Philippine Conservation and Reforestation Conference.

This was followed by personal letters of the FSBO adviser, the president of the FSBO, and the Manager of the Forestry Leaves to all district foresters.

The District Foresters have already begun giving their contributions as shown below:

DONORS TO PUBLIC ADDRESS SYSTEM

Provincial Districts

Name	Amount
1. Basilan City	
Forester H. B. Marcelo	P5.50
E. Tagudar	3.00
D. Antonio	3.00
I. Siapno	3.00
A. Turqueza	2.00

H. Esteves	2.00
F. Mabanag	2.00
W. Agbayani	2.00
D. Rojas	2.00
J. Cruz	2.00
2. Ilagan, Isabela	
A. Miguel	2.60
J. Logan	2.15
T. Manzano	2.15
M. Tugade	1.90
S. Ancheta	1.90
F. Valdez	1.40
J. Tagorda	1.20
P. Acosta	1.20
S. de Leon	1.20
3. Laoag, Ilocos Norte	
Forester Alejandro Tremor et al	15.75
4. Masbate, Masbate	
Forester F. Verzosa	5.00
G. Guillen	2.00
F. A. Solsona	2.00
A. B. Espinas	2.00
5. Legaspi, Albay	
Forester Gregorio Labitag	3.00
Gregorio J. Arizabal	3.00
Segundino Regondola	3.00
Vicente Ramirez	3.00
Jose L. Bugarin	3.00
Alfonso E. Lim	3.00
6. Daet, Camarines Sur	
For. G. Miras	2.00
A. Magbalita	2.00
B. Reyes	2.00
A. Orbita	2.00
R. Doroin	2.00
L. Abeas	1.00
N. Sol	1.00
P. Gerin	1.00
T. Bermillo	1.00
J. Espina	1.00
I. Navarro	1.00
C. Saballegue	1.00
S. Amparo	1.00
G. Cacho	1.00
D. Martinez	0.50
7. Tayug, Pangasinan	
Ranger Pedro Salazar	3.00
8. Sr. Ranger B. Agaloos	
	2.00
9. Rgr. H. Alviar	
	5.50
10. Forester Primo Andres	
	5.00
11. Rgr. Antonio Landicho	
	2.00
12. Forester Jose Makil	
	5.00

13. *Los Baños* (Faculty & Employees)

Prof. Calixto Mabesa	5.00
Prof. Gregorio Zamuco	5.00
Dr. Artemio Manza	5.00
Prof. Jose B. Blando	5.00
Prof. Froilan Rosqueta	5.00
Prof. Teodoro Delizo	5.00
Forester Valentin Sajor	5.00
Forester Francisco Tamolang	5.00
Forester Faustino Francia	5.00
Forester Caesar Recto	5.00
Forester Domingo Lantican	5.00
Forester Domingo Jacalne	4.00
Prof. Emiliano Roldan	3.00
Forester Matrin Lagrimas	3.00
Forester Rosario Cortes	3.00
Mr. Napoleon Vergara	3.00
Forester Osiris Valderrama	3.00
Miss Herminia Jundos	3.00
Mr. Felipe Lopez	2.00
Forester Mario Eusebio	2.00
For. Guard Lucio Quimbo	2.00
* * *	
Forester Isabelo Achacoso	5.00
Forester Agapito L. Cenabre	5.00
Forester Martin Reyes	1.00

COLLEGE BUILDING INAUGURATION

The Forestry Student Body Organization has unanimously approved at its recent meeting to hold the inauguration and Moving-up Day jointly on March 20, 1955.

Any College alumnus who wishes to attend the affair is requested to communicate with either the Forester-in Charge, Prof. C. Mabesa, or the President of the FSBO, Mr. Eduardo Llapitan not later than February 15, 1955. The cost of per cover is ₱2.00 (Two pesos) for reservations.

A NOTE OF THANKS

The FORESTRY LEAVES wishes to express its thanks to its advertisers and the District Foresters, who in one way or another helped solicit ads for us, and to its subscribers for their continued support and patronage.

The ads that arrived on or before the deadline are included in this issue. Those that came later will appear in the Inauguration Issue on March 20, 1955.

The Management.

TIMBER . . .

(Continued from page 43)

charge, still we have that advantage in that our species do not require reconditioning due to the comparative freedom from collapse. Handling therefore is not much of a problem.

The use of Christensen lift truck which is a very flexible means of moving a pile of timber in a seasoning plant or manufacturing mill which has been adopted in Australia as a standard equipment could easily be adopted here due to the simplicity of design and does not require special machinery to construct.

In places where there are extensive local species which are presently not used due to its tendency to collapse, reconditioning unit could be installed which will enable the commercial use of such trees instead of throwing them away or leaving them untouched.

