

FORESTRY LEAVES

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

JAN 25 1963



9/10/65

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THE SIN OF OMISSION

*It isn't the thing you do, dear,
It's the thing you leave undone
That gives you a bit of a heartache
At setting of the sun.
The tender word forgotten,
The letter you did not write,
The flowers you did not send, dear,
Are your haunting ghosts at night.*

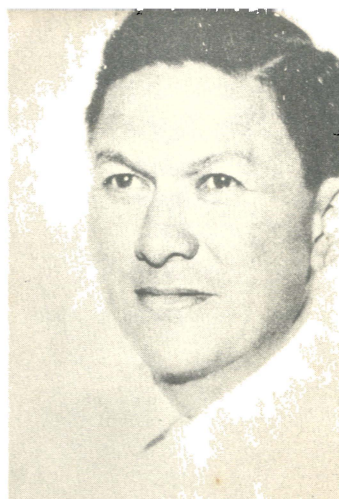
*The stone you might have lifted
Out of a brother's way;
The bit of heartsome counsel
You were hurried too much to say;
The loving touch of the hand, dear,
The gentle, winning tone
Which you had no time nor thought for
With troubles enough of your own.*

*Those little acts of kindness
So easily out of mind,
Those chances to be angels
Which we poor mortals find—
They come in night and silence,
Each sad, reproachful wraith,
When hope is faint and flagging,
And a chill has fallen on faith.*

*For life is all too short, dear,
And sorrow is all too great,
To suffer our slow compassion
That tarries until too late;
And it isn't the thing you do, dear,
It's the thing you leave undone
Which gives you a bit of a heartache
At the setting of the sun.*

MARGARET E. SANGSTER

Office of the Vice President
of the Philippines
Malacañang



M E S S A G E

The celebration of Arbor Week is an event that Filipinos should look up to with much anxiety and expectation. The Philippines abounds with very rich plant life which, if it is to be fully protected and developed more, necessitates that our people learn and observe certain basic things that would ensure the protection and proper development of our forests and our fields.

In many parts of the country, we have witnessed the disastrous results that imprudent and unwise practices of some of our people with regards to the proper care of our natural resources have brought about. I believe I need not say that these would not have happened in the first place if our people were more informed about tree life and care.

I wish to congratulate the Editors of the FORESTRY LEAVES of the University of the Philippines for putting out an issue specially dedicated to the observance of Forestry Week. I am sure your efforts will greatly help in educating our people in matters pertinent to the conservation, protection and development of our forests and our fields.


EMMANUEL PELAEZ

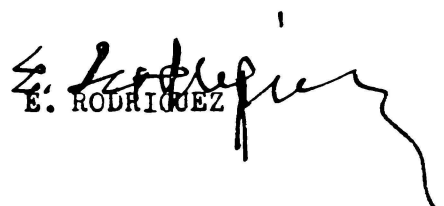


Republic of the Philippines
Office of the
President of the Senate

M E S S A G E

I am happy to greet through the pages of the Forestry Leaves the alumni and student body of the U. P. College of Forestry on the occasion of its Arbor Week issue.

The Arbor Week celebration assumes greater significance, in the light of our past national experience that has underlined the major role that trees and our forests play in the preservation of our people's lives and property and in the growth and prosperity of our country.

E. RODRIGUEZ 

Manila, August 22, 1962



UNIVERSITY OF THE PHILIPPINES
QUEZON CITY

OFFICE OF THE PRESIDENT

MESSAGE

Every magazine with a special audience finds it difficult to maintain itself; but the fact that Forestry Leaves has continued publication indicates that it has been serving its mission and thereby has won many friends. This is only well deserved. As a college publication which has through the years consistently promoted the interest of students in the College of Forestry and has indeed contributed to the thought and ideas of forestry services, Forestry Leaves is unique in its field.

We need to be reminded in print, if not in person, of the value of our forests; and this the magazine has done. We need to be told that natural calamities like drought and floods, which wreak havoc on our cities and towns, year after year, are by no means unrelated to how well we, as Filipinos, guard our watersheds from destruction through thoughtless despoliation. With the same insistence, we have to be reminded that from our forest resources may be derived, with the aid of science and technology, some special contributions to our attainment of prosperity and the good life.

In every phase of human activity there is always need for moral guidance. A magazine, because it can subtly but ably speak to its audience, can set the moral tone and explain to its readers the values that make man's activity meaningful. In devoting this issue to Arbor Week, Forestry Leaves further enhances its mission in that respect.

A handwritten signature in cursive script, reading "Carlos P. Romulo". The signature is written in dark ink and is positioned at the bottom right of the page.




REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
PARKS AND WILDLIFE OFFICE
MANILA

M E S S A G E

The week ending with the last Saturday of July of each year is set aside by executive proclamation as Arbor Week to be dedicated to the planting and care of trees. Every citizen, every school and civic organization are called upon to participate in the celebration of Arbor Week by planting trees in the yards, orchards, parks and farms and hold appropriate programs to generate upon the youth of the land the patriotic urge to plant, care and love trees.

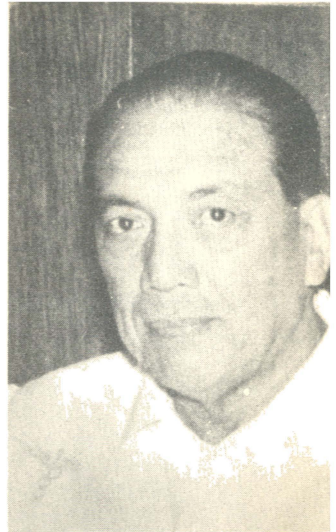
Forests and wildlife are inseparable. Trees need the birds to protect them from diseases and harmful insects and birds need the forests for shelter and food. It becomes therefore, logical that Proclamation No. 129 be amended so as to include the protection and love of birds and games as a theme during this occasion and call this week as "Arbor and Wildlife Week". Trees and wildlife play an important role in the comfort, progress and existence of our people and nation.

I beseech every Filipino from the lowest citizen to the highest official of the land to join with enthusiasm in the observance of this week in gratitude to this God given bounty and in realization to the great benefits and service man gets from trees and wildlife.


VICENTE DE LA CRUZ

Director

"SEE THE PHILIPPINES FIRST. VISIT OUR NATIONAL PARKS AND LOVE OUR WILDLIFE"



Z - Message
(1962 Arbor Week)

M E S S A G E

Every year the nation celebrates Arbor Week. And every year the nation forgets it. This has been the unfortunate cycle of what should be considered a very important national occasion. There really is no sense observing Arbor Week for one week and then forget all about it the rest of the year.

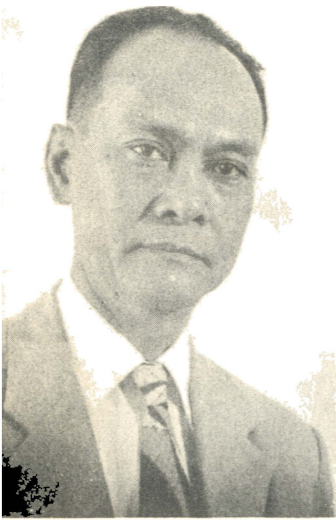
The true spirit of Arbor Week is not reflected on the degree of the celebration. The fanfare that usually goes with the celebration of many a national event of importance is not indicative of the success of the affair. Literary programs, picture-taking of tree-planting rites and speeches can do no more than promote the personal interests of individuals.

What is needed - very much needed - is performance. We should roll our sleeves and actively participate in the task of nation building. One need not be a high official or a wealthy man to be of patriotic service to the country. Any citizen, whether he is rich or poor, can contribute directly to the prosperity of his country.

And I can think of no practical and nobler share that one can give than helping his government protect and conserve the country's forest resources. Every citizen should do his share. Not only today. Not only tomorrow. Not only during Arbor Week. He should do it everyday.

That should be the true spirit of Arbor Week.


W. M. GIBSON
Director of Forestry



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
REFORESTATION ADMINISTRATION
DILIMAN, QUEZON CITY



In reply, address:
P. O. BOX 2363, MANILA

TEL: NO. 7-90-47 LOCAL 21

August 9, 1962

M E S S A G E

Every Arbor Week, we witness schools as well as civic and religious organizations holding appropriate programs, accompanied by tree planting as a token acknowledgment of the importance of trees. To make each celebration more fitting, distinguished persons are usually invited as guest speakers who invariably talk on the values of forests or on our indifferent attitude towards forest conservation and reforestation.

While the celebration of Arbor Week is unquestionably praiseworthy, yet there seems to be a wide gap that must necessarily be bridged to make our professed love for trees more convincing. I should like to think that the tree planting being undertaken during the Arbor Week is a big factor in restoring even only a portion of the vast area of bare and denuded lands that now exists in this country. Unfortunately, it is not. But, given a new concept—that of keeping its spirit and living it up everyday of our lives—Arbor Week will be one of the greatest influences hereabouts that can sway the balance in favor of forest conservation, in general, and of reforestation, in particular.

For, indeed, it is only in constant planting, protecting, and conserving of trees not only by the government but by individuals and organizations can the Philippines expect to reduce its wastelands aggregating to 1.5 million hectares. And it is only in this manner can Arbor Week truly serve its purpose.


JOSE VIADO

"Let The Chips Fall Where They May"

Rep. VICENTE L. PIMENTEL
Chairman, Committee on Forests

Dean Zamuco, distinguished guests, members of the faculty, my young friends, ladies and gentlemen:

When Dean Zamuco called at my office with the invitation to be with you today, I felt extremely honored and I did not hesitate in accepting his invitation.

I can think of no other segment of our youth today who should have an abiding and sincere concern over the manner our forest resources are being exploited than yours. As future foresters, you will be the mainstays of either the government or some private timber companies in the scientific management of our forest resources. I grant that you are all going to be experts in your profession and will not be found wanting of the sense of dedication that your future duties and assignments will demand.

I have no pretensions to knowledge of forestry work, especially as it relates to such highly technical terms as silviculture, stocking, species composition, stand structure, growth rate, fibril angle and regeneration.

Since I became chairman of the committee on forests, however, I become acquainted with certain forestry terms and subjects which I doubt are included in your course. Because what I have learned would be enough materials for a book which I hope Dean Zamuco would co-author with me and it would be entitled: "How To Get Rich In The Logging Busi-

* Speech delivered before the faculty and student body of the College of Forestry, University of the Philippines, November 30, 1962, on the occasion of the Institution's observance of Forestry Day.

ness Without Knowing Anything About Forests".

It is not my intention to disillusion you. Or discourage you my friends from pursuing your course. I honestly believe, however, that a sober and realistic appraisal of the problems confronting our wood industries will give all of us a stronger sense of dedication. As a whole, they represent a lofty challenge which awaits my young friends here outside of this campus.

And since you are all going to be future overseers of our forest resources, you might as well know what you are getting into and what you are not going to see once you get there. Frankly, the future of this country, at least in so far as it relates to the wisdom with which we protect and preserve our forests, will depend in great measure upon each and everyone of you.

Here are some of the most interesting subjects I have learned during our committee hearings and investigations:

SALTING DOLLARS

I didn't know dollars are supposed to be salted. I learned, later, however, that what dollar salting means is simply the dubious practice of certain log exporters before the decontrol period of depositing part of their dollars abroad and declaring the rest with the Central Bank which gives them an equivalent of ₱2.00 to a dollar. This is done by stating in the export manifest a certain number of board feet of logs which is less than the actual volume being shipped abroad. Another procedure

is by simply quoting the price index of logs of the Central Bank which is sometimes lower than the actual price obtaining in the country of destination. The difference is what they stash in banks abroad.

With the imposition of decontrol, log exporters now get almost all the equivalent in peso of whatever dollar they get for their log export.

FARMING-OUT LICENSES

Certain unscrupulous individuals seem to have been able to farm and reap a good harvest on a small piece of paper called an O.T. License. This is what happens. An applicant for an O.T. License goes all the rigmarole of submitting the necessary papers while applying for a concession. Once granted the area and given a license, he loses no time in contacting other logging operators who maybe interested in the area. For a certain price, he sells not the concession itself, but the so-called "improvements" which are often non-existing. Sometimes he doesn't sell the area. He merely opens it to others for logging and he gets "royalties" in return.

OVER-CUTTING AND UNDERCUTTING

Several concessionaires have exceeded the allowable cut granted them by the bureau. The result is the fast and prompt denudation of the area. Of course he doesn't have to observe the so-called selective logging as he logs over the area without even protecting the smaller trees or leaving the residual stand for future regeneration. By undercutting, a concessionaire simply buys logs from other concessionaires and issues invoices in favor of his concession. The bureau, of course requires a licensee to cut at least sixty per cent of his allowable cut. This type of concessionaire reminds us of one of my elementary grade schoolmates who keeps sharing with our classmates in eating our *baon*

and later on, he retires by himself to eat his own.

THE DUMMY

The committee has been informed that there are several licensees who are nothing but dummies of alien capitalists, mostly sawmill operators. The alien capitalist provides the necessary capital to show that the applicant has a bank deposit and therefore the capacity to buy the equipments for operating his concession. But the logging operations are usually handled and managed by the alien capitalist. Of course, we cannot expect the foreigner to have any concern for the proper and scientific exploitation of our forests. What they usually do is cut the timber stand and leave the area barren.

INFLUENCE PEDDLING

We have received reliable reports that several concessionaires were granted wide and rich areas on the strength of their political connections. Others were awarded the concession through some dubious "machinations". There seems to be nothing wrong with this if the grantees are truly capable and willing to observe the forestry rules and regulations. The trouble is that most of these people are merely interested in getting rich quickly and have no plans to stay in the business long enough to draw out a management plan for selective logging operations.

These are just a few of the illegal and condemnable practices happening in our wood industries. All in all, these practices, if left unchecked, will result in the complete destruction of our forests.

I am sure you are all aware of the dangers and the incalculable harm that will follow if all the remaining forest areas are opened to these vandals who are only interested in enriching themselves at the expense of our people and the generations yet unborn.

Another disturbing report which reached our committee concerns alleged connivance between forestry officials and concessionaires. We have been informed that certain forestry employees have been partial to certain loggers for certain considerations. I hope this is not a certainty. But we cannot totally ignore these reports in the face of increasing and persistent rumors going around.

My friends, I cited to you all these unpalatable reports to let you know that our committee is interested in evolving remedial measures to put a stop to these anomalies. We will let the "chips fall where they may." I am telling you all these in the hope that when it will be your turn to serve our country in various capacities connected with the administration and management of our forest resources, you will be properly on guard and aware of the pitfalls coming on your way.

For one thing, you have the advantage of being in a position to avoid the mistakes and indiscretions which may have been committed by those who preceded you.

There is so much at stake in this fight we are carrying on with irresponsible elements in the wood industries. Our country is faced with multifarious problems. We will be relying more and more on our natural wealth and resources to feed an increasing population. And our forests' wealth is the only natural resource which can sustain us for generations. Minerals and oil, if there are any underneath, can be exhausted. But our forest resources, properly managed, can be a continuing and lasting source of livelihood for millions of our people.

Let me congratulate you therefore for setting aside at least a day of the year as Forestry Day. I only hope that this will be a lasting annual occasion. For what sig-

nificance will this day have if there will be no more forests around us?

If it will be of any consolation to our future foresters here, I wish to inform you that our committee will work for an increase of the budget of the bureau and of the salaries of its officials and employees. I have been informed that forestry officials in the government receive salaries twice as low as those of their counterparts employed in private timber companies. Our forest resources, being a national property, will remain a continuing concern and will demand increasing attention from the government. And it is the government which will need more the services of forestry experts like you.

As Chairman of the committee on forests, I will do my best to provide greater incentives for foresters to remain in and join the government service. As guardians of one of our biggest reservoir of wealth, you certainly deserve remunerations which will enable you to live decently and with honor.

In closing, may I reiterate my sincere gratitude for this singular honor you have given me today. If there is anything that my humble person or our committee can do for you individually and for this institution, all you have to do is to let us know.

I think it was Joyce Kilmer who once said:

"Poems are made by fools like me but only

God can make a tree."

If I were to paraphrase the author, I would say:

"Laws are made by fools like me but only foresters can protect a tree."

Thank you.

GREETINGS:

**BUTUAN BAY TIMBER
CORPORATION**

Timber Producer—Exporter

Concession:

Nasipit, Agusan

Butuan City, Philippines

GREETINGS:

**SOUTHERN AGUSAN SAWMILL
COMPANY**

Registered Dealer in
Logs & Lumber

Butuan City, Philippines

GREETINGS:

TAN SIT TRADING

GENERAL MERCHANT

Registered Dealer in Logs

Butuan City, Philippines

GREETINGS:

**NEW ASIA LUMBER
COMPANY**

Sawmill Permittee—Lumber Dealer

We sell rough and planed lumber at
reasonable prices.

Butuan City, Philippines

GREETINGS:

SOUTHWESTERN SAWMILL

Registered Dealer in Lumber and
Sawmill Operator

Mill site: Banza, Butuan City

Office: Poyohon, Butuan City

**SIMEONA A. URAYA
REYNALDO SANTIAGO**

Timber Concessionaires
Producers & Exporters of
Philippine Mahogany Logs

Butuan City, Philippines

VILLON ENTERPRISES

- Drug Store
- Medical Products
- Log Producer & Exporter

Branch Offices:

907 Josefina, España, Manila
2nd Floor Imadejas Bldg.

Butuan City

GREETINGS:

**LOPE COÑATE LOGGING
ENTERPRISE**

Timber Licensee—Exporter

Concession Area:

Rosario, Cabantao, Agusan

Butuan City, Philippines

Director E. de la Cruz: His Life and Achievements*

By D. L. UMALI
U.P. Vice-President

Among the many trees in our forest, the molave has always inspired us as nature's symbol of strength, durability, and utility. We have such a molave tree in our midst, who, greatly hardened by the many years of privation and growth, has risen way above to command admiration and respect. Our world has been made richer and better by this molave tree of the Forest Products Research Institute.

I am referring to Director Eugenio de la Cruz, the eminent Filipino forester, scientific administrator, forest economist and forest educator, whom we are honoring today on the occasion of his retirement to a more active life.

On this occasion, we wish to congratulate you, Director de la Cruz, for your 46 years of dedicated service which is now an integral part of the history and progress of Forestry in the Philippines. It is indeed a remarkable achievement for a man to feel and think young at 69. But we think it is a more remarkable achievement to be a public servant until his retirement day. Unless a person is really unselfish, unless he has a sense of sacrifice, unless he has that devotion to duty, he could not stay long until he retires in the public service where he cannot materially enrich himself, where you work harder as you get older, and where you give more than what you receive.

His life is an inspiring interlude; full of many splendedored things. He started as a poor boy from San Vicente, Lingayen,

Pangasinan, 69 years ago, but he is retiring today as the richest man in our community—rich in friends, rich in experience, rich in achievement and rich in the affection of his family, his colleagues, and those he had inspired to greatness.

In the pursuit of higher education, he was not satisfied with merely getting by.

He went through the rigorous grind of formal education. At the age of 18, he graduated from the Pangasinan High School in 1916 and qualified as a Bureau of Forestry pensionado to take up the Ranger Course at the then School of Forestry, University of the Philippines. Two years after, he was awarded the Ranger Certificate, as the valedictorian of the class and the recipient of the most coveted Ahern Medal. After six years stint in the Bureau of Forestry as a ranger, he went abroad at his own expense and studied at the School of Forestry, University of Idaho as a self-supporting student.

In 1926, he was awarded the degree of Bachelor of Science in Forestry, *Magna cum laude*. He was awarded a tuition scholarship by the School of Forestry, Yale University, where he obtained the degree of Master of Forestry. He is one of the three Filipinos who passed the Forester's examination in the United States.

After his graduation from Yale, with only \$12.00 in his pocket, a friend helped him to sail on the freighter S.S. Scotchburg as a workaway with a salary of "One Cent" per month. He sailed for fifty-one days on this freighter via the Panama Canal. To earn a little more, he opened a barber shop of his own on board the ship. This enterprise netted him \$33.00 which

* Speech delivered at the Forest Products Research Institute during the program for the retirement of Director E. de la Cruz, July 1, 1962.

defrayed his expenses from port to port until finally he reached Manila on September 19, 1927.

Reinstated in the Bureau of Forestry on January 1, 1928 as Assistant Forester and Assistant to the Chief, Division of Forest Lands and Maps, he pursued a colorful and fruitful professional career. He was Forester and Assistant Chief, Division of Forest Lands and Regulations (1930-1934); Technical Asst., Department of Agriculture and Commerce (1934-1935); Forester-at-Large with the rank of Chief Division (1935); Chief, Division of Forest Engineering (1935-1937); Chief, Division of Forest Investigation and Concurrently Superintendent of the Makiling National Park (1937-1952); Associate Professor of Forest Economics, Policy and History (1937-1945); Full Professor 1945 to the present); Chief, Division of Forest Management (1953); Chief, Forest Products Laboratory (1954-57); and Director, Forest Products Research Institute, University of the Philippines (1957 to July 2, 1962).

He had a wealth of experience in foreign countries. In 1952-53, he went to the United States for training and observation of the management and operation of forest products laboratories, and on techniques and operations of various wood industries under an FOA-Philcusa Type A Technical Assistance scholarship. He was Associate and Adviser, Philippine Delegation to the FAO Conference, Ninth Session, Rome, Italy in 1957. In 1960, he was a member of the Philippine Delegation to the Pulp and Paper Conference in Asia and the Far East held in Tokyo, with authority to make post-conference tour of forestry and pulp and paper projects in Japan and Taiwan. He was a delegate to the Tenth Pacific Science Congress in 1961, with authority to make post conference tours in Tokyo and Taiwan. In this last tour, he was able to negotiate the Okuno-Cruz Agreement, in behalf of the Republic of the Philippines, on cooperative research projects in the field of pulp and paper

using Philippine raw materials and also, the exchanging of researchers between the Okuno Industrial Research Institute and the Philippine Forest Products Research Institute.

In the scientific field, he contributed fourteen technical and research papers. He is a member of seven outstanding professional and honor societies in the Philippines and four international honor societies. Also, he is a member of the Screening Board of FAO Andre Mayer Scheme of Fellowship for the Philippines.

In sum, the rise of this man who was born of poor family in a humble nipa hut on the shores of Lingayen Gulf, his innumerable hardships as the son of a poor family, and his courageous struggles as a self-supporting student abroad, make us reflect in admiration of him whose fortitude and self-determination can inspire all poor but ambitious young men of the country. Among others, his conscientiousness, deep interest in his work, and candid honesty were the salient factors that boosted his meteoric rise in the brief span of fourteen years from a ranger and filer, to a division chief in the Bureau of Forestry, and lastly, Director and Founder of the Forest Products Research Institute.

On this memorable occasion, he is the recipient of the following plaque of award:

TO
EUGENIO DE LA CRUZ
1st Director, FPRI

In recognition of his dedicated service and enduring contributions to the establishment, development, guidance, and formulation of sound and progressive research program of the Philippine Forest Products Research Institute, this Plaque is gratefully presented.

By the Forest Products Research Board,
Staff & Personnel of the Forest
Products Research Institute.

July 2, 1962

I feel very proud of being assigned to present this plaque to you.

Address

By EUGENIO DE LA CRUZ
Former Director, FPRI

It is customary that when one is ready to close business and before he does so he takes careful inventory to find out the status of his business.

I presumed that, as we celebrate this occasion today, you may want to know whether our business is in the "black" or in the "red". To appreciate better the results, you may also want to know how the business has grown from a small beginning to its present size.

I think that it can now be told that, after all, the path that led to the laboratory's growth was not all strewn with roses. We had barely started organizing the Forest Products Laboratory in 1953 and were concentrating our efforts in trying to provide the needed personnel and equipment for this infant organization when a group of people, who were prompted by professional jealousy, used as their tool one disgruntled personnel, whom I refused to appoint as accounting clerk, to file a series of false charges with the Office of the Secretary of Agriculture and Natural Resources under the signature of Jovito Lanega, a fictitious person. To show to you how efficient was the Under-Secretary of the Department at that time, he ordered my transfer to Mindanao based on the charges made against me without giving me the chance to face my accuser and defend myself. Fortunately, we are still in a democratic country. Thru my legal counsel, we were able to have the transfer order revoked and granted me a formal investigation. But those who wanted my job did not take the order of the Secretary lying down. For over a month, they sent an under-cover

man belonging to the Gestapo unit of the Under-Secretary to Los Baños to fish for evidence against me. After this case flopped due to the failure of my accuser to testify, the under-cover man admitted to me frankly that no one in the entire Los Baños was willing to sign a statement of any kind against me. When the author of the anonymous letter learned that I already knew his identity, he published in one of the tabloid papers, the names of all his conspirators, who were, most of them, recipients of favors from me. This incident did not arrest nor mitigate our efforts to develop the Forest Products Laboratory. It simply forced us to fight on two fronts instead of only one. As a matter of fact, it spurred us to work harder to prove to our detractors that we know how to handle and run the laboratory. But our enemies who wanted us to fail, put all kinds of road blocks to prevent the approval of appointments and even the purchases of much needed materials and equipment. In one instance, it took about six months for the Director of Forestry to act on certain appointment papers involving about thirteen people. It was only after Mr. Hunt got so mad and told the Director that if he was not interested in the Forest Products Laboratory's welfare, he better say so right away, that the Director acted on them. Another difficulty that we found during the formative stage of the Forest Products Laboratory was that the Assistant Chief preferred to stay in Manila with the Director of Forestry as it was convenient for him to countermand my recommendations when the papers were

forwarded to the Director of Forestry, who, in turn, had to course them to my assistant before he signed or approved my recommendations. Under these conditions we saw clearly that the Assistant Chief of the Forest Products Laboratory had become more powerful than the Chief. The remedy was a showdown. We sought the help of the Philcusa and FOA authorities to arrange a conference with the Secretary of Agriculture and Natural Resources, Director of Forestry, the Chief of the Agriculture Division and the Adviser of the Bureau of Forestry, both from FOA, the Assistant Chief of the Forest Products Laboratory, including the Accountant of the Bureau of Forestry, together with Mr. Hunt and me. When confronted with this anomalous situation, the Director of Forestry confessed that he needed the Assistant Chief of the Laboratory in Manila to handle the papers of the Forest Products Laboratory. As a result of this conference, the Secretary of Agriculture ordered the Director of Forestry to send the Assistant Chief of the laboratory to Los Baños where he belonged, otherwise he should be replaced right away. Besides, the Chief of the Agriculture Division of the FOA, who was responsible for the establishment of the Forest Products Laboratory, informed the Secretary that if by any reason the objective of the laboratory failed to be accomplished because of the apparent refusal of the Director of Forestry to cooperate, all the dollar equipment bought under the FOA would be billed the Philippine government as soon as possible.

Cutting the long story short, we had finally succeeded in getting the Assistant Chief of the laboratory assigned to Los Baños. But this did not improve the situation as was expected. Intrigues grew in amazing proportion and the red tape that was inherent in all actions from the very beginning by the Director of Forestry increased our difficulties. Yet, simultaneously, during this formative period, we were concentrating all our efforts and energies

not only in the acquisition of much needed additional equipment and much needed facilities, but also in building a strong foundation of the organization. Helpless, as we were, a complete change of event took place as if Divine Providence had heard our prayers and wishes—the approval of the Reorganization Plan No. 77 in 1956. Because our enemies wanted us as well as the laboratory to fail, they prevailed upon President Magsaysay not to sign the Executive Order implementing the Reorganization Plan No. 77 creating the Forest Products Research Institute. Fortunately, when President Garcia took the helm of the Government, he signed it on July 5, 1957, thereby creating the Forest Products Research Institute out of the Forest Products Laboratory and the Forest Products Research Section of the Bureau of Forestry, a new semi-autonomous government research entity. We were exceedingly happy in the thought that by this change we could now move freely and dedicate our entire efforts to build up this research institution. But again in 1958, in filling the position in the Staffing Pattern of the Institute, the Assistant Director began to undermine and sabotage the reorganization by insisting that his men be appointed to positions in which they were not at all qualified. And because of my refusal, he and his clique had to resort to the courts to force me to appoint his men. Fortunately, when this matter was discussed in the Court of Appeals, its decision in connection with the filing of bond by the respondent, the following statements were made:—“that the judge who decided this case was trying to enforce a decision of doubtful validity.” Aside from this case and two others that were brought to court at the instigation of the Assistant Director, there were a number of accusations levelled against me through the NBI, the PCAPE and the Forest Products Research Board. But because of the nature of these accusations, which were rather vicious and fantastic, each and everyone of

them failed to attain their objectives. Very fortunately, these cases provided a chance to test the strengths of the charter of the Institute and the policies that were promulgated by the Forest Products Research Board, which are the very bulwarks of this semi-autonomous research institution.

Fortunately, too, the administration of the Forest Products Research Institute did not buckle down nor seek to compromise its future by yielding to intrigues and pressures, but rather continued to enforce the rules and regulations within the framework of established policies to attain its mission and objectives.

Friends and colleagues, my only purpose in enumerating these difficulties which the Laboratory and the Institute had gone through is to show you that we had our disappointments, our frustrations, our failures and our discouragements. But we had, throughout these tumultuous periods, set our eyes on fixed goals and made a strong determination to attain them by all means. You may think that these were only problems we have encountered. There were still a number which were just as equally important, which only those of us, who are deeply concerned in the shaping of the destiny of the Institute, could have realized how much is involved to organize, staff, equip and provide with suitable finances a research institution such as this. It is not easy to select the men and women for the different types of work to be undertaken, to unravel the secrets of wood and to find its usefulness for different purposes, and to build up scientific information, to provide ideas and facts which later on could be useful in developing methods and techniques for the wood-using industries. We were, therefore, much concerned as to the type of professional background, experience, skill, and competence of the personnel to fill every vacancy in this institution. We had to seek a happy balance of different professions because we do believe that the know-hows coming from different professional

groups could be of greater help to accelerate the production of results rather than having just one single profession attacking the problems of wood utilization. On top of that, we have to provide adequate means for upgrading academic competence by having in-service training and other types of training here and abroad to accelerate the development and promotion of research of various types. It is equally important that we had to infuse into each and everyone of our personnel who came from different educational institutions, a sense of ownership in, attachment to, and pride of the organization, an "esprit de corps", a strong morale and loyalty. Because without these binding elements, no amount of skill, competence, and academic training could make an institution attain its missions and objectives. In other words, we have tried our best to organize a team of workers, scientists, administrators, technicians, helpers, laborers and all down the line to understand their responsibilities not only to themselves and to the Institute, but also to the country. Thus today we can look at this Institute with perfect pride and satisfaction, that each and everyone of us shared in its development, its growth, and its accomplishments. Quoting Forester Paul Zehngraff in his talk before his departure, "The Forest Products Research Institute has, in so short a time, been able to demonstrate its capacity in promoting research on the proper utilization of wood, that it can very easily be considered the best in this part of the world." Mr. Hunt in his Christmas greetings last December, said: "You are known all over the world for the splendid work you have done. You have to continue to grow and prove that you are deserving of all the praises of the world."

Now that we have already gained recognition as a going concern and have earned the faith and confidence of those who have been watching the progress and development of our Institute, it is imperative that we should continue in our ef-

forts to build up the stature of this Institute. I believe that a strong sense of ownership must permeate the ranks and files of our staff and personnel from the highest to the lowest laborer, that we should not only belong to the Institute but the Institute should belong to us, so that our aspirations and dedications, enthusiasm, skill and competence must be all directed to build up and promote its welfare. The next point which I want to call your attention to, is that this Institute will be as strong as the weakest materials that compose it. Or to put it the other way—its team is as strong as the weakest member among the players composing it. We should continue to promote and improve the efficiency of this team. It will be your constant endeavor to make the atmosphere of our laboratory conducive to the production of research. But research can only be developed by people with keen sense of curiosity and dedication to the cause of science. To illustrate my point—on one occasion, the Director General of UNESCO stated in his speech at a luncheon given in his honor by the Commissioner and personnel of the Institute of Science and Technology: “Scientists do not belong to any country alone. Their work overcome national boundaries, because science is of universal application. They are, therefore, classified as citizens of the world and benefactors of humanity. But when scientists became materialistic and pay more attention to their salaries or compensations, then they cease to be scientists.” There may still be in this Institute some who claim to be scientists but who devote most of their time watching the higher positions that are being vacated above their ranges. They don’t belong to the scientist-group but to a different group—the budget-item-hunters. This type of employees has no place in this Institute. They will be a constant pain in the neck. Since they are not doing good to the Institute, nor for themselves, the sooner they get out, the better for them and the Institute.

May I add one more point before I close—there are two philosophies of service. The first one approaches life like a man who operates a slot machine. He puts very little into it but he is always hopeful that he may hit the jackpot. There may be some of us who have this philosophy of life of rendering their services in small doses. They persist to stay in the Institute expecting that by chance they may hit the jackpot if given promotion without much effort. They do not expect to rise by sheer merit or by hard work. But they rely on accident and pure luck. The second group perform their work because of their love of doing it without counting the cost. They look upon their job as an opportunity to render service. They do their work without regard to personal benefits. These are the employees that will continue to build the stature of this Institute. So long as the impelling motive is dedication to service, and so long as you continue to do your work without much regard of the direct benefits that will accrue to you, this Institute will continue to grow and gain the respect of the community where you work, of the country, and of the world, because it is not only dedicated to the service of our people but also to the interest of research and science. May the number of this group multiply.

Today as I approach the concluding phase of my service to the government and am about to lay down my working tools, I do so in the belief that I have used these tools for the benefit of the institution we built together. Hence, as I acknowledge publicly my gratitude for the honor you have lavishly heaped upon me today, I wish to tell you that you are equally entitled to share with all of these. Since we work together as a team, we should also share the honors and accomplishments. You are the players, the actors, and the performers. I served only as your coach. Continue the team work and win more honors for this Institute.

Self-Sufficiency or Self-Destruction of Philippine Natural Resources

By WILLIAM L. WEBB

*Professor, State University of New York,
College of Forestry and Visiting Professor and Project Leader,
University of the Philippines, College of Forestry¹*

Certainly the choice of the theme "Self-sufficiency Through Conservation of Natural Resources" for the program of one entire day of your Congress is interesting. It interests me in two different respects: First because conservation of natural resources is so vital to the social and economic development of this country. On this point I have some remarks to make which, I believe, will interest all of you. My second reason for finding this theme interesting is that you chose it. You could have selected many themes—why was this subject, which is not widely appreciated in the Philippines, selected? I suspect the reason is that public relations men are ahead of the public on many vital issues. You are responsible for creating public awareness and public understanding—in doing this job well you must be concerned with the questions: Public awareness of *what?* Public understanding of *what?*

Therefore, I find it both pleasant and stimulating to be with you today. I hope the remarks I have to make will help you create public awareness of the need for conservation of natural resources and public understanding of how to conserve natural resources. Unless this awareness and understanding are created—and created soon—future generations of Filipino will

look at our generation and say: "They were concerned only with themselves—they were selfish—they did not pass on their land and its resources in good condition so we, their children, could live."

Before we get too far along let's stop and make sure we understand each other. Let's define our terms. What is conservation?

One of the world's great conservationists created the best definition and the simplest one:

"Conservation is wise use."

This kind of definition appeals to all of us. It is short and to the point, but do we all agree precisely on its true meaning. We need to be sure we aren't just subscribing to a catchy slogan which means all things to all people. You public relations experts know that a good slogan may sell a brand of soap by saying that it removes dirt quick. However, the slogan doesn't say if the soap also will remove the skin from the hands of the woman who uses it.

Then what do we mean when we say "Conservation is wise use?"

In the first place we must separate wise use of renewable natural resources from wise use of natural resources which are not renewable. Among the non-renewable natural resources are minerals, oil, natural gas, coal, and most important of all—fertile topsoil. A certain quantity of

¹ Under an Assistance Project to the U. P. College of Forestry financed by the United States Agency for International Development and the National Economic Council.

these resources are available for human use—no more can be created. When that quantity is used up it is gone and gone forever.

Some might quarrel with my inclusion of fertile topsoil in the list of non-renewable natural resources. They would point out that fertile soil can be created by the actions of vegetation, and by soil fauna and flora out of infertile subsoil and rocks. And this is true. However, the rate of creation is so slow—often involving centuries of time—that for practical purposes we must agree that there is a fixed amount available now. Any quantity of fertile soil used up or washed away is a quantity which is never again useful for growing food or fiber crops.

Our dependence on these non-renewable resources is clear. Our entire industrial economy depends on continuing supplies of iron, copper, lead, zinc, titanium, and many other minerals. In the case of fertile topsoil our entire agricultural and forestry production—our civilization and our life—will dwindle and fail as our supply diminishes. If we are not now conserving our soil—that is, using it wisely—our standard of living can not rise. Inevitably it must fall to the ultimate point of starvation.

How do we use soil wisely? In some cases by not using it at all. Some soil types in some locations are so erodible, either by water or by wind, that they must be left untouched. Some other soil types in other locations can be used only to a very limited extent. To use these areas wisely, we must limit our use to such activities as tree cover rather than growing cultivated crops. And some soil types in other localities can be used intensively for the growing of the most demanding crops with only reasonable concern for maintaining fertility and productivity.

In many parts of the world soil scientists now use a color code which drama-

tically illustrates this problem. On a map, the soil scientist colors the most erodable areas in red; this means stop; no use possible. The areas which can be used only with great caution are colored yellow which means proceed with great care. And areas where soils can be used intensively are colored green indicating go. This is the stop and go sign of land-use.

What would such a map of the Philippines look like if we had one here in front of us? There would be considerable areas of red—places where soil type or slope are such that they should never be used at all. There would also be considerable areas of green and we would have the signal to proceed with intensive agriculture without major concern, except for usual use of fertilizers and crop rotation. And then the remainder of the map—a vast area of these beautiful islands—would be yellow. Some of this yellow area can be used for agriculture and the production of food crops, but only with extreme caution. A great majority of the yellow area can be used only for production of forest crops, or the *basic essential non-renewable resource* of fertile productive topsoil will be diminished and a later generation will say of us “They were concerned only with themselves—they were selfish—they did not pass on their land and its resources in good condition so we, their children, could live”.

How is the land of the Philippines being used today? As a visitor in your country I hesitate to tell you how serious conditions are. However, I can refer you to your compatriots who for many years have been trying to stop the disaster which is imminent. Ask the members of the Faculty of the University of the Philippines College of Forestry who are struggling against great odds to train experts in land use. Ask the men in Secretary Gozon's Department of Agriculture and Natural Resources (and in other Government agencies) who work so hard trying at least

to slow up the rate of soil destruction. They will tell you that the hour is late; that soil destruction in the Philippines has already reached a critical stage; some have even predicted that in a few more years you will be at the point of no return. These men are not pessimists; they are realists. Unless their voices are heard and actions are taken soon, future generations of Filipinos will say of this generation "They were concerned only with themselves—they were selfish—they did not pass on their land and its resources in good condition so we, their children, could live". I believe you Public Relations experts, assembled at this Congress, could do a great deal to alert the citizens of this country to the dangerous road they are on, and to secure public support for the essential programs needed to avert tragedy a very few generations from now.

Because soil is a non-renewable natural resource, the soil conservation problem—the wise use of the soil—is a basic problem. However, the conservation (hence the wise use) of the renewable natural resources also is of great importance. Natural resources such as forests, underground water, wild animal life, etc. can be renewed. They grow and produce offspring, which in turn grow and produce offspring, generation after generation—so long as the proper environment remains. And there is the rub—*so long as the proper environment remains*. I suspect that very few Filipinos realize how delicate a biological balance there is in their forests or for that matter in their crop fields. A forest seems strong and indestructible, standing for centuries against the mighty forces of nature. But let man add his puny forces at the wrong times and in the wrong places and see how quickly the mighty forest disappears. The care and management of the forests of the Philippines must be left to the trained foresters from your College of Forestry or you will soon be a nation without forests—importers of wood

to build your houses, construct your furniture, and supply your needs for pulp and paper.

As an illustration of the Forest Conservation problem let us look at a Philippine forest. Let us step back in time and again with a truly virgin forest. Does the conservation doctrine require that no change be made in the forest so other generations will say "This was wise use."? In some cases this *is* the requirement. On steep slopes with erodable soil—in other words for areas colored red on our map—*no use* is wise use.

How about the green colored areas on our map—the GO areas. Most of these areas can and will be put into production of agricultural crops without causing damage to the vital soil resource. These are areas which, with proper fertilizer, crop rotation, and simple farm management measures, can be feeding Filipinos long after our generation has passed from the scene.

But the vast yellow colored areas on our map of the Philippines must also be conserved. They may be capable only of producing crops of forest trees or they may be capable only of producing pasture for dairy or beef cattle. No other use is wise, because the non-renewable fertile soil will be used up.

Let me make very clear how destructive neglect of this simple principle is. Let us put a kainginero on some of this land marked yellow on the map. The kainginero cuts and burns valuable timber needed in the Philippine economy; he gets one or a few annual crops and then he must abandon the land because fertility is depleted and erosion is intense; erosion muddies the streams and floods inevitably follow as the rains rush off the bare slopes; the muddy waters flood the fertile lowland and often cover the fertile croplands with infertile subsoil and boulders from the uplands.

The results of this one kaingin operation are small, but the combined effects of thousands of such operations repeated every year or two are immense. No country can afford such wasteful land use—such poor conservation.

The alternative to such destruction is proper forest management. On most of the yellow colored land on our map, trained foresters know how to remove the mature crop of trees so that another tree generation will follow, to replicate the original stand. In fact in most areas under proper forest management, the succeeding generations of trees are better formed and more valuable. Often they are more beautiful than the original virgin lands.

But some say the forest does not produce rice to feed the hungry people. The answer to that is: A rice paddy does not produce lumber to build a house to protect the people. Man does not live by food alone. To be self-sufficient, a man must both feed *and* shelter his family. When the forests of the Philippines are put under proper management and when forest industry is fully developed, the forests will be recognized as an essential component of the Filipino way of life not a hindrance to agriculture. This time is approaching—more slowly than many of us like to see—but it is approaching. There are still too many people who believe that the forest is only a nuisance that must be gotten rid of so the people can use the land to produce food.

In conclusion I must say something about the kainginero and the kaingin system of agriculture. There is no surplus production of food in the Philippines. Therefore, no one can object to the opening up of new lands for agriculture and increasing the food supply to feed Fili-

pinos. But we must ask if the kaingin system is really increasing the food supply—for today and tomorrow and for the next generation. The kainginero is feeding his own family and has a bit of food to sell—today. But his combined and cumulative effect is to decrease the food supply for tomorrow and for the next generation because his activities create erosion, floods, siltation and destruction of a vital and valuable forest tree crop.

You have in your government a well trained, competent, hard-working staff of experts who can determine which lands should be farmed and which lands should be in permanent forest. Of course there aren't enough of these men and they aren't always given the support they need. In addition you have permitted the kaingineros to veto the judgments made by these experts. You have permitted this by permitting the kaingin system to continue. The kainginero is tolerated and even encouraged, therefore, his judgment is given legal precedent over the expert judgment of responsible officials.

This sounds like a harsh judgment of the kainginero. I don't feel harsh toward these hard-working, underfed, and underprivileged citizens who in most cases are only trying to make a living. In most cases these people do not choose their life—they are trapped in it. The kainginero is not a bad man or an enemy of the people of today—but he is an enemy of the forest, an enemy of good land use, and an enemy of the generations of Filipinos yet unborn. Unless something is done very soon a future generation of Filipinos will say about you: "They were concerned only with themselves—they were selfish—they did not pass on their land and its resources in good condition so we, their children, could live."

Better Trees for Tomorrow

By ROSALES A. JUNI*

Wheat, corn, rice, peanuts, sugar cane, tobacco, roses, tulips and orchids, to mention a few, have been transformed by the horticulturist into highly productive and beautiful hybrids, hastening man's economic progress and promoting and enhancing his comfort and enjoyment of life. The animal breeder has kept pace with the horticulturist, he has produced chickens, hogs and cattle with juicy and palatable meat—tailored to the gustatory demands of the gourmet and the epicure.

Indeed, genetics has carried the horticulturist and the animal breeder, from the depths of low production to the dizzy heights of high yields and great profits. Scientific hybridizing started by the Flemish botanist, Carolus Clusius, of the erstwhile wild flower the tulip, has transformed this plant to the core of a big industry. Holland exports 300 million tulip bulbs a year to the United States alone, and several millions more to Europe and other countries.

Delectable pork chops, delicious tenderloins of beef, luscious chicken and succulent turkey, are the crowning glory of the animal breeder. A hog which will be all lean meat is claimed to be possible within a few years.

The advances made by the horticulturist and animal breeder, have not passed unnoticed by the foresters of Europe, United States, Japan and Australia. Amer-

ican and European foresters are now breeding trees which are marvels for their phenomenal speed in growth, beautiful form, high resistance to pests and diseases, long fiber and low lignin content, and many other desired characteristics which were merely dreams of foresters 25 years ago. Tree breeders are now on the threshold of an era of endless enchantment to be able to tailor their trees according to the wants and demands of any wood user—just as the animal breeder and horticulturist can produce made-to-order hybrids of corn or roses, chickens or cattle.

What has the Filipino forester done in the field of improving his trees? The answer to this query is indeed deplorable, we practically have done nothing! Since reforestation was started in 1910, neither a serious nor sincere effort was exerted to collect seeds from superior or elite trees. Seed selection or seed certification is not done at all. Perhaps, we are the only country in the world today, with a forestry service of more than half a century old, which is not doing any seed selection, seed certification or tree breeding and improvement work.

Maybe, we have a good alibi for our non-attention to all these things which are basic and elementary to the science of forest genetics and tree improvement. Nature has endowed us with forests in abundance, producing tree species whose quality and growth are the temperate forester's dream. But these magnificent trees are fast disappearing and we will soon

* The author recently attended a Forest Genetics Seminar in London, England, sponsored by the British Forestry Commission.

face a timber shortage, unless drastic measures are taken to forestall such eventuality.

Our logging and lumbering industries, since about 1905 until 1953, have been characterized as highly exploitive. Until 1953 when the selective system of logging was implemented, timber mining was the style. The best and finest trees in the forests were cut. As it was in Europe and in the United States, forest exploitation aimed at cutting the highest quality trees.

While Europe and the United States have ceased to do timber mining since 30 to 40 years ago, we only started in the Philippines in 1953. The leaving of healthy residuals as potential seed trees is a good thing. But this is not good enough. We have to establish criteria or standards for a good seed tree. Trees which come up to these standards should be left uncut to constitute the mother trees of the cutover stands to regenerate the area. By doing this, we will in one way be able to obtain progenies of the best or finest tree species, thereby assuring their preservation from total extinction.

In our natural stands it is essential to good silvicultural practice that a criterion for selecting good breeding stock be started. This is vital so that we can differentiate or delineate the characters which are hereditary and which are environmental. Even after the establishment of such criterion, much work has yet to be done further to discover and isolate other valuable inherent characteristics to facilitate tree improvement work.

It may be pertinent to ask what are some of the desired characters that we should keep in mind in choosing a good seed tree. The Forestry Commission of Great Britain has listed the following:

1. Slight buttressing
2. No spiral grain
3. Rapid diameter growth
4. Circular stem

6. No epicormic sheets
6. Stem taper not excessive
7. Good natural pruning
8. Branch angle flattened

The foregoing are desired characteristics which cover all species and end uses of the trees to be raised. Minor or individual desirable characters may have to be added by the plant breeder when growing a particular species or genus for a certain specific end use—say, for furniture or pulp wood.

Deep undertones have been heard from various top echelons of the national government that our country is on the verge of a timber famine, unless drastic and stringent measures are taken to abate the fast rate of forest exploitation. These fears are not without any foundation—we have to be seriously concerned with our diminishing forest resources, because our population is rapidly increasing and the standards of living of our people are sharply rising on the waves of industrialization.

Since, the total land area of the Philippines is pretty small considering the present population, huge chunks of the nation's lands have to be withdrawn from forestry uses to grow food crops for the people. As farming and urban areas increase, there will be a corresponding decrease of forestry lands. How can our forestry lands therefore produce adequately the wood requirements, say, 25 years from now?

Extensive and intensive forest management will not be enough. We have to increase the wood production per hectare. This has to be done or else we resort to importing timber.

If we can increase the growth and quality of our commercial species by 25 to 33 per cent, this will significantly bolster our wood production per unit area. Forest genetics is the key to increasing the

growth and quality of our timber species. Investigations along forest genetics need to be started by the Bureau of Forestry. Basic researches on tree improvement need not be done, as research results along this line by forest tree breeders from the United States, Europe, Japan and other countries are at our disposal to guide us on the improvement of our forest trees. What we should start at once are applied studies, on forest genetics practices and techniques.

For example, we can start at once doing hybridization studies between trees of the same species and genus—this has already been found to be possible. By modern tree breeding standards, our splendid specimens of the genus *Shorea* and *Pentacme*, still need much to be desired. We have no reason to be complacent about this seemingly good situation.

The tendency of Molave and Narra to be short-boled has to be corrected. Perhaps planting them close will not eliminate this tendency. It may be that this tendency is an inherited character. That hybrid vigor has tremendous advantages to the tree breeder is universally recognized. Due to natural crossings, undoubtedly there are some hybrids of high qualities among the trees in our virgin forests and in forest plantation. The location and selection of these hybrids have to be done and they can be used for starting various investigations in tree improvement.

We also need to extensively work on the vegetative propagation of our commercial tree species. This is vitally important as a handy technical aid for an effective means for seed production, as well as to facilitate hybridization work. Cuttings, grafts or marcots, for example, of Narra or Molave, planted in a seed garden, can with ease be artificially pollinated due to their small size and their pollination can be much easily controlled, than when done on the tops of standing big trees.

The establishment of seed gardens shall follow on the heels of vegetative propagation studies. Vegetative sections from plus or superior tree species as well as the offsprings of selected elite trees will be grown in these seed gardens. Phenological, as well as hybridization studies are thus facilitated by the use of these vegetatively propagated plants. The paucity of our phenological knowledge of most of our trees can thus be eliminated. All the best, the finest and the most beautiful tree specimens, can thus be planted in the seed garden by vegetative propagation. By artificial pollination, new and better progenies can be produced from them, and by the same process, preserve and utilize them further for the production of still much better tree individuals.

If these three important steps can be started, we can at least be assured that we will not be so far behind world forestry during the next decade. Time is of the essence and the longer we delay, the greater the gap between good and bad forestry in the Philippines will be. The Bureau of Forestry and the College of Forestry, cannot afford to do nothing about forest genetics.

I don't believe that these two forestry agencies are not equal to the challenge of the science of forest genetics. They can do it! Watch 'em!



F A C T S

*"Old China lost her great forests.
And now uses grass for firewoods.
India too lost her forest wealth,
Using cattle dung to cook their food."*

—TOM M. BINUA



W A R N I N G

*"Filipinos of future generations will
live in deserts made by Filipinos today."* — TOM GILL

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INCORPORATED**

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Butuan City, Philippines

Wildlife Conservation in the Philippines

By VICENTE DE LA CRUZ

Director

Parks and Wildlife Office

Wildlife conservation in the Philippines today is as young as the Office responsible for bringing about its realization in the country. The Parks and Wildlife Office, thence called a Commission was created in 1953.

The wildlife conservation movement in the Philippines, however, started in the early part of the century, on February 4, 1916, when the Game Law of the Philippines was enacted. From the enactment of the Game Law, the agency responsible for the wildlife work has changed hands several times, until 1953 when the Commission on Parks and Wildlife, a specialized agency was created. This agency, as its name implies, had the sole responsibility for looking into the establishment, maintenance, improvement and development of national parks and the conservation of wildlife.

The Philippines has not as yet made great advances along the line of conservation. This mainly, has been due to the inherent difficulties encountered in the promotion and actual application of the principles of sound wildlife management. The inherent difficulties encountered are complex and should be handled with prudence, more so, when it involves practices long adapted by our people. Living in the midst of great abundance of wildlife, our people might well be expected not to realize the need for a program of conservation.

The major problem facing wildlife conservation work in the Philippines is the

shifting system of cultivation generally practiced by the people. This type of agriculture is largely responsible for the destruction of ideal wildlife habitats in the country. Under this system of farming, forest generally on steep slopes and on top of high mountains are cleared and planted to agricultural crops. After two or three years after the soil has become greatly impoverished due to denudation, the clearing is abandoned and the owner moves to another forested area and starts clearing the land, thereby reducing to waste valuable wildlife habitats, which otherwise would provide sufficient food and cover for them.

The second major problem we are facing is the lack of appreciation of the public of the importance of wildlife resource conservation. The greater part of the population is not aware of the danger in land misuse and of renewable resources destruction.

The third problem facing the work on wildlife conservation is over-hunting. There are at present about 250,000 shotgun and rifle owners on license with the Philippine Constabulary. However, as of the last fiscal year, ending June, 1961, we have only 17,081 licensed sports hunters. Almost all the 250,000 shotguns and rifle owners are prospective hunters in addition to so many of the people who still depend on wildlife for their livelihood. A rigid campaign has been initiated whereby the majority if not all of these prospective hunters may be licensed. This would invariably give us control over them.

Due to the above mentioned factors, some of our wildlife species have been greatly reduced to such a low level which unless restored in time would become extinct. For the present, however, there is no fear of great depletion or extinction facing most of our wildlife forms, except the deer, which is now extinct on two major islands showing extreme deforestation, the Tamaraw (*Bubalus mindorensis*) which is limited to the island of Mindoro and about fifty-four (54) rare and threatened species of birds.

Restoration of wildlife population levels must of necessity require first the restoration of the land to a favorable habitat.

The deer requires open grasslands for browsing with extensive patches of forest nearby for cover, preferably primary growth, well supplied with streams. There has been already considerable decrease in the total area for possible deer habitat due to the increase in the total area under cultivation. The deer population on the different major islands are clearly showing depletion.

The Tamaraw prefers tall grasses growing along rivers, on exposed river beds and in marshy areas with dense forest cover nearby. Over-hunting would be a cause for its gradual depletion, but by destroying its habitat, the Philippines will lose a scientific gem in the animal world.

The maintenance of ideal wildlife habitats has been the primary concern of the Parks and Wildlife Office. Although success along this line is still distant, much has been done to achieve this end.

The hunting of game and other beneficial animals has been controlled to some extent. All shotgun and rifle owners are required to get a hunting license. With the help of the Philippine Constabulary, local police agencies, all firearm holders, before their license to possess permits to

carry firearms are renewed, are required to get a hunting license.

Close seasons are established for all or any game bird or mammal, to cover particular portion or the entire terrestrial jurisdiction of the Philippines to extend over any single period of time of not more than five years duration for public interest. Bag limits are imposed on all game birds and mammals so as to limit their catch to a number not to exceed the regular annual reproduction following each breeding season. The imposition of bag limits are deemed important in the light of sound wildlife utilization.

The establishment of close seasons, which is the first thought of conservationist, is not adequate in all cases. It is obvious from past experience and actual happenings, that, without providing for favorable habitats, which shall be free from the encroachment of human beings, protective measures will in no way make a headstart.

Toward this end, all national parks, botanical gardens, public parks, public school sites, public playgrounds, government experiment and breeding stations, government seed farms, government stock farms, public building sites, government nurseries, communal forests, communal pastures, cemeteries and public lands and forests within a radius of one kilometer from any government rest house are declared game refuges and birds sanctuaries. Aside from these places already mentioned, the Office has set aside four (4) portions of the public domain especially as a game refuge and a bird sanctuary with an aggregate area of 58,666 hectares or 144,915 acres. It shall be unlawful for any person to hunt, take, wound or kill, or in any manner disturb or drive away from these places, any wild bird or mammal or take or destroy the nests or eggs of any bird in said places.

The setting aside of more areas for the protection of our beneficial animals will greatly enhance our program on wildlife conservation. The very purpose of conservation will not include or provide for places where any form of animal life may be left alone in their natural environments. The destruction or even the disturbance of any habitat of any specific animal form will drive them away, if not totally exterminate them. The object would be to provide, if the conservation of existing areas could not be done, ideal habitats and feeding ranges which will enable animals to restore themselves.

Along this line, the Parks and Wildlife Office is meeting up with insurmountable barriers, due to the administrations policy of "giving land to the landless". Renewable resources, like water, soil, forests and grasslands, must of necessity be conserved to be able to protect our wildlife. Animal life is dependent on so many factors to be able to survive and so with other organisms which are dependent on them in return. The conservation of these necessary factors must always be borne in mind if we are to preserve our wildlife.

The Parks and Wildlife Office struggling to find its way to properly conserve the wildlife resources of the Philippines has adapted a program of research to be able to effectively pursue its management programs.

The management of wildlife and the implementation of the policy of sustained yield and optimum ecological balance will require technical operations and studies.

Toward this end, the Office has planned out a program of study designed to meet the increasing needs for research information and management planning facing the Office throughout the country. The major consideration under this program is the necessity for a sustained research effort for at least twenty (20) years.

There is now in progress a faunal and floral survey of national parks being undertaken by the Parks and Wildlife Officers assigned in these different reserves. The Office believes that to be able to properly program its efforts in research and management, it must first be able to find out what we have and how much we have to manage and conserve.

There has been preliminary surveys which were undertaken to establish study areas for some species of wildlife requiring immediate study.

Study areas have to be established to bring about a program designed to meet the requirements of a normal habitat wherein particular species of animals may be studied in their natural state.

The wildlife work in the Philippines still in its infancy would require much research to be done for the foreseeable future. This presents a situation where staffs and funds will for some years yet, fall short of the need. It is of course a situation normal to a new field of endeavor, nonetheless shortages of staff to meet the increasing work load will contribute to be a serious problem. More serious however is the present shortage of adequately trained biologists to fill in even those positions obtained through modest annual growth. One of our problems is to be able to develop more interest in wildlife work as a career. To do this we are trying to make the public aware of the steady growth in the wildlife field.

Most of us know that good management programs cannot be pursued effectively without public support, and this would lead us to the basic problem in conservation work—public education for wildlife resource conservation. Public education and information is one avenue in our conservation program we are opening up. As Dr. Walter P. Taylor said at the Seventeenth North American Wildlife Con-

ference, on "Effective Public Relations", effective and helpful public relations require telling the people what is going on in such a way that they will aggressively support action for the greatest good of the largest number of people over the longest time.

The Parks and Wildlife Office produces and distributes to the public several types of leaflets, posters and pamphlets which provide information on phases of wildlife conservation.

The wildlife conservation work in the Philippines is greatly benefiting from the cooperation and assistance given by the Sportsmen's Association. We have been working in close co-ordination with these organizations on the educational campaign, to bring closer to the people the program on wildlife conservation.

Public interest and understanding can be encouraged through adequate publication of reports in layman's language and through public relations media, though probably the greatest hope is through the work of private information media.

The wildlife conservation work in the Philippines is moving slowly forward to do its share in the overall conservation picture in the country. Through every way possible and employing accepted methods and techniques we aim to make everybody aware of resource conservation not only of its meaning but also of their duty to assure that our standard of living is not degraded by the continued misuse of our renewable resources. This will ensure that the aesthetic and other greater values of our heritage may be preserved intact for posterity.

GREETINGS:

**BADING TIMBER
CORPORATION**

DAZA TIMBER COMPANY

LUNA TIMBER COMPANY. INC.

Producers * Exporters * Importers
Philippine Lauan & Apitong Logs

Concession Areas:

Jabonga, Agusan
San Salvador, Bahbah, Prosperidad, Agusan
Esperanza, Agusan
Manila Office:
402 Alliance Bldg.
Rosario St., Manila

Butuan Office:

New Narra Hotel
Butuan City, Philippines

GREETINGS:

**ORDOÑA LOGGING
OPERATION**

Timber Producer & Exporter

ALEJANDRO ORDOÑA

Licensee

New Development's in Forestry

BY FRANCISCO N. TAMOLANG

ABSTRACT

Latest developments in forestry under consideration may be presented in three broad categories, namely: (1) technical forestry concepts, (2) improved methods and techniques, and (3) research and developmental work. Five forestry concepts, multiple-use forestry, ecosystem in forestry, modernizing forest policy, integrated wood industries, and wood-quality control in the forest, are briefly discussed.

In the second category, progress in logging, in management and silviculture, and in forest protection, underscore the improved methods and techniques in forestry. Highlights of modern logging include the introduction of whole-tree logging and the uses of portable chain saws, thin grapples, radio-controlled skidder and loader, and the helicopter.

In forest management and silviculture, electronic machines, such as the IBM 650 computer, are replacing the old time-consuming methods of computing and analyzing data on growth and stand volumes. Low-level stereo-photography, with the aid of taperecorders, is being perfected to measure tree heights, crown area, tree counts, and species. Largescale establishment of plantations is accelerated with mass seeding of logged-over and open areas,

using helicopters at amazing speeds and reduced costs. Attempts to tend plantations with fertilizers and by lethal spraying with chemicals is quite promising.

Forest protection against the onslaught of fire demands improved and effective techniques. Through fire research, forest fire occurrence is quickly detected by circling radar, and its suppression accomplished by using fire retardants and the effective skill of well-trained smoke-jumpers ferried quickly to the combat area by helicopters.

Advances in research and developmental work are along forest research and forest products research. Significant aspects, indicated in this paper, are those in forest genetics and tree improvement, quality control of plywood and structural materials by nondestructive tests, discovery of growth rings in tropical hardwoods, electronmicroscopy in forestry, the utilization of wood and wood residues, an ingenious "nuclear tie tester", proteins from forest waste products, and the application of radioactivity to the paper industry.

INTRODUCTION

The use of the word "new" is quite relative especially in this Space Age. So, those who are abreast with this new era should not be surprised to find that, in this paper, some of the things presented as new may be otherwise to them. However, there are recent findings about them which will qualify them as new.

The proceedings of the Fifth World Forestry Congress, TAPPI Forest Biology Conference, Tenth Pacific Science Con-

¹ Paper presented at the General Annual Meeting of the Society of Filipino Foresters, April 13, 1962.

² Chief, Wood Technology Division, Forest Products Research Institute, University of the Philippines.

gress, other forestry conferences and several reliable reports support the current belief that new forestry developments have lengthened metaphorically Paul Bunyan's legendary 15-foot strides which are clearly marked by his 2-foot footprints at the University of Washington Park. What are these new developments in forestry? A partial answer to this question may be presented in three broad categories, namely: (1) technical forestry concepts, (2) improved methods and techniques, and (3) research and developmental work.

1. TECHNICAL FORESTRY CONCEPTS

Technical forestry concepts have influenced the practice of forestry. One of them is sustained yield, an old concept which molded the well-known German forestry long ago. But there are others, particularly the more recent ones which have contributed to the rapid development of forestry today. A brief but adequate discussion of each follows:

1.1 Multiple-use forestry

A significant concept of worldwide application, which was symbolized by the official emblem of the Fifth World Forestry Congress, is "multiple use of forest land." By this concept, forest and related areas are managed in a manner to conserve the basic land resources and at the same time to produce and blend harmoniously high-level sustained yield of water, timber, recreation, forage, and wildlife for the use and benefit of the greatest number of people. On June 12, 1960, an Act of the United States Congress fully recognized this principle which directed, through a bold conservation program, that all renewable federal national forests should be placed under sustained-yield management and multiple use for the benefit of every American.

Now a worldwide concern, multiple-use forest management is a challenge to for-

esters to broaden their outlook as forest land managers instead of primarily timber growers. It inspires them to make forest lands contribute their utmost to society because the "basic purpose of forest conservation is a social one—to satisfy the intangible as well as the materialistic needs of people."

However, it must be understood that multiple use is not a "cure all" to forest management problems. In most cases, one use must be dominant over other uses which are permissible if they are not detrimental to the predominant one.

1.2 Ecosystem in forestry

In forest production, a complex of interdependent processes operates within an assemblage of living forest organisms and their non-living environment such as soil and climate features of specific portions of the earth's surface. This assemblage is known as *forest productivity system*.

The Society of American Foresters refers to forest productivity system simply as *site* which is "the combination of the biotic, climatic, and soil conditions of an area considered with reference to its capacity to produce forests or other vegetation." But, according to Plant Sociology, site refers only to the physiographic or land features. On this basis, the first definition is now recognized to refer logically to *ecosystem* which consists of: (a) a *forest type* composed of the forests and other plants only, and (b) a *physiography type* composed of physiographic features, including geological materials, ground water, and local atmosphere.

The ecosystem concept plays an important role in forest management. Its various features may be manipulated to fully realize the potential of each forest area within the limits imposed by economic and social conditions. In other words, forest management concerns itself not only with the "interrelationships between forest and

its environment during the existing production period but also whether such relationships represent the full capacity of the area to produce forests and, if not, how can production be increased economically." Since changes in any one feature of an ecosystem result in changes in other features, the trends in the effect of these changes on forest production can be predicted only through a knowledge of the dynamics of that ecosystem. Such understanding will also refine classification and assist in the definition of types which are of maximum use for forestry.

To my mind, the ecosystem is a sequel to multiple-use forestry because it produces the type of forest upon which the latter has to be applied. As a forest manager, the forester has to depend upon and use the ecosystem to advantage to attain his goals in multiple-use forestry.

1.3 Modernizing forest policy

A typical example of this concept is Sweden's general forest policy which was revised in 1949 based on current conditions and recent developments. As a background, Sweden is a small country with vast forests, covering 54 percent of the entire land-area and 17 percent of Europe's total forested area. Of these, 25 percent belongs to the government, 25 percent to its companies, and 50 percent to private owners. About 70 percent of its timber products are exported and 30 percent are consumed locally. It is obvious, therefore, that the forests are giving much benefit to the country, and the country in return should reciprocate. Consequently, the State has to lay down certain principles for a national forest policy and to fix minimum standards even for private forestry. In this way, it can direct private forestry without restricting too much the freedom of action of forest owners.

Sweden's general forest policy is based on the principle of sustained yield. The Forest Conservation Law (second revision

since 1903) declares that "Forest land together with the forest growing thereon, should be managed in such a way as to further a suitable use of the timber-producing capacity of the soil and thus ensure a satisfactory economic profit and, as far as possible an even yield." A forest (stand) which is potentially developable (as a rule rather young) or vigorous must not be cut except by thinning with a view to promote its proper development. In a non-vigorous forest, cutting should not be undertaken in such a way as to prejudice unduly the attainment of sustained yield. *Reforestation is compulsory after cutting as soon as the remaining stand is considered unsatisfactory based on the results of forest-productivity research.*

1.4 Integrated wood industries

An integrated industry represents a combination of several manufacturing plants so organized as to utilize the available timber resources as completely and as efficiently as possible. This pattern has been successful in the more advanced countries like the United States, Finland and others. The best example of integrated wood industry in the United States is the Weyerhaeuser Company which utilizes almost all the parts of a tree, including sawdust, for a variety of products such as lumber, dimensional stock, veneer and plywood, wallboards, pulp and paper, particleboard, vanilla, etc.

In Finland, the oldest and biggest forest industry companies are case histories of integration for the last 60-70 years along three main lines of integration. Firstly, the origin is the sawmill to which later is added a pulp mill (using sawmill waste and wood which is too small-sized for sawmilling) plus a paper mill and so on. On the "mechanical" line the course is: sawmill, planing plant, joinery and prefabricated house factory, box factory and wood-flour mill. Secondly, the origin is the groundwood or pulp mill to which later

is added a paper or board mill, plus a converting mill of chemical by-products. Thirdly, the origin is the spool or/and plywood factories, then to the building board-line.

For the small companies, two forms of integration are manifested. Firstly, the general country-wide cooperation between sawmilling and the chemical pulping industry is shown by the efforts of many relatively small sawmills in barking the logs before sawing, chipping the waste and selling this product as cooking chips to some pulp mills. Secondly, small companies exchange wood right in the forest or in floating channels depending upon their respective surpluses or need of certain species. They utilize waste as fuel which can supply 60 percent of the energy needed by the industry.

Accordingly, with integrated industry, the entire range of species can be utilized, making silviculture management possible. An integrated industry can stand economical setbacks and market slumps much better than a one-purpose industry.

1.5 Wood-quality concept

Normally, foresters speak of high-quality timber in terms of stands rather than individual trees. Their evaluation always includes, and is frequently dominated by consideration of such strictly silvicultural criteria as stocking, species composition, stand structure, regeneration, status of management, and other factors that are more concerned with biological potential, largely in terms of volume per acre, than with wood quality or current conversion values. But an adequate concept of wood quality considers basically the relationship between the physical, chemical, and other characteristics possessed by a tree or a part of a tree and the other properties required or desired for the end products of wood. Therefore, quality is the resultant of these factors and is manifested by reliable indicators such as density or spe-

cific gravity, fine structure, chemical composition, sapwood thickness, non-uniform growth, growth rate, reaction wood (compression and tension), and compression failures which are good indicators of brash center.

Unlike the uncontrollable weather, the wood-quality factors aforementioned can be modified, controlled, or reduced to a considerable extent through culture and by selection and breeding. This emphasizes that wood quality control should start in the woods and not at the sawmill, furniture factory, or pulp mill. Australia, Germany, Japan, the Scandinavian countries, England, and the United States have been practicing wood-quality control extensively in their forests.

Recently, the United States has developed efficient methods and equipment for determining the intrinsic quality of wood in living trees from increment core samples to the pith. These are obtained from trees sampled from a nationwide system of sample plots, randomly located or mechanically placed at the intersection of grids spaced 2 to 4 miles apart. The cores are determined for age, specific gravity, percentage of summerwood, growth rate, fibril angle, and the like, and thereafter are subjected to chemical analysis and micro-machining tests. For the first time in its history, the United States was able to obtain wood samples, of an entire tree species population over a State, groups of States, or the natural range of the species, that scored fruitful results. For example, a longleaf pine tree was found with a much higher specific gravity (0.75 at d.b.h.) than any previously recorded. This tree has above average growth rate, acceptable form, branching and other important characteristics but had a dry mass of 607 pounds in 34 years which is double the average weight of the trees of the same age, and almost equal to that of average trees twice its age. Such wood-quality information makes

possible to present timber resource data in terms of tons (dry weight) and of merchantable material available for the production of pulp, lumber, high-strength piling, etc., classified by species, size class, and on a unit area basis.

To my mind, this new development in forestry needs a push in Philippine forestry. The Forest Products Research Institute has, since 1958, an approved project under Act 480 of the United States on "A survey of the specific gravity of Philippine commercial trees throughout the country" but up to now no funds have as yet been released. The three years that elapsed certainly meant an unfortunate delay. Should this project be realized it would enable us to obtain some valuable information about the wood quality of our commercial tree species which would be helpful to the wood-using industries.

2. IMPROVED METHODS AND TECHNIQUES

2.1 Progress in logging

The field trip to the forests of the Simpson Timber Co. at the Olympus mountains and the exhibits on logging and sawmilling machinery at the Fifth World Forestry Congress showed that logging and sawmilling 25 years ago are practically obsolete. The two-man fallers using the ax and the 7½-foot cross-cut saw are rapidly being replaced by the more efficient gasoline-powered 35-lbs. portable power chain saws which can rip 50-inch trees in 25 minutes and top spar trees in 2 minutes. Also, the slow railroad logging is almost extinct and in its place the endless bulldozed logging roads through rough terrain have been bolstering logging activities. Huge diesel trucks crawl steadily fast through these roads to the landings, "boom-loaded with logs at the flip of a switch, and then highball down the mountains with towering 35-top cargoes."

The logging industry has been going through a variety of changes in equipment and methods which have hardly been considered seriously a few years ago. Most interesting single pieces of equipment are the Bombardier HDW Muskreg which skids whole tree-length logs, and the Bombardier Processing Unit which consists of a limbing tool, cable conveyor, slasher and slash disposal unit. This machine receives whole trees which emerge unto trunk pallets as 4-foot bolts. Other machines such as portable bark and chipping machines travel into the woods and convert the limbs into chips.

Equipment for loading logs and wood have also undergone major developments. Tongs and dogs in handling logs with boom cranes are also being replaced by modern thin grapples which do less damage to the products handled, and dispense with the man on the ground and also the one on the truck. The ultimate outcome is the insistence of some large plywood concerns that only grapples be used on high-grade peeler logs logged or purchased by them.

The most recent one is a radio-controlled skidder and loader mounted on a truck chassis. Behind the cab is a winch with cable running up a mast and out to the tip of a swinging boom. Also mounted in the cab is a radio receiver tuned to the Citizen's band which operates the winch controls. After the operator has set the winch free spooling and hauled the log tongs transmitter on his back, he attaches the tongs to a log which may be as much as 300 feet away, punches a control button at his belt to start the winch reeling the log, and walks along behind. Whenever the log hangs up behind a root or stump, he punches again on the control button to stop the winch, rolls free the log, and starts the reeling operation up again. This same unit is used in loading the assembled logs on the same or another truck.

For unusual situation, the "Pugh Ridge Skyline" and the "Mobile Spar" have been developed. The Pugh ridge skyline is a gravity cable system which uses a radio-controlled diesel-powered skyline carriage. Presently, it is being used on a Forest Service timber sale in steep country with unstable soil conditions. On the other hand, the mobile spar tree consists of a tubular steel spar (in 3 sizes: 60-ft. spar using $\frac{3}{4}$ " main line, 90-ft. spar using 1" main line, and 90-ft. spar using $1\frac{1}{4}$ " main line), which can be either track or truck mounted. It is claimed that the spar can be lowered in 10 minutes, moved and raised again, rigged and ready for yarding in two hours or less, exclusive of travel time. Specifically, the 60-ft. spar is designed for prelogging and salvage logging while the heavy duty type is designed for handling the heaviest timber in rugged terrain.

But the latest talk of revolutionary logging is "helicopter logging" which seems to be simply the skyhooking of timber right out of the forest and the yarding of the same straight to the mills. This logging system has transformed the old-time "eat-a-man-before-breakfast" logger into a skilled machine worker who earns the highest industrial wage per hour, plus other benefits. Found fit for this use is the Vertol 107 Twin-turbine utility helicopter that hovers with unexcelled steadiness and precision for hookup, carries $5\frac{1}{2}$ -ton logs outbound at 127 m.p.h. and returns empty at 138 m.p.h., shuttles back and forth regardless of terrain in 13 trips per flight hour over a $2\frac{1}{2}$ -mile distance, and moves a total of 60 tons of logs (18,000 bd. ft.). It is said that it can get timber out of swamps, steep hillsides, canyons, or any place where the going is tough or otherwise economically feasible.

Besides logging, the helicopter is most valuable in making preliminary surveys for logging and once the preliminary road layout is determined, ground surveys then require a minimum of time for relocation

and adjustment. However, the radio-equipped helicopter, as a vehicle of a supervisor who may have two or more jobs widely separated without cross country roads, assures efficient supervision on both jobs with a very minimum of time and effort. Also, it is used to expedite the movement of parts or repairmen to disabled machines in remote areas and to bring injured or ill men from the remote areas to hospitals for medical attention at a very minimum of time.

2.2 Progress in management and silviculture

2.2.1 *Forest inventory.*—I hesitate to mention here aerial survey and photogrammetry because this aspect of modern inventory is right now with us in the Philippines. However, I shall present only a few phases about it to refresh your minds, as follows:

(a) Colored aerial photographs have added usefulness in photogrammetry in certain purposes where ordinary black and white prints seem inefficient.

(b) There is a future aspect of taking photographs from below, i.e., from the base to the crown or canopy of standing trees, to measure accurately tree heights.

(c) Speculation has been directed to the use of photographs taken by satellites for the evaluation of total forest stands in a country and for developmental programs in watershed and large-scale engineering work.

(d) A low-level helicopter stereo-photography has been developed in British Columbia to measure tree heights, crown area, tree counts, and species as an aid in both forest classification and volume sampling. Efficient recording of observations, as in tree counts, can be done by taperecording. The promising accuracy of this technique has indicated that at 250 feet altitude, the estimate obtained has an error of ± 3 percent.

2.2.2 *Forest growth*.—As to the basic aspects of forest growth and their application to forest management, the old time-consuming methods of computing and analyzing data on growth and stand volumes of trees are being replaced by the latest method of feeding these data to electronic machines such as the IBM 650 computer. Filipino foresters therefore, will in due time be relieved of their backaches and sleepless nights, and find to their contentment that the results of their “midnight” computations and analysis can be applied easier to an up-to-date forest management schemes than in the past.

2.2.3 *Forest plantations*.—First, I shall single out the forestry program of Hawaii which dates back 50 years ago in 1905 when the keynote was water protection. Foreign species have been introduced and planted in “proving areas” one to two acres per plantation which are a few miles apart in strategic areas of Hawaii island. The purpose is to determine the best tree or strains to plant, and where and how they should be planted. Recently, the foresters of Hawaii were able to know the species needed by them in their 5-year reforestation program from 1961 to 1966. The goal is success through “farsighted leadership teamed with forest research”. This 5-year program is a cooperative effort of the government, private entities, and civic-spirited citizens.

Second, I shall mention the big push in the establishment of plantations. About ten years ago, large-scale tree planting in the southern states of the United States was done with mechanized planting machines. With the present forestry era, mass seeding of logged-over and open areas is accomplished by helicopters to the amazing speed of four acres per minute and “about one third of the customary \$25 to 330 per-acre expense for hand planting.” The seeds are previously coated with Endrin (insecticide) and Arasan (fungicide), and disguised with aluminum dip to pre-

vent them from being eaten by destructive rodents and birds prior to seeding. “Helicopter seeding is coming into full swing today from the Pacific to the Gulf of Mexico. It is particularly suited to the reforestation of newly logged or fire-ravaged cut-over country.”

Third, the attempt to fertilize forest plantations is gaining ground. Australia and New Zealand have been fertilizing their *Radiata* pine plantations in areas deficient in zinc, phosphorous and boron. In the United States, this scheme is being carried out in Douglas fir plantations of the Simpson Timber Company. Recent developments indicate that fertilizers are being tailor-made in the form of tiny pellets to reduce cost and weight and to facilitate their application. Of interest as well is the Weyerhaeuser Company at Centralia, Washington of mapping the spread of the root system of standing trees by means of radio tracers prior to fertilizer application. In another instance, radio tracers have proven the relatively greater efficiency of applying fertilizers in liquid form than the old method of fertilizing the roots. Test with P 32 tracer has shown that fertilization by the foliar method (efficiency 95 percent) is better than by root feeding (efficiency 10 percent). The root feeding method invigorates the growth of unwanted ground flora in the plantation, whereas the foliar method does not and therefore, is more economical. This method is best applicable to young plants or young trees only.

Fourth, in the culture of plantations, chemical warfare is being waged against brush or weeds. In the United States, young Douglas fir growth which are often choked by fast-growing alder and maple, are given, by means of helicopters, lethal spraying with chemicals 2,4-D and 2,4-5 T without harm to the fir. This is particularly successful on most cut-over or burnt forest areas, and is effective in tending the forests towards higher timber yield.

2.3 Progress in forest protection

Fire protection of forests has become a worldwide concern particularly in the coniferous regions and eucalyptus hardwood forests. The system involves combating forest fires, with the aid of research, as to their prevention, discovery and liquidation. Most of the advances, so far attained, are in fire suppression such as aerial dispersal of retardant and, smoke-jumping which is the present day ultimate in flexibility, mobility, and adaptability to the needs of the circumstances. The retardant is sodium calcium borate, in bomb containers or by cascading aerial tankers, which is dropped directly on going-on fires or on adjoining areas as fire-brakes. In smoke-jumping, "shock troops" of well-trained firefighters parachute down the vicinity of going-on fires and suppress them with utmost efficiency.

But the most valuable tool for fire-control work these days is the helicopter. If properly used, it is, in the majority of cases, more economical and efficient than other methods of transportation. The helicopter can ferry men and supplies to the fire quickly while it is small. This results in savings of resources and suppression costs and makes manpower available sooner for other fires. It allows men to arrive on a fire in better physical condition, increases their safety, and conserves their energy for a more useful purpose which is firefighting rather than hiking.

The most recent developments in fire control are in forest fire research. The circling radar is useful to detect, track and assist in the analysis of lightning storms over a 250-mile radius. Time-lapse photography is used to determine the location and growth of cumulus clouds. A system of synchronized electric field meters is employed to measure the vertical component of the earth's electrical field.

Recently, model laws for fire behavior were studied in the laboratory. The ef-

density, moisture content, size of fuel particle, spacing, dimensions of fuel beds, wind, and slope on the rate of spread of fire and the partition of energy, is examined from a steady-state fire model which involves diagnostic and functional models. The ultimate principle involved is radiation and the objectives are how close can firefighters get to the fire and how fast can the fire be transmitted to adjoining forests.

Speculations run high on experiments to determine if cloud seeding with silver iodide has any effect on lightning in storms. If successful, it would be possible to specify the smallest cloud that will produce lightning and apply the necessary effective measures to prevent its occurrence.

And in this Space Age, a new horizon of fire-protection has been discussed at the Tenth Pacific Science Congress by meteorologists on the probable use of satellites in weather forecast evaluation.

3. RESEARCH AND DEVELOPMENTAL WORK

3.1 Forest research

The major achievements of forest research are in genetics and tree improvement. Since the inception of genetics in forestry, there are no less than 200 possible F_1 hybrids of pines produced through hybridization in the United States. In Korea, the hybridization of pitch pine (*Pinus rigida*) with *P. taeda* which involves about 30,000 pollination cases is a milestone in seed production. This shows that large scale-controlled pollination is a short cut to the mass production of hybrid seed for reforestation until the hybrid-seed orchards of parental species come into production.

In many countries, present trends are directed towards the establishment and maintenance of seed orchards. "A seed orchard is a plantation of genetically superior

trees, isolated to reduce pollination from genetically inferior outside sources and intensively managed to produce frequent, abundant, easily harvested seed crops. It is established by setting out clones (as grafts or cuttings) or seedling progeny of trees selected for desired characteristics." Australia, for example, has excellent seed tree orchards of *Radiata* pine and favored *Eucalyptus* species. Near Nisqually, Washington, seed orchards of Douglas fir are expected to produce seeds in ten years.

Much attention is also being given to "tailor-made" trees for pulp and paper-making. The United States, Canada, the Scandinavian countries, Australia, New Zealand, and England are pooling their scientific knowledge and techniques towards, the production of long-fibered species with medium density and high cellulose content.

And the greatest achievement, so far in genetics, is the production of a centreploid which flowered in Korea. This is the first success ever attained in the whole world.

3.2 Forest products research

New developments in forest products are multifarious that it is not possible to present most of them in this paper. Only a few exciting ones are to be mentioned, as follows:

(a) Quality control of plywood and other structural materials by vibrational techniques using either electronic or ultrasonic devices.

(b) Biosynthesis of lignin in living trees by using a virus to produce trees that will be suitable for groundwood pulping.

(c) The presence of growth rings in tropical hardwoods is a new discovery. Growth rings are found in 25 percent of Indian hardwoods. This makes it easier to determine the age of hardwoods which is essential in forest management.

(d) The development of fiberboard and particleboard is becoming more significant in the utilization of wood and wood residues.

(e) Electronmicroscopy is the "radar for the unknown" in forestry. It has demonstrated its usefulness in the location of preservatives in wood, in the unravelling of micellar structure and orientation of fibers, in solving the mysteries of reaction wood, and in the colloidal structure of adhesives.

(f) Increased permeability resulting from bacterial or fungal attack has become of practical importance. It has been proven that floating or ponding of logs may greatly increase the sapwood permeability of some softwoods. Also, the effect of blue stain fungi on permeability is now generally accepted as favoring liquid penetration. Some evidence presented indicates that better penetration in blue stained wood is dependent on moisture content which should be preferably not to exceed about 20 percent. This is a "food for thought" in the preservative treatment of wood.

(g) An ingenious "nuclear tie tester" has been developed by the New York Central Railroad. This instrument permits the discontinuance of the visual and mechanical sounding of ties in tract to determine their condition (a method which was often erroneous). The instrument uses "back-scattering" of low-level gamma rays, which are not dangerous to personnel, or passers-by, to determine positively which tie should be discarded. In this backscattering technique, gamma rays from radioactive source are reflected from the interior of an object back to a radiation-counting device. In the case of railroad ties, a sound (or dense) tie reflects more gamma rays than a tie whose interior is porous or rotten. The key to its success is the selection of Cesium 137 whose gamma rays are comparatively weak and do not penetrate to

the track bed as do rays emitted by Cobalt 60.

(h) Forest waste products can be a source of proteins for the millions of hungry people of the world. The waste products of *Ponderosa* pine, made of hexose and pentose, are hydrolyzed by acids, resulting in reducing sugars. By fermenting them with the yeast *Torula utilis*, rich in proteins, the problem of mass feeding could be solved. A hundred million tons of waste products would produce 250 million tons of yeast, the equivalent of 125 million tons of protein. Germany, United States, and Switzerland have industrial plants in operation. Mexico expects to follow suit to utilize annually its 6 million cubic meters of sawn resinous woods.

(i) Application of radioactivity to the paper industry is gaining importance. Tracer applications are already possible in: (1) liquor flow digesters, (2) wood chip movements in digesters, (3) pulp and waterflow balances, (4) flow of fibers, (5) residence in bleaching on cellulose, (6) reactivity of hydroxyl hydrogens on cellulose, (7) removal of lignin in wood in

sulfite cooking procedures, (8) distribution of resin in paper, (9) coating penetration studies, (10) water flow, and (11) measurement of liquids and gases per billion range by reacting them with a radioactive material.

4. SIGNS OF PROGRESS

Progress in forestry is evident in the new developments presented in this paper. It is an international process and no nation can stand alone in scientific and professional advances because the knowledge gained by others is the springboard for newer and better advances. Some of these advances, tempered with resourcefulness and the right perspective, will find sharper edges in the progress of forestry in the Philippines. Our country stands now at a new frontier of modernizing and rehabilitating its forests and forestry practices, with expectant responsibilities weighing down heavily on our shoulders. We cannot be complacent to this challenge but face it squarely and move forward. As the Italian patriot Mazzini once said, "Slumber not in the tents of your fathers! The world is advancing. Advance with it."

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The Fork Dendrometer

JOHN C. SAMMI

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The Fork Dendrometer is an instrument developed to obtain the base cruising tree diameter at a point above the ground, inaccessible to measurement with a diameter tape or calipers, because of buttresses, swell butts or trees with large flanged bases. It is not, in its present form, capable of measuring diameters at any point on the bole of a tree, that cannot be reached with the pole which is used in the operation of the instrument.

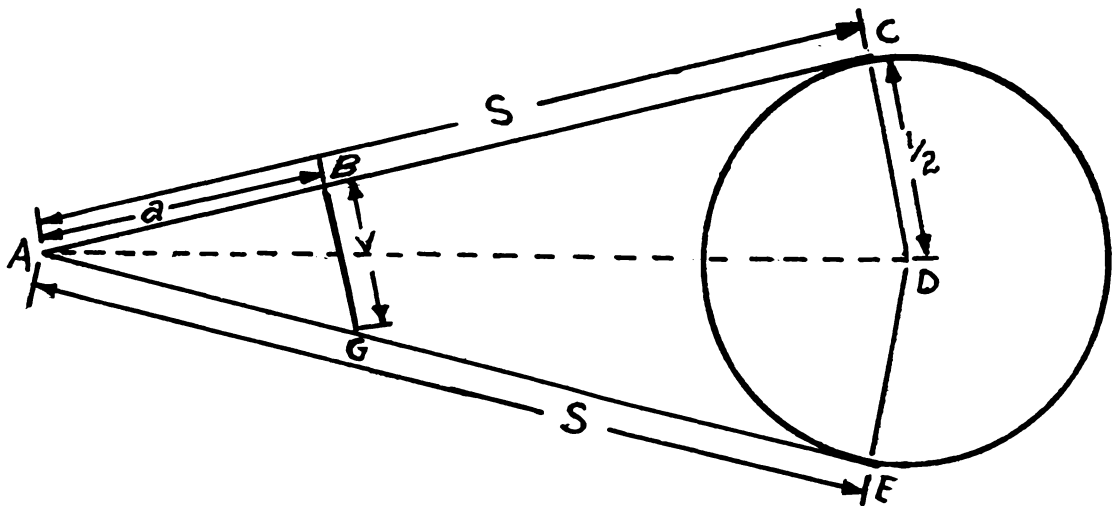
The instrument consists of two pieces of wood or other material (plexi glass has been found to be very convenient) about 55 cm. long, 6 mm. thick and 4.5 cm. wide, pivoted with a brass wing bolt at one end. It is desirable to bevel the right hand stick away from the observer on the left side of the stick and bevel the left hand stick toward the observer on the right hand side of the stick. These are the two edges of the sticks between which the bole of the tree will appear and between which the measurement for diameter will be made. The use of the wing nut mentioned above is to enable the cruiser to fold the two sticks together and carry them thus when not in use. When the sticks are so folded together the two flat unbeveled sides will be face to face. The graduations for the tree diameters are etched on the bevel of the right hand stick.

The instrument is used by holding it at a given distance from the point on the

right side of the tree where the tree diameter is desired. It is held with the point of the V down so that the flare of the V and the natural taper of the tree will be in opposite directions and therefore make the least acute intersection. For the conditions existing in the Philippines the distance from the eye that is used is 0.5 meter and the length of the (bamboo) pole which is held on a sloping distance from the eye to the point of measurement on the right side of the tree is 3 m. The 0.5 m. distance from the eye is obtained by threading a string thru a hole in the left hand stick and knotting the string at 0.5 m. This knot is held by the cruiser's teeth. In use the plane of the dendrometer sticks should be at right angles to the sloping (bamboo) stick. The angle used between the two sticks of the fork has been 35 degrees.

The cruiser uses the dendrometer by opening it to a mark made on each of the pivoted sticks that assures a 35-degree angle. The string is held between the teeth; the distance from eye to diameter point on the right side of the tree is measured with the pole, the left stick of the dendrometer is aligned with the left side of the tree and the graduation on the right stick of the dendrometer read at the sighted point of intersection of tree and fork dendrometer giving the tree diameter at that point in centimeters.

The mathematical development of the graduations is as follows:



S = slope distance to tree = 3.0 meters

a = slope distance to eye = 0.5 meter

V = distance across fork at right angles to side of fork which is held parallel to left side of tree

BG = distance across fork for d

d = diameter of tree

Angle BAG = Angle of fork dendrometer = 35°

$\tan CAD = CD/AC$

$\tan 2 CAD = BG/AB$ and $BG = (AB) \tan 2(CAD)$

$$BG = \frac{2 \tan CAD}{1 - \tan^2 CAD} (AB) = V$$

$$\tan CAD = \frac{d/2}{S}$$

$$V = \frac{[(2) (d/2) (a)]/S}{1 - \frac{d/2^2}{S}} = \frac{4Sad}{4(S)^2 - d^2}$$

$$V = \frac{6d}{36 - d^2} \text{ using the values given above.}$$

For 35° , the graduation from the apex of the fork (not the pivot) are found as follows:

$BAG = 35^\circ$

$\sin 35^\circ = V/\times$

$\times = V/\sin 35^\circ$ where: \times is the distance from apex of fork.

Photo Interpretation Aids Developed

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The universal use of aerial photographs has stimulated the development of various devices for extracting information from photographs and thereby making maps out of them. However, a number of these instruments developed have not proved of use to the forester for a good many reasons, in spite of his generally accepted use of photographs:

- (1) They are expensive that their use would not prove economical for the general purpose of the average forester.
- (2) Their accuracy is very much above those required for forestry purposes and their operation, time consuming.
- (3) They are not very handy when used in the field.

In order to fill the need of the forest photo interpreter in his demand to use more handy and more convenient tools in his work of photo interpretation whether in the office or in the field, we in the U.P. College of Forestry felt that some instruments be developed at minimum cost to the users. Thus the development of the following simple tools, all in the metric system and available at Carmelo and Bauermann, Inc. in Manila at ₱3.00 each:

Parallax Wedge:

The parallax wedge is an instrument which has been developed to get heights of trees directly from measurements made

in aerial photographs. This one developed at the College of Forestry is not a new thing by any means. Several versions have been developed of this type before but not one has been available in the metric system in this country.

This instrument is basically a micrometer wedge consisting of two converging lines and printed photographically on a transparent film base. The line separation at the top is 50 millimeters and at the base is 65 millimeters. Intervening distances can be read to the nearest .05 millimeters. It is printed on a film sheet 9 x 16 centimeters in size.

The instrument is used with a stereoscopic pair of photograph which are taped down at the desired separation. The wedge is placed so that the converging lines touch conjugate images on the stereo-pair. As it will be viewed stereoscopically against the photographic stereo-pair, a portion of the converging lines will appear to fuse into a single slanting line. The part of the converging lines that fuse is the one used as a means of measuring heights. The part of the fused line that appears to be at about the same level as the top of the image is the top reading and the part of the fused line that appears closest to the base of the object is the base reading. The difference between the two readings is called the parallax difference. From this can be computed the height of the object:

$$T = \frac{dP \times (H-h)}{Pt}$$

Where T = the height of the object in meters
 dP = parallax difference in millimeters
 H-h = flying height above the base of the object
 in meters
 Pt = Absolute parallax at the top of the object
 or absolute parallax at the base of ob-
 ject plus dP in millimeters.

Aerial Scale and Protractor:

The instrument that we have developed in the College is, as the name implies, composed of two basic and useful instruments to the field worker in locating points on the ground using aerial photographs. The two tools are printed together on a transparent film sheet 8 x 22 centimeters in size.

The metric scale is nothing more than an ordinary linear scale graduated to the nearest half of a centimeter. An extra centimeter before the zero mark is graduated to the nearest half of a millimeter to simplify the reading of decimals of centimeters.

To get the ground distance from measurements made on the photo, multiply the denominator of the scale and the distance measured off the photo.

The aerial photo protractor is designed to read azimuths on a contact print. This circular protractor is graduated into 360 degrees to read to the nearest degree. It is small enough such that readings of azimuths for lines can be made under one lens of a pocket stereoscope.

The readings of directions of lines on a fairly level ground as imaged on a vertical aerial photograph is going to be found well within the accuracy even for compass survey on the ground. Even on mountainous areas, measurements subject to error of displacements are made usable if the base line selected is fairly level and preferably located around the area of the center of the aerial photo.

Micrometer Wedge Scale:

The micrometer wedge scale is basically designed for measuring short distances on photographs, and for this purpose is used in measuring tree crown diameters and shadow lengths. It consists of two converging lines such that from the point where it converges to the point of the widest separation of one centimeter the length is 20 centimeters. It is graduated to read to the nearest .0025 cm.

In use the instrument is moved over the image of the object, whose diameter you desire to measure, until the opposite points of the converging lines just touch the opposite points of the diameters of the image. At that point the graduation indicates the diameter of the image. To obtain the actual ground dimension of the crown measurement, multiply this same measured value with the denominator of the scale of the photograph at that point.

There are several versions of this type of wedge scale. A number has been developed before which gives the actual ground dimension of the crown for certain scale of aerial photographs. Another variation is the dot wedge scale which is a series of dots of graduated sizes reading differences in dimension up to .0025 inches, or some other graduations.

Dot Area Grids:

In principle, the dot area grid is not new. Variations occur in the number of dots used to represent a certain unit area to achieve a certain degree of accuracy of the estimate of the areas. The more dots

there are to represent per unit area the more accurate is the estimate.

The dot grids developed in the College of Forestry are printed on 12 centimeters squares of transparent film sheets. One is made with 2 millimeters interval between dots and the other is made at 2 millimeters.

In use the dot grid is placed over the image of a certain area which has previously been delimited with ink or china marking pencil. All the dots found inside the delineated area are counted and from this is computed the area based on the principle that for a given scale each dot represents a certain unit of area, in this particular case hectare. The rule is:

$$\text{Area in hectares: } \frac{\text{No. of Dots} \times (\text{dist. bet. dots})^2 \times (\text{Denominator of RF})^2}{10^{10}}$$

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Infiltration Studies on Grassland Watersheds in Northern Nueva Ecija

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Instructor in Silviculture

U.P. College of Forestry

Introduction

If the behaviours of the different Philippine streams were recorded and the resulting hydrographs evaluated, interesting diversified trends of streamflows will be noticed. The source of these variations may be traced from the drainage basins or watershed areas. A relatively sustained and uniform flow may be expected of a stream deriving its water from a permeable, well-managed watersheds. On the other hand, if the main source is surface runoff, a flood peak results from a single storm and the rates of low-water flow will be small. The quantity and quality of streamflow is just a reflection of the type and treatment of the watersheds.

Grass and open areas aggregate to 5,480,090 hectares or 18.42% of the total land area of the Philippines (9). Although the country possesses staggering figures of critical watershed areas, fundamental watershed research is woefully lacking. Lack of hydrologic data makes it impossible to establish a scientific basis for the management of water as a natural resource. Currently, an increasing demand for such information is being made by many public and private interests. Industry requires dependable supply of clean water; population centers demand adequate pure water supply; public and private concerns need information for flood control programs and power projects.

This work was designed to study the relative rates of water entry into the soil

under two types of land-uses—grazed and protected grassland areas—in northern Nueva Ecija.

Review of Literature

The ability of the watershed area to absorb and detain water that falls upon it as rain provides an explanation to the character of the resulting hydrographs. Horton (7) had earlier recognized this fact and suggested the theory of infiltration capacity. Wise planning for water management and conservation practices calls for the understanding of how water infiltrates into the soil.

Infiltration is defined as the process by which liquid water enters the surface soil or zone of aeration (8). It includes both wetting to the field moisture capacity and the subsequent progressive downward movement of gravitational water. Infiltration is the most important part of the process by which water reaches the soil below the root zone and is added to the water table and thence to stream flow.

The surface $\frac{1}{4}$ - or $\frac{1}{2}$ -inch of the soil is most important for water entry as emphasized by Lassen *et al.* (10) and Wisler and Brater (19). The maximum rate at which water enters the soil surface, defined as the infiltration capacity of the soil, depends primarily in the condition of the properties of that soil surface. Any disturbance of that surface may completely change infiltration capacity.

Infiltration depends upon a number of factors. Lewis and Powers (11) enumerated an almost complete list of factors involved. Davidson (3) compiled a bibliography containing more than 200 references dealing with the various aspects of infiltration, including measurements and the factors influencing capacity. A review of infiltration work was included in the author's M.S. thesis (1).

The effect of land-use upon the different properties of the soil, hence, effect upon infiltration capacity, was a subject of a number of investigations. Undisturbed forest soils, because of their high porosity, comparatively low bulk density, and rather deep surface organic layers, have an inherently high rate of infiltration. However, when such forest land is subjected to trampling by grazing livestock, infiltration rate of the soil is drastically reduced. Stoeckeler (16) reported a 93% reduction, significant at $t_{.01}$, in infiltration rate of two forested areas due to livestock trampling. McIntyre (12) studying the mechanics of splash process and the formation of surface crusts, observed that crusts formed by heavy rain are common in intensively cultivated soils. Surface crusting is responsible for low infiltration, due to the dispersion of aggregates. At Coweeta Hydrologic Laboratory, Dils (4) demonstrated how a small heavily trampled portion of a watershed might be the source of large proportion of total storm runoff. He also reported the effect of forest cutting and subsequent mountain farming on the distribution of storm runoff (in effect, infiltration rates). A greater percentage of the runoff occurred in a relatively shorter time in mountain farms than from a forested area. Zwerman (20) stated that initial infiltration on a virgin area was highest among the categories of land-uses compared. Any practice that would increase the number of large aggregates would, in effect, result in high infiltration. Studies indicated that substantial runoff occurred from many permanent

pastures because of low infiltration capacity of soils (15). Low infiltration capacity of soils and subsequent runoff were attributed to excess trampling by grazing animals, especially when the soil was wet. Compaction and hardened topsoils may be attributed to poor land-use practices.

Description of the Study Area

The present early to late maturity multicyclic landscapes (Fig. 1) are products of fluvial geomorphic erosion. The presence of benches along valley sides above the present valley floors reflected multicyclical erosions. Flupiraption, corrasion, corrosion, and attrition were dominant erosional processes that sculptured the present day landscapes. Stone and Angeles (17) described the Carranglan area in northern Nueva Ecija as consisting of steep ridges descending to gently sloping foot slopes or piedmonts. Where heavily loaded streams emerge from hills or mountains onto a lowland, alluvial fans are formed. Along the sides of active streams are terraces which origin is not known with certainty but the present surface of these terraces appears to be deposits, possibly due to gravitative transfers such as creep, solifluction, earthflow or mudflow. Drainage is medium fine textured and primarily of dendritic pattern. A structurally controlled meandering river connects to one of the big rivers of Central Plain, the Pampanga river.

Short term records from reforestation areas near Sta. Fe and San Jose, NNW and SSW of Carranglan, indicate an annual precipitation of approximately 2300 mm.

The soil of the interfluves is a highly weathered red clay loam apparently derived from an acidic granite. The A_1 of the grazed area probably has been subject to some sheet erosion. Perhaps 10% of the surface is littered with stones and boulders which, except as split along the numerous joints or freshened by exfoliation, bear a 1-2 cm. weathering crust. Small

stones and fragments of gravel size are almost entirely lacking in the surface soil. Representative soil profile and mechanical analysis of the soils are given below:

- Soil profile: experimental site
- A₀ 0- 0" Grass litter and nearly black humus; thinner or absent in grazed area.
 - A₁ 0- 2" Dark brown (7.5 YR 4/4) clay loam with granular structure; friable; high in organic matter and filled with fine roots; pH 5.2 in protected soil. Crusted or platy structure and with less numerous roots; pH 5.0 in grazed soil.
 - A₂ 2- 6" Reddish brown (5 YR 4/4) clay loam with somewhat similar to above structure; pH 5.0.
 - B₂ 6-12" Yellowish red (5 YR 4/8) coarse angular blocky; somewhat firm; pH 5.0.

Mechanical analysis of soils

Protected area	Percent Sand	Percent Silt	Percent Clay
Surface soil, 0- 1/2"	45.8	18.7	35.5
Subsoil, 1/2"-3 1/2"	41.1	20.2	38.7
Grazed area	Percent Sand	Percent Silt	Percent Clay
Surface soil, 0- 1/2"	39.6	19.3	41.1
Subsoil, 1/2"-3 1/2"	33.6	22.8	33.6

Infiltration studies were conducted in one of these interfluves, on a 10-15% SW slope in Talatalan, Carranglan.

The terrace soil is neither gravelly nor visibly stratified in its upper layers. The surface is somewhat irregular and angular boulders of the same granite are common. The present streams are incised in some of the terraces. The soils are sharply delimited at the contact, the terrace soil being brown in color with a surface reaction of pH 6.0 to 6.5.

Accordingly, the whole area has been under grass since Spanish time, with the

exception of the wooded stream bottoms. The present vegetation consists of grass, especially *Themedia triandra*, Forsk. and *Imperata cylindrica* with scattered trees of *Antidesma cumingii* and *Bauhinia malabari-ca*. In the protected area, i.e., under the Reforestation Administration control, are planted species. With the exception of the protected area, most of the grassland are under grazing lease. The enduring practice of burning the grass during summer and allowing livestock to graze when grass is rejuvenated and the soil is wet led to the deterioration of most of the unmanaged areas.

The upper Talatalan interfluve was a communal pasture until 1959. Carabaos, horses and cattle were let loose after planting season in this area. Adjacent to this area is the protected site; once a fence delimited the areas. The study was conducted on both sides but away from the former fenceline. (Fig. 1).

Experimental Methods

Design of the experiment.—The experiment was designed to examine the influence of land-use practices of infiltration rates, comparing rates between the grazed and the protected areas. It is essentially a completely randomized design with five replicated infiltration plots per treatment area. Soil properties were correlated among themselves and with infiltration rates. Different soil properties from each area were compared using t-test.

Field methods.—The field study was conducted after a few days of rain in late July, 1960 so that the soils were at near field capacity. In this condition of the soils, only the wet run was needed. Data for dry run would be somewhat more variable than the data from the wet run. The field moisture content at the beginning of the dry run might be considered wholly uncontrolled and dependent, to some extent, on past climatic conditions. During

the wet run, however, the amount of soil moisture should be more dependent on the characteristics of the soil and less affected by past climatic conditions.

Accurate simulation of rainfall without disturbing the soil is desirable in reproducing natural conditions. Relative measures of infiltration have been used by various investigators (2, 8, 13, 14, 19). The one used in this study was the double ring infiltrometer (Fig. 2).

The double ring infiltrometer consisted of a pair of concentric rings, 10½- and 6½-inch in diameter, that were pressed a few inches into the soil. The purpose of the outer ring was to provide a buffer or wetted area around the inner ring which was the critical or test area. Water was added from inverted graduated bottles at such a rate that an equal depth, ½ inch head, was maintained in both units. Measurements of infiltration rates at the end of 5, 15, 30, 60, and 120 minutes in the center compartment were supposed to be indicative of the vertical component of flow, free of the uncontrolled lateral movement common in single ring method.

Soil samples for physical and chemical property determinations were obtained from each infiltration plot. Aggregation, mechanical analysis, and organic matter were determined from soils obtained at 0-½-inch and ½-3½-inch depths. Percolation rate, porosity, bulk density, and non-capillary or detention pores at 20- and 60-cm. water tensions (roughly between pF's 1 and 2) were determined from undisturbed soil cores obtained from inside the inner ring, 24 hours after wet run so that soils were assumed to be at field capacity. Randomly selected pits were examined for soil profile description.

Laboratory methods.—Soil analyses were carried out in the Soil Physics laboratory of the Soils Department, College of Agriculture, U.P.

Percolation test was conducted using a modification of the constant head permeameter apparatus described by Hoover *et al.* (6). After percolation test, the same soil samples were used in determining non-capillary or detention pores at two water tension levels, 20- and 60-cm., using the tension table. Bulk density and total pore space were determined after oven-drying the samples used in the preceding tests. A modification of the Yoder wet-sieving machine was used in determining water-stable aggregates, including the mechanical fractions, at 10- (2 mm.), 20- (0.8 mm.), 40- (0.4 mm.), and 80-meshes (0.2 mm.) sieves. Only aggregates that were caught between U.S. screens No. 4 (4.75 mm.) and No. 10 (2 mm.) were used in the wet-sieving. Soil textures were determined by the Bouyoucos hydrometer method outlined by the Forest Soil Committee of the Douglas Fir Region (5). Organic matter content was determined following Wakeley and Black method (18). Soil reactions were directly determined in the field using a pH kit.

Results

The cumulative wet infiltration runs from the two treatment areas through the second hour to determine trends of water entry into the soils and the infiltration rates for the same are shown in Fig 3. As a matter of convenience, only rates during the second hour were used for all comparisons and correlations. The analysis of variance (Table 1) shows significant difference in infiltration rates at $P(F)_{.01}$, between the two areas. The mean infiltration rate for the protected area is 1.58 liter/hr. and 0.49 liter/hr. for the heavily grazed area. Table 2 shows the comparison, using t-test, of the various soil properties as affected by land-uses. Infiltration rate, percolation rate, per cent total pore space, per cent non-capillary pore space, large-size aggregates, organic matter content were, in all cases, drastically reduced. The reduction of the above properties gave

higher values for soil properties that restrict infiltration rates such as bulk density and small-size aggregates. Simple correlations were ran to determine those soil factors that are either positively or negatively correlated to infiltration rates (Table 3). Regression equations describing the relationships between infiltration rate and each of the soil factor, whenever these proved significant, are given in Table 4. Figures 4, 5, and 6 illustrate the nature of these associations.

Discussion

In view of the lowered infiltration capacity of the grazed area, it appears likely that much of the difference was due to the influence of heavy animal traffic on the soil. To determine why infiltration was related to land-use and to investigate what soil properties were important required the evaluation of a number of factors.

As stated elsewhere in the review of literature, the surface $\frac{1}{4}$ - or $\frac{1}{2}$ -inch of the soil is most critical in infiltration. From tests and profile observations this thin surface layer had undergone changes due to heavy trampling. Surface crusting and platy structure were evident in the grazed soil. These conditions, due to the dispersion of aggregates with the fine particles washing into and filling the pores in the immediate surface (see mechanical analysis, particularly difference in clay fractions) and compressive action by animals, lowered infiltration capacity of the soil. Dispersion of aggregates was significantly propagated to the subsoil, $\frac{1}{2}$ — $3\frac{1}{2}$ -inch depth. Organic matter content which acts to bind soil particles and aggregates and directly or indirectly participates in infiltration was significantly reduced in both surface and subsoil. This may be attributed to the lower density of grass present in the heavily grazed soil. Grass is the source of organic matter and serves to protect the surface soil from rain impact and its washing away. Since infiltration rate was also

reduced due to decrease in both total porosity and particularly non-capillary or detention pore space, and hence, a corresponding increase in bulk density and retention pore space, percolation, which is a subsurface phenomenon, was significantly reduced too.

Changes in the conditions of the various soil properties were evident when their means were compared. However, when correlations were made to test relationships of these properties to infiltration rate, only bulk density ($r = 0.880$), per cent total pore space ($r = 0.804$), large and small aggregates ($r = 0.687$ and $r = -0.738$, respectively), and detention pore space at 60 cm. water tension ($r = 0.770$) were significantly correlated. Percolation rate, organic matter content, and detention pore space at 20 cm. water tension, although nearly approaching $r_{.05}$, failed to be significantly correlated. B.D. and total P.S. each accounts for about 70% of the total variability in rates; the non-capillary or detention pores at a greater water tension accounts for about 60%; the large and small aggregates each accounts for about 50%. A few number of sub-soil properties tested limits statement of similar conclusions for that layer. However, the amount of organic matter at the lower layer is significantly correlated to infiltration rate ($r = 0.719$) and also the large and small aggregates ($r = 0.660$ and $r = -0.717$, respectively).

The above findings indicate that either bulk density or percentage total porosity and the amount of non-capillary or detention pores at greater water tension are the most important soil factors related to infiltration, all being significant at $r_{0.01}$. Redesigning the experiment to increase replications or number of observations may still show the importance of aggregations, although they were found significant at $r_{0.05}$ in this particular experiment, and organic matter.

It has been shown that some soil properties were related to infiltration. In order to obtain a prediction formula, soil properties must be associated with infiltration very strongly and regardless of time or season, cover type or other conditions. From the limited data obtained, a tentative multiple regression equation was developed using bulk density (X_1) and the non-capillary pores (X_2) at greater water tension of the soil surface as variables:

$$Y = 0.281 X_1 + 0.164 X_2 - 1.066$$

Variation about the regression plane is ± 0.507 liters/hr. If the deviations are approximately normally distributed, about 20% of the observed infiltration runs would lie within 0.507 liters of the values predicted from the corresponding X_j values of the regression equation. Likewise, about 60% of the total observed infiltration runs should lie within 1.01 liters. The variability of the multiple regression measure was tested and found significant at $P(F)_{.05}$. Caution must be exercised in accepting this equation. It is tentative being the product of a single season and a single test with relatively few observations.

Summary and Conclusions

Relative infiltration rates on two areas managed differently were found significantly different. Much of the difference were attributed to the effect of trampling in changing the conditions of the soil properties influencing infiltration. A formula was devised to predict infiltration rate and its improvement is suggested.

Where the infiltration capacity of the soil is reduced much of the water falling as rain will eventually become surface runoff. It becomes apparent, therefore, that to minimize surface runoff from watersheds, they should be managed well and all aspects of the hydrologic cycle considered.

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Table 3a.—*Correlation coefficients¹ among certain properties of the surface soil*

	Percola- tion rate	Bulk Density	% Total Pore Space	% Aggre- gation at 10-Mesh	% Aggre- gation at 20-Mesh	% Aggre- gation at 40-Mesh	% Aggre- gation at 80-Mesh	% Or- ganic Matter	Detention Pore Space at 20-CM.	Detention at 60-CM Pore Space
Infiltration rate495	— .880	.804	.687	— .404	— .709	— .738	.505	.622	.770
Percolation rate		— .800	.605	.096	.219	— .243	— .221	.463	.954	.794
Bulk density			— .900	— .690	.313	.060	.535	— .408	— .839	— .737
% Total pore space469	— .140	— .537	— .538	.548	.639	.802
% Aggregation at 10-mesh					— .804	— .813	— .957	.496	.229	.594
% Aggregation at 20-mesh						.722	.749	— .338	.144	— .150
% Aggregation at 40-mesh							.949	— .572	— .348	— .543
% Aggregation at 80-mesh								— .545	— .355	— .670
% Organic matter444	.667
Detention pore space at 20-cm.										.814

1

r.05 = .632

r.01 = .765

Table 3b.—*Correlation coefficients¹ among certain properties of the subsoil.*

	% Aggregation at 10-Mesh	% Aggregation at 20-Mesh	% Aggregation at 40-Mesh	% Aggregation at 80-Mesh	% Organic Matter
Infiltration rate	.660	— .558	— .626	— .717	.719
% Aggregation at 10-mesh		— 1.000	— .985	— .916	.711
% Aggregation at 20-mesh			1.000	1.000	.120
% Aggregation at 40-mesh874	— .668
% Aggregation at 80-mesh					— .625

r.05 = .632

r.01 = .765

Table 4.—*Summary of the relationships of soil factors and infiltration rates (l./hr.). Regression equations and test of significance of b for surface soil*

Soil Variate	Regression Equation	b	t-computed ¹
Ir/B.D.	$Y = -7.150 X + 9.686$	-7.150	-4.049
Ir/%P.S.	$Y = 0.160 X - 7.685$	0.160	3.829
Ir/A ₁₀	$Y = 0.042 X - 2.212$	0.042	2.674
Ir/A ₄₀	$Y = -0.126 X + 1.526$	-0.126	-2.839
Ir/A ₈₀	$Y = -0.175 X + 1.732$	-0.175	-3.089
Ir/Det ₂₀	$Y = 0.151 X - 0.013$	0.151	2.251
Ir/Det ₆₀	$Y = 0.164 X - 0.742$	0.164	3.410

¹

t.05 = 1.860

t.01 = 2.787

where,

Ir = Infiltration rate, Y

B.D. = Bulk density

P.S. = % Total pore space.

A₁₀ = % Aggregation × mech. fractions at 10-mesh sieve

A₄₀ = % Aggregation × mech. fractions at 40-mesh sieve

A₈₀ = % Aggregation × mech. fractions at 80-mesh sieve

Det₂₀ = Dentention pore space at 20-cm. water tension

Det₆₀ = Dentention pore space at 60-cm. water tension



Figure 1. Typical grassland watersheds in northern Nueva Ecija.

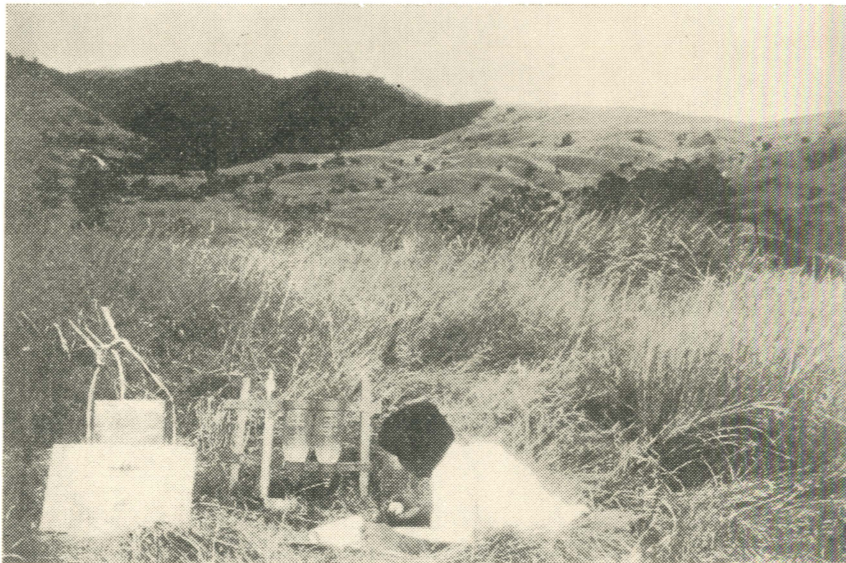


Figure 2. Infiltrometer set-up in use.

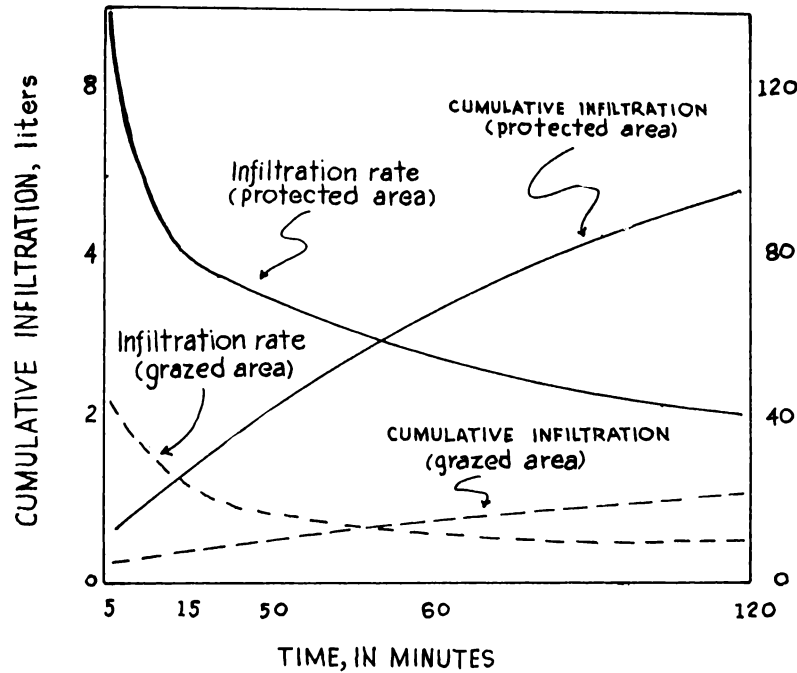


FIG. 3. CUMULATIVE WET INFILTRATION RUNS AND RATES ON THE TWO AREAS.

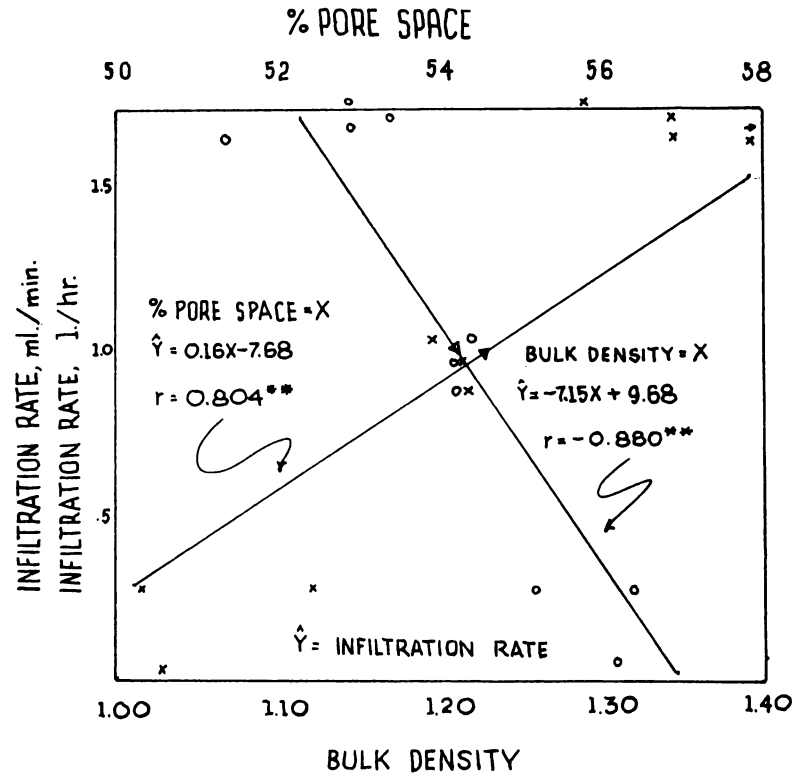


FIG. 4. RELATION BETWEEN RATE AND BULK DENSITY, AND, RATE AND %TOTAL PORE SPACE.

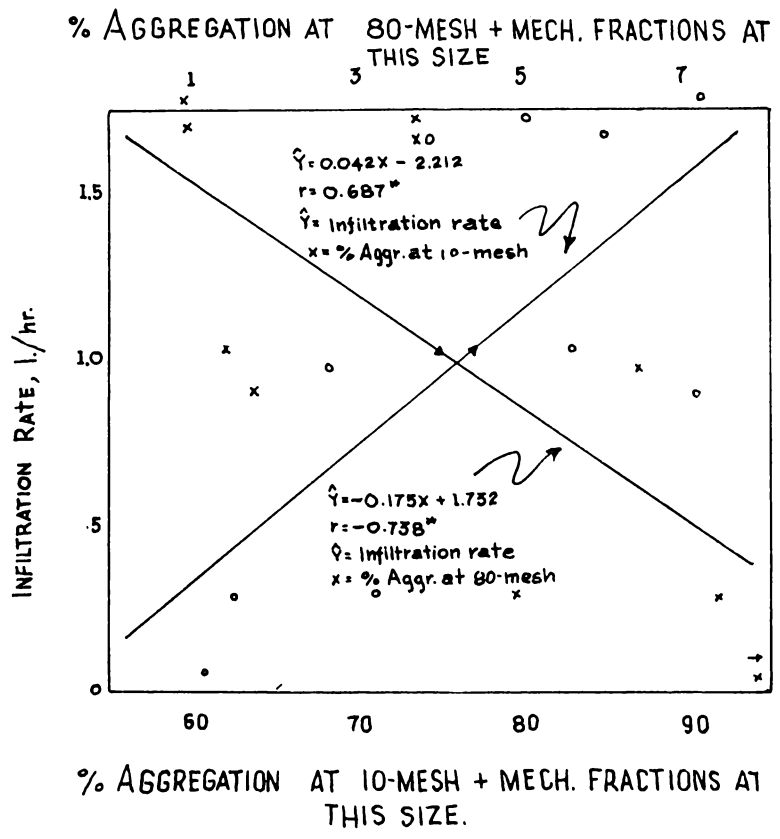


FIG. 5. RELATION BETWEEN % AGGR. AT 10-MESH, % AGGR. AT 80-MESH AND INFILTRATION RATE.

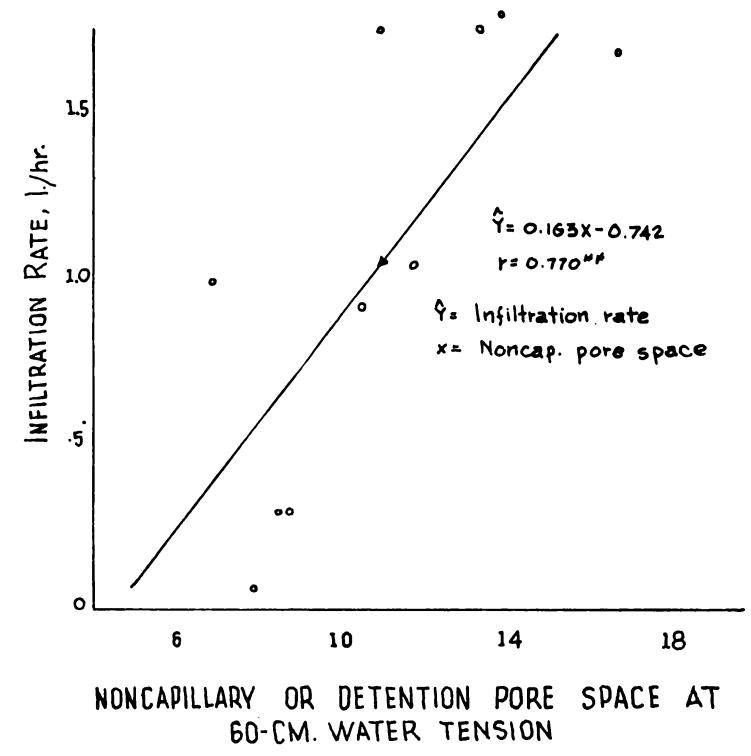


FIG. 6. RELATION BETWEEN INFILTR. RATE AND NONCAPILLARY PORES AT 60-CM. TENSION.

The Question Box

Wood Preservation—Its Importance

This is a reproduction of the radio interview with Prof. Rosario T. Cortes, Chief, Wood Preservation Division, FPRI, conducted by Prof. Domingo V. Jacalne over station DZBB in connection with regular radio program entitled "Forest Build the Nation" every Sunday evening 9:30-10:00 o'clock.

1. Q.— *What is wood preservation?*

A.— Wood preservation is the impregnation of wood with chemical preservatives. The method adopted depends upon the degree of protection wanted by the end user.

2. Q.— *What are the purposes or advantages of wood preservation?*

A.— Wood preservatives increase the durability of the wood and therefore lengthen its service. This is achieved by controlling or preventing the destructive effect on wood of biological agencies such as termites, bokbok or powderpost beetles, fungi and marineborers; minimizing the effects of weathering and mechanical abrasion in wood; and sometimes by making the wood more resistant to fire and chemical attack. In short, wood preservation aims to improve wood by impregnation with chemicals to make it more suitable for various uses.

3. Q.— *Generally speaking, what are the different processes of preserving wood?*

A.— Most of the wood-preserving processes now employed are classified either as *non-pressure process* or *pressure processes*.

Under the non-pressure processes, those that are now being used in the Philippines are: (1) *brushing method* in which the preservative is merely brushed over the surface of the wood but better results are obtained on dried or seasoned wood; (2) *spray method*; and (3) *brief dipping or steeping method*. The spray method requires seasoned wood. Brief dipping may be applied either to green or seasoned wood. In the steeping method, a salt preservative is applied to green wood in the same manner as in salting fish. The wood is stacked solidly before drying.

Under the pressure process, the wood is impregnated with the preservative in a treating cylinder or retort using a pressure of 200 psi or more. This process requires seasoned wood before treatment. If the preservative to be used is oil-borne, it must be preheated to about 180°F (82.2°C) and maintained at this temperature while the pressure is being applied. For water-borne preservative, ambient temperature is all that is needed. Heating water-borne preservative is not recommended.

4. Q.— *Can the different methods be applied generally to all kinds of wood?*

A.— No. Unfortunately, only a few of the Philippine species commonly sold in the market have been found to be amenable to treatment. These species which can be treated with preservatives include the apitong group, almon, bagtikan, white lauan, malaanonang and mayapis. Other species available in the market such as tangile, red lauan, guiyo, yakal, molave, ipil and others, except their sapwood, cannot be treated by any of the above mentioned processes. Species that are seldom found in the market but can also be treated are bolon, balobo, kamatog, and lanutan-bagyo.

5. Q.— *Is it only in wood that chemical preservative treatment can be applied?*

A.— No. If I understand the question correctly, either salt or sugar is applied to preserve meat or fish, tannin to preserve leather, fish nets, etc.

6. Q.— *What other forest products need preservative treatments?*

A.— All hardboard, plywood, bamboo, rattan products, etc., require preservative treatment in special cases primarily to protect them from the attack of bokbok, etc.

7. Q.— *Specifically, how can one prevent or control the attack of termite (anay) in a house post or wall?*

A.— There are two groups of termites (anay): (1) the subterranean termite and (2) the drywood termite.

The subterranean termite is the more destructive of the two. To prevent the subterranean termite from attacking house posts or walls, pressure-treated lumber

should be used. If this is not possible, the following measures should be taken to control its attack:

(1) The area under and around the house should be cleaned of all debris that may furnish food to termites. In short, "good house-keeping" under and around the house should be observed.

(2) All termite tunnels and media of access to the house should be cleaned or destroyed with termite. This is to keep termites already in the house from having any access to the ground where they obtain moisture for their existence.

For bungalow-type houses, (1) the crawl space under the house should be cleared of debris attractive to termites, and the soil space at both sides of the foundation wall should be loosened a foot wide and sprayed with termicide. Soil poisoning, applied before erecting foundation walls and footings, will work well for such type of houses or for factory structure, followed by a thorough cleaning of the surrounding area after construction.

To prevent the attack of drywood termites, (1) new houses should be screened or pressure-treated wood should be used. (2) Whenever fine spherical pellets are noticed, the piece of lumber found to contain the causal insect should be punctured and flooded with termicide, using a syringe to inject the solution. This is only a palliative, not a cure.

8. Q.— *How can bokbok (powder-post beetles) be controlled?*

A.— If the presence of bokbok is suspected (as evidenced by fine powder falling on the floor or clinging around a hole made by this beetle), then it is hard to control the infestation because each hole will have to be injected with insecticides.

The most practical and, in the long run, the most economical preventive measure is the use of treated wood. The application of insecticides only after infestation is considered impractical and uneconomical.

Drying wood at temperatures ranging from 150°F. to 180°F., as used in dry kilns, will sterilize wood but kiln-drying does not immunize it from subsequent infestation unless it is treated with an insecticide or a wood preservative.

9. Q.— *Are there other insects that cause destruction in wood?*

A.— Yes, there are. These are the carpenter ants and the carpenter bees, but they are seldom of economic importance.

10. Q.— *What is the nature of the destruction of fungi to wood and other forest products?*

A.— During the early stages of decay (incipient decay), the fungus forms microscopic threadlike structures, known individually as *hypha* (plural, *hyphae*) and collectively known as mycelium^{1 2 3}, which grows through checks and

other avenues of access to the cells of the wood. The mycelium spreads through all directions in the infected wood until the wood structure crumbles into powdered or cubical forms depending upon the nature of the pathogen.

Early stages of fungus infection on surface-dry wood is seldom noticed by the naked eye, but the presence of such infection on the surface of wet-wood is evidenced by closely woven strands or rootlike structures, usually white in color, spreading all over the surface of the wood.

According to Hunt and Garratt², once the decay has progressed beyond the incipient stage, the cell walls of the wood become definitely disintegrated. The wood changes in color from russet brown to light gray and becomes punky, stringy, or crumbly, and even spongy if wet, depending upon the nature and species of the attacking fungus.

11. Q.— *Does the Forest Products Research Institute at College, Laguna give out free pamphlets or any form of information on how to treat wood or other forest products against these destructive agencies mentioned?*

A.— Yes. We have publications on this information. Copies of these publications are available free of charge upon request.

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P R E V E N T I O N

“Help make the open lands of the country green with trees and preserve whatever forest we have on hand today.” — TOM BINUA

◇ ◇ ◇

¹ Baechler, R.H. 1954. Wood in chemical engineering construction. Forest Products Research Society Paper No. 566 (Reprint).

² Hunt, G.M. and G.A. Garratt. 1953. Wood preservation. McGraw Hill Book Co., New York and London, Revised.

³ Savory, J.G. 1954. Breakdown of timbers or ascomycetes and fungi Imperfecti. Am. Applied Biology 41 (2): 336-347.

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Plants With Edible Fruits in the Philippines

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The following compilation is a sequel to the article, "Edible Fruit-Bearing Trees in the Philippines" by Asst. Professor Domingo V. Jacalne of the College of Forestry, U.P., which appeared in the *Forestry Leaves*, Vol. XII, No. 1. The present paper and the aforementioned article, do not complete the list of edible fruit-bearing trees or plants in this country. There are thousands of endemic and introduced plants in the Philippines which yield edible fruits and, in some cases, poisonous ones. Therefore, other writers are enjoined to list down the names of other plants not mentioned in these two articles so that our literature on fruit-bearing plants or trees could be up-dated and be a valuable source of information for the public.

It can be noted, however, that in addition to the main objective of the previous

articles which is to fill the void of the fruit-growing industry for its development in the Philippines, this sequel-paper aims to fill the needs, not only of the public but also the Army of the Philippines. Having learned a lot from the near starvation and unpleasant experiences during the last war, the post-war Army of the country has launched an aggressive educational campaign among its soldiers to know the edible fruit-bearing trees and edible plants in order to survive in cases of emergency. For the general public particularly the Boy Scouts, etc., on one hand, this dictum of survival whether in time of peace or war, calls for a sufficient knowledge of plants and edible fruits of the country. Hence, the good saying "Be Prepared" to meet these emergencies justifies the preparation of this partial list of trees and plants that follows:

PLANTS WITH EDIBLE FRUITS IN THE PHILIPPINES

<u>Common Name</u>	<u>Scientific Name and Family</u>	<u>Brief Notes</u>
Achuete or Annatto	<i>Bixa orellana</i> L. (BIXACEAE)	A tree which is 4 to 6 meters in height and which grows abundantly throughout the Philippines. Seeds are used locally for coloring food such as butter.
Agbab	<i>Vanoverberghia sepulchrei</i> Merr. (ZINGIBERACEAE)	An erect plant which reaches a height of 4 meters. It is found only in Bontoc and Capiz. The fruits have anise-like odor. They are used for flavoring food stuff.
Agusahis or Ayas-as	<i>Setaria palmifolia</i> (Koen.) Stapf. (GRAMINAE)	A grass which grows up to 3 meters in height. It is common and widely distributed from Luzon to Mindanao. In times of scarcity, the grains are used as substitute for rice in Camarines and Ilocos re-

*Alagadisso *Anona spinescens* Mart.
 (ANONACEAE)

gions. The harvested grains are roasted, husked by pounding, freed from the glumes by winnowing, cooked with sugar and eaten.

A spiny and ungainly shrub. A native of Brazil, it has been reported from Lanao and Bataan in 1920. It grows up to 3.5 meters high. The leaves are small, roundish to oblong, and leathery. The fruits are 7 cm. long, heartshaped, tuberculate, and bright orange in color. The fleshy pulp is sweetened to make it edible.

*Amoras or *Morus alba* L.
Mulberry (MORACEAE)

A moderate-sized plant, which is widely distributed and cultivated in the Philippines. The leaves are reddish or yellowish brown. The bark is smooth except with the presence of some long horizontal lenticels. The fruit is dark purple or nearly black when ripe, fleshy, and 1.5 to 3 cm. long. A freshening drink can be made from its juice as well as jam from its fruit.

*Ampalaya or *Momordica charantia* L.
Amargoso (CUCURBITACEAE)

An herbaceous annual vine which climbs by tendrils, grows in thickets and backyards throughout the Philippines. It is extensively cultivated. The fruit is oblong cylindrical, pointed at both ends, ribbed and wrinkled. Both fruits and young leaves are boiled and eaten with meat and other vegetables.

Anahau *Livistonia rotundifolia*
 (Lam.) Mart. var. *Luzonensis* Becc. (PALMAE)

A widely distributed palm which grows naturally in forested areas. The young fruits are edible when made into sweets or mixed in "halo-halo" or milk-shake.

Anibong *Oncosperma filamentosum*
 Blume (PALMAE)

A tall slender palm which grows subgregariously in favorable habitats, in ravines and in lowlands bordering mangrove swamps. The fruits are sometimes used as substitute for areca nuts commonly preferred in "Buyo" chewing.

Anonang *Cordia dichotoma* Forst.
 (Bor.) (EHRETIACEAE)

It is found in secondary forest and thickets. It is a deciduous tree which grows to about 10 meters. The fruit is yellowish-white or pinkish, ovoid, and with sweet and edible scanty pulp.

Api-api *Avicennia officinalis* L.
 (VERBENACEAE)

A mangrove swamp species which grows to about 8 meters tall. The fruit is ovoid and contains a single seed in a capsule 2.5 to 4 meters long. Both fruits and seeds are edible.

*Bael *Aegle marmelos* Corr.
 (RUTACEAE)

A deciduous small tree introduced into the Philippines. It has straight spines. The fruits are small with orange-colored, sweet, thick, aromatic and edible gelatinous pulp. The best preparation is marmalade which is

Bago	<i>Gnetum gnemon</i> L. (GNETACEAE)	made from the full-grown tender fruit in thin slices. A native tree of the Philippines. The kernel of the fruit is either boiled or roasted and eaten. The young leaves are cooked with fish or meat, and eaten.
Baino	<i>Nelumbium nelumbo</i> (L.) Druce (NYMPHAEACEAE)	A perennial aquatic herb reportedly very common in some parts of Laguna de Bay, Cagayan, Albay, Camarines and Cotabato. The leaves are round and large and the flowers are either pink, red or white. The matured seeds are eaten either raw or roasted.
Bakauan- babae	<i>Rhizophora mucranata</i> Lam. (RHIZOPHORACEAE)	A mangrove swamp species. The outside portion of the fruit is scraped before it is eaten.
*Balanoi or Sweet Basil	<i>Ocimum basilicum</i> L. (LABIATAE)	An erect, branched underbrush found in low and medium altitudes. The seeds are steeped in water and eaten.
Balonsaging or Ulagak	<i>Uvaria sorzogonensis</i> Presl. (ANONACEAE)	A large woody vine with large leaves found in thickets. The edible fruit is aromatic and with prominent transverse grooves.
Banana or Plantain	<i>Musa paradisiaca</i> L. (MUSACEAE)	Most common and extensively cultivated throughout the Philippines which has many varieties. The Lakatan excels as a dessert fruit. Other varieties may be eaten raw, fried, roasted or cooked with relish.
Banauak	<i>Uvaria purpurea</i> Blume (ANONACEAE)	A woody vine. It is distributed from Luzon to Palawan. The edible aromatic fruits are borne in cluster from a disk-shaped structure.
Bangkoro	<i>Morinda citrifolia</i> L. (RUBIACEAE)	A shrub or small tree found along the seashore. The fruits which smells like a decaying cheese is eaten with salt.
*Batau or Lablab	<i>Dolichos lablab</i> L. (LEGUMINOSAE)	A twining smooth vine cultivated in settled areas. The oblong flattened pods contain 3 to 5 seeds. The tender young pods and seeds are excellent for vegetables.
Beach Pandan	<i>Pandanus tectorius</i> Solander (PANDANACEAE)	A species most commonly found in the seashore, forming a stand immediately back of the beach. The lower part of the mature fruit is covered by a yellowish red pulp which can be eaten.
Betel Nut palm or Buñga	<i>Areca catechu</i> L. (PALMAE)	A cultivated palm. The nut mixed with lime is wrapped with the leaf of buyo (pepper beetle) and used for chewing.
Bitoñgol or Tukam	<i>Flacourtia rukam</i> Zoel. & Merr. (FLACOURTIACEAE)	A medium-sized tree distributed from Benguet to the southern archipelago. The small and fleshy fruits are edible.

Buñga de China or Oring-oring	<i>Adonidia merrillii</i> Becc. (PALMAE)	A palm almost resembling the betel palm, but it is not so tall. Its leaves are strongly arched. The fruits are sometimes used as substitute for the betel nut for chewing.
Buri or Silag	<i>Corypha elata</i> Roxb. (PALMAE)	The largest and most stately member of the palm family. The young fruits are made into sweets.
Busain	<i>Bruguiera gymnorrhiza</i> (L.) Lam. (RHIZOPHORACEAE)	An erect tree that grows in mangrove swamps. The thick-ridged, very dark to almost black bark contains many large, brown corky postules. After two boilings the fruit is eaten in coconut milk. The whole fruit is first boiled and the outer part scraped away during the second boiling.
Boyokbuyok or Tabogok	<i>Momordica cochinchinensis</i> (Lour.) Spreng. (CUCURBITACEAE)	A course vine, reaching 15 meters, climbs by means of tendrils. The young leafy shoots are cooked as vegetables. The edible seeds contain sweet oil which is obtained after compression.
*Cacao	<i>Theobroma cacao</i> L. (STERCULIACEAE)	A small tree scattered and cultivated in low and medium altitudes. It is cultivated for its seeds which are used in the manufacturing of chocolate, cacao butter, etc. The pulp of the young fruit can be eaten raw.
*Calabasa or Squash	<i>Cucurbita maxima</i> Duchne (CUCURBITACEAE)	A coarse herbaceous vine cultivated in the Philippines. The flesh of the yellow squash is largely used as a vegetable. It can be baked, boiled, and stewed. It is an excellent substitute for pumpkin in making pies.
*Carandas	<i>Carisea carandas</i> L. (APOCYNACEAE)	This large thorny shrub is a native of India. The green fruits make good pickles and the ripe ones may be eaten or made into jelly.
*Canistel or Toesa	<i>Lucuma nervosa</i> A. DC. (SAPOTACEAE)	The species is a native of West Indies and introduced to the Philippines from America. The edible flesh of the fruit is yellow, dry, sweet and aromatic.
Cayenne pepper or Larang-haba	<i>Capsicum frutescens</i> L. var <i>longum</i> (D.C.) Bailey (SOLANACEAE)	An annual herb which is widely distributed in the Philippines. It is about 40 cm. tall and with angled branches. The fruits long, bright red and pungent are used for seasoning.
*Champeden or Tsempedak	<i>Artocarpus integer</i> (Thumb.) Merr. (MORACEAE)	A tree introduced into the Philippines. The thick rind of the fruit is juicy and turns black when ripe. The young or mature fruits is boiled and eaten as vegetables.
Champoi	<i>Myrica rubra</i> S. & Z. (MYRICACEAE)	An evergreen tree, reportedly found in the mountains of Zambales and Palawan. The fruit which is sub-acid, is eaten both the raw and cooked conditions.

Chayote	<i>Sechium edule</i> (Sw.) (CUCURBITACEAE)	A large, trellis-supported vine introduced into the Philippines. It has proven as a very popular vegetable. The fruits are cooked and eaten in the same manner as squash.
Coconut palm	<i>Cocos nucifera</i> L. (PALMAE)	Universally distributed from the standpoint of food. The fruit is edible.
Coffee	<i>Coffea</i> spp. (RUBIACEAE)	A small tree with shiny, smooth elliptic-ovate to elliptic-oblong leaves. The pulp of the ripe fruit is edible.
*Culantro or Ungasi	<i>Coriandrum sativum</i> L. (UMBELLIFERAE)	An annual plant cultivated in the lowlands. The fruits are rounded and ribbed. The ripe ones are used for seasoning food and also mixed with rice in preparing yeast.
Dalinas	<i>Cyathocalyx globosus</i> Merr. (ANONACEAE)	A tree reaching a height of about 30 meters and a diameter of about 40 centimeters. The fruits are chewed with buyo.
*Damoro	<i>Carum copticum</i> L. Benth. (UMBELLIFERAE)	An herb introduced into the Philippines, grows to a height of about 90 centimeters. The fruit is chewed with buyo.
Daua or Italian millet	<i>Setaria italica</i> (L.) Beauv. (GRAMINAE)	An erect grass cultivated in scattered areas of the Philippines. In Asia, the seeds are cooked for food but in the United States it is used for fodder.
Dayopod-mabolo	<i>Rhodomyrtus tomentosa</i> (Aiti) Hassk. (MYRTACEAE)	A shrub found only in northern Luzon and the Babuyan Islands. The leaves are opposite, pointed at the tip and hairy beneath. The pulp surrounding the fruit is edible and made into jelly.
Duhat-matsing	<i>Syzygium cinnamomeum</i> (Vid.) Merr. (MYRTACEAE)	A shrub or small tree found in thickets at low and medium altitudes in Luzon and in Mindanao. The ovoid fleshy fruits are edible.
Dukep	<i>Telosma procumbens</i> (Blanco) Merr. (ASCLEPIADACEAE)	A woody vine widely distributed in thickets at low altitude. The branches are slightly hairy. The immature fruits are cooked and eaten as a vegetables.
Dutung	<i>Rubus rolfei</i> Vid. (ROSACEAE)	A shrub commonly found in the mountains of Benguet, Laguna, and Negros Occidental. It is not cultivated. The fleshy and well-flavored berries are eaten by Filipino children.
Edkoyan	<i>Madhuca leerii</i> (Teijsm. & Binn.) Merr. (SAPOTACEAE)	A medium-sized tree, grows in low altitudes of primary forests. The flowers are similar to chico. The flesh of the fruit is edible.
*Fennel	<i>Foeniculum vulgare</i> Mill. (UMBELLIFERAE)	An erect and smooth herb that reaches a height of one (1) meter or more. The seeds are used for flavoring.
Gingging	<i>Glycosmis plentaphylla</i> (Retz.) Corr. (RUTACEAE)	A shrub that grows in thickets and secondary forests, at low and medium alti-

Iboli	<i>Suphoria nephelioides</i> (Radlk.) (SAPINDACEAE)	tude. It is found from northern Luzon to Palawan and also in Mindanao. The round fruit is fleshy and sweet. A tree, about 25 meters tall and 40 cm. in diameter is reported found in Basilan. The leaves are alternate and compound. The leaflets are leathery and pointed at both ends. The pulp around the seed is edible.
*India bitoñgol	<i>Flacourtia indica</i> L. (FLACOURTIACEAE)	An introduced deciduous tree that grows to 10 meters. The leaves are alternate, large, broadly lanceolate, toothed at the margins and about 20 to 30 cm. long. The fruit may be made into jam or used to flavor curries.
*Japanese persimmon	<i>Diospyros koki</i> L. f. (EBENACEAE)	A native tree of China and Japan, grows in the Philippines at high altitudes. The fruit is similar to santol. The well-ripened fruits possess a pleasant sweetish taste.
*Javanese kulis	<i>Memecylon caeruleum</i> Jack (MELASTOMATACEAE)	A shrub or a small tree. The leaves which are oval in general outline are opposite, smooth, and leathery. The bunchy edible fruits are borne in stalks at the axils of the leaves.
*Kobiki	<i>Mimusops elengi</i> L. (SAPOTACEAE)	A native tree of India introduced into the Philippines. It grows to a height of 15 meters. The mature fruits are made into preserves and pickles.
Cardes siguidillas or Cajan pea	<i>Cajanus cajan</i> (L.) Millsp. (LEGUMINOSAE)	A branchy erect shrub 1 to 2 meters tall. It is cultivated in settled areas. The young pods and seeds are cooked and eaten as vegetables.
Kalabua	<i>Ottelia alismoides</i> (L.) Pers. (HYDROCHARITACEAE)	An herb found in shallow lakes and slow running streams. The oblong fruit 2.5 to 4 cm. long, is eaten by Filipino children.
Kalios	<i>Streblus asper</i> Lour. (MORACEAE)	A medium-sized tree found in thickets at low altitudes. It is very common in regions with a long dry season. Fully ripe fruits can be eaten.
Kaliso	<i>Areca caliso</i> Becc. (PALMAE)	A slender palm reaching a height of about 6 meters or more. It is found growing on mountain slopes, and in dense humid forest. The fruit is substitute for betelnut.
Kamansi	<i>Artocarpus camansi</i> Blanco (MORACEAE)	A big tree with large lobed leaves. The fruits are covered by stiff projections. It is distinguished from rimas which has smooth fruit. The young or mature fruit is boiled and eaten as vegetable.
Kamit-bagkau	<i>Toddalia asiatica</i> (L.) Lam. (RUTACEAE)	A spiny and woody vine. The leaves are alternate and trifoliate. It is common in

Kara	<i>Syzygium cordatilimum</i> (Merr.) Merr. (MYRTACEAE)	the second growth and virgin forests. The fruits are used to flavor many dishes. A tree widely distributed in the Philippines. The oval fruits are scarlet red or purple color. The juicy pulp which surrounds a single large seed is edible.
Kapuk-kapuk or Dukep	<i>Telosma procumbens</i> (Blanco) Merr. (ASCLEPIADACEAE)	A woody vine with hairy branches. It is found in thickets at low altitudes. The fruits are long and contain flat seeds. The covering of immature fruits has the same consistency and taste of string beans. They are cooked and eaten as vegetables.
*Kondol or Waxgourd	<i>Beniacasa hispida</i> (Thumb.) Cogn. (CUCURBITACEAE)	A native of tropical Asia but is introduced into the Philippines. It is an annual vine. The unripe fruits are boiled and eaten as a vegetable. The ripe fruits are peeled and made into candy of excellent delicacy.
Kunti or Black night shade	<i>Solanus nigrum</i> L. (SOLANACEAE)	An erect herb about a meter tall. It is widely distributed in waste places both of low and high altitudes. The green stems are three-angled. The black fruits are known as huckle-berries and are used in making jams and other sweets.
Kupang	<i>Parkia javanica</i> (Lam.) (Merr.) (LEGUMINOSAE)	A large tree, 25 to 40 meters tall, found in low and medium altitudes. The thin pulp of the pod is golden yellow with sweetish taste. The young pods are edible.
Labusei	<i>Excavatia littoralis</i> (Merr.) Markgr. (APOCYNACEAE)	A tree which is widely distributed from northern Luzon to southern Mindanao. The fruits are united at the base. Seeds are edible.
Lagundi	<i>Vitex negundo</i> L. (VERBENACEAE)	A large branching shrub found in water places, thickets, and medium altitudes. The seeds are boiled and eaten.
*Lantana	<i>Lantana camara</i> L. (VERBENACEAE)	A gregarious shrub, erect or self-climbing. The leaves are hairy and aromatic. The fleshy fruits are eaten raw and can be used for flavoring.
*Limoncito	<i>Trisphasia trifolia</i> (Burm.f.) P. Wils. (RUTACEAE)	A shrub widely distributed in settled areas. The fleshy fruit can be eaten raw or cooked for dessert.
Malabar gourd	<i>Cucurbita ficifolia</i> Bouche (CUCURBITACEAE)	This stout vine has large leaves with fine-rounded lobes. It is grown in Baguio. The fleshy fruits are rougher than upo, have good flavor and are edible.
Malakabuyau or Kabuyok	<i>Swinglea glutinosa</i> (Blanco) Merr. (RUTACEAE)	A small tree with spiny branches. It is found in thickets or secondary forest at low and medium altitudes of Isabela and Quezon province. The acidic fruit is extensively used for flavoring food.

Mamoko	<i>Hedyachras philippinensis</i> (SAPINDACEAE)	A tree about 15 meters tall. It is cultivated in the College of Agriculture, College, Laguna. The peach-like fruit is about 5 to 6 cm. in diameter. It is yellow, fleshy, and sub-acidic, slightly astringent. Edible.
Melon or Katimon	<i>Cucumis melo</i> L. (CUCURBITACEAE)	A crawling vine that is grown in the Philippines. The fleshy fruit is eaten with sugar.
*Mirim	<i>Rollinia emarginata</i> Schlecht. (ANONACEAE)	A slender native shrub or small tree of Brazil and Paraguay and introduced into the Philippines. The flesh of the custard apple-like fruit is edible.
Monggo or Balatong	<i>Phaseolus aureus</i> Roxb. (LEGUMINOSAE)	An erect annual herb cultivated throughout the Philippines. The linear pods contain seeds which are extensively eaten as a viand after they are boiled and stewed. Also, an excellent soup can be prepared from them.
Mino or Halon	<i>Morinda umbellata</i> L. (RUBIACEAE)	A large diffuse shrub found in thickets and forests at low altitude. The fruits are eaten with curries while green, or eaten uncooked when ripe.
Okra or Gumbo	<i>Abelmaschus esculentus</i> (L.) Meench (MALVACEAE)	An erect herb widely cultivated. The fruit is an elongated capsule. The immature ones are succulent and eaten in various forms.
Pagatpat	<i>Sonneratia alba</i> J. Sm. (SONNERATIACEAE)	A mangrove species found mostly in the outer part of mangrove swamps and in exposed reefs. The ripe fruits have a cheese-like taste and is eaten raw or cooked.
Pakuan or Water melon	<i>Citrullus vulgaris</i> Schrad. (CUCURBITACEAE)	A native vine of tropical Africa now widely cultivated in temperate and tropical countries. The fruits are edible.
Pañguñgan or Tallowwood	<i>Ximenia americana</i> L. (OLACACEAE)	A spiny shrub about 3 meters tall. The fruits taste like sour apples but are eaten fresh or pickled. Cooked nuts in powder form are mixed with Sago to make bread.
Piaña	<i>Madhuca obovatifolia</i> Merr. (SAPOTACEAE)	Reported only from Camarines. This tree grows about 20 meters high. The fruit resembles like that of chico but twice as large and rough. Edible.
Palasan	<i>Calamus maximus</i> Blanco (PALMAE)	A sylvan palm found in the virgin forest at low and medium altitudes but is occasionally found in the second growth forest. The gelatinous pulp surrounding the seeds are edible.
Patalsik	<i>Descaspermum fruticosum</i> Forst. (MYRTACEAE)	A small tree found in thickets located from sea level to an altitudes of 2,000 meters. The round fruit when ripe turns red. The black berries are sweet and eaten.
*Papaya	<i>Carica papaya</i> L. (CARICACEAE)	Sometimes called "mellow tree", it is widely cultivated. The large fruit is ob-

*Patani or Lima-bean	<i>Phaseolus lunatus</i> L. (LEGUMINOSAE)	long. It is used extensively as a succulent vegetable when green but is a popular delicacy during breakfast when ripe. An annual herbaceous vine reaching a length of 4 meters or more. It is widely cultivated and common in thickets. The green pods and young seeds are used as vegetables.
Patola	<i>Luffa acutangula</i> (L.) Roxb. (CUCURBITACEAE)	An annual vine generally cultivated throughout the Philippines. The green fruit is oblong-lanceolate and has 10 prominent longitudinal sharp angles. The fruits are used as vegetables.
Pejibaye Palm	<i>Bactris utilis</i> Jacq. (PALMAE)	A species introduced into the Philippines. The ovoid fruits are 1 to 2 inches long and deep orange or reddish-orange color. The fleshy fruits are boiled for 3 hours in salted water and eaten after removing the skin. The seeds with their enclosed kernels are edible like coconut.
Phalsa or Bariuan- gulod	<i>Grewia asiatica</i> L. (TILIACEAE)	A small tree growing at low altitude in Cagayan, Bataan, and the Ilocos regions. The small fruit is round, dark blue to almost black when ripe, sweetish or somewhat acidic but with a fairly good flavor.
Philippine Blueberry or Alimani	<i>Vaccinium myrtilloides</i> (Blume) Miq. (ERICACEAE)	A shrub distributed from Luzon to Mindanao in open places at high altitudes. It is common in Benguet. The alternate leaves have pointed tips. The fruit makes fine preserves and pies.
*Pineapple or piña	<i>Ananas comosus</i> (L.) Merr. (BROMELIACEAE)	Several types of pineapples are now extensively grown in the Islands. The small variety which has been growing locally for many years is known as the "native variety". The big variety is named "Hawaiian". Others are the "Spanish" and several crosses. All varieties are excellently delicious fruits.
*Pipino or Cucumber	<i>Cucumis sativus</i> L. (CUCURBITACEAE)	A climbing vine. It is a native of tropical Asia but it is now generally cultivated in temperate and tropical countries, particularly throughout the Philippines. The fruits are peeled, sliced, and served with vinegar. It is commonly used for dressing and as an ingredient of salads. Also, it is often times boiled and eaten as a vegetable.
Ponche or Marcgrav- sweetsop	<i>Anona marcgravii</i> Mart. (ANONACEAE)	A small tree of vigorous growth. The leaves are dark-green and pointed. The fruits resemble guayabano in general characteristics but is inferior in quality. It was recently introduced in Lamao, Bataan.
Pototan	<i>Bruguiera sexangula</i> (Lour.) Foir. (RHIZOPHORACEAE)	A tree found in mangrove swamps. The fruits are similar to those of <i>Bruguiera con-</i>

Pugahan or fish-tailed palm	<i>Caryota cumingii</i> Lodd. (PALMAE)	<i>jugata</i> except that the germinating roots are shorter. The embryo of the fruit is soaked all night, cooked, and eaten. A palm widely distributed in the Philippines. The mature seeds are used as substitute for the areca nut for chewing with buyo leaves.
Putat	<i>Barringtonia racemosa</i> (L.) Blume (LECYTHIDACEAE)	A small tree found throughout the Philippines in open lowlands and in thickets near the seashore and along streams. The fruits are pounded to allow the starch to settle. Without stirring the sediments, the liquor is pour-off gently. The starch produced is made into cakes.
Pinit	<i>Rubus copelandii</i> Merr. (ROSACEAE)	A scrambling shrub that grows in Benguet. The orange-colored berries are nearly 2 cm. in diameter. They are fairly juicy and eaten but not well-flavored.
Red pepper or Sili	<i>Capsicum frutescens</i> (Annum) L. (SOLANACEAE)	A shrub-like herb found occasionally in waste places in the Philippines. The red fruit is oblong and 1.5 to 2.5 cm. long. It is pungent and extensively used as a condiment.
Sagisi	<i>Heterospatha elata</i> Scheff. (PALMAE)	A tall slender palm with pinnate leaves 3 to 4 meters long. The numerous, small and globous fruits are in stalks. The ripe ones are sometimes chewed as a substitute for areca nuts.
Raspberry	<i>Rubus rosaefolius</i> Sm. (ROSACEAE)	A spiny spreading shrub found in thickets and forests at low altitudes. The red conically-elongated juicy fruits are eaten both raw or cooked.
*Sea grape	<i>Coccoloba uvifera</i> L. (POLYGONACEAE)	A native tree of tropical America and recently introduced into the Philippines. The small fruits which have sweetish-acidic taste are eaten.
Serpent or Snake gourd	<i>Trichosantes anguina</i> L. (CUCURBITACEAE)	A slender vine found to a limited extent, at low and median altitudes. The leaves are circular in outline. Like other gourds, the fruit is eaten in the immature stage.
Sesame or Liñga	<i>Sesamum indicum</i> L. (PEDELIACEAE)	An erect annual herb. The seeds of the black variety are utilized for making cakes.
Sierra leone peach	<i>Nauclea esculenta</i> (Afzel.) Merr. (RUBIACEAE)	A vigorous climbing shrub introduced into the Philippines. The leaves are opposite and elliptical. The pulp of the fruit is edible.
*Soncoya	<i>Anona purpurea</i> Moc. and Sesse (ANONACEAE)	A native tree of Central America which is introduced into the Philippines. The aromatic fruits which are much larger than the custard apple have good flavor.



Prof. EUGENIO DELA CRUZ, first director of the Forest Products Research Institute, retired on July 2, 1962.



Asst. Dir. Manuel Monsalud was appointed to head the FPRI after the retirement of Dir. E. dela Cruz.

Here and There



A picture of the plaque awarded to Director E. dela Cruz upon his retirement.



Dean Dioscoro L. Umali, U.P. Vice President for Agricultural and Forestry Affairs, read the inscription on plaque awarded to their tired FPRI director.

Picture shows the members of the panel which answered and discussed questions on "Quality control in paper making" in a symposium during the anniversary celebration of the FPRI, July, 1962.





ARBOR WEEK CELEBRATION—Forestry students sweat it out planting mahogany seedlings on a kaingin area at the Puting-lupa block near the Mudspring on July 28, 1962.

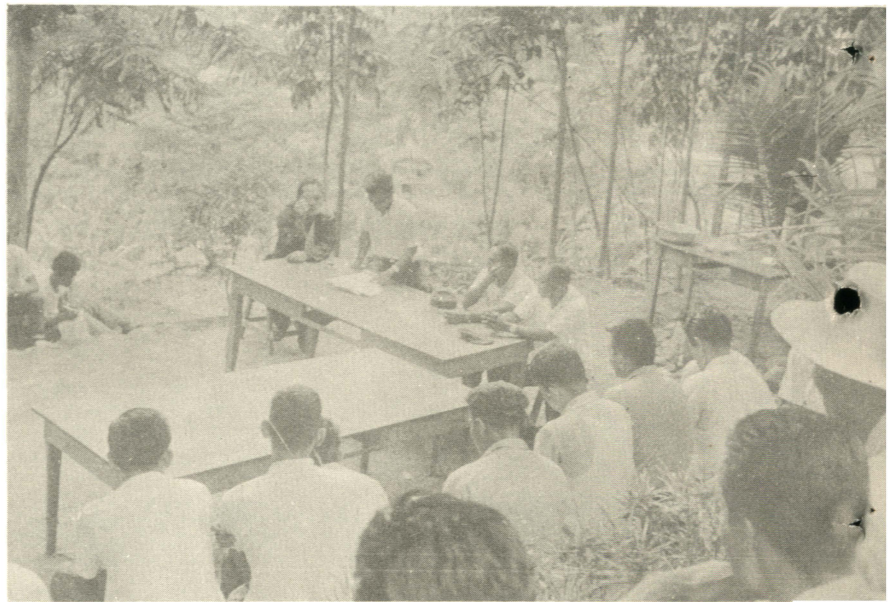


A group of forestry boys led by the SBO Adviser and the SBO President took time for a picture after they have planted with mahogany seedlings a whole *kaingin*.



Santa Sub-Nursery, I.S.
—The picture shows the forestry students being briefed by For. T. Balanza, officer-in-charge, on nursery and plantation practices in the project.

La Union Cooperative Demonstration Nursery—Here the forestry students were given information about the establishment and operation of a cooperative nursery by the officer-in-charge of the project.



Benguet Ref. Project — The group who joined the field trip listened to For. Juan Mabesa, officer-in-charge, who explained the technique of germinating pine and other fine seeds.

The audience sing the *Pambansang Atoit ng Pilipinas*.



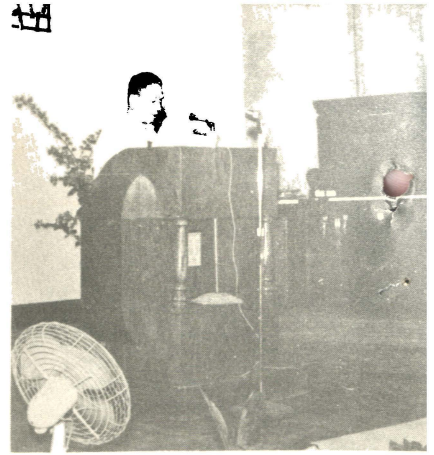
Miss Myrla Mendres, soprano of the U.P. Conservatory of Music accompanied on the piano by Miss Edna Orlino, renders a vocal selection.

The Forest Songbirds thrill the audience with their choral presentation of a medley of Filipino folk songs.





Dr. Francisco N. Tamolan, Asst. Director, FPRI, opens the Forestry Day convocation program.



Dean Gregorio Zamuco of the U.P. College of Forestry introduces the guest speaker.



"Let the chips fall where they may" . . . were the introductory words of Hon. Vicente L. Pimentel, Chairman, Committee on Forests, House of Representatives, as he addresses the audience during the 21st Forestry Day.

Golden Jubilarians, Regent Florencio Tamesis and Forester Felix Franco receive their respective plaque for their enduring contributions to forestry and for forestry education from Forester Carlos Sulit, president of the U.P. College of Forestry Alumni Association.



FPRI Technical Notes

AGRICULTURAL FIBERS AND GRASSES FOR THE PULP AND PAPER INDUSTRY

The Philippine has a large supply of potential papermaking materials in its agricultural wastes and grasses. Good examples are rice straw, cogon grass, sugar cane bagasse, abaca waste, ramie waste, tobacco stalks, etc. Most of these wastes are burned in the fields or allowed to decay for soil improvement. Only a relatively small portion is utilized as in the case of sugar cane bagasse for pulping.

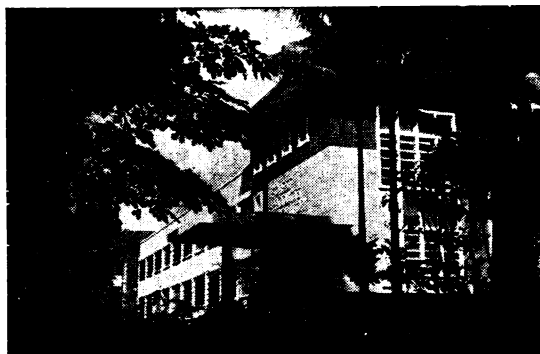
These materials are generally low in density, have an open structure, are lower in lignin content in comparison to wood, and are comparatively easy to pulp. Their higher hemi-cellulose content indicates easy-beating properties. When blended with long-fibered pulps, the short fibers of rice straw, grass, or sugar cane bagasse pulps, can be made into fine-grade paper. The addition of long-fibered abaca or ramie pulps improves the tearing resistance of paper made from short-fibered pulps.

Sugar cane bagasse

While it is possible to use the whole bagasse in pulping, the production of higher quality paper requires the removal of the pith which constitutes about 25 percent of the dry material. Pith may be removed by wet or dry process.

The soda-chlorine (Celdecor) process, which is continuously carried out at atmospheric pressure, is used to pulp bagasse in the Philippines and in India. The soda or sulfate process is utilized to pulp bagasse either in conventional digesters or in hydropulpers (mechano-chemical process) in Cuba, Egypt, Taiwan, Mexico, Italy, and the United States. A new development is the rapid continuous alkaline pulping of bagasse and other agricultural fibers under pressure (Pandia continuous digestion) which uses a cooking time of 5 to 15 minutes. Bagasse can also be digested by the neutral sulfite method.

Unbleached bagasse pulps from these various processes are suitable for making structural board, corrugating medium, solid fiber shipping container board, folding box board, linerboard, and wrapping paper. Grease-proof and glassine paper may be made from the bleached neutral sulfite pulp. Bleached bagasse pulps from these various processes, usually blended with long-fibered pulps, are used for making writing bond, tablet, ledger, and book papers.



Processes developed by de la Rosa and by the Crown Zellerbach Corporation in the United States are claimed to produce sugar cane bagasse pulp that can be used for the entire composition of newsprint.

Rice straw

Rice (*Oryza sativa*) straw is a papermaking material in Ceylon, China, Taiwan, Egypt, Hungary, Japan, Indonesia, and Thailand.

Baled rice straw contains a great deal of extraneous matters such as nodes, leaves, residual grain, debris and fines. These extraneous matters may be removed by cutting the straw into 1- to 3-inch lengths followed by passing through cyclones or screens or by washing. Rice straw has an unusually high ash content (14 to 20%) due to its high silica which may cause difficulty in chemical recovery. As with sugar cane bagasse, soda, sulfate, soda-chlorine and neutral sulfite processes are applicable in pulping rice straw. The use of caustic soda liquor in the mechano-chemical process produces a pulp with lower ash content, higher lignin content, and greater strength (except for tear) than pulps from alkaline digestions in conventional digesters or from the mechano-chemical process using kraft liquor. Because of the lower lignin content of conventionally-cooked pulps in either soda or kraft liquors, they are easier to bleach. Like sugar cane bagasse, rice straw pulp is a short-fibered material low in tearing strength and opacity. The uses of rice pulps are similar to those of sugar cane bagasse pulps.

Grasses

Grasses like sabai (*Eulaliopsis binata*) in India and esparto (*Stipa tenacissima* and *Lygeum spartum*) in Spain, France, Italy, and especially Great Bri-

tain have long been used for papermaking. Soda-cooked esparto pulp has such unique properties that it is used for fine writing and printing papers, in mixture with long-fibered pulps, to impart flatness, bulk, opacity, and resistance to dimensional changes.

While the soda process is commonly employed for grasses, the sulfate, mechano-chemical, the continuous Pandia, and the soda-chlorine processes are also feasible.

In the Philippines, cogon (*Imperata cylindrica*) is a common grass in open lands and is difficult to eradicate either by burning or cutting. Before pulping, the roots, dust, and other extraneous matters must be removed. The grass may be charged to the digester either uncut or cut. However, it is preferable to cut it into about ¾-inch lengths. Low grade wrapping paper can be produced from unbleached cogon pulp. The uses of bleached cogon pulps are similar to the uses of sugar cane bagasse and rice straw pulps.

Abaca wastes

The processing of abaca stalks, to produce the fibers used for rope-making, causes an enormous amount of plantation and stripping wastes. Plantation waste is the residue of the leaf sheaths (after the outer portion containing most of the fibers is removed) and short lengths of the whole stalk. Stripping waste consists mainly of short fibers mixed with pithy material which is the residue in fiber extraction either by hand or by a machine.

Abaca product manufacturing wastes (refuse materials from high-grade strands not suitable for the manufacture of slippers, floor mats, etc.) and old ropes are excellent papermaking materials because of their comparative cleanliness. They are thus used in such expensive paper specialities as cigarette paper, banknotes, condenser tissue, etc. Plantation and stripping wastes produce papers that cannot compare in quality with those made from waste fibers and old ropes. Unbleached coarse paper from abaca waste in admixture with other fibers is made in Japan and a kraft type is manufactured in Costa Rica.

The pulping of these wastes with sulfate or soda liquors in either the conventional digester or hydropulper has been tried at this Institute. The unbleached sulfate pulps are suitable for strong bag and wrapping papers. The bleached pulps, with and without blending with other pulps, can be used for making bond, book, tissue and mimeographing papers.

Banana stalks

Banana (*Musa sapientum* L.) is grown everywhere in the Philippines for its fruit. Unlike abaca,

there is no organized large size banana plantation. The stalk of banana is similar to that of abaca but has less fibers.

Although it can be used to produce good quality paper, there is not enough material for commercial production of pulp and paper, since it is raised mainly for its fruit. Trials made at this Institute show that banana stalks can be pulped by the sulfate process and made into wrapping paper of good quality.

Ramie waste

Ramie (*Baehmeria nivea*) is grown in plantations in Mindanao. It possesses very long fibers. The sulfate pulping of ramie waste at the Institute followed by grinding in a disk mill resulted in pulp suitable for wrapping and bag papers. The bleached pulp has properties indicating its possible use for onionskin, bond, and diploma papers.

Tobacco stalks and midribs

Tobacco (*Nicotiana tabacum*) is one of the principal crops in Northern and Northwestern Luzon. Most of the stalks are used for fuel and the rest are burned in the fields. Studies at the Institute show that the midribs are suitable for low quality sulfate pulp. The stalks, however, produce better quality pulp which is favorably responsive to the conventional three-stage bleaching process.

The results indicate that low grade wrapping paper can be produced from the unbleached sulfate pulp of the stalks and that the bleached pulp might be used in fine papers like tissues, onionskin, bond, book, and other types of printing papers.

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RECOMMENDED MOISTURE CONTENT OF WOOD FOR USE IN SOME PARTS OF THE PHILIPPINES

Wood is a hygroscopic material. It has the capacity either to absorb moisture from damp air or to give up some of its moisture to relatively dry air. As wood dries below the fiber saturation point,¹ it shrinks and as it absorbs moisture up to the fiber saturation point, it swells.

If the temperature and relative humidity of the air are kept constant, the moisture content of green lumber decreases until it becomes approximately constant. This condition is commonly referred to as the equilibrium moisture content (EMC) of wood.

Since the temperature and relative humidity generally fluctuate, the moisture content of the exposed wood varies continuously in attempting to keep in equilibrium with the changing surrounding conditions. In so doing, its dimensions also change continuously because it swells or shrinks in proportion to the amount of water it absorbs or gives off to the surrounding atmosphere. This behavior will vary in different parts of the country because of the variation in the amount of rainfall.

According to the Weather Bureau, the Philippine archipelago is divided into four climate regions based on the presence or absence of a dry season and the amount of rainfall. The location and characteristics of the four types are described as follows:

First Type.—This type is characterized by two pronounced seasons. A dry season occurs during the months of November, December, January, February, March, and April. The wet season occurs during the months of May, June, July, August, September, and October. All regions on the western part of the Islands of Luzon, Mindoro, Palawan, and western Panay Island belong to this type.

¹ The condition in which the cell cavities are empty but the cell walls are still saturated with water.

Second Type.—This type of climate has no dry season but has a very pronounced maximum rain period during the months of November, December, and January. Catanduanes Island, Sorsogon and the eastern part of Albay, the eastern and northern part of Camarines Norte and Camarines Sur, a great portion of the eastern part of Quezon, Samar, the eastern part of Leyte, and a large portion of eastern Mindanao belong to this climatic type.

Third Type.—This climatic type has no very pronounced maximum rain period but has a short dry season which lasts only from one to three months. The regions with this type of climate are the western part of Cagayan (Luzon), Isabela, Nueva Vizcaya, the eastern portion of the Mountain Province, southern Quezon, the Bondoc Peninsula, Masbate, Romblon, northern Panay, eastern Negros, central and southern Cebu, part of northern Mindanao, and most of eastern Palawan.

Fourth Type.—This type has no dry season and no very pronounced maximum rain period. The regions representing this climatic type are the Bataanes province, northern Luzon, western Camarines Norte and Camarines Sur, Albay, eastern Mindoro, Marinduque, western Leyte, northern Cebu, northern Negros, and most of central, southeastern and southern Mindanao.

The differences in weather conditions throughout the year within and among these regions would cause a very wide variation in the equilibrium moisture content (EMC) of wood in use in these regions. Bearing this in mind, and remembering too, that changes in EMC below the fiber saturation point (FSP) is the main cause of dimensional changes in wood, it is not feasible to select a single moisture content value and to season all lumber accordingly. In order to minimize the shrinking and swelling of wood, due to its hygroscopic nature, it should be seasoned or dried to a moisture content value consistent with the climatic conditions of the region in which it shall be installed. Lumber should be dried to a moisture content close to the midpoint of the range between the high and low extremes expected to be attained in service. In some cases, where moderate swelling is generally not objectionable, 1 or 2 percent below the midpoint value is advantageous.

A knowledge of the range of moisture content variations of lumber under normal conditions in different localities falling under the four climatic regions of the country is, therefore, imperative.

The accompanying table gives the EMC likely to be attained by wood in use in some parts of the Philippines. The values in this table were calculated by means of (a) the average monthly tem-

TABLE: ESTIMATED EQUILIBRIUM MOISTURE CONTENT OF WOOD IN SOME PARTS OF THE PHILIPPINES AND
RECOMMENDED VALUE FOR SEASONING OF LUMBER FOR OUTDOOR USE

LOCATION	PERCENT EQUILIBRIUM MOISTURE CONTENT														
	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sept.	Oct.	Nov.	Dec.	Mini- mum	Maxi- mum	Recom- mended
Albay, Legaspi	17	17	16	15	16	17	17	17	18	18	17	18	15	18	16
Batanes, Basco	16	16	16	17	17	17	18	18	18	17	16	16	16	18	17
Batangas, Tanauan	15	14	13	13	14	17	17	18	18	18	17	16	13	18	15
Bukidnon, Malaybalay	17	17	16	15	17	19	19	19	19	18	19	19	15	19	17
Cagayan, Aparri	17	17	16	15	15	15	16	17	17	17	18	18	15	18	16
Cagayan, Calayan	18	18	16	17	15	15	17	18	19	18	18	19	15	19	17
Cagayan, Tuguegarao	17	15	14	13	13	14	15	16	16	17	18	18	13	18	15
Camarines Norte, Daet	18	18	17	17	17	17	15	17	18	18	18	18	15	18	16
Capiz, Roxas City	17	16	15	15	15	17	17	17	17	17	17	17	15	17	16
Catanduanes	16	16	16	15	16	16	16	16	17	17	17	17	15	17	16
Cebu, Cebu City	15	14	14	13	14	15	15	15	15	15	15	15	13	15	14
Cotabato, Cotabato City	16	15	15	15	17	17	18	18	17	17	17	17	15	18	16
Cotabato, General Santos	16	15	16	17	18	19	18	19	18	18	18	17	15	19	17
Davao, Davao City	17	16	15	15	16	18	18	17	18	17	17	17	15	18	16
Ilocos Norte, Laog	13	13	13	13	14	16	18	18	18	15	15	14	13	18	15
Ilocos Sur, Vigan	13	14	14	14	14	16	17	18	18	16	15	14	13	18	15
Iloilo, Iloilo City	16	15	15	14	15	16	17	17	18	17	17	17	14	18	16
Leyte, Tacloban City	18	18	17	16	17	17	16	15	17	17	18	18	15	18	16
Manila, Port Area	15	14	13	12	14	16	17	17	18	17	17	16	12	18	15
Manila, M. I. A.	15	14	12	12	13	16	17	18	18	18	17	17	12	18	15
Masbate, Masbate	18	16	16	15	15	16	16	17	17	17	17	18	15	18	16
Oriental Mindoro, Calapan	18	16	15	15	15	17	17	17	18	17	17	18	15	18	16

Oriental Misamis, Cagayan de Oro	16	15	15	14	15	16	15	15	16	16	16	17	14	17	15
Mt. Province, Baguio City ...	16	16	16	17	19	21	22	24	23	20	17	16	16	24	19
Oriental Negros Dumaguete City	16	15	15	15	15	15	15	15	16	16	16	17	15	17	16
Nueva Ecija, Cabanatuan City	13	13	12	12	13	16	17	17	17	16	15	14	12	17	14
Palawan, Coron	15	15	14	14	15	18	19	17	19	19	17	16	14	19	16
Palawan, Cuyo	16	16	16	15	16	17	18	17	18	18	17	17	15	18	16
Palawan, Puerto Princesa	18	18	17	16	17	18	19	19	19	19	19	19	16	19	17
Pangasinan, Dagupan City ...	14	14	13	13	14	16	17	18	18	17	15	15	13	18	15
Quezon, Aurora	16	15	15	15	14	14	15	15	15	15	15	16	14	16	15
Quezon, Baler	17	17	18	18	17	17	16	15	17	17	18	17	15	18	16
Quezon, Casiguran	20	19	19	18	18	18	18	18	19	20	19	20	18	20	19
Quezon, Infanta	19	19	18	18	17	17	17	17	17	18	18	19	17	19	18
Quezon, Lucena	18	17	16	15	15	17	16	17	18	18	17	18	15	18	16
Romblon, Rombon	17	16	15	15	15	16	17	17	17	17	17	17	15	17	16
Samar, Borongan	18	18	18	17	18	18	18	17	17	18	18	18	17	18	17
Samar, Catarman	19	19	18	18	19	19	18	18	19	18	20	21	18	21	19
Samar, Catbalogan	17	17	16	16	16	17	16	16	17	17	18	18	16	18	17
Sulu, Jolo	18	18	19	18	18	18	18	18	18	18	18	18	18	19	18
Surigao, Hinatuan	21	21	20	19	19	19	18	18	18	18	19	21	18	21	19
Surigao, Surigao	19	18	18	18	18	18	16	15	16	18	19	20	15	20	17
Zambales, Iba	15	15	14	14	15	17	18	19	18	17	16	15	14	19	16
Zamboanga del N. Dipolog ..	17	15	16	15	17	18	18	18	18	18	18	18	15	18	16
Zamboanga del S. Zamboanga City	17	17	17	18	18	18	18	18	18	18	18	16	16	18	17

peratures and normal relative humidity values given in the Annual Climatological Review for 1956 of the Weather Bureau, and (b) wood equilibrium moisture content diagrams.

The values given are approximate, but they could be used to advantage until more adequate data, upon which more accurate values could be based, shall have been gathered from wood samples actually exposed in the localities mentioned. A study now being conducted by the Forest Products Research Institute in 10 localities representative of the four climatic regions of the country will check the accuracy of the values in this table.

Wood for interior woodwork or wood which will be exposed to indoor atmosphere should be seasoned to a moisture content value 1 or 2 percent lower than the midpoint between the minimum and maximum values attained throughout the year. In contrast, wood that will be exposed to outdoor conditions should be seasoned to a moisture content approximately equal to the midpoint value.

However, these values are not applicable to wood for use in air-conditioned rooms and offices, as the optimum moisture content of wood to be used is dictated by the temperature and relative humidity maintained for air-conditioning comfort.

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THE STRENGTH PROPERTIES OF WOOD—WHAT THEY ARE AND THEIR IMPORTANCE IN SELECTING SPECIES FOR CERTAIN USES

The strength or mechanical properties of wood indicate its ability to resist external forces applied to it. Consequently, they are the most important

indicators of the relative suitability of different species of wood for various uses.

Knowledge of strength and related properties of wood are obtained in either of two ways: (1) service testing and (2) laboratory testing. The former involves the use of materials of actual sizes under prevailing conditions met in service. The latter requires laboratory experimentation on standard size specimens and standardized methods of testing using special testing apparatus. The laboratory test has the advantage over the results expressed in comparable units, so that it is possible to compare the strength properties of different species. It also provides a means of segregating the structural species from the non- structural species.

Tests on small clear pieces of wood to determine the different strength properties of a species are time consuming, but they are necessary in obtaining the basic data needed in calculating safe working stresses for the use of architects and engineers in designing buildings and other load-bearing members.

The Forest Products Research Institute has as one of its major projects a study on the strength and related properties of Philippine woods. This is necessary to bring into commercial exploitation the different Philippine wood species and to promote their economical and wise utilization.

The strength properties of wood that most concern the artisan, the engineer, the architect and other users are bending strength, stiffness, compressive strength, shearing strength, hardness, and toughness.

Bending strength is a measure of the flexural capability of a piece of wood to determine its fitness for use as a beam as in the case of rafters, stringers, girders, floor joists and scaffold platforms. The load that any member can sustain is dependent on its span and cross-sectional area. Low bending strength can be overcome by increasing the size of the member but in some instances this is not always possible because of headroom and architectural limitations.

Stiffness is also considered in selecting suitable wood material for joists, beams, columns and other similar purposes. It is the ability of a material to resist bending or deflection under transverse loads and deformation under compressive and tensile loads. In some instances stiffness assumes greater importance than bending, compressive or tensile strength. In structural members supporting heavy loads like concrete floor slabs in the kitchen, toilet and bath rooms, for example, lack of stiffness in these members may result in vibrating floors that will induce cracks and cause leaks. High stiffness is also re-

quired in ladders, struts, and long slender columns. Low stiffness may also be compensated by the use of bigger sizes and with adequate bridging and bracings where they are not objectionable.

Compressive strength of wood is a measure of its ability to resist load in a direction that tends to crush the member. When the direction of the load is perpendicular to the grain, the property is called compression-perpendicular-to-the-grain and when it is parallel, it is compression-parallel-to-the-grain. High strength in compression perpendicular to the grain is essential for wood used as railroad ties, bearing plates or rollers and the like. High strength in compression parallel to the grain is essential for wood used as posts, columns and props. High compressive strength is not important in fence posts as they do not support loads. Low strength in compression can be overcome in some instances by using bigger members.

Shearing strength is a measure of the ability of wood to resist forces that tend to cause one part of the material to slide or slip on another part adjacent to it. The shearing strength of wood parallel to the grain is put to use in beams used as joists of short spans in relation to their depths. Deficiency in shearing strength may be overcome by the use of bigger shearing area.

Toughness is the ability of wood to withstand suddenly applied loads which exceed the limits of proportionality. Tough woods will withstand repeated loads or jolts, usually break gradually and give warning of failure. Toughness in wood is most essential for handles of striking tools like hammer and axe and for several types of athletic equipment. Low toughness is quite difficult to compensate in service because weight is often an essential factor in the manufacture of articles where it is required.

Hardness is a measure of the resistance to indentation, wear or scratch. Hardness in combination with toughness is a good indicator of the desirability of a species for use as floors, paving blocks, bearings, rollers and similar other uses. Hardness values may be used also to describe the resistance to cutting and may be influenced by such factors as the deposit of silica in the storage tissue and the interlocking of the fibers.

Tensile strength and cleavage resistance are also strength properties of wood. They are not, however, considered important enough to cause much concern except perhaps in highly specialized uses.

Tensile strength is the resistance of a body to forces that tend to pull one section apart from the other. It is the reverse of compression. When the

load acts perpendicular to the grain there is tension perpendicular to the grain and, when parallel, it is tension parallel to the grain. The tensile strength of wood parallel to the grain is the greatest of all strength properties so that it is not ordinarily a determining factor in structural design. Failure of wood in tension parallel to the grain occurs almost always in dry wood near fasteners and connections. Tensile strength perpendicular to the grain and resistance to cleavage are very closely related. They assume no importance in ordinary use of wood except perhaps in wood carving and other special uses.

Because of the complex nature and structure of wood, no constant value representing a certain strength property can be obtained from tests even if there is no error made in testing and the pieces tested came from the same tree. Figures representing strength properties, therefore, are only approximations of average values applicable to a large number of pieces.

Satisfactory service performance of wood depends on the selection of the right species for a given purpose. The first point to consider in the selection of species is to determine exactly the requirements of the service desired. One should ask first, whether bending strength, hardness, compressive strength, toughness, etc., or a combination of these properties is needed. Having determined the service requirements, a knowledge of the strength properties of the different species comes in handy for the selection of the right kind of wood to be used. It would be just a matter of finding the species that has the best combination of the desired properties. The most ideal species may not be available from a limited selection but, having in hand the service requirements and knowledge of the strength properties, it is always possible to find the most suitable and economical for the purpose among the species available.

Different species have different strengths. Likewise, they command different prices. Ordinarily wood of higher strength commands higher prices. It would be wasteful to use wood of high strength that commands higher prices where high strength is not necessary. Therefore, selecting wood for a certain purpose should be for attaining the service required that is consistent as much as possible with economy.

Wood, like any other material, may deteriorate in service. This could be caused by decay and insect attack. For this reason, in some instances, durability or resistance to decay is considered more important than actual strength. High durability is especially required for wood used in damp places or

where it is exposed to conditions favorable to decay and biological factors like decay fungi and termites as in the case of railroad ties, power and communication poles and fence posts.

Railroad ties should be highly durable with sufficient compressive strength perpendicular to grain to resist crushing loads. Power and communication poles are subjected to bending and deterioration due to weather so that a certain minimum amount of bending strength and durability are required. In fence posts, though high strength is not important, as in railroad ties and power and communication poles, they are in direct contact with the ground and exposed to all weathering conditions the year round. Unless they are chemically treated or naturally durable species they will not last long in service. In the selection of species for these purposes, therefore, durability is the first consideration. If naturally durable species are not available, other less durable species may be used provided they are treated with preservatives. Pressure-treated wood is the best, but items like fence posts or house posts similarly exposed may be made to last longer by preservative treatment in bath or by other superficial means such as brushing or soaking.

Selection of the right species and observance of good construction practices are the best assurances for the desired service performance of wood. These explain to the wood user the importance of knowing the different strength properties of this material.

The average strength and related properties of some commercial species of Philippine woods are listed in the following table. Each species is represented by five trees. These values are not working stresses but are for defect-free material of the species grown in the respective locality indicated.

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GREETINGS:

DONGALLO'S ENTERPRISES INCORPORATED ADGAWAN TIMBER INCORPORATED

Timber Producers * Exporters

Concession Areas:
Langasian, La Paz, Agusan
Esperanza, Agusan
Main Office:
Magallanes St., Butuan City

Manila Office:
R-503 Burke Bldg.
Escolta, Manila
Cable Address:
"DONGALLO" MANILA
"DONGALLO" BUTUAN

Campus Notes

AUSSIE FORESTER VISITS COLLEGE

Forester Alf Leslie, senior Forest Management lecturer at the University of Melbourne school of forestry was a visitor of the College from September 7 to September 9, 1962. He was on his way for a scheduled conference in Hongkong when he dropped by the Philippines. Dean Zamuco met him at the airport.

During his brief sojourn in the College campus, Forester Leslie, accompanied by the dean, visited the picnic site near the Mudspring, the Administration Building, and the newly erected Forest Technology Building.

Director Manuel Monsalud of the Forest Products Research Institute, after showing the Australian guest around the FPRI laboratories, saw him off at the Manila International Airport last Sunday, September 9, 1962.



FORESTRY HOOPSTERS BEAT ILOCOS SUR DANREA, BOW TO BAGUIO TECH, ST. LOUIS FIVE

Despite the fatigue of traveling the whole night from college campus to Vigan, Ilocos Sur, the U.P. Los Baños intramural basketball champion proved their worth by trimming the I.S. Danrea five with a 56 to 37 defeat last August 18 at the Colegio dela Immaculada Concepcion court in Vigan, Ilocos Sur.

Powered by Koko Clemente and Larry Morales as forwards, the visiting goldies started an early lead which the Danrea team failed to overthrow. Skipper "Mac" Macumbal drew applause from the fans for his clowny act but effective guarding. Reboton, Gulmatico and Hilario shared honors in putting to a stop the rampage of the DANR pride of the Ilocos region throughout the game with their rebounding and beautiful passing and accurate shooting.

But the honor garnered by the Lumberjacks easily faded when they bowed to the BAA defending champion Baguio Tech five to the tune of 72 to 69 defeat. Acclimatization must have been the reason at such a refrigerated atmosphere for once more the

touring forestry quintet failed to drop the Saint Louis College blue and white team with a final score of 91 to 83 despite the presence of the beauteous cheering squads of our sister college, the U.P. Baguio and the lovely co-eds from the different colleges who witnessed the opening of the Baguio Educational Meet. Both games were played at the SLC gym.

Here's how they scored in Vigan, Ilocos Sur.

Forestry	56	Ilocos Sur Danrea	37
Hilario	10	Villaluz	10
Morales	10	Guerro	10
Gulmatico	10	Tejada	9
Abugan	8	Ferraren	6
Clemente	6	Batin	2
Hamada	6	Pimentel	0
Reboton	2	Villegas	0
Simbulan	2	Almazan	0
Camello	2	Salvador	0

By Jaime L. Albay



BETA SIGMA WILL PRESENT "CLOSE-UP II"

"Close-up the second" a musical show, is the next presentation of the Beta Sigma Fraternity and Sigma Beta Sorority of the College of Agriculture and Forestry scheduled on September 11 and 12, 1962 at the Baker Hall.

Maning Arejola, the over-all director of the affair is the busiest Betan and for his efforts he is receiving praises from his brods and sis. Notes of appreciation is also due to Frankie Gorres who had patiently cultivated the harmony of the choral voices. Joy Viernes a talented pianist will fascinate you when she takes control of the piano. The Betans and their sis are busy leaving no stone unturned to insure the success of the "Second."

BF AWARDS SCHOLARSHIP TO THREE

The Bureau of Forestry recently awarded scholarship grants to three more College of Forestry students.

Recipients are Pedro V. Calixto, Anacleto Dululao, and Oscar Gulmatico who increased this se-

mester's BF scholars to thirty. They are to receive a monthly stipend of ₱120.00 each and will also have the privilege to borrow textbooks provided by the bureau.

Calixto and Duldalao are in their junior year of the BSF curriculum while Gulmatico is a freshman who graduated as salutatorian from the Los Baños High School.



CF GARAGE COMPLETED

The newest addition in building improvement in the campus is an 85' x 90' streamline garage constructed in the old forestry nursery site adjacent to the swimming pool. The L-shaped building which was completed on August 19, 1962 with an estimated cost of ₱15,000 will house twelve vehicles of the college.

The need for a garage has been felt long ago but the fund for its construction had not been included in earlier appropriations for the college. It was only this year that the project met its completion under the joint effort of the Philippine government and the US AID.

Meanwhile, a Willy's station wagon acquired through the US AID and NEC was added to the transportation facilities of the college this year.



FACULTY HOUSING PROJECT BARED

Bright hopes for a new twist from "simple living" found new horizons among the faculty when the news spread that the United States government has granted the University of the Philippines ₱5,000,000 to finance its housing program for the next five years.

The College of Forestry has submitted a program to the authorities concerned for the approval of ₱231,000 to finance its faculty housing project. According to estimates, probable monthly rentals for these houses once constructed and completely furnished may range from ₱70.00 to ₱80.00

The house plans and a site map for the housing project are on display at the lobby near the library.

In a faculty meeting held on September 5, 1962, Prof. Andres P. Aglibut, director of business affairs for U.P. Los Baños, disclosed that the project would possibly get underway this year or next year as the U.P. Diliman housing project has started already.



STUDENTS BACK FROM 4-DAY NORTHERN LUZON TOUR

Exhausted but wiser by field experience, the 129 forestry students taking Silviculture, Forest Protection,

and Nurseries and Plantations headed by Prof. Teodoro Delizo returned in the evening of August 21 from a four-day educational field trip in Ilocos Sur, La Union and Mountain Province. The trip to these northern Luzon provinces was conceived to provide the forestry students first hand information on forest protection and silvicultural techniques employed by the different reforestation projects. The factor which spurred on the groups' decision to visit the Ilocos region was its forest conditions representative of a typical situation existing throughout the Philippines.

In Ilocos Sur, the students were shown around the Canniaw Reforestation Project to observe nursery practices there. They visited the 13-year old pine plantation there which was intended for protecting the region's watershed. The district office personnel of the Bureau of Forestry at Vigan entertained the students with a program and open forum. Here, they were apprised of the forest protection problems of the district. On the way to the Pines City, the group dropped at the Santa Sub-Nursery and at the Bilis Reforestation Project and had their two o'clock lunch at Burgos, La Union. At the Bilis Cooperative Nursery, the students, for the first time, were enlightened on the operation of a new type of nursery. This nursery is said to be the first of its kind established in the Philippines.

In Baguio City, at the Bureau of Forestry Regional Office, the group was lectured by the office personnel on forest administration and protection. The students visited the Research Experiment Station at Km. 21, Atok Mountain Trail and the Pacdal Nursery where the regional office of the Reforestation Administration is located. The reforestation personnel at Pacdal welcomed the group with a short program and open forum with City Mayor Luis Lardizabal as guest speaker. The energetic and forest conservation-conscious Pines City Chief Executive expressed his full support for the forest conservation program of the government. On their way back to Los Baños, the students dropped at the Kennon Road Reforestation Project and observed the man-made pine forest. Forester-in-charge Juan Mabesa of the project gave a lecture on the techniques of germinating pine seeds.

The success of the field trip was accredited to Prof. Teodoro Delizo, Messrs. Mauricio and Leonardo Angeles who were in charge of monitoring it efficiently, and to BF Regional Director Rufino Sabado and RA Regional Supervisor Primo Andres who saw to it that the students were entertained well in the several units visited.



FORESTRY SLAMMERS ROUT AGGIE FRESHIES

As we expected, the Forestry volleyball team did it again!!! More determined and sturdy than ever, they let loose their wallops and deadly kills on the U.P. College of Agriculture freshman team to a straight set victory of 21-5, 21-5, 21-16 score in a game played on August 31, 1962 at the Baker Memorial Hall. Still undefeated with one more game to play, the foresters were confident of running away with the 1962-1963 Intramural pennant for volleyball.

Three members of the team missed action due to an scheduled Math 2 exam and coach Juanito D. Lamanilao had to trust his boys to Pete Muñoz to attend an urgent faculty committee meeting. Pete Muñoz, coach of the Forestry Basketball team champion this year gave the tossers that same magic touch as he gave his basketeers. Though incomplete, the eight forestry boys who played took the court in high spirit with Muñoz behind them.

The "new rule" was invoked during the game in which after the flip of the coin the forestry boys served the ball for the first score. A fumble made the score even but immediately after the foresters gained possession of the ball for the second time they piled up points after points until they changed court at 11-1 score in their favor. Beato Felias carted away 10 straight points with his orbiting balloons supported on the front line by the calculated tossing of Sergio Balilia and deadly kills of George Peria.

The coach of the freshman team kept changing his boys but he was not able to find the right combination to match the hitting power of the forestry boys. The foresters, anxious to finish the game delivered successive Alindayu-Balilia-Macaraeg combinations which kept the opposing team more confused. A freshie seemed to click after a long search but his power was not strong enough to destroy the defenses put up by Lopez, Villegas and Dy. On the second set the forestry boys repeated the score, 21-5.

In the last set the forestry team, already confident of winning the game, played over-confidently until their opponents got ahead with a score of 14-10. Peria didn't seem to like the idea that he let his left hand loose with fury against the spheroid. It was all good-bye to the Aggie Freshies in 15 minutes and another victory for the Forestry Tossers.



BALLS AND INDUCTIONS

Victory Ball For Champs. The monotony of the College campus was broken when the students paused

a while to shake their legs and twist their hips in a victory ball held in honor of the forestry athletes for representing the college in the 1962-1963 Los Baños Intramurals. The dance was held at the Forestry Pavilion on September 7, 1962 under the auspices of the whole forestry student body organization.

Highlights of the affair were the presentation of the members of the Basketball team which copped the intramural championship this year, the members of the volleyball team, probable champion, and the members of the soccer-football team. A pennant donated by the Reforestation Administration pensionados was awarded to the basketball champion team.

Freshmen Induction And Barn Dance. The freshmen Class Organization inducted its officers with a barn dance and a short program in the evening of Saturday, September 8. Due to inclement weather, the affair which was originally scheduled to be held at the forestry swimming pool pavilion was held at the Forestry Mess Hall. The program was featured with contest in dancing the twist, watusi, off-beat and the tango. A spot dance, the last feature of the contest, provided the greatest excitement to the group.

Zeta Beta Rho Induction Ball. The officers of the Zeta Beta Rho fraternity were inducted into office by the Fellow adviser, Dr. Artemio V. Manza, alongside with the pinning of new members at the Lake View Family Pavilion on August 25, 1962. In a solemn ceremony, the officers pledged to uphold the dignity and the constitution and by-laws of the frat and to discharge their duties faithfully.

The oath taking of the officers and the pinning ceremony for the new members were witnessed by the alumni fellows, resident fellows and some guests. Among the guests present were: Dr. & Mrs. William Webb, Dr. & Mrs. Francisco Tamolang, Sr., and Dean & Mrs. Gregorio Zamuco.

New members pinned by their respective partners were: Dan Borja, Honesto Clemente, Marcelino Dalmacio, Anacleto Duldulao, William Dy, Rainer Ecang, Gayred Esber, Rodolfo Fernandez, Ely Francisco, Brigido Gendrano, Juan Perez, George Peria, Alberto Picardo, Valerio Rabanal, Teotimo Redulla, Herminio Sambajon, Lamberto Suaverdez and Generoso Valiente.

Honored in the same party were three faculty fellows who recently left for the United States on a study grant.

Alpha Phi Omega Frat Ball. The Theta Chapter of Alpha Phi Omega fraternity held its annual Frat Ball on September 8, 1962 at the Senior's Social Garden. Chito Piansay, Grand Chancellor of the

organization, delivered a short talk welcoming Omegan brods and Kappa Phi Omegan sisters from Diliman and enjoined all his brods to uphold the dignity of their frat.

Following are the new members pinned at the affair: Onie Azaula, Gene Agbisit, Hugo Atienza, Louie Bautista, Roger Cantuba, Hermie Custodio, Bet Felias, Viddie Gonzales, Dave Llacuna, Nonoy Llana, Fred Madrid, Ernie Ordinario, Chico Pastor, Edward Pecson, Dan Seril, Vic Serrano, Alex Soriano, Joe Tavita, Nards Tugade and Dadong Marfil—all from the College of Forestry, and Willie Anday, Rudy Apostol, Joe Bagwan, Steve Baltazar, Julius Buyante, George Castillo, Manny Damasco, Manny Garchitorena, Freddie Garcia, Nonoy Jacela, Teddy Lopez, Ernie Mandapat, Gerry Rana, Kiko Rodriguez, Ed Roquia, Warmie Sales, Johnny Soriano, Rolly Virtucio, and Teddy Virtucio from the College of Agriculture.



8 RA SCHOLARSHIPS AT STAKE

Another great encouragement for students in the College of Forestry to strive harder in their studies is the recent disclosure from the Reforestation Administration. It is going to award eight scholarship grants in the form of financial assistance to deserving students this coming semester.

The RA plans to award two scholarships each for one class, e.g., two freshmen, two sophomores, etc. The first batch of eight scholars sent by the Reforestation Administration for the first time this semester are all RA personnel.



MLC SPONSORS WEEKLY FACULTY-UPPERCLASSMEN INFORMAL SEMINAR

To provide a closer faculty-student relation, the Makiling Literary Club has initiated a weekly faculty-upperclassmen informal seminar which started last Friday, September 14, 1962 with Messrs. Rosalio B. Goze and Anastacio Sison as seminar speakers treating on the work of the Bureau of Forestry in the forest districts. The seminar endeavors to gather the faculty members and upperclassmen to discuss forestry and other important subjects. It emphasizes development of rational thinking among students thru guided discussions and forums besides supplementing the information imparted to them in the classrooms.

Originally conceived by Messrs. Florencio Mauricio and Leonardo Angeles of the Silvicultural staff, the plan of the seminar was indorsed to the MLC president who in turn took up the matter to the

club adviser and the Dean after securing the nod of the different speakers. The plan was designed after Messrs. Mauricio and Angeles' observations in the United States and it was found to have received a good response from the upperclassmen who realized its importance in connection with their future goals.

The two-hour seminar held last Friday was attended by some forty upperclassmen and faculty members. The sweet stereophonic music which preceded the seminar plus the coffee served "ala canteen" kept the room alive with the discussion and pleasant exchange of ideas among the audience.



MISS ALCANTARA IS NEW LIBRARIAN

A charming lady caught the students' attention when she first appeared on the campus on September 1, 1962. She is the new librarian of the Coilege substituting Mrs. Pertona Sta. Iglesia who is on a three-month maternity leave.

Miss Nenita Alcantara hails from Negros Oriental but at present her family is in Davao City where her father works as supervisor of the Bureau of Public schools. The new librarian is an alumna of the University of the Philippines who graduated with a B. S. in library science in 1955. She had been the librarian of the Pharmacy-Medicine library of the University of the Philippines since she finished her course.

Asked how she felt about her new position, she said she was impressed by the behavior of the forestry students. She said they were quite, reserved and they behaved well in the library. She commented however, that the students don't have enough access to the reading materials kept in the library.

For the three months that she will stay here, she expects to improve the U.P. College of Forestry Library.

According to her, the latest acquisitions of the library from donations are: FAO publications on forestry from the Serial Section of the U.P. College of Agriculture, two copies of *Philippine Land Surveyors Manual* from the Certeza Surveying Company, Inc., and two copies of David A. Kribs' *Commercial Foreign Woods On the American Market* from the SUNY Project.



CAMPUS OFFICERS REVIEW

(By Elpidio S. Padre)

The flurry generated by the current semester's registration is just one phase of the start of a new school year. After it came a more lively and ex-

hilarating commotion—the several campus elections. The CFSBO (College of Forestry Student Body Organization) for instance, assumed the rule of a miniature political community—that of witnessing a rigorous political campaign characterized by our budding politicians' heartwarming speeches, smiles and handshakes, their colorful posters and streamers and other articles of trade they had in store, and that of going to the poll to decide once and for all the candidates' fate. The other campus organizations followed suit.

Well, when typhoon "Politico" subsided, the following proved to be tougher, sturdier and more resilient than the rest:

Senior Class: President, Claudio Guerrero; Vice-President, Gayred Esber; Secretary, Alberto Picardo; Treasurer, Eddie Quintana; Auditor, Oscar Suguitan; Business Manager, Ignacio Patague; Athletic Manager, Segundo Burgos; PRO, Lamberto Suaverdez; Representative to the SBO, Macorro Macumbal; Sergeants-at-Arms, Tanciano Felias and Arsenio Bucsit; Faculty Adviser, Mr. Juanito Lamanilao.

Junior Class: President, Oscar Gendrano; Vice-President, Anacleto Duldulao; Secretary, Ester Vergara; Treasurer, Pedro Calixto; Auditor, Virgilio Basa; Representative to the SBO, Rogelio dela Rosa; PRO, Agustin Pastor; Sergeants-at-Arms, Felix Eslava and Luis Manag; Faculty Adviser, Mr. Filiberto Pollisco.

Sophomore Class: President, William Dy; Vice-President, George Peria; Secretary, Marcelino Dalmacio; Treasurer, Herminio Sambajon; Auditor, Elmo Valera; Business Manager, Generoso Valiente; PRO, Eufemia Tamolang; Representative to the SBO, Teotimo Redulla; Sergeants-at-Arms, Honesto Clemente and Peter Osbucan.

Freshmen Class: President, Crisostomo Vilar; Vice-President, Cesar Rondilla; Secretary, Aurora Resuma; Treasurer, Lita Dueñas; Auditor, Guillermo Cuenca; Business Manager, Luis Tanogan; Athletic Manager, Primitivo Galinato, Jr.; PRO, Leonardo Buendia; Representative to the SBO, Cornelio Abergas; Sergeants-at-arms, Amado Ramos and Romeo Ausan; Faculty Adviser, Dr. Artemio V. Manza

Ranger Class: President, Sergio Balilia; Vice-President, Faustino Sunico; Secretary, George Ladrillono; Treasurer, Wilfredo Simbulan; Auditor, Josefino Tavita; PRO, Florante Gatan; Business Manager, Pablo Garcia; Representative to the SBO, Albino Sajor; Sergeants-at-Arms, Heracleo Basas and Velerio Rabanal.

Zeta Beta Rho Fraternity: Supreme Fellow, Al Rashid Ishmael; Vice-Supreme Fellow, Oscar A. Gendrano; Fellow Scribe, Macorro Macumbal; Fellow Bursar, Jose Gonzales; Fellow Charge d'affaires,

Lope Reyes; Fellow Herald, Claudio Guerrero; Fellow Fiscalizer, Virgilio Fernandez; Fellow Whips, Eddie Quintana and Pedro Calixto; Fellow Adviser, Dr. Artemio V. Manza.

Alpha Phi Omega International Fraternity, Theta Chapter (Forestry-Aggie): Grand Chancellor, Pacito Piansay (CF); Prime Chancellor, Agustin Mejia, Jr., Auxilliary Chancellor, Manuel Bandong (CF); Keeper of the Rolls, Agustin Pastor (CF); Guardian of the Treasury, Federico Garcia; Assistant Guardian of the Treasury, Federico Garcia; Wielders of the Whip, Ernesto Leproso (CF) and Wendell Dancel; Advsers, Messrs. Jesus Melgar, Jose Malabuyoc and Dr. Fabian Tiongson.

Making Literary Club: President, Rosalio Goze; Vice-President, Anastacio Sison; Secretary, Angel Mariano; Treasurer, Bienvenido Paragas; Auditor, Gayred Esber; Business Manager, Al Rashid Ishmael; Press Relation Officer, Romulo Casilla; Representative to the SBO, Alberto Picardo; Club Adivser, Prof. Jose B. Blando.

BF Pensionado Club: President, Jose Rayos; Vice-President, Bienvenido Paragas; Secretary, Angel Mariano; Treasurer, Florentino Ferrer; Auditor, Pedro Salazar; PRO, Rosalio Goze; Sergeants-at-Arms, Jose Cabanayan and David Rojas.

UPSCA-Forestry Chapter: Chairman, Policarpio Cayabyab; Vice-Chairman, Juan Perez; Secretary, Romeo Briones; Treasurer, Agustin Pastor; Auditor, Rogelio Ragasa; Press Relation Officer, Alfredo Madrid; Business Manager, Jesus Bengson; Representatives to the Central Council, Rogelio Cantuba and Ben Malto; Faculty Adviser, Mr. Juanito Lamanilao; Spiritual Adviser, Rev. Fr. Romeo Dimaano.



FRESHMEN WELCOMED AT SMOKERS' RALLY

The college auditorium was literarily filled with smokes as the College of Forestry faculty and student body presented a unique way of welcoming its freshmen to its fold in the celebration of the traditional Smokers' Rally last June 21.

The well attended celebration sponsored by the SBO despite the heavy downpour caused by the raging typhoon "Kate", featured different contests in skit and singing presentation after the induction of the incoming elected SBO officers, members of the Vigilantes Committee and the Freshmen class, were made.

The winner in the singing contest declared by Chairman Juanito Lamanilao were: for vocal solo, Honesto Clemente and Ely Francisco, first and second prize respectively. For group singing: first place, duet by B. Gendrano and H. Clemente; second place, UPSCA; and third place, Ranger Class.

The freshmen class romped away with the extra prize for having the best performer in its skit while the special prize went to the Zeta Beta Rho quartet for rendering an encore number.

"Study hard and strive for excellence" is the parting word of advise by Dean Gregorio Zamuco in his closing remarks.

Refreshments and smokes were served during the program.

—Jaime L. Albay

AMERICAN FORESTER UNDERSCORES IMPORTANCE OF COLLEGE OF FORESTRY

"The future of Forestry in the Philippines depends almost entirely upon developing a strong self-sufficient college of forestry in the Philippines, observed Dr. Hardy L. Shirley, dean of the State University of New York College of Forestry at Syracuse University, during a radio interview last Sunday evening in "Forests Build the Nation" program over DZBB in Quezon City.

Dr. Shirley further stated that if the Philippines is to maintain the forest industries which were responsible for providing 19 percent of the total foreign exchange of the country in 1960 topped only by sugar and copra, the government should exert all efforts to promote public understanding and support by training sufficient technical men in the field of forestry.

Dr. Shirley was greatly impressed by the high quality operations and the very highly developed technology of the forest industries in the southern part of the Philippines which he was able to visit when he first came in 1960. Among them were Napsit, Bislig, and Insular Lumber Companies.

"To my knowledge," he stated, "your country has one of the best tropical forests in the world both in the stand composition and in the growth rate which appear to respond very well to forest management. In Europe, a forest such as yours which has a growth rate of 10 cubic meters per hectare per year is considered highly productive."

Dr. Shirley, who left July 22, was interviewed by Prof. Domingo V. Jacalne of the U.P. College of Forestry.—GVL



FORESTRY ECONOMIC EXPERT DEPARTS

Dr. Charles C. Larson, a visiting Professor of Forestry Economic at the University of the Philippines College of Forestry and outgoing Project Lead-

er of the U.P.-State University of New York contract in Forestry, left recently with his wife for New York where he will resume his work at the State University of New York College of Forestry at Syracuse University.

Dr. Larson came to the Philippines in 1959 under the U.P.-Cornell University contract and for sometime he handled courses in Forest Economics and Forest Policy and History at the College of Forestry. Upon the termination of the U.P.-Cornell contract, he was appointed the Project Leader of the U.P.-S.U.N.Y. contract in Forestry, a joint project of the U.S. Agency for International Development and the National Economic Council which aims to rehabilitate, expand and modernize the U.P. College of Forestry in its program of research, training of foresters and forestry extension.

During his stay in the College of Forestry, Dr. Larson was instrumental in the acquisition of much needed laboratory equipment, transportation units; construction of a students' Forestry Residence Hall; improvement of the Forestry campus water system; and the construction and equipping of a modern Forestry Technology Laboratory.—GLV



4 FORESTRY INSTRUCTORS OFF TO US

Four faculty members of the U.P. College of Forestry at College, Laguna will be leaving at the end of September for a year advanced forestry training under the NEC-AID Type A Training Program.

The participants are Fernando L. Viray, Edilberto Z. Cajucom, Bienvenido R. Rola and Florentino O. Tesoro.

Viray will work for an MS degree in Timber Engineering at the University of Wisconsin while the other three will enroll at the University of New York College of Forestry at Syracuse to work, each for a master's degree in Forest Recreation, Forestry Economics and Wood Preservation, respectively.

These participants are graduates of the University of the Philippines, the first at the College of Engineering ('60) and the rest from the College of Forestry at College, Laguna.



FORESTRY EXTENSION

A department of Public Information and Education in Forestry will be established soon at the College of Forestry.

This is the result of an agreement in principle to centralize at the College public forestry information and education work by six government agencies namely: College of Forestry, Bureau of Forestry, Reforestation Administration, Forest Products

Research Institute, Parks and Wildlife Office, and the Agricultural Information Division, DANR.

Two hundred thousand pesos has been earmarked during the first year for the purpose and will come from the unallotted balance of the Reforestation fund. The Dean of the College is working earnestly for the release of the money in order to start the implementation of the program.



DR. WEBB SPEAKS AT CONVOCATION

Dr. William L. Webb of the State University of New York College of Forestry at Syracuse was the guest speaker at a convocation sponsored by the Makiling Literary Club held last August 17 at the College Auditorium.

The new project leader replacing Dr. Charles Larson who has already left for home assignment, defined the "Responsibilities of Foresters" in his speech. Among other things, the forester-biologist emphasized on the development of knowledge and skill in basic sciences especially forestry and how to work for a change based on the knowledge of the past and present practices. Based on his experiences and world-wide travel, the American professor urged his student-audience to learn the fundamentals of how to do things in researches and to have the general idea on how to improve them.

The convocation designed by the MLC to give the students the information outside of the knowledge from the books by presenting prominent career-men included the induction of the elected officers of the Club for the school year. The opening remarks was delivered by the club adviser, Professor Jose B. Blando, who introduced the faculty members to the visiting professor and guest speaker and appealed to the faculty and various student organizations for assistance in raising of funds for new curtains for the auditorium. (Incidentally, the old curtains and the piano were donated by the old members of the Makiling Literary Club.)

A new talent from the Freshman class, Oscar Gulmatico rendered a piano selection and accompanied Honesto Clemente in his rendition of a vocal solo. Dean Gregorio Zamuco in his closing remarks appealed to the student body to go slow on the use of electricity; to use lights only when necessary. Reason: appropriation for light and water for the fiscal year amounts only to ₱5,000.00 whereas the bill last month alone has reached ₱982.00

The elected officers of the Makiling Literary Club who were inducted during the program were: President, Rosalio Goze; vice-president, Anastacio Sison; secretary, Angel Mariano; treasurer, Ben Paragas; auditor, Gayred Esber; business manager,

Al Rashid Ismael; press relation officer, Romulo Casilla and representative to the SBO. Alberto Picardo. Adviser of the club is Professor Jose B. Blando.

By Jaime L. Albay



NORTHERN LUZON TRAVELOGUE

(By Oscar Gendrano and Teogenes Agbisit)

In any field trip, especially when the group is big, what are easily remembered and happily recalled are the sidelights. The real ends are sometimes relegated to the back of one's mind and the little incidents along the way, happy or otherwise, are recalled very readily. The Silviculture, Forest Protection, and Nurseries and Plantation classes' trip is no exception. It had its fair dose of happy incidents and disappointments. Here are retold some of those happenings which, if taken seriously may cause indigestion, and if considered lightly will make one think that after all a forestry career is not hard work everytime but also high adventure.

* "How do you know it's asucena?" whispered a Laguna-born student to his friend. The friend retorted. "How d'ya know it isn't?" and patted his belly signifying that he's ready for anything. It was breakfast time at Canniaw Reforestation Project and everyone lined up for his share of what the nursery people had to offer. The night-long trip has made the boys half-asleep and weary; it was a relief, though, that no one made the mistake of washing his face on the steaming cauldron of soup. However, one can be quite sure that many mistook pork for asucena and vice versa.

* The DANREA basketballers of Vigan, Ilocos Sur should have known that the team (minus some stalwarts, of course) they were pitted against holds the 1962 Los Baños intramural crown. They would have enlisted the help of better and taller Vigan dribblers to at least get to a closed margin than 56-37. Well, the 19-point spread over them told more than an advice to study better teamwork and to train a cheering squad that can outshout the crack Forestry Cheerers.

* On the other hand, the Baguio Tech and St. Louis shooters should not know that the Forestry team is the present intramural champion. Otherwise, the banner headline about our defeats on their school newspaper might even be made multi-colored.

* One most unhappy incident was the loss of clothes and personal belongings of some members of the group. Unidentified person (s) broke into one of the Patria Hotel rooms where the students were lodged in the night of August 20, 1962. The burglar (s) carted away two jackets, some pants and cash money. Even the Ang Tibay shoes of the LTB

bus driver who slept in his vehicle using these same shoes as his pillows, were stolen. "The driver must have dreamed of bartering his pair of foot-gears for a beautiful Igorota that cool evening," so was the comment.

The polices were informed of the theft but the subsequent investigations did not yield even only a button of a shirt lost.

° Dance, dance dance to the music of the barrio Paing Sound System; ladies are very alluring, reserved but friendly; speak pure Ilocano, may neither understand English nor Tagalog but readily understand the language of your wallet, e.g., Mabini, M. H. del Pilar, Bonifacio and Jacinto "as you dance across the ground floor."

The dance was at first thought of by the students uninitiated to the custom of the place, to be a pleasant gesture of courtesy. It turned out, though, to be a benefit or fund raising affair! Dance, dance, dance at ₱1.00, ₱5.00, or ₱20.00 apiece. Boy, wanna lady's choice?

One after another, the students retreated to their buses. Those with extra pesos to spare stayed; several of them, however, felt robbed of their dough the next morning.

° The sumptuous meals offered the travel party by the reforestation projects visited seemed to confirm the idea that the shortest way to a man's heart is thru his stomach. However, the Baguio Forest District office seemed to have propounded another equally agreeable idea: that the real shortcut to a man's heart is thru a jam session with a full complement of charming young ladies.

"Orchids," that's what the bunch of Baguio belles call themselves. And orchids they really are in full perfumy bloom. The varied charm of the city lasses made many of forestry gentleman's eyes moon-sized. The sturdy, kindly mien of the boys left many an orchid starry-eyed.

The affairs' highlights: Magnificently obsessed Roger sang himself to the heart of a sweet-voiced señorita known only as a Juliet. Tony mashed Baguio Potatoes on the District Office's dance floor and captivated almond-eyed Lita. Chico boogie-woogied it with the cream-complexioned Jane. Edward did a Valentino-inspired tango number with an equally graceful lady. Some of the boys simply waltzed it easy—some shyly trying to spark a conversation with their partners, some thriftily whispering compliments, probably sweet nothings, while others resorted to quietly finding their ways in the maze of their romantic imaginations. Even those who preferred to stay in the background and acquaint themselves with Baguio mosquitoes enjoyed seeing the frolic.

Before the session was called a night, best poses and smiles were given and pictures were taken.

° The speech of Baguio City Mayor Lardizabal before the members of the trip could make the audience believe that the city mountains will forever be green. And Hermie Custodio's afternoon snack of "caldereta" and "puto", Federico Garcia's canful of "basi", and Tranquilino Cachero's luscious "suman" treats for the group, can very well convince anyone of the heartwarming hospitality of the people of the region. True, their hospitality stays "green", too, as that which your eyes would meet the moment you enter a green pasture.



THIS SEMESTER'S SCHOLARS AND PENSIONADOS

A total of sixty-two students holding various scholarships and pensionadoships are presently enrolled this semester according to the College Secretary's record. The Reforestation Administration, for the first time, has sent eight of its personnel to pursue various courses in forestry. The scholars and pensionados are as follows:

Bureau of Forestry scholars: Celso P. Diaz, Arturo F. Formento, Elpidio S. Padre (college scholar), Roberto L. Rosales, Angel U. Soriano, Generoso C. Valiente, Crisostomo B. Vilar, Marcelino V. Dalmacio, Reynaldo E. de la Cruz, Rodolfo A. Fernandez, Ely L. Francisco, Honesto A. Clemente, Brigido A. Gendrano, George V. Peria, Herminio B. Sambajon, Cenon N. Castillo, Rogelio M. de la Rosa, Virgilio A. Fernandez, Oscar A. Gendrano, Antonio V. Glori, Ester T. Vergara, Honorio F. Cariño, Romulo C. Casilla (college scholar), Claudio C. Guerrero, Eddie I. Quintana, and Pablito A. Medenilla, Jr.

Bureau of Forestry Personnel: Jaime L. Albay, Modesto O. Canave, Cresenciano Q. Dacumos, Damaso de la Cruz, Gayred Esber, Rosalio B. Goze, Florentino I. Ferrer, Jose Gonzales, Andres C. Lubrin, Angel Mariano, Conrado P. Padrones, Bienvenido Paragas, Juan Perez, Alberto Picardo, David M. Rojas, Cesar S. Rondilla, Anastacio B. Sison, Juanito R. Ugalino, and Carlos L. Wandisan.

Reforestation Administration Personnel: Cornelio C. Abergas, Severino T. Ancheta, Tomas M. Binua, Jose A. Cabanayan, Sotero D. Luis, Jose A. Rayos, Pedro C. Salazar, and Luis M. Tanogan.

Commission on National Integration scholars: Alonzo P. Cariaga, Noe L. Ingosan, Al Rashid H. Ishmael, Odin M. Kalim, Aligan D. Lucop, Macorro L. Macumbal, Peter Osbucan, and Pangaga P. Pangcoga.



COLLEGE OF FORESTRY OBSERVED ARBOR WEEK

Despite the threatening inclement weather in the early morning of Saturday, July 28, the students and members of the faculty of the College of Forestry donned their working clothes, all ready to plant 4550 timber tree seedlings on patches in the Makiling area where trees had been wantonly cut down by kaingineros.

The students were assembled at the college auditorium at seven o'clock in the morning during which they were given a pep talk by Dean Gregorio Zamuco regarding the essence of the arbor week celebrations as well as the student responsibilities as future foresters. The dean also recalled with the students a brief history of the college and the Makiling National Park. Prof. Teodoro Delizo gave some tips on the proper way of handling and planting seedlings while Prof. Lucio Quimbo, the SBO adviser, made the final crew assignments.

Sites within the forest reserve such as those of the Puting-lupa block near the mudspring were planted to mahogany and some parcels above the Boys Scout Jamboree site were planted to ipil, banyo amugis, tindalo, and narra.

With the able guidance of the faculty members and the initiative of the appointed crew leaders combined by the cooperative effort of the students, the arbor day planting activity lasted till noon only, timely enough for the tired planters to rest and have a picnic on their cold *baons*.



FORESTRY FIVE SHADES JUNIORS, 65 - 61

Some 500 avid basketball fans saw the defending champion, Forestry Goldies, vanquish the Aggie Juniors in the crucial game played at the Baker Memorial Hall last Tuesday, July 3, 1962.

In the opening canto, Hamada, Dy, and "Big Boy" Reboton combined to give at 12-2. Later, Junior's Clemente, Abaya and Dienzo retaliated, tying the score at 12-all, and then stealing a shot to give the lead to the Juniors at 14-12. Again the game was deadlocked at 14-all and 16-all. But the Juniors, getting hotter and hotter, widened the lead and clinched the first half with a score of 30-22.

In the second half, Hilario, Hamada and Reboton scored four hits, narrowing the gap at 34-30, but Dienzo, proving his mastery of the keyhole connected twice, spreading the lead at 38-30. At the score 48-38, Willie Dy, Alcomendras and Clemente rallied to make the score stand at 48-44. At this

point, the game started to be more exciting. The Big Three of the Goldies, Hilario, Hamada and Reboton tied the score at 56-all after 36 minutes of play on the hard court. A clicking Abaya-Dienzo combination chalked up the tally to 56-57. The crowd roared when Simbulan and Dy tied the score at 61-all.

With exactly two minutes to go, score at 61-all, team captain Manny Hilario of the Goldies, intercepted a bad pass and jumped shot giving the team the winning shot. Oca Hamada beat the gun by making a lay-up shot deciding the game for the defending champs.

This is how they scored:

Forestry		Juniors	
Hamada	16	Dienzo	14
Reboton	10	Abaya	12
Hilario	8	Lejano	12
Dy	6	Clemente	11
Alcomendras	6	Ramirez	10
Clemente	6	Ayson	2
Morales	5		—
Simbulan	4		61
	—		
	65		



DEAN UNDERSCORES HIGH SCHOLARSHIP, EXCELLENCE

Cites Lack Of Scholars

Dean Gregorio Zamuco underscored two ideals that a student should strive for in his closing speech before the student body on the occasion of the Smokers' Rally held Saturday, July 21.

Recapitulating the salient points of an address by UP president Carlos P. Romulo, the dean underscored "excellence and high scholarship" as the two most important things that students should aspire after in order to have a successful college training and to cope with the high scholarship standard of the university.

"Excellence and high scholarship" means essentially competence or proficiency in the various fields of study. The forestry course, for instance, requires of the students a fair mental vigor balanced by physical stamina.

The dean cited further that forestry scholarship grants in the form of financial assistance from government and private entities such as the Bureau of Forestry, Reforestation Administration, Nasipit Lumber Company, Insular Lumber Company, are at stake for students who could meet the scholarship requirements stipulated by said entities. Aside from these scholarships, there are also university and college scholarships.

In this connection, the dean mentioned the lack of enough students who can qualify for the aforementioned scholarship grants. Hence, at present the financial assistance appropriated for the unclaimed scholarships remains unutilized.

To meet the high scholarship requirements, you should strive for excellence and high scholarship, the dean concluded.



BIENVENIDA - DESPEDIDA FOR SHIRLEY, SUNY GROUP

A bienvenida - despedida party and program in honor of Dean and Mrs. Hardy L. Shirley and the State University of New York (SUNY) contract was tendered by the UP College of Forestry Faculty last June 7 at College, Laguna. Dr. Shirley, the dean of the College of Forestry, State University of New York at Syracuse, was here for a three-week visit.

The departing visiting professors are: Dr. Charles C. Larson, Professor of Forestry Economics and outgoing project leader; Floyd E. Carlson, Professor of Forestry Information; and John C. Sammi, Professor of Forest Management. Each of them were given souvenir gifts of *salacots*, walking canes, flower bases made of coconut shell, ash trays made of bamboo, and a tape record of the songs of the "Forestry Songbirds", a choral group which includes the wives of the visiting professors.

Dr. William Webb, the incoming project leader, is a professor of Forest Zoology at the State University of New York College of Forestry prior to his assignment as SUNY project leader.

The affair was held at the newly constructed, three-storey Forestry Technology building—one of the many accomplishments of the UP College of Forestry-State University of New York contract.



CF ENROLLMENT HITS 424

After the little confusions generated by the current semester's registration, the record of the Secretary's Office revealed a slight increase in the number of students enrolled which is 424 as compared to that of the first semester of last school-year which was only 394.

Of the 424 students, there are 66 lowerclassmen and 20 upperclassmen taking the ranger course; 136 freshmen, 62 sophomores, 77 juniors, 39 seniors and one special student pursuing the Bachelor of Science in Forestry (BSF) course; three graduate students and twenty-one cross-registrants from the College of Agriculture.

The first ten provinces which have the largest number of students registered as freshmen are as follows: Cagayan—16, Pangasinan—15, Laguna—14, Nueva Vizcaya—11, Isabela—9, Ilocos Sur—7, Quezon—7, Tarlac—6, Nueva Ecija—5, Manila—4.

It is interesting to note that of the 403 students taking the forestry course, seven are females. One freshman is pursuing the ranger course. The other six—two freshmen, three sophomores, and one junior—are all enrolled in the BSF professional course. There are also three Thai nationals—two classified as junior and one, a candidate for graduation from the BSF course this coming October.



TWO FORESTRY STUDENTS JOIN UPSILON SIGMA PHI

Two Ilocanos, both active and very resourceful students of the UP College of Forestry, recently joined the Upsilon Sigma Phi (Los Baños Chapter), a university fraternity, after undergoing their final initiation rites held on July 29, 1962. Aside from the two, there are six other students who joined the fraternity this year and who will be formally inducted in a fitting ceremony to be held sometime this semester.

The two forestry boys newly admitted to the fraternity increased the number of forestry resident Upsilonians to five which includes Rose B. Goze—'53, Angie Mariano—'54, and Toti Blando—'59.



GOZE ELECTED SBO PREXY

Rigorous house-to-house campaign, colorful posters, and an Ilocano "nationality" elevated Students' Party standard bearer, Rosalio B. Goze to the student body organization presidency in an election held at the College of Forestry Administration building on Friday, June 29, 1962. Student voters gave him a safe margin of 76 votes over his rival, Ben Paragas, who garnered only 88 out of the total 225 votes cast.

It was nearly a winner-takes-all victory as the SP captured seven out of the eight positions failing only in the vice-presidential berth. Pedro Salazar, the Duty-Above-All Party, vice-presidential bet, edged his SP opponent by a close 25 margin.

Mr. Rosalio Goze, a Bureau of Forestry pensionado, was slightly confident of winning although the DAAP presidential bet, Ben Paragas, was an equally able and very friendly person. He (Goze) had the reputedly loyal support of the Ilocano students who form the majority of the college population, while Paragas, though he could perhaps utter only "Wen

(Continued on page 88)

B. F. Notes

AN ACT TO AMEND CERTAIN SECTIONS OF THE REVISED ADMINISTRATIVE CODE AND FOR OTHER PURPOSES

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. Section eighteen hundred twenty-six of Act Numbered Twenty-seven hundred eleven, otherwise known as the Administrative Code, is amended to read as follows:

“SEC. 1826. Regulation setting apart forest reserves—permanency of same—Upon the recommendation of the Director of Forestry, with the approval of the Department Head, the President of the Philippines shall set apart forest reserves which shall include denuded forest lands from the public lands and he shall by proclamation declare the establishment of such forest reserves and the boundaries thereof, and thereafter such forest reserves shall not be entered, or otherwise disposed of, but shall remain indefinitely as such for forest uses.

The President of the Philippines may, in like manner upon the recommendation of the Director of Forestry, with the approval of the Department head, by proclamation modify the boundaries of any such forest reserve to conform with subsequent precise survey but not to exclude any portion thereof, except with the concurrence of Congress.

SEC. 2. Section twenty-seven hundred and fifty-one of the Administrative Code is hereby amended to read as follows:

“SEC. 2751. Unlawful occupation or destruction of public forest—Without the written permission of the Director of Forestry or his duly authorized representative, it shall be unlawful for any person willfully to enter upon any public forest, proclaimed timberland, communal forest, communal pasture, and forest reserve and occupy the same, or to make “caingin” therein or in any manner destroy such forest or part thereof, or to cause any damage to the timber standard and other forest products and forest growth found therein, or to assist, aid or abet any other person so to do. It

shall also be unlawful for any person negligently to permit a fire which has been set upon his own premises to be communicated, with destructive results, to any of the public forests herein-above described. Any person violating this section shall suffer—

“(a) If the offense is committed within a proclaimed timberland or a communal forest or communal pasture, a fine of three times the regular government charges upon the timber or other forest products so unlawfully destroyed, and in addition thereto, imprisonment for not less than four months and not more than six months:

“(b) If the offense is committed within a forest reserve, a fine of four times the regular government charges on the timber or other forest products so unlawfully destroyed, and in addition thereto, imprisonment for not less than six months and not more than eight months;

“(c) If the offense is committed in any of the public forest, other than those mentioned under subsections (a) and (b) hereof, a fine equivalent to twice the regular government charges upon the timber or other forest products so unlawfully destroyed, and in addition thereto, imprisonment for not less than two months and not more than four months.

“In all cases falling under this section, the court shall upon conviction, order the eviction of the offender from the land, and the forfeiture to the government of any construction or imprisonment made thereon. If the area is reforested or under reforestation, the court shall, in addition to the penalties herein provided, sentence the accused to pay to the government double the actual damages sustained as determined by the value of plantings and improvements destroyed and the detriment to the land and vegetation thereof.

“If the forest areas the subject of this section have been given under license, permit or authorization for exploitation to a private party, said party shall be responsible for the payment of the pecuniary penalties prescribed in this Act and shall defray the expenses for the reforestation, or replanting of any area that is cut or cleared in violation of law.

"No person who has occupied any portion of these forest in good faith for more than five years prior to June 8, 1939 shall be subject to the penalty prescribed herein and should the area so occupied be found more fitted for agricultural than for timber purposes, the same may be disposed of in favor of the actual occupant or occupants under the provisions of Commonwealth Act Numbered One hundred and forty-one."

SEC. 3 Any provision of any law, rule or regulation inconsistent with this Act shall be considered repealed or amended.

SEC. 4 This Act shall take effect upon its approval.

Approved: June 17, 1961.

Published by:

Forestry Information Section
Bureau of Forestry, Manila
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EXPLANATORY NOTE (REPUBLIC ACT NO. 3092)

Forest reserves are permanent forest lands set aside for definite and specific uses in the national interest. These reserves should not be revoked or diminished except in very rare exceptional cases. This is the intention of Section 1826 of the Administrative Code. However, in the past years, the reclassification and sometimes revocation of forest reserves had been done to the extent that the forest reserves are unstable as any other public forest. It is unwise and uneconomical to spend such time and effort protecting and reforesting forest lands intended for permanent forest uses if such forest lands will later on become alienable. The U. S. and other progressive countries are keeping portions of their domains permanently for forest purposes and their people respect their national forest as they do to private property.

The enactment of this bill will give security of status to public forests that have been classified and designated for specific forests purposes. Such security of status will strengthen the Government in its vigorous and effective enforcement of forest laws and regulations against forest destruction and illegal occupation.

Permanency of status is a pre-requisite to a systematic management of the forests for specific purposes, such as for timber production, protection, etc. With virgin commercial forest diminishing, the lumber and allied industries which rank fourth among our major industries are getting apprehensive of the wood supply for their stability. The protec-

tion and conservation of watersheds of important rivers are becoming more imperative.

The Bureau of Forestry is now expediting the classification of the public forests with the object of establishing those portions needed for forest purposes as permanent forests through their proclamation as forest reserve.

This bill if enacted will give force and effect to the policy expressed in Section 1826 of the Administrative Code that, "The public forests of the Philippine Islands shall be held and administered for the protection of the public interests, the utility and safety of the forests and the perpetuation thereof in productive condition by wise use" and with the President's State-of-the Nation Message to Congress: "It is our sacred obligation to conserve our national patrimony and transmit it to our posterity undiminished until time is no more."

This bill is also in line with the Recommendation on General Policy in Reorganizational Plan No. 30-A of the Reorganization Commission.

The approval of this bill will assure sufficient forest lands for future generation and enhance the protection, conservation and wise utilization of our reserve.

Published by:

Forestry Information Section
Bureau of Forestry, Manila 9-1-61
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BOND

Forestry Director Mateo S. Pecson issued the other day a circular requiring forest concessionaires to submit additional proofs on the validity of surety bonds posted in connection with their operations.

The requirements are as follows:

(1) A certificate from the bonding firm showing—

(a) The concessionaire is up to date in the payment of his annual premiums.

(b) He is in good standing with the company.

(c) The surety bond is duly backed up by a collateral sufficient enough to cover the money value of his surety.

(2) A certificate from the Securities and Exchange Commission attesting to the solvency of the bonding company.

Pecson said the deadline for the compliance of his circular is December 31, 1962. He warned concessionaires with temporary termination of their licenses, leases or permits for violations. The circu-

lar, he said, is one of the several moves he will adopt to make concessionaires follow faithfully the terms and conditions of their licenses.

The circular was prepared with the assistance of Antonio Quejado, accounting services division chief and after consultation with Pecson's staff.



A PROGRAM FOR FORESTRY

The bureau of forestry faces a task that is more challenging and demanding in the light of President Macapagal's socio-economic program. Our forests can play a vital role in the success of the President's program if their protection and conservation is effectively pursued and their commercial exploitation is done under a scientific management program.

From the economic point of view, forest is a factor to be reckoned with. The forest industries, especially the lumber industry, provide employment to thousands of people aside from the fact that they boost the dollar reserves of the country and the pesos in the national treasury. More than this, the forest exerts favorable influence upon agriculture, streamflow and climate. It provides habitat for wildlife and beauty for the landscape and recreational opportunities for the people.

Problems.—There are three problems, that must be solved if we are to achieve our objectives: (1) Insufficient appropriation; (2) Inadequate number of personnel; and (3) Negative attitude of the people toward forest conservation. The first two, I have been told, are perennial problems. Representations with the proper authorities will be made. In the meantime, we will have to do our very best with what little we have. The solution to the third problem is not difficult. The press and radio people, including the Agricultural Information Division of the DANR, the Joint Committee on Public Education and Information in Forestry, and other information agencies of the government, have been actively generating public interest in forest conservation.

If only these three particular problems can be solved the solution to all other forestry problems will eventually follow.

Plans.—I have drawn up the following plans the implementation of which is still under study:

(1) Gradual reshuffle of personnel in the interest of the service. It will be the right man for the right job. I will try to minimize over-fraternization between forestry man and forest concessionaires. Too much fraternization tends to influence official decisions.

(2) Disposition of cases within 72 hours as a general rule. The objective here is to avoid influence

peddling and to save on the part of visitors dealing with the bureau time, money and effort in commuting back and forth to the office.

(3) Investigation into the report that majority of forest concessionaires are dummies of aliens and that unusually large areas have been granted to a few individuals.

(4) Determination of the timber stand in the public forests. For effective forest management program, there is a need to know how much, what kind and where our timber stand is.

(5) Implementation of the Permanent Forest Law (Republic Act No. 3092). Land classification will be speeded up. The possibility of using aerial photogrammetry in timber inventory will also be considered.

(6) Extensive enforcement of the selective logging system as a tool of forest management program. The success of the system will redound to the benefit of the lumber and other forest industries.

(7) Intensification of forest protection work. The protection and conservation of forests will be given utmost consideration along with forest utilization.

(8) Strict enforcement of all laws, rules and regulations. For the protection not only of the government but of the licensees as well, respect for laws and compliance with requirements will be rigidly required.

(9) Moral Regeneration. The President's moral regeneration program will be carried out in the bureau. This is not to mean that there is moral degeneration in the bureau. I will reiterate to every forestry employee his duty to serve the public well without expectation of any material reward except the satisfaction of the people they serve.

My staff and I are still studying ways and means of improving the forestry service of the country. We pledge to do our utmost so that all generations will enjoy the blessings of the forest.



FORESTRY PICTORIAL SURVEY

Forestry director Mateo S. Pecson said the other day that a photographic record of forestry conditions in the country today is vital in the preparation of a long range program on forest management.

He said that for effective planning, implementation and evaluation, what forestry is today as recorded by photography should be compared with what forestry is tomorrow.

Through pictures, Pecson said, the people can realize the effects of forest conservation or forest

destruction. There will be photographic evidence that once upon a time a particular area was forested, he added.

The forestry director noted the inadequacy of photographs of the present forest conditions of the country. These pictures are also needed, he said, in the preparation of brochures, pamphlets and other forestry materials on forest conservation for dissemination to the public.

He added that some of them could be given to interested parties especially newspapers and magazines cooperating with the bureau in its conservation campaign.

Meanwhile, Pecson directed his information section chief Amador J. Evangelista and forestry photographer Edilberto Santos to start the pictorial survey in Northern Luzon particularly the Mountain Province and Zambales.

Forestry Information Section
Bureau of Forestry, Manila
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FORESTRY POLICIES

Forestry director Mateo S. Pecson told the district foresters the other day to redouble efforts in forest protection work in their respective provinces to perpetuate the benefits the people get from the country's natural wealth.

Speaking at the closing program of the district foresters convention, Pecson said that for the sake of all generations the forces destroying our forests must be stopped at once. He will ask, he said, the cooperation of the law enforcement agencies, fiscals and judges in the speedy apprehension, prosecution and disposition of forest violation cases. All forestry lawyers in Manila, he said, will be assigned in the regional offices to assist in this task.

Pecson asked the district foresters to remove public suspicion on the character of government employees. The people's impression that a public official is presumed crook should be corrected, he said. When he assumed office he said he presumed all forest officers to be honest. He warned, however, that no mercy will be given to guilty one. Although not all complaints are valid, he reminded the foresters that where there is smoke there is fire.

Stressing the necessity of protecting the remaining forests, Pecson said he will work on the following:

(1) Increase annual budget for the bureau which is one of the biggest income producing government agencies.

(2) Giving licensees greater responsibility in the protection of forest areas leased to them.

(3) Suspension of processing of applications for new forest concession until the backlog of old cases are disposed.

(4) Decent office buildings for the field service.

(5) Coordinated information campaign with other forest agencies.

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Fieldmen who have stayed long in one district will be reassigned to other provinces to prevent too much fraternization between forest officers and timber concessionaires, forestry director Mateo S. Pecson announced yesterday.

The new director said over-fraternization tends to influence official decisions often to the prejudice of the public. The personnel reshuffle in the central and field offices of the forestry bureau will start in the new fiscal year next month, Pecson said.

Secretary Benjamin Gozon of agriculture and natural resources detailed forestry domain use division chief Juan L. Utleg with the Office of Director Pecson. The detail of Utleg, Pecson explained, sets the tone of the coming revamp. Forestry observers said Utleg is a disciplinarian and honest public official.

AMADOR J. EVANGELISTA
Chief, Forestry Information Section
◇ ◇ ◇

BUREAU OF FORESTRY STAFFERS RESHUFFLED

Director Mateo S. Pecson started the revamp of the forestry bureau with the shifting of key officials from one division to another. The reshuffle, the director said, has been made in the interest of the service and does not involve demotion in rank and pay.

As reorganized, the staff is composed of the following Florencio Asiddao, project coordinator; Juan L. Utleg, division chief, detailed with the director's office; Segundo P. Fernandez, administrative services division acting chief; Marciano B. Basconillo, acting chief, forest management division; Severino U. Nablo, chief, domain use division; Vicente Marababol, chief, forest land uses division; Gregorio Poblacion, chief, sawmills & licenses division; Martin Guerrero, chief, forest research division; Antonio Quejado, chief, accounting division; Cecilio Diegor, chief, budget & fiscal division; Vicente Leonor, Sr., assistant chief, administrative ser-

vices division; Martin R. Reyes, assistant chief, forest management division; Ramon Rondilla, assistant chief, sawmills & licenses division; Timoteo Quimpo, assistant chief, forest land uses division; Tomas Manalo, assistant chief, domain use division; Juan Daproza, assistant chief, forest research division; Ramon Fernandez, assistant chief, budget & fiscal division; and Gaudencio Ferrera, assistant chief, accounting division.

Pecson directed his supervising information officer Amador J. Evangelista to undertake an information campaign against forest destruction in critical areas in coordination with regional directors, district foresters, other forestry agencies and provincial and municipal official.



DUMMIES

ATIMONAN, QUEZON, June 21—Forestry director Mateo S. Pecson said he will look into the report that about 95% of forest concessionaires are dummies and that unusually big concession areas have been granted to a few privileged licensees.

Speaking at the forest management conference held at the social hall of the Quezon national park here, Pecson said he will resort to outright cancellation of licenses if the report is found true. He bewailed the fact that small Filipino capitalists are deprived of opportunity to legally exploit our public forests because moneyed-groups are favored in timber concession grant.

Pecson urged licensees to bring to his attention any known anomaly. Forestry cases, including boundary conflicts, will be settled within 72 hours to avoid outside influence.

Gov Claro Robles, on the other hand, lashed at some concessionaires who cheat the government by using the same auxiliary invoice several times. In some northern towns of Quezon, he said, some log export boats are checked only by representatives of the Bureau of Customs and PC without any forestry man.

Robles asked leniency for kaiñgineros who commit violations because they do not know the boundaries between agricultural and forest lands. He said he will do this utmost to cooperate with the forestry bureau in the forest conservation campaign.

Lt. Col. Artemio Espidol, PC provincial commander, pledged to go after forest violators. The PC, he said, will help the forestry men enforce the forest laws in the province.

Forestry Information Section
Bureau of Forestry, Manila



FOREST WASTE

MINDANAO

(Special to The Manila Times)

ZAMBOANGA CITY, June 24—Forestry director Mateo S Pecson said utilization of forest waste products will provide ample employment opportunities to the people.

Pecson and Customs Commissioner Cesar Climaco were guests in the inauguration of the multi-million chipboard factory of (a local lumber company) (Timex) here.

The new factory, said to be the first of its kind in the country, will produce for the commercial market chipboards out of logs and lumber waste which usually is thrown away. German experts assisted by Filipino technicians of Zamboanga built the complicated processing machine. They said no waste will be left unused in the process.

Lauding the Tansengco family of this city for their courage in investing millions of pesos in a new industry, Director Pecson urged the licensees to practice scientific management to perpetuate the manifold benefits derived from the forests.

Pecson was accompanied by Forester Segundo P. Fernandez, Amador J. Evangelista, J. Valencia and M. Suarez.

Forestry Information Section
Bureau of Forestry, Manila



ARBOR WEEK

NORTHERN LUZON

(Special to The Manila Times)

IBA, ZAMBALES, July 15—Provincial and municipal officials of Zambales will join the national celebration of Arbor Week July 22-28 in collaboration with forestry bureau, reforestation administration and parks and wildlife office, district forester Deogracias Juni said yesterday.

Forestry director Mateo S. Pecson urged his fieldmen to coordinate their Arbor Week activities with other forestry agencies particularly the reforestation administration. His bureau, he said, has adopted as its slogan "Protecting Our Forests Is a National Necessity."

Pecson directed his supervising information officer Amador J. Evangelista to prepare forestry literature for distribution throughout the country. Evangelista conferred with Juni, Baguio district and city forester Cornelio Luczon, Tarlac correspondent Guillermo Mamuyac.

CAMPUS NOTES . . .

(Continued from page 82)

Manong", hoped to win with his amiable smile and heartwarming handshakes. When the proverbial smoke of battle had cleared solid. Rosalio vanquishes his opponent.

Other officers elected are: Pedro Salazar, vice-president; Romulo Casilla, secretary; Juan Perez, treasurer; Victor Dotimas, Jr., auditor; William Dy, athletic manager; Jaime Albay, press relations officer; Pedro Calixto and Valerio Rabanal, sergeants-at-arms.



MLC SET TO SPONSOR CONVOCATIONS

The Makiling Literary Club unanimously agreed to sponsor a series of convocations before the forestry student body starting this month during a joint meeting of its members and the *Forestry Leaves* and *Leaflets* staff members at Prof. Blando's residence last Tuesday, July 17, 1962.

Mr. Rosalio Goze, the club president and concurrently SBO president, asserted that the holding of convocations is a means of implementing one of his SBO policies—the stimulation of social and cultural consciousness on the part of the students. It will also provide for the students a fresh nook wherein they could share with the mind of resource persons who will be invited to speak at the convocations. Also, under the auspices of the club, the showing of free educational films at the college auditorium every Friday has been made possible.

For the current semester, the officers of the Makiling Literary Club are: Rosalio Goze, president; Anastacio Sison, vice-president; Angel Mariano, secretary; Ben Paragas, treasurer; Gayred Esber, auditor; Al Rashid Ishmael, business manager; Romulo Casilla, press relations officer; and Alberto Picardo, representative to the SBO. Professor Jose B. Blando is the club adviser.



RA GIVES ₱200,000 AID TO CF

To assist in the forestry information and education campaign of the College of Forestry, the Reforestation Administration has once again extended its generosity by giving to the College a sum of ₱200,000. This amount is a part of the savings of the Reforestation Administration in its 1961-1962 fund and is included in the special provision of the present reforestation budget as a rider.

At present, the Reforestation Administration is maintaining eight scholarship grants in the College of Forestry—a manifestation of its sincere interest in promoting forestry education.

Meanwhile, Secretary of Agriculture Benjamin Gozon agreed to submit a proposal to add another ₱200,000 to the Reforestation Administration's manna to the college. The sum, according to the report, will come from the Emergency Employment Administration.



LIBRARY GETS NEW READING MATERIALS

The UP College of Forestry library acquired recently through purchase and donations from faculty members and some American friends a total of 4,321 reading materials consisting of 621 volumes of books, 3,522 periodicals, 136 pamphlets, 28 theses of students, 7 leaflets and 7 paintings. These new materials were handed to Mrs. Petrona D. Sta. Igllesia, the college librarian.

Meanwhile, to facilitate more efficient service to the reading public the library hall was renovated. The counter was lowered, the doors were provided with screened shutters to give better ventilation, and the narra tables were varnished. One student assistant was also added to the library staff to meet the need of an expanding population of the college.



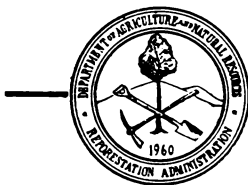
ANNOUNCEMENT

Mr. Businessman:

Be sure your business is included in the Economic Census now going on. If you have not received a questionnaire, write to the Bureau of Census and Statistics, Manila, NOW.

The Economic Census is not a tax census.

Mail back your accomplished questionnaire now.



REFORESTATION ADMINISTRATION

Notes

₱8 MILLION YEARLY OUTLAY ASKED FOR REFORESTATION

With the present rate of reforestation at 12,000 hectares annually, it will take the Reforestation Administration about 100 years to reclaim the country's 14 million hectares of denuded lands set aside by the bureau of forestry as needing immediate reforestation, according to Administrator Jose Viado.

The mission can be accomplished in 25 years, Viado said, if this government agency should receive a consistent appropriation of around ₱8 million a year.

Speaking before members of the Philippine Association of Log Producers and Exporters at Davao City recently, Viado revealed that if the pace of reforestation has become faster these years, it is mainly due to the illegal activities of fly-by-night loggers and cut-and-leave operators.

It is also in these small licensed areas where kaingineros and squatters abound, he said.

Holders of big concessions and licenses, on the other hand, have enormous capital investments and their desired end of exploitation is the sustained yield of the forest, according to the Administrator. Hence, he said, instead of even entertaining the practice of indiscriminate cutting of timber, they implement forest conservation measures to protect their big investments on concessions.

One of such conservation steps, Viado said, is the felling of matured trees in such a way as to cause the least destruction to the remaining timber stands. Following this measure religiously will enable the lumberman to come back and log where he is logging today, he said.

Users of forest products, according to him, also help in the government's forest conservation drive through an efficient utilization of the raw materials taken from forests. Among others, they can prolong the usefulness of any forest products by applying fungicides and insecticides on the wood products and furniture.—*Reforestation Newsletter* May, 1962



EXTENSIVE FOREST PROTECTION DRIVE STRESSED

The need for a more vigorous and extensive forest protection program especially in the Mt. Province was underscored by Administrator Jose Viado recently following his inspection tour of the reforestation projects in the northern Luzon area.

Administrator Viado stressed such a drive as will perpetuate the country's timber vegetation becomes urgent in the face of the unprecedented rise in forest destruction in the said area.

Forest fires have continued to hit the Mountain Province more frequently wiping out large areas of pine forests and plantations which feed raw materials to the wood-using industries of the Mountain Province and its suburbs and which insures the continuous flow of water for the smooth operation of the Ambuklao and Binga dams, according to the Administrator.

Unless the government take effective and immediate measures to curb not only forest fires but also kaiñgin-making, timber smuggling, squatting, and other forms of forest destruction, the forest area in the Mountain Province will continue to recede, he warned.

The Reforestation Administration chief pointed out that his office has already given top priority to the reclamation of the barren areas in and around the watersheds of the Binga-Ambuklao complex as well as those denuded watersheds of rivers that can be harnessed for hydro-electric power, irrigation system and domestic use.

Once completely reforested and given adequate protection, these watersheds will not only lengthen the life-span of the existing dams but will also insure the continuous flow of water for the various industries in the lowlands, he said.

Administrator Viado's inspection tour was in connection with the new administration's desire to push through its socio-economic program via the on-the-spot-solution of problems encountered by fieldmen in the different reforestation projects.—*Reforestation Newsletter* May, 1962



REFORESTATION BUILDING CONSTRUCTION SOON

Jose Viado, reforestation administrator of the Department of Agriculture and Natural Resources, has disclosed that a separate building of his office would be constructed soon within the compound of the DANR in Diliman, Quezon City.

Viado said the proposed ₱500,000 reforestation edifice would be a three-story affair. At present, he said, his office is housed at the third floor of the DANR edifice.

According to Viado, the Department of Public Works & Communication has assured him that the amount of ₱200,000 was now available for the initial construction. He revealed that the first floor of the proposed building would be occupied by the different divisions. The administrator's office will be on the second floor. The conference room and the technical division will also be housed on the second floor.



VIADO UNDERSCORES IMPORTANCE OF FORESTS

The role of the forest in minimizing the more frequent occurrence of floods was underscored by Administrator Jose Viado of the Reforestation Administration in a paper read before the annual general convention of the Society of Filipino Foresters recently.

The forest, he said, is a great factor in protecting the soil from getting a direct beating from rains that may otherwise flow in torrents down the lowlands if the mountains lay bare of trees. Because of this fact, raindrops are absorbed more effectively and in a greater volume by the ground made porous by the roots of the trees and the leaf-litter formation on the surface. The stored water is then released in a steady stream in the form of springs and into the air in the process of vapor transpiration.

If all the precipitation could only be absorbed in this way, then there would be no floods since all the water could be contained in the natural channels of the rivers, Administrator Viado stressed.

The Reforestation Administration chief pointed out that where floods occur in spite of forests, the immediate causes may be attributed to continuous heavy rains that induce excessive run-off, dam failures and high tides.

Floods may also occur where the terrain within the watershed is very steep resulting in a much faster

flow of water down below; when the rivers flow against the direction of the wind or gales thereby slowing the river currents; and when the exposed rocks in the subsoil are not permeated by rainwater so that instead of being retained it runs downhill and into the lowlands.

In the overall picture, the forest, aside from helping minimize the intensity of floods, prevents erosion or reduces its effect upon the siltation and deposition of soil and gravel into the riverbeds, according to the Administrator.—*Reforestation Newsletter*, April, 1962



RA GEARS FOR MASSIVE REFORESTATION

GOAL IS 46,000 HECTARES

The Reforestation Administration will start its massive reforestation program this July to boost the new administration's 5-year integrated socio-economic development.

The entity will undertake the reforestation of around 46,000 hectares of critically denuded areas out of its 1962-63 appropriation of about ₱7 million.

A labor force totalling 15,000 will thus be harnessed to hasten the achievement of its goal. These laborers will be distributed among the 58 reforestation projects scattered all over the country.

According to Administrator Jose Viado, the agency will intensify its campaign for more cooperative reforestation projects with communities, schools and other organizations interested in forest conservation. Presently the entity has joint projects with the National Power Corporation, Armed Forces of the Philippines, Boy Scouts of the Philippines, provincial governments as well as with other groups, private and public. All these organizations are assisted by the Reforestation Administration via seedlings furnished at minimum cost and free technical advice given them as they help reforest the bald countryside and beautify their municipalities.

On the extension phase of the program, the press, radio, and other communications media will be utilized more vigorously to popularize the cause of reforestation. Pamphlets, brochures, posters and other publications stressing the importance of reforestation will be produced especially for the consumption of the provincial and rural folks.

After all, it is these people from the hinterlands whose operation and sympathy for forest conservation we are trying to win. Once they are educated, forest destruction estimated at 50,000 hectares a year will be minimized if not totally stopped, according to Ad-

ministrator Viado. Reforestation will thus proceed more smoothly and within a shorter period since yearly denudations will come to a halt, he said.

More scholars and trainees on reforestation and related fields will also be sent to the U.P. College of Forestry to staff the agency with personnel technically trained for the Administration's bold development program, he stated.

Scientific investigations on tree diseases, better silvicultural practices and other studies will be stepped up to facilitate reforestation and meet the demands of the country's wood-using industries. Along this line the agency is looking forward to a closer cooperation with the National Science Development Board, U.P., Bureau of Soils, Bureau of Plant Industry, Atomic Center and other entities undertaking research activities, the Administrator concluded.—*Reforestation Newsletter June, 1962*



RA BOOSTS BEAUTIFICATION DRIVE

The Reforestation Administration will boost the Petroleum Institute's community beautification drive by furnishing 1,500 and 1,000 seedlings of fire tree and narra respectively.

In a conference attended by DANR Secretary Benjamin M. Gozon, Administrator Jose Viado and representatives of the Petroleum Institute headed by Gregorio B. Tengco at the DANR building, Diliman, Quezon City, recently, it was agreed upon that the seedlings will be planted in two pilot projects, one in Laguna and the other, in Bulacan.

Administrator Viado said that cooperative reforestation projects such as the Petroleum Institute's should always be supported and encouraged by the government. They are one of the best ways of promoting tree-consciousness among the people. Cooperative planting undoubtedly will help the Reforestation Administration reforest the Philippines, according to him.

The Administrator also mentioned during the meeting projects the agency has with the Boy Scouts of the Philippines; and other civic and religious organizations. He said that in all undertakings the government always helps in the procurement of needed planting materials.—*Reforestation Newsletter June, 1962*



BSP CITED ON REFORESTATION

The role of the Boy Scouts of the Philippines on the government's reforestation program becomes so

paramount in the face of rampant deforestation at the rate of 50,000 hectares a year added to the country's backlog of 1.4 million hectares of critically denuded areas that need immediate reclamation according to Deputy Administrator Carlos Cunanan.

Speaking at the 23rd BSP annual national council meeting in Baguio City recently, Cunanan lauded the scouts' 5-year reforestation program aimed at 3 million living trees by 1965. Most likely, the BSP will succeed in the venture because it has the needed manpower (230,000 scouts), seedlings and sites allotted for planting and the united spirit to see the project through, he stated.

The deputy administrator also mentioned that, geared to the Administration's socio-economic program, the Reforestation Administration's plans and forthcoming activities involve the planting of raw-material producing trees for the country's various industries and the hiring of 12,000 emergency laborers. These projects, once implemented, will not only hike the government's fund for reforestation via the sale of the raw materials but will also accelerate reforestation and help solve the country's unemployment problem, he concluded.—*Reforestation Newsletter June, 1962*



REFOREST AGNO WATERSHED

The reforestation of the Agno watershed at Mt. Data, Mountain Province will be undertaken jointly by the Reforestation Administration and the National Power Corporation. The denuded watershed is considered very vital in the conservation of water for the Binga-Ambuklao dam complex.

According to Administrator Jose Viado, the Reforestation Administration will supply the manpower while the National Power Corporation will take care of the payrolls and vouchers of the workers up to ₱50,000.

The agreement was reached following a series of conferences between authorities of the two government entities at Ambuklao. They all expressed alarm at the critical situation in which the two giant hydro-electric dams were placed as a result of the deforestation of the surrounding watersheds. They warned that if nothing is done by way of placing these bald areas under forest cover, the dams will dry up in 10 to 20 years to the detriment of the country's economic life.

Administrator Viado also said that there are about five reforestation projects that are now established in the Mountain Province. They are Ca-

bunagan, Kennon, Itogon, Baguio and Ambuklao reforestation projects. These projects are presently taking care of the reclamation of the province's barren areas. More such projects will be created depending upon how much fund the government can afford for reforestation purposes, he said.—*Reforestation Newsletter June, 1962*



GROWING MONEY ON TREES

This is no wistful thinking. The Reforestation Administration will soon grow money on trees. The peso-sign will be stamped on choice reforestation projects of this forestry agency by the trees that will populate them. Rubber trees, lumbang, benguet pines and other raw material-producing trees. They will do the trick.

Come fiscal year 1962-1963, the Reforestation Administration will implement the conversion of the Mindanao Reforestation Projects into production projects. Denuded areas that are not suitable for growing rubber trees will be grown to benguet pines.

The raw products of these forest trees like rubber sap, pulpwood, turpentine, oil and others—in demand as they are by our infant industries will be marketed and the proceeds channeled to the dwindling reforestation fund. Dwindling in the sense that the fees collected from the timber cut from our forests do not pour into the government coffers as punctually and as fast as they should annually.

As contemplated in the over-all scheme, Mindanao received the nod of Administrator Jose Viado as the most ideal site for testing the projected experiment. Several factors accounted for the choice. The raw materials that shall be extracted from the selected species have excellent commercial possibilities even in the region itself. Likewise, the climatic and soil conditions prevailing in Mindanao are far more suitable for the growing of these economic trees compared to that of Luzon and the Visayas. Most of the barren lands in this Southernmost region are composed of logged-over areas. Which means that the soil is richer and damper. An ideal place, indeed for tree-growing.

Seedlings needed for this venture are now being raised by the Reforestation Administration to meet the challenge. And the hectares that will receive them are being prepared. Already, the Amas and Dinaig Reforestation Projects at Cotabato have gone one step ahead of the blueprint by already making use of the lumbang and rubber trees for reforestation. No use to start, therefore, but to continue.

Confronted about the project, Administrator Viado pointed out that if pushed through, the government will be hitting two birds with one stone. For aside from restoring the bald mountains to forest trees, thus neutralizing if not totally checking the worst effects of deforestation, it will also increase its income from the sale of products that spring from the projects. With the Reforestation fund hiked, the Reforestation Administration, the government agency charged by the country to reclaim 1.4 million hectares of critically denuded lands, shall have been a little closer to its avowed goal of financially supporting itself.

Until then, more dependence upon other sources or funds shall have to be resorted to by this entity.



IMPORTANCE OF REFORESTATION TO NATION'S ECONOMY STRESSED

The country needs a more effective forestry extension campaign aimed at making the people accept and appreciate forestry and reforestation as vital factors in their struggle for socio-economic development.

Unless the citizens are convinced of the importance of forests in their daily lives, the pace of forest destruction will become faster thereby undermining the nation's economy.

These was disclosed by Administrator Jose Viado of the reforestation administration in his recent conference with Dean Gregorio Zamuco of the University of the Philippines, College of Forestry and Dean Hardy Shirley of the state college of forestry at Syracuse University, New York as well as with officials of the local Agency for International Development composed of Drs. William Webb, Charles Larson and William Tucker.

During the said conference, Viado also lauded the work of American forester Floyd E. Carlson whose two year contract as visiting professor of public information and education at the local forestry agencies lead towards a well-coordinated forestry extension.

Commonly referred to as "The father of forestry information and education in th Philippines," Carlson had always headed a team of information of-ficers from the reforestation administration, bureau of forestry, college of forestry, parks and wildlife office, Forest Products Research Institute, and the agricultural information division as they traveled around the Philippines campaigning for forest conservation, he pointed out.

The job started by Professor Carlson should be continued until we have driven home our point. We cannot possibly stop now because forestry education and information are still very much behind deforestation in the race, Viado concluded.



FORESTRY PLAN CITED

Administrator Jose Viado of the Reforestation Administration said that if the bureau of forestry could turn over portions of logged-over areas not included under timber management for the agency to reforest, it will be able to finance its own reforestation activities without depending so much on reforestation charges and direct appropriations.

The Reforestation Administration is at present sustained mainly by the Reforestation Fund as per Republic Act No. 115.

Logged-over areas are fertile and unlike barren cogon lands, can be easily established as plantations for economic trees. Planted to commercial and raw material-producing trees, these logged-over areas shall be providing the entity with that much needed income for forest reclamation in ten years or less, he said.

Private concessionaries and licensees will also be less bothered by increased forest taxes arising from the country's need for more funds for reforestation, according to him.



REFORESTATION IMPORT STRESSED

The social and economic security of the Philippines depends in no mean way upon the rate of forest reclamation undertaken by the reforestation administration and upon the varying degrees of support and cooperation extended to it by the people, according to Undersecretary Jacinto Montilla of agriculture and natural resources.

Speaking during the eighth convocation of the reforestation administration, held at the DANR Building, Diliman, Quezon City, recently, the undersecretary for natural resources deplored that as a result of the wasting of the country's forests, some of the rivers that used to be harnessed for irrigation, navigation and for other purposes have become so shallow that they run dry during summer. These rivers must be reinvigorated for the sake of nation-building by speeding up the reforestation of their barren watersheds, he urged.

Stressing the important role of the reforestation administration in the successful implementation of the administration's five-year socio-economic development program, Montilla said that the people's confidence in the ability of the agency to hasten the reforestation of the country's 1.4 million hectares of critically denuded areas is clearly expressed by the government's grant of ₱7 million for the 1962-63 reforestation expenses. This trust must be reciprocated with impressive results, according to him.

Administrator Jose Viado assured Montilla that following the sizeable financial aid given his agency, reforestation work will certainly be accelerated. He said that whereas before only about 10,000 hectares could be reforested yearly, approximately 46,000 hectares had been scheduled to be restored to forest cover for the present fiscal year. The accomplishment is also expected to be hiked considerably because of the Emergency Employment Administration's program of harnessing the services of out-of-school youths for the reforestation of denuded lands which grow bigger by 50,000 hectares a year, he concluded.



GIVE FREE SEEDLINGS ON ARBOR WEEK

The Reforestation Administration will distribute free seedlings and furnish technical advice to all schools, public and private entities as well as civic religious groups whose "Arbor Week" programs included mass planting of trees, it was announced yesterday.

This year's nationwide celebration of Arbor Week falls on the last week of July.

In a memorandum released recently, the Reforestation Administration, Administrator Jose Viado enjoined all fieldmen from the agency's reforestation projects to actively participate whenever possible in every community's commemoration of Arbor Week. This is essential in gaining the fullest confidence and cooperation of the citizens in the implementation of the government's forest reclamation job, he said.

In the procurement of seedlings for the occasion, Viado said, the participating organizations must contact the forester in charge of the project nearest to their municipality or province for the necessary reservations.

It was also learned that during the week, the Reforestation Administration will give out simplified pamphlets, brochures and other publications designed to inform the people on the progress of the country's reforestation work and the evils of forest de-

nudation. These reading materials will be made available through the agency's project headquarters.



B.S.P. NATIONAL DIRECTOR R.A. CONVOCATION SPEAKER

If we do not join hands in the common effort and gigantic task of stopping the wanton destruction and misuse of our forests now, I do not know what kind of country our children and the next generation will be in.

Thus National Director Godofredo P. Neric of the Boy Scouts of the Philippines warned in a convocation sponsored recently by the Reforestation Administration at the DANR Building, Diliman, Quezon City

Neric mentioned several factors that threaten to destroy the social and economic survival of the country. Among these are: 1) the profitable and lucrative trade with Japan particularly in logs which has led to an over-exploitation of the country's timber resources; 2) the unauthorized and illegal operations of the kaingineros resulting in the wanton destruction of our forests; 3) increased demand for forest products as a result of greater home-building activity, more domestic need for firewood and fuel; 4) apathy of public officials towards the enforcement of forest conservation measures; 5) lack of interest of the general public in the conservation and reforestation drive and 6) the lack of teeth in implementing the country's conservation laws.

It is true that there have been many pieces of newspaper accounts and speeches raising indignations against kaingineros, squatters, illegal loggers, indifferent officials and lazy foresters. But the abundance of our foresters coupled with our ignorance and love of ease have made us more careless and wanton, destroying our resources with greed and over-exploitation to the point of depletion, according to the scout executive.

The result of the people's irresponsibility, Neric said, is an accelerated destruction of forests in logging without the corresponding reforestation program. Indiscriminate cutting of forest trees has brought about floods, soil erosion, changes in climate, receding underground water tables, and rapid silting of water reservoirs in our hydro-electric power projects, he pointed out.

Neric revealed that the Boy Scouts of the Philippines have undertaken several steps for a more positive approach to the problems besetting the

government's reforestation program. He said that the BSP has thrown its manpower of over 300,000 scouts and leaders to the Reforestation Administration in its attempt to plant and grow 3.5 million trees within a five-year period starting this year. It is encouraging the senior scouts to take up forestry courses aside from having a program for the proper utilization of the forest resources. Also, it has launched a massive forestry information and education campaign especially in the rural areas, he pointed out.

Administrator Jose Viado acknowledged the help being extended to the Reforestation Administration by the BSP. He assured that the reforestation program of the government will be relentlessly pursued until there appears a brighter hope for the succeeding generations to enjoy the blessings of a cooler climate, bountiful harvest, lesser destructive floods, and more timber for the nation's economic stability.



A SEED

A SEEDLING

A TREE

Plant a seed

For Mother Nature to tend;

Faster than a wink

Out sprouts a seedling —

Pale green, but alive and hale!

No sooner than a babe turns a teener

This infinity blooms forth into a tree;

Foliage, flower, fruit, and all

To find its course onto eternity.

—*pacita a. mabalot*



P.W.O. Notes

BRIEF HISTORY OF THE PARKS AND WILDLIFE OFFICE

The Commission on Parks and Wildlife (now Parks and Wildlife Office) was organized under the Office of the President on July 20, 1953, by virtue of Republic Act No. 826. It was reorganized and renamed Parks and Wildlife Office on January 16, 1957, and placed under the Department of Agriculture and Natural Resources upon the implementation of Reorganization Plan No. 30-A of the Government Survey and Reorganization Commission. It has two distinct phases of activity, namely: national parks maintenance and wildlife conservation.

The national park movement in the Philippines started in 1930 when two high government officials, Director of Forestry Arthur F. Fischer and Senator Camilo Osias, after observing the abundance of natural wonders and scenic beauty on their way to Baguio resolved to explore the country for more wonderlands and set them aside for the use and enjoyment of the people instead of allowing them to pass to private ownership. Foresters and rangers in the field reported places containing objects of unusual interest like springs, geysers, scenic waterfalls, historical relics, outstanding volcanic phenomena and other works of art which abound in the forests and other parts of the archipelago. These reports gave momentum for the national parks idea and hastened the enactment of Act No. 3915 on February 1, 1932, known as the National Park Law which empowered the Governor General upon recommendation of the Secretary of the Department of Agriculture and Natural Resources to reserve any portion of the public domain which because of its panoramic, historic, scientific or aesthetic value should be dedicated and set aside as national park for the benefit and enjoyment of the people of the Philippines.

Mt. Makiling National Park was the first to be established in 1933 and other national parks were subsequently proclaimed.

Originally, the national parks were administered by the Bureau of Forestry. Upon the enactment of Rep. Act 826 on August 14, 1952, the administration of the national parks was transferred to the Commission on Parks and Wildlife, thus, placing

national parks and wildlife under a definite agency that will devote its time and efforts on national parks and wildlife matters alone and nothing more.

On September 26, 1900, the Philippine Commission passed Act No. 1396 known as the Special Provincial Government Act to protect from extinction, the fast disappearing birds, mammals and fishes.

On October 11, 1907, Act No. 1769 amended Act No. 1396 making punishable the collection of edible birds' nest without licenses by fine of not exceeding ₱100.00 or an imprisonment not exceeding thirty (30) days, or both. Act No. 1798 passed on October 12, 1907 authorizing the Secretary of Interior subject to the approval of the Governor General to declare and publish close seasons for any bird and mammal. The chief of the Philippine Constabulary was made the guardian of wildlife resources.

The wildlife service in the Philippines was placed under the Department of Agriculture and Natural Resources by virtue of Act No. 2590 passed on February 4, 1916. Members of the Philippine Constabulary, members of the Municipal and Township Police; Foresters, Rangers, Forest Guards of the Bureau of Forestry; Land Inspectors, Surveyors of the Bureau of Lands; Agricultural Extension agents of the Bureau of Plant Industry; and other persons designated in writing by the Secretary of the Department of Agriculture and Natural Resources were made Deputy Game Wardens.

Wildlife administration had been transferred from one agency to another, the order being: first,

The Bureau of Forestry (Forest Fauna and Grazing Division;)

second,

The Bureau of Science; third,
The Fish and Game Administration, Special Division in the Department of Agriculture and Natural Resources; fourth,

Back to the Bureau of Forestry (Division of Grazings and Wildlife); fifth,

The Commission on Parks and Wildlife; and lastly,

The Parks and Wildlife Office.

Starting from a scratch with 19 employees occupying a small space as an office quarter in the Department of Agriculture and Natural Resources Building on Taft Avenue, the Parks and Wildlife Office has steadily expanded both in personnel and in activity. After nine years of existence it counts with 195 employees. Five regional offices and 22 parks and wildlife stations have been organized.

Nine of the 40 national parks are now developed and 5,000,000 visitors have entered the national parks in nine years with 780,000 in Fiscal Year 1961-62.

P.W.O. OBSERVED ITS 9TH ANNIVERSARY

The employees of the Parks and Wildlife Office, headed by Director Vicente de la Cruz, celebrated its 9th Anniversary at the Mt. Arayat National Park, Pampanga, last August 5, 1962.

Highlighting the celebration was a program with Ambassador Amelito R. Mutuc as guest speaker, a lunch, and a dance. Vice Governor Amado Castillo of Pampanga introduced the guest of honor.

The Ambassador was sentimental when he said, "it is remarkable that one of my last public appearances before I leave for my new assignment would be in my birth place." He went on to state that the present administration has done much for the improvement of Mt. Arayat National Park. He made cracks which threw the crowd into laughter making the program lively.

The recreational facilities and conveniences in the park were made available to the public and the guests have their fill of the interesting sites inside the park such as the sparkling waterfalls that flows directly into the natural swimming pool and the beautiful panorama of Arayat mountain and numerous springs. Those who went for swimming, especially children, had the fun of their lives frolicking in the clear cool waters of the swimming pool. The dancing pavilion was full to the brim where everybody danced and had a good time. Aside from the main course, favorites like the luscious boiled bananas, camotes, and corn on the cob were everywhere to be found on the picnic tables which the guests heartily partook.

The program was so animated that Ambassador Mutuc was inspired to lead the Malacañang Glee Club and contributed songs to the delight of the audience.

No less than 500 people attended the affair. Two buses, more than 30 automobiles, numerous jeepneys and carritelas brought the celebrants and guests to the park. Among the guests were Ambassador and Mrs. Amelito Mutuc, Board Member and Mrs. Ama-

do Castillo, Mayor and Mrs. Espino of Arayat, Director and Mrs. Nicanor Jorge of the Bureau of Lands, Director and Mrs. Elpidio Munsayac of the Bureau of Agricultural Extension, Director and Mrs. Anacleto Coronel of the Bureau of Animal Industry, Mr. and Mrs. Mauro Lamagna, Col. and Mrs. Norberto Nolasco, Mr. and Mrs. Tomas Cloma, Jr., and many others.

The affair was spirited and a success.

MT. ARAYAT NATIONAL PARK IMPRESSES MUTUC

Ambassador Amelito R. Mutuc in his speech on the occasion of the 9th Anniversary of the Parks and Wildlife Office at Mt. Arayat National Park singled out the Parks and Wildlife Office as the only government agency that is directly concerned with the socio-economic program of President Macapagal.

The Parks and Wildlife Office undertakes both social and economic activities. The recreation phase of the work of the office is clearly social and the conservation phase is economic.

Impressed by the improvements, recreational facilities, and conveniences in the park, Ambassador Mutuc lauded the office for translating the dreams and ideas of late President Quezon and his wife to conserve Mt. Arayat and offer its charm to the people for their use and enjoyment. He assured his hearers that both in his official and private capacity, he will give his full support in the development of Arayat National Park and other national parks.

PERMANENT TRUSTEESHIP OF NATIONAL PARKS RECOMMENDED

The First World Conference on National Parks which took place in Seattle, Washington, from June 30 to July 7, 1962, passed the following resolutions:

"WHEREAS the principles of National Parks and equivalent reserves concern ethical and aesthetic values and must always remain separated from political expediencies

"WHEREAS continuity of purpose is necessary to put such policies into effect,

"THE FIRST WORLD CONFERENCE ON NATIONAL PARKS recommends that, wherever appropriate, the administration and control of National Parks and equivalent reserves be vested in an autonomous governmental organization charged with the duty of permanent trusteeship."

FPRI Highlights

FPRI First Director Retires

From Eugenio de la Cruz, who has lived the greater part of his life in the service of the government, these words came with a lump in the throat: "Today as I approach the concluding phase of my service to the government and I am about to lay down my working tools, I do so in the belief that I have used these tools for the benefit of the Institution we built together I served only as your coach. Continue the team work and win more honors for this Institute." One could literally hear a pin drop as the founder and first Director of the Institute keyed his address with these words, which he delivered on July 1, 1962, during the program given in his honor upon his retirement from the government service.

The program was highlighted by the presentation of an appreciation plaque to the retiring Director by U. P. Vice President for Agricultural and Forestry Affairs, Dr. Dioscoro L. Umali of the College of Agriculture. In presenting the plaque to the Director, Vice President Umali said, "Our world has been made richer by this molave tree of the FPRI. I feel very proud of being assigned to present this plaque to you." But prouder still are the FPRI staff and personnel who have had the opportunity of having the molave tree in their midst. And true to its name, this tree will leave their midst unruffled, unstooped by the rough weather it has had as founder and organizer of the Institute.

As a further gesture of appreciation, the research staff of the Institute drafted a resolution to recommend to the Forest Products Research Board that it grant Mr. de la Cruz the title Emeritus Director and to appoint him as Technical Adviser to the Institute. The resolution has been submitted to the Forest Products Research Board for its consideration.

Fifth Anniversary Celebrations

All has not been quiet in the FPRI front—for a while the research staff and personnel of the Institute buzzed with activity paving the way for its fifth anniversary celebrations. The whole week affair, which took place from July 2 to 6 at the Forestry campus, featured a daily open-house with demonstrations on the various operations involved in veneer, gluing and plywood making, pulp and papermaking, charcoal briquetting, wood seasoning and

preservation, pest control and timber testing. (Pulp and papermaking demonstrations easily drew the attention and interest of those who came to visit the Institute.) To climax the occasion, a symposium on three different subjects of current interest was held at the College of Forestry auditorium. Invited to speak were: Pancrasio Bawagan of the Chemical Investigations Division, FPRI, on "Quality Control in Papermaking", Mr. C. J. Leedam of the Atlantic Gulf and Pacific Co., Manila, Inc., on Wood Preservation", and Emilio Jaranilla of the Industrial Investigations Division, FPRI, on "Some Developments in Veneer and Plywood Manufacture". Following the presentation of each technical paper was an open forum. Those who formed the panel of discussants were then Acting Director Manuel R. Monsalud of the FPRI, Mr. Roy B. Rivers of Bataan Pulp and Paper Mills, Inc., Dr. Mariano Ramiro of the National Economic Council, Prof. Alfred H. Bishop, visiting professor from the College of Forestry at Syracuse University, and Mr. Aurelio Lagman, General Manager of Sta. Clara Lumber Co. and President of the Plywood Manufacturers Association in the Philippines. The symposium closed with guest speaker Eugenio de la Cruz once again stressing the importance of basic research to industry and the availability of the FPRI's services to anyone needing its assistance.

The symposium over, the audience and the speakers were treated to a luncheon which was made possible through the courtesy of Atlantic Gulf and Pacific Co. (Manila), Inc. and through the able chairmanship of Mr. Rosario T. Cortes.

FPRI Welcomes New Director and Assistant Director

There was a general air of anxiety as everybody awaited the selection of a new Director for the Institute. When it finally came, the research staff and personnel found themselves trooping down to the office of Acting Director Manuel R. Monsalud and Dr. Francisco N. Tamolang, Chief of the Wood Technology Division, to offer congratulations and best wishes. The latter was chosen to succeed Mr. Monsalud as Assistant Director.

Mr. Monsalud and Dr. Tamolang have been with the Institute since its inception. Both have trained and traveled widely abroad and have proved their capacity for administrative as well as research work.

The FPRI staff are one in the belief that both will carry on the good work laid down by Messrs. Cruz and Hunt, founders of the Institute, and reap more laurels for it.

Publications

The Institute continues to be conscious of the fact that the results of its work are useless unless they are published or presented for public consumption. Several articles contributed by members of the staff appeared in the local journals of *The Lumberman*, *Forestry Leaves*, and *Philippine Exchange News* these past few months. In the *Lumberman*, February-March 1962 issue, the following articles appeared: "Proposed plant species for reforestation in the Philippines" by Manuel R. Monsalud; Industrial Report No. 1-A: "Veneer cutting, drying and gluing properties of Manggasinoro"; and "Recommended moisture content of wood for use in some parts of the Philippines" by Emmanuel D. Bello. Industrial Report No. 3-A: "Veneer cutting, drying and gluing properties of Mayapis" appeared in the April-May 1962 issue of *The Lumberman*. "Forest Conservation in the Philippines" appeared in the first quarter issue of the *Philippine Exchange News* and "Forest conservation must be taught in public schools" was published in the *Forestry Leaves*, vol. 13, no. 3. The last two articles were authored by Dr. Francisco N. Tamolang.

Meetings and conventions of technical nature were also actively participated in by the members of the staff. Reynaldo Adriano and Pablo Nicolas presented the results of their work at separate meetings of the Los Baños Biological Club. Mr. Adriano read a portion of his work entitled "Comparative effects of molds and bacteria on the performance of some commonly used plywood glues" while Mr. Nicolas presented the results of his work on the sulfate pulping of white lauan. Dr. Francisco N. Tamolang was also invited to speak on new developments in forestry at the annual convention of the Society of Filipino Foresters.

In addition to all these, the Institute continues to distribute free of charge monthly issues of the Technical Notes.

Meanwhile, 21 reports have been filed in the Library from April to July 1962. Nineteen of these were progress reports; two were final reports and recommendations of Mr. Earl R. Schafer, consultant to the Chemical Investigations Division.

Big Plans for the Future

The FPRI is bent on expanding its research program, particularly in the direction of pulp and paper-making. Proof: the new Director is hot on the heels of the people who hold the purse which contains

the appropriated amount for a new pulp and paper building for the Institute. The chemical engineers of the pulping and papermaking sections and the civil engineers of the Timber Physics and Engineering Division are likewise sparing no effort to help in speeding up the design of the building.

It is hoped that the new building will not only provide for expansion in pulp and paper research but also pave the way for the Philippines, particularly Los Baños, to become the site of a pulp and paper research center for the whole southeast Asia.

In the meantime, the Philippine Coconut Administration, the Abaca Development Board, and the Institute are planning a joint project to study the development of potential dollar-saving uses of coconut coir and abaca stripping waste.

Philcoa General Manager Domingo C. Abadilla and Abaca Development Board Chairman Teodoro de Vera visited the Institute to discuss the plan with Director Manuel R. Monsalud and Mr. Lauro Ynalvez, Chief of the Chemical Investigations Division. The Director demonstrated to them the manufacture of paper from 40 per cent coconut coir and 60 per cent abaca stripping wastes.

The Director said that bond and bondpaper may also be produced from these raw materials.

Former Senator de Vera recalled that one of the problems of the private and public schools was the lack of textbooks for the students. He said that we could make these textbooks right here by using pulps from coconut and abaca wastes.

This is a worthwhile venture aimed at converting agricultural wastes into useful products and saving dollars for the country.

We quote hereunder a resolution of the Philcoa Board of Administrators passed on July 31, 1962:

RESOLUTION NO. 40

The Board hereby conveys its sincere thanks to the officials of the Forest Products Research Institute, Los Baños, Laguna, particularly Mr. Manuel R. Monsalud, Director; Mr. Eugenio dela Cruz, Consultant; Mr. Lauro Ynalvez, Chief, Chemical Investigation Division; and Mr. Francisco N. Tamolang, Chief, Wood Technology Division, for the kind cooperation and accommodation extended to the Board of Administrators and its party in connection with the observation of the operation of the paper making machine and the hammer mill, and the opportunity to see the different products made out of coconut fiber and coir dust at the said Institute.

Coming and Going

Two FAO consultants to the Institute finished their one-year tour of duty during the month of
(Continued on page 114)

Forestry in the News

UTLEG NAMED FORESTRY EXEC

Juan L. Utleg, a former division chief, has been appointed assistant director of forestry by President Macapagal.

Utleg was sworn in by Forestry Director Mateo S. Pecson. The assistant director was detailed with Pecson's office upon the latter's appointment last May.

A native of Solana Cagayan, Utleg joined the government in 1927. He was appointed a forest ranger in 1932. Utleg is a war veteran and holder of a bachelor of science degree (forestry) from the UP.

Meanwhile, unemployed high school graduates will be recruited to provide round-the-clock security of the nation's forest wealth.

This was disclosed by Pecson after a conference with technical planners of the Emergency Employment Administration.

He said 700 forest guards and 360 scalers will be augmented with the hiring of the unemployed youths out of school. They will be rigidly trained before they are sent to the field, Pecson said.

The director said that a three-shift patrol work will be a deterrent to forest destruction. He pointed out that preventing forest destruction was much cheaper and practical than reforestation.



“SIMPLE LIVING” NOT A NOVELTY TO UP FORESTRY COLLEGE MENTORS

BAGUIO, Aug. 3—To the faculty of the UP College of Forestry, in Los Baños, Laguna, “simple living” as preached by the New Era is not a new thing.

The faculty members have been living it true to form and style long before President Macapagal conceived of the program.

Here is why: The site of the college of forestry at the base of Mt. Makiling is a forest by itself. Essentially, it is rural. It is a man-made forest, and the cicadas sing all day.

Being settled permanently in a rural community, the faculty members have resigned themselves to a life of simplicity, fully engrossed in their job of making young boy and girl foresters, and affected by the sophistications in cities and urban communities.

Take their living quarters, which the government has provided for them and their families. Their cottages would easily pass for “squatters” shacks dotting the heavily-wooded forest along badly-maintained roads.

The only difference between the occupants and the real squatters is that the former had not made any clearing in the forest in which they have learned to live and protect.

Forestry means wood and lumber, yet the cottages are walled by sawali in stage of dilapidation. An old building, which was once used as storage for empty cans for potting seedlings was converted into a residential cottage in which two big families are living.

It seemed that nobody had bothered before to bat for this small group of loyal men, or if there were people, who tried to help them, their efforts were never rewarded by concrete results.

Yet, these forestry savants are uncomplaining. Rather than sulk or gripe, they forget about getting better housing facilities, and learned to live on what could be given to them.

When one meets these forestry instructors and professors in the college, he will not know they are in the faculty of the college.

Aside from leading a simple life, they are nationalistic. The “blue seal” cigaret is a luxury to them.—*The Manila Times, August 4, 1962.*



PALPE SCORES REQUISITES ON TIMBER LEASE RENEWAL

The Philippine Association of Log Producers and Exporters yesterday disagreed with a bureau of forestry announcement on requirements for the renewal of ordinary timber licenses and leases.

The announcement, as released to the press by Director Mateo S. Pecson, stated that henceforth concessionaires will be required the following:

1. Certificate from the bonding firm showing that the concessionaire is up to date in the payment of his annual premiums;
2. That he is of good standing with the bonding company;
3. That the surety bond was duly backed up by a collateral sufficient to cover the money value of his surety; and

4. Certificates from the Securities and Exchange Commission attesting to the solvency of the bonding company.

The PALPE observed that the new requirements cover transactions no longer within the province of the bureau of forestry. It explained that the acquisition of bonds is a matter between the applicant for a bond and the bonding company.

The PALPE stressed that a bond will not be issued if the applicant is not in good standing with a bonding company concerned; that the matter of collateral is purely a matter of policy and practice of the bonding company and not a business of the bureau of forestry; that the matter of up to date payment is again a business between the bonded and the bonding company; and, that the matter of solvency of a bonding company can be attended to by a certification from the SEC.

The association proposed the following, in order for the bureau of forestry to be certain that the bonding companies make this list its guide in the adjudication of bonds presented to it by licensees; and

Require concessionaires to get bonds only from bonding companies certified to by the SEC as highly reliable and solvent.—*The Daily Mirror*, August 21, 1962.



TIMBER OPERATORS FACE GOV'T ACTION

Revocation of a forestry order which granted timber licenses to operators of non-existent wood processing plants was recommended by Forestry Director Mateo S. Pecson.

Pecson said forestry administrative order 11-13 issued by former Agriculture Secretary Juan de G. Rodriguez in 1958 was more honored in the breach than in its compliance.

He said unscrupulous operators obtained timber licenses covering areas not exceeding 50,000 hectares for each application on the promise that they would set up the plants.

Pecson said since he took over the bureau last May 1962 he received reports that licensees have failed to put up the required processing plants in the manufacture of veneer, plywood, wall-board, pulpwood and wood paper.

The director also ordered the investigation of the violators of the administrative order with the view of cancelling their licenses.

Pecson also recommended to Agriculture Secretary Benjamin M. Gozon the following New Era policies concerning timber exploitation:

1. Setting a ceiling on the grant of forested area to 25,000 hectares;

2. Requiring applicants for pasture, fishpond, timber licenses and other forms of forest concessions to deposit the necessary amount for field investigation work expenses if the bureau has no funds for the purpose;

3. Suspending the grant of additional cut. The existing licenses will be provided minimum and maximum allowable cut a year. The minimum allowable cut will be the basis of 60 per cent required of licensees for the current fiscal year;

4. Eliminating deductions and defects from exportable log and lumber to protect the reputation of Philippine wood abroad.—*The Sunday Times*, August 12, 1962.



P. I. MUST MAKE STAND ON FORESTS NOW, PROFESSOR SAYS

"The time has come for the Philippines to make a decision on what to do with its forests!"

This was the grim warning given by Mr. Floyd Carlson, visiting professor of the College of Forestry of the Syracuse University in New York who was here recently.

Mr. Carlson was with the "Joint Committee on Public Education and Information in Forestry" which made a 10-day field trip to Mindanao. He was adviser to the committee.

The educational committee was headed by Mr. Domingo V. Jacalne, assistant professor of Forestry Information at the U.P. College of Forestry, chairman; Mr. Felipe B. Chicano, Jr., public relations officer of the bureau of forestry in Manila, and Mr. Andres C. Garalza Jr., staff writer of the Forestry Information Section of the bureau of forestry.

"A country moves to a time in history when it has to make a decision on what to do with its forests." Mr. Carlson said.

"The time has come for the Philippines to make that decision."

Already, this decision is too late in Cebu, the Ilocos provinces, and Bohol, he pointed out. "Let us not forget all these provinces had fine forests at one time."

He named Spain, Italy and Korea as having realized too late that they had lost their forests.

Finland which is like the Philippines in size, Sweden, Norway, France, Germany, Switzerland, decided just on time to save their dwindling forests, the American professor said.

"I am the son of a man who pioneered in Washington when that state was in the stage that Cotabato is now," he told the *Mindanao Cross* during a breakfast tendered for the committee by the Juliano Trading Company, log exporters.

"The forests then were still in the mountainsides. Suddenly they were gone."

"It's the same tragic thing repeating itself in Cotabato," the American visitor said. "Families going to the mountain slopes where only trees should be; families moving out, leaving only poor soil and rocks."

In reply to a question, he was told by Mr. Rogelio Juliano that the timber industry is just beginning in the province.

Commenting on the announced Mindanao Development Program of the President with Cotabato as the center, Mr. Carlson said a real development program should take in all the land including the forested areas.

"Forests build the nation," he said, quoting from a poster prepared and distributed by their committee. "Professional foresters should sit in on the 5-year planning for Cotabato," he said.

He also proposed that the President proclaim permanent forests. He was obviously referring to timber areas being released for agricultural purposes.

"A permanent forest law will encourage those who are already in the timber industry to put in more investments to improve the industry," Carlson pointed out.

The visiting professor pointed to kaingins as the greatest danger to public forests.

"We see the kaingins, when taken individually, as very little. They are nothing, negligible. But put them together and you will see the terrific impact," he declared.

"The kainginero problem is big, a giant," he said. "And we just do not talk about it. We have got to organize and do something about it."

Carlson proposed a national committee of dedicated men who will work on a voluntary basis.

Such a committee will have 3 objectives, Carlson said: 1) Research on kaingins; 2) strong pub-

lic education on the destructive forces of kaingins; 3) study on how kaingineros can possibly be employed in the forests.

Carlson believed that if the kainginero is to be licked, his simple needs must have to be solved first.

The American visitor is on a 2-year assignment in the Philippines under the AID. His 2 years is ending next month.—*The Mindanao Cross*, June 23, 1962.



LARDIZABAL SEEKS PUBLIC SUPPORT FOR FORESTRY INFORMATION DRIVE

BAGUIO, July 10—Public support of the current revitalized drive on public information and education in forestry was enjoined recently by Mayor Luis L. Lardizabal in a radio broadcast at a local station on Harrison Road this city.

The mayor called the drive significant because it proves the firm determination of the bureau of forestry and other government agencies concerned with forest conservation to press on the drive in spite of the apparent indifference of the masses and the lack of appreciation of the value of forest in the country's economy.

The city chief executive lauded the joint committee on public information and education in forestry headed by Prof. Domingo V. Jacalne, of the college of forestry, UP for creating a local counterpart group which will undertake the information drive to conserve the pine forest of Baguio and Mountain Province.

The address of the mayor, which was read by Domingo Masadao, PRO and confidential secretary of the mayor, is as follows:

"The inauguration of this five-minute radio program under the sponsorship of the Baguio committee on public information in forestry is, indeed, both significant and timely!

"Significant, because it puts in bold relief the firm determination and relentless struggle of the bureau of forestry to promote national consciousness on forest conservation, in spite of the apparent indifference of our people to realize the importance of the reforestation program being intensively carried out by the government, and in spite of our seeming refusal to appreciate similar governmental programs all of which are designed to make us understand the value and significance of our forests to the national economic life.

"While it is admitted that our forest resources are definitely exhaustible, they are nevertheless re-

newable and replaceable . . . and the time to begin doing so is now. That makes this occasion very timely.

"Fully aware that we just don't seem to realize our fortunes until we shall have lost them, the Baguio committee on public information and education in forestry was created only recently to redeem the residents of this city—before it is too late—from disinterest and unconcern over the efforts of the government to inculcate among our people desirable traits on love and care for our forest resources.

"To this end, the said committee has decided to carry on this radio program regularly . . . with the end in view of inviting the public to lend a helping hand to whatever measures the committee may deem appropriate in its venture to disseminate public information on the importance of forest-conservation and reforestation of denuded areas hereabouts. This, then, is our program . . . yours and mine!

"Note should be made that industries supported by our forests are among the major bulwarks of our economic existence. Included in the five leading export items of our country are "logs" and "lumber"—both of which are primary products. The need, themselves, for a program on public information and education in forestry cannot be over-emphasized!

"One cause for alarm among many of our people is the much-publicized claim that our forest are rapidly vanishing. It is our conviction, however, that instead of being a matter of alarm, the reportedly accelerated denudation of our forests should rather call for a concerted move to pursue positive measures calculated to minimize whatever unnecessary drain there may have been, and will be, on our forest wealth. Far from being alarmed, the traces cannot fail to see, if we only bothered ourselves a little bit, should serve as grim reminders to prod us to immediate action.

"Careless exhaustion of our forest reserves, without a corresponding attempt to replenish the same, will surely redound to our detriment, or the pattern of natural logic is such that whatever is used up must necessarily be exhausted!

"But neither can it be denied that "forests can be conserved. It is simply for this reason that I feel optimistic in having taken the liberty to enjoin one and all to extend their whole-hearted support to whatever program on forest-conservation the Baguio Committee on Public Information and Education in Forestry may adopt from time to time.

"Notwithstanding certain difficulties, the bureau of forestry has spared no efforts to make our forests continually productive. But the bureau of forestry,

unless it is accorded public cooperation, indispensable, all these, governmental efforts are futile.

"Inspired by all these thoughts, we trust you will not fail us!"—*The Manila Times, July 11, 1962.*



BUREAU OF FORESTRY ROW SETTLED: PECSON GETS JOB

Newly appointed Director Mateo S. Pecson took over the Bureau of Forestry Friday vice Tiburcio S. Serevo who was detailed in Malacañang ending a two-week controversy.

Serevo yielded the post after a conference in Malacañang with presidential advisers.

Pecson's appointment became controversial when Serevo was confirmed director of forestry by the NP-controlled commission on appointments.

Malacañang said Severo will be detailed to the Palace as technical assistant and presidential adviser on forestry pending his retirement from the service.

Pecson formally met his staff at the bureau offices on Juan Luna, Binondo. Serevo was also present at the meeting.

The new director announced that he will reorganize the bureau to eliminate irregularities in the processing and granting of lumber concessions.

Reshuffle of personnel in sensitive divisions is also slated, Pecson said.

A former governor and congressman of Masbate, Pecson was drafted to the New Era by President Macapagal who is refurbishing different bureaus and corporations with loyal partymen. The new director is a physician by profession.

Pecson faces enormous problems in the bureau. He will have to:

1. Break up the so-called monopolies of timber concessions;
2. Discourage the granting of concessions to aliens through their Filipino dummies;
3. Bolster the forestry field organizations to curb deleterious practice of kaingin; and
4. Increase national revenue by intensifying collection of forestry fees and charges.

The rash of forest fires in Mountain Province has alarmed the reforestation administration.

Jose Viado, reforestation administrator, returned from an inspection trip of the fire-devastated areas in Mt. Province.

Viado said forest fires have hit the province frequently, wiping out large areas of the pine forest and plantation which feed raw materials to wood-using industries.

Top priority was given to the reclamation of the barren areas around the watersheds of the Binga-Ambuklao complex, Viado said.

The bureau of forestry has classified 191,876 hectares of public lands out of which 34,938 hectares were alienable or disposable and 156,938 hectares as forest lands.

Certified to the bureau of lands for agricultural purposes were 16,440 hectares in the following provinces: Samar, 8,775; Mt. Province, 2,736; Surigao del Sur, 1,793; Leyte, 1,714; and Quezon, 1,422. Last month, 98,259 hectares were classified out of which 21,419 hectares were found alienable or disposable and 76,840 as forest lands.—*The Manila Times, June 3, 1962.*



THE ARNEDO DIKE

The breaching of the Arnedo dike—a makeshift levee with no reinforcing of any sort—brings up the question of creating a stronger dike that can withstand the pressure from heavy rains and a river swollen from the overflow coming from northeast of Pampanga.

No one seems to have realized the importance of planting, say, deep-rooted ipil-ipil trees along the ridges of the Arnedo dike. For years, plain earth and sand have been used to contain floods. Breaches are plugged with sandbags, which are useless when waters rise to flood proportions.

In the absence of adequate appropriations to build a concrete-walled dike, community leaders should take the initiative in planting trees along the embankment. So small a project ought to pay off in adequate protection in the years to come.

Any such move—including the possible building of stronger reinforced earthworks—should involve the widening of the river itself and tributary streams, and the restoration to the public domain of river boundaries preempted by landowners.

The annual floods are costing the government millions of pesos in destroyed private and public property. A makeshift plan should at least be better than a weak, grass-covered dike which doesn't protect when protection is essential to the safety of neighboring towns.—*Editorial, The Manila Times, July 27, 1962.*



15 BOY SCOUTS SAVE FOREST FROM BIG FIRE

2 NEARLY LOSE LIVES IN MT. PROVINCE BLAZE

BAGUIO CITY, July 1—Fifteen boy scouts saved the public forest in Tadian, Mt. Province from total destruction, but two of them nearly lost their lives in the venture.

The volunteer firefighters who narrowly escaped death in the forest blaze were Ambrosio Icca and Sotero Dolaycan, members of the Tadian central school boy scout troop.

Scoutmaster Manuel T. Wacan and another teacher, Rodolfo Paulo, led the boys in rushing to the fire which was threatening all of Tadian mountains.

While fighting the fire, Icca and Dolaycan found themselves trapped by a ring of fire, with a deep precipice behind them. In a few more seconds the two would have burned to death or fallen down the precipice.

However, both braved the fire and heavy smoke to dash to safety on the opposite side of the mountain.

Neither was seriously hurt. Icca's hair caught fire and other parts of his body were slightly burned, while Dolaycan almost collapsed from suffocation before reaching safety.

The whole Tadian community expressed their gratitude to the young firefighters for saving the mountain, which is the principal source of their timber and firewood.

As a result of the blaze, Tadian officials hired a town crier to warn residents against fires.—*The Manila Times, July 2, 1962.*



MUSEUM LENDS DIGNITY TO BIG PLANT EXHIBIT ON ARBOR WEEK

ARE PLANTS NECESSARY? Arbor Week will no longer be just for garden clubs and schoolchildren. We can see how, at last, it will be given governmental recognition—the National Museum is all set to sponsor, from July 20 to 28, a unique botanical exhibition.

Theme of the display which opens at 5 p.m. on July 20, Friday next week, is the prosaic-sounding one of "The role of plants in everyday life." Actually, the exhibit will cover practically all phases of botany which affects man. Those who have no

time to see it on a weekday are advised that the National Museum will be open Sunday, July 22 and on the Saturday on which the exhibit ends, July 28.

Forming the bulk of the exhibit will be charts, panels, diagrams and ricker mounts plus actual specimens and preserved samples.

The two sections of the exhibition will be pure and applied botany, which, in turn, will be subdivided into major fields as follows: systematic botany or plant taxonomy, a survey of the plant kingdom; morphology and anatomy; genetics and embryology, pathology, ecology, paleobotany and economic botany.

But let not these technical terms dismay the layman. A plant is a plant—it has beauty and it has uses and it's life-giving. Let this exhibit be a refresher to us who have forgotten or have taken for granted what plants mean in our daily lives.

This will be the third in a series of cultural presentations initiated by the new Museum director, Galo B. Ocampo. The first was on Vietnamese musical instruments, the third will be on zoology and man.

Participating in the Arbor Week exhibit at the National Museum are not only government, but also private firms, especially in the field of economic botany. These are the UP College of Arts and Sciences, Philippine College of Arts and Trades, Philippine Coconut Administration, the UP College of Forestry, the UP College of Agriculture, Forest Products Research Institute, Bureau of Forestry, Bureau of Plant Industry, Home Industries Division of the Bureau of Public Schools, Bulacan's municipality of Paombong, the National Institute of Science and Technology's medical center, Far Eastern University, Philippine Manufacturing Company, Commonwealth Foods Company, Manila Cordage Company, Alhambra Cigar & Cigarette Manufacturing Company, Philippine Packing Corporation, La Tondeña, Inc., Silver Swan Manufacturing Co., Lirag Textile Mills, San Miguel Brewery, Hans Arber Micro-Biological Supply, and Philippine Handicraft Industries.—*The Manila Times*, July 13, 1962.



QC SET FOR ARBOR DAY RITES

All is set for the Arbor Day program at the site of the Children's Park on East Avenue, Quezon City, July 28.

The program of activities was prepared by the special committee of the Children's Museum and Library with the cooperation of public and other youth welfare agencies.

Mrs. Conrada V. Ong, CML board member, is chairman of the special committee of the CMLI in charge of the celebration.

The tree planting rites, one of the main features of the observance, will be participated in by school delegations' public agencies, donors among garden clubs individual plant enthusiasts who had been requested to bring in donations of trees and ornamental plants to the Children's Park.

Theme of the affair is "Plant and Conserve Trees to Build a Strong Nation."

A ₱100 check was sent in by Chris A. Larsen, general manager, ESSO Standard Eastern Inc., who was the first to respond to the request for prize to be awarded to winners in the on-the-spot composition writing contest in connection with the Arbor Week Celebration.

The other members of the committee are Mariquita Castelo, literary musical program; Director Jose Viado, tree planting; Lt. Col. Florencio Bernardo, and Capt. Jorge de los Angeles, preparation of holes for tree planting; Architect Mel V. Calderon, landscaping; Benedicto Leño, and Lourdes Caruncho, plant shower.

Teofilo Asuncion, composition writing contest; Federico Mangahas, prizes; Miss Lourdes Caruncho, refreshments; Ricardo Morelos and Mariano Alcidi, first aid and shelter; Director Conrado V. Pedroche, publicity.—*The Manila Times*, July 23, 1962.



LET US PLANT MORE TREES IN OBSERVANCE OF ARBOR WEEK

Dear Editor:

The story of life and death is the story of men and trees. On creation's third day, God created herbs and fruit trees, all of which He gave Adam and Eve to be their food. Then the Lord planted the garden of Eden, "whose soil produced all such trees as charm the eye and satisfy the taste." God placed man in this garden of delight so that he and his descendants might enjoy the delights of keeping the Lord's garden in perfect innocence. In Eden were the tree of life and the tree of the knowledge of good and evil. As long as they ate of the tree of life, they were never to die. God forbade Adam and Eve to eat of the other tree, for this would mean death for all men.

There were fruit trees of all kinds in Eden, but our first parents ate of the tree that brought death to all. In fear they hid among trees, and in shame they covered their naked bodies with leaves of trees. God deprived them of the tree of life.

But if a tree brought man in damnation, the wooden ark saved him from deluge and the tree of the Cross opened heaven for him.

Still man is to be a gardener and the earth is to be his garden. But his no longer are the pure joys of gardening. For guilty man must wage war against thorns and thistles, typhoons and floods, droughts and plant pests; and be subject to hunger and thirst, fatigue, sickness and death.

Our beloved Philippines is another paradise where all kinds of fruit trees grow in abundance. Ours is a land of coconut palms, of succulent bamboo shoots, of sweet cane and oranges, of bananas of all kinds, of delicious mangoes and atis, of star apple and avocado. Big trees grew in Eden; our fruit trees, too, must have come from that garden of delights.

Our share of Eden's fruit trees we must cultivate and keep. Let us take care that our yards, parks, and highways abound with trees that satisfy the taste and charm the eye. Arbor Week is here; let us plant our trees. More trees, more food. More trees, more beauty and more poets. More trees, less floods.—ARSENIO ESPIRITU, 383 St. Paul rd., Makati, Rizal.—*The Manila Times, July 26, 1962.*



BAGUIO ARBOR RITES LAUNCHED

BAGUIO, July 30—Mass planting of trees by public and private schools and civic organizations here marked the observance of the National Arbor Week which started last Sunday under the auspices of the Baguio City forestry council.

Among the civic organizations, which participated in the mass planting were the Rotary Club of Baguio, Baguio Lions Club, Knights of Columbus, Boy and Girl Scouts of the Philippines, Knights of Rizal, Elks Organization;

Young Knights of Andres Bonifacio, DANREA, BIBAK, Filipino Nurses Association, Philippine Mental Health Association, Baguio-Mountain Province Medical Society, Baguio Dental Society, Orchids Club, and many others.

The participating schools, were Brent School, Baguio College, Eastern Philippine Colleges, Philippine Military Academy, Baguio Military Institute, UP College, and all public elementary schools within the city.

The planting materials were furnished free of charge by the Reforestation Administration and the office of the city forester through its Pacdal forest nursery.—*The Manila Times, July 31, 1962.*



PERMANENT FORESTS IN COUNTRY BACKED

The speedy establishment of permanent forests underscored in the forestry program of President Macapagal has been urged by the Society of Filipino Foresters.

“Unless the reservation of such areas is done fast,” Nicolas B. Lansigan, head of the forestry association pointed out, “we will see much of our valuable timber destroyed and lose to squatters and kaingineros lands needed for timber production and waterflow management.

It is fortunate that the Macapagal program calls for the acceleration of this activity. He explained that every year around 50,000 hectares of forest lands are needlessly destroyed. Only prompt action by the government will save the remaining forests and ensure for the country that enough lands are being set aside as forest reserves.

Lansigan suggested that the bureau of forestry should give top priority to this work and have all such areas promptly proclaimed by the President as reservations. Without concurrence of Congress, even the President cannot reduce or disestablish a forest reserve.

Lansigan said it is for this purpose that a new permanent forest law was passed by Congress. Experience had shown that pressures could be brought to bear upon Presidents leading to the loss of lands previously set aside as reservations. With the new law which requires a President to secure Congressional approval, tampering of forest reserves would be difficult.

Of the end goal of 12.5 million hectares to be eventually set aside for forest purposes, after almost 40 years of effort only 3.3 million hectares have been proclaimed so far.—*The Manila Times, June 10, 1962.*



TIMBER LICENSE HOLDERS WARNED

KALIBO, Aklan, Aug. 6—Victoriano Tan, provincial revenue officer, and Norberto Orbigo, district forestry officer, warned holders of ordinary timber licenses against non-compliance with all conditions covering their licenses.

The warning was issued as revenue collectors reported that shipments of timber are sent to the coastal towns every month without the necessary papers accompanying them as required by the bureau of internal revenue and the bureau of forestry.

At the same time, Tan and Orbigo appealed to municipal mayors and policemen to help them enforce the laws covering the traffic of forest products.

They took exception to municipalities along the coast where shipments of lumber from the province of Romblon are being discharged.—*The Manila Times*, August 7, 1962.



TIMBER OPERATORS FACE GOV'T ACTION

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Pecson also recommended to Agriculture Secretary Benjamin M. Gozon the following New Era policies concerning timber exploitation:

1. Setting a ceiling on the grant of forested area to 25,000 hectares;

2. Requiring applicants for pasture, fishpond, timber licenses and other forms of forest concessions to deposit the necessary amount for field investigation work expenses if the bureau has no funds for the purposes;

3. Suspending the grant of additional cut. The existing licenses will be provided minimum and maximum allowable cut a year. The minimum allowable cut will be the basis of 60 per cent required of licensees for the current fiscal year;

4. Eliminating deductions and defects from exportable log and lumber to protect the reputation of Philippine wood abroad.—*The Sunday Times*, August 12, 1962.



GOZON FORMS HIGH-POWERED FORESTRY INFORMATION GROUP

A high powered information team to spread the gospel of forest conservation was created by Agriculture Secretary Benjamin M Gozon.

Gozon said the team will be composed of experts from the DANR, UP College of Forestry, PACD and representatives of the press and radio-TV.

Now completing training at the College of Forestry, the forest corps will be divided into two groups. One group will organize information materials and activities at the central office. The other will fan out to the countryside to spearhead the drive at the barrio level.

Gozon said ₱200,000 has been earmarked to finance the information campaign this year.

Meanwhile Gozon urged large scale manufacture of sack out of native buri.

In his speech before the graduating class of the Occidental Negros rural improvement club at Bacolod City Gozon pointed out that such a move would save the country some ₱9 million in jute imports.

He explained that the country today imports nine million jute sacks a year. At ₱1 a sack it would reach up to ₱9 million savings, he said.

Gozon said that buri fiber is now being tested for its tensile strength. Should results prove satisfactory, he said, he will recommend to the officials of the RICOB and the NARIC the use of buri bags.

Accompanying Gozon were Directors Eugenio E. Cruz and Anacleto Coronel of plant and animal industries respectively, Magdaleno Cortes, private secretary, Jose S. Antonio, press officer and Crotatas Dandan, DANR.

Gozon asked agricultural extension home demonstrators and RIC graduates to improve on the making of the native foods instead of specializing on cakes pastries conceive abroad. He enjoined the women on making full use of their ingenuity in exploiting native raw materials.—*The Sunday Times*, July 22,



PORAC, Pamp., June 18—Through the efforts of the President, this town was given a substantial financial aid to stop the destructive effects of erosion.

Mayor Agapito Lansang of this town was advised that this town will shortly receive the amount of ₱50,000 to help the local authorities in stopping

gradual erosion blamed on the activities of "kain-gineros" who indiscriminately destroy forest grounds.

The municipal council had passed a resolution, making an urgent appeal to the department of public works for the immediate release of ₱300,000 from whatever funds the works department could spare for flood control projects.

Town officials headed by Mayor Lansang said unless a flood control system is constructed in this town, destructive floods will continue to pose a threat.

Due to the effects of deforestation, this agricultural town is faced with two threats, floods and drought, it was pointed out.

During the hot season, the river is almost dry depriving local farmers of water. During the rainy season on the other hand, the river overflows its banks, causing floods in the surrounding barrios.

Town officials also noted that the area around the Porac river is fast being eroded. Thus expressed fears that unless erosion is checked and soon, these agricultural lands will be swallowed by the Porac river.

Local officials said that one of the best ways to stop erosion is to construct the embankments of the river with reinforced concrete raised several feet above the river level.—*The Manila Times*, June 19, 1962.



DEFEND US IMPORTATION OF HARDWOOD PLYWOOD

WASHINGTON, Aug. 3 (AP) — Walter A. Stille, Jr., president of Stille Plywood Company appearing for hardwood plywood and veneer manufacturers told the senate finance committee Thursday his industry had been faced with a deluge of low-priced foreign imports.

In 1951 foreign companies accounted for only 7 per cent of the sales of hardwood in the U. S. market, but by last year their share had climbed to 55 per cent, he testified.

On the other hand, Myron Solter, Washington attorney appearing for the Imported Hardwood Plywood Association, said the shipments of this product to the U.S. contribute "substantial benefits to American industry and labor."

The greater part of hardwood plywood imports consist of Philippine mahogany, he said, adding that this is priced reasonably so it can be used even in small homes.

"A whole new domestic industry was created when many small door manufacturers sprang soft-wood lumber frames with imported plywood door-skins," he said.—*The Manila Chronicle*, August 4, 1962.



PROFESSOR OFF TO US

Dr. Charles C. Larson, a visiting professor of forestry economics at the University of the Philippines College of Forestry and outgoing project leader of the UP-State contract in forestry, left recently with his wife for New York where he will resume his work at the State University of New York College of Forestry at Syracuse University.

Dr. Larson came to the Philippines in 1959 under the U.P.-Cornell University contract and for sometime he handled courses in forest economics and forest policy and history at the College of Forestry.

Upon the termination of the U.P.-Cornell contract, he was appointed the project leader of the UP-SUNY contract in forestry, a joint project of the US Agency for International Development and National Economic Council which aims to rehabilitate, expand and modernize the UP College of Forestry in its program of research, training of foresters and forestry extension.—*The Manila Chronicle*, July 26,



DM FORESTRY PLAN SUPPORTED

The Forester's Association of the Philippines has lauded President Macapagal's fourpoint forestry program.

Details of the timber plan were underscored in the primer of the New Era five-year socio-economic program.

The plan embraces four aspects: effective forest protection; logging on sustained yield basis; practical and massive reforestation; and a vigorous educational campaign to win the people to forest conservation.

Highlights of the program call for timber licenses to share in the responsibility of protecting the areas covered by their license, pegging the timber output to a level within the capacity of the forest; requiring large timber operators to put up wood-processing plants, accelerating the setting of permanent forests and including forest conservation in school curricula.—*The Sunday Times*, August 5, 1962.



FORESTRY MEN LACK REVEALED

CALAMBA, Laguna, April 16—The Bureau of Forestry has a very limited personnel and inadequate funds to enable it to perform its functions effectively. It is physically impossible for the bureau to cover the huge territory in protecting forest from being destroyed.

This was revealed in a bill presented in Congress by Rep. Joaquin Chipeco. The bill also seeks a special fund for the protection of the forest.

The Laguna solon said. "The forest situation in the Philippines has deteriorated to a point where any further failure to institute effective protection measure would be tantamount to criminal neglect. Already the forest lands are dwindling very fast, mostly because of the inability to control illegal kaingin making and destructive logging."

The Bureau of Forestry is trying its best to protect the forest but with its limited personnel and funds it is asking it to do the impossible. It simply does not have resources to enable it to do a good job, he added.

Chipeco said the bureau has at present so few forest officers that each one of them has to take care of a forest area of around 20,000 hectares. It is physically impossible for one man to cover this huge territory, much less expect him to protect it well.

Even funds for equipments are so limited that even basic surveying instruments are not sufficient to go around. And for lack of travelling funds, many of the men have to be grounded in office work most of the year instead of being in the field patrolling the forests or supervising logging operations.—*The Manila Times, April 17, 1962.*



PARKS AND WILDLIFE OFFICE OBSERVES ITS 8TH YEAR TODAY

The Parks and Wildlife Office will celebrate its eighth anniversary today, Saturday, July 22 with a whole day picnic, a program and dance at Arayat National Park. Featuring the program are native folk dances to be staged by the employees of the office.

Secretary Fortich, Undersecretary Cunanan, directors of bureau offices and corporations under the Department of Agriculture and Natural Resources, members of the Department of Agriculture and Natural Resources Information Circle (DANRIC), members of the Blue Ladies, provincial officials of Pampanga, town officials of Arayat, Congressman Emilio Cortez, Virginio Talusan, Federico