Timber seasoning would not only favor the timber users but would favor the pro-

B. F. NOTES . .

(Continued from page 62)

A. Saura, chief, Sr. Rangers, V. Ergino, P. Aganad and B. Lansigan, members; T.I. Party No. 3—For. G. P. Juan, chief, Sr. Rangers, B. Agaloos and E. Cabote, members; T.I. Party No. 4—For. M. Maun, chief, Sr. Rangers, C. Cortes and J. Lomeda, members; T.I. Party No. 5—For. J. Miranda, chief, Sr. Rangers R. Bobon and M. Abuan, members. The Regional Inspector of the Timber Inventory parties is Forester Roman R. Aquino.

FORESTRY IN THE . . .

(Continued from page 70)

5) As soon as a forest officer has determined that there are no more matured trees which may be cut in the licensed area, the corresponding timber licenses shall be cancelled.

Daily Mirror, Dec. 23, 1954

ducers as well. The users would be able to use the lumber satisfactorily and the producers would benefit by avoiding waste and unnecessary tying up of their capital in the drying yard as well as promote the use of lumber which will in effect be beneficial to the lumber industry.

The New College of Forestry Building

A new and magnificent two-story edifice now stands where the small, old College building was. The timely completion of the building is significant: it will accommodate more students and it will bolster their morale. Students in the College can be benefited from the various new equipment in the new Forest Products Laboratory aside from those in the College itself.

The D-shaped building has eight classrooms, with a capacity of fifty to sixty students each. It has a spacious auditorium in the left wing for programs, convocations, meetings, "movies" and similar affairs; a spacious library in the right wing where students can study and refer to the books therein; and a beautiful roof garden in the left wing, second floor, where one may relax after a hard day and contemplate on life after graduation.

(Continued on next page)

Forest Conservation and Reforestation

As a result of various factors, the most important of which is insufficient protective forest cover, our country has been subjected to long droughts and severe floods. The avaricious logger and the destructive *kaiñginero* have constantly laid waste the once green forests that covered the land and the modern logging equipment is fast destroying the remaining stands. The Bureau of Forestry is always on the job protecting and preserving the forests from natural and artificial enemies but, what with inadequate funds, equipment and personnel, it could hardly check the destruction to our valuable natural resource.

(Continued on next page)

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

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Who is to Blame?

With the termination of the first semester, the students of the College of Forestry, particularly the Freshmen have reached their first crucial test—to determine whether they are fit to take the course or not.

A great number of students before taking the course had the misleading notion that Forestry is nothing more than the ordinary way of tending a forest, that a ranger's work is just the simple task of going after kaiñgineros, wearing a sun helmet, carrying a portfolio, and "toting" a .45. Just fresh from high school, they thought that Forestry is of all university courses the easiest to tackle and cheapest to take, with all the advantages on their favor. This is a wrong conception, however, for actually the Forestry course requires in the student physical stamina, intelligence, plenty of common sense and initiative, patience, and love for hard work.

As a consequence, out of the one hundred and seventy one Freshmen duly registered in this College at the beginning of the first semester, 17 were found scholastically deficient and 13 voluntarily gave up the course. This is no news at all for every schoolyear there has always been a heavy toll of delinquency. Year in and year out, the Freshman class has had the heaviest casualty list. But since the foundation of this college this year's casualty suffered by the Freshman class, and by the student population of this college as a whole after the end of the first semester was so alarming that this question was raised—Who is to blame, the students, or the professors?

F.P.

FOREST CONSERVATION . . . (Continued from page 81)

President Magsaysay called for the first Philippine Forest Conservation and Reforestation Conference. In two days (September 30 and October 1) the Conference made a long-range plan for our forests, the ultimate aim of which is conservation of remaining forests and reforestation of deforested areas.

To implement the program successfully, the different government units must coordinate and the public must cooperate. The Philippine Constabulary must help the Bureau of Forestry in enforcing forest laws and regulations; the Air Force must help in spotting new kaiñgins and report them to the proper authorities; the Bureau of Lands must help in determining agricultural lands from forest lands for subdivision to the landless. Kaiñgineros must be dealt with severely. The public must be made more forest-conscious by public meetings where forestry men are key speakers. The people must be taught to love trees more by making them realize the enormous benefits derived from trees. And the Bureau of Forestry must be given more funds to carry on its various projects.—FPM

THE NEW COLLEGE . . . (Continued from page 81)

The new college building is a symbol of the love of the Alumni for their Alma Mater and their loyalty to it. It is the fruit of their efforts in appealing to Congress to approve H.B. 324, authorizing the reconstruction and rehabilitation of the old building. It is a patent proof of the realization of our solons of the invaluable services of forestry men to the country. It is the realization of a long cherished dream of all forestry men for a bigger and better equipped forestry building that will answer the country's need for more technically trained men. E.C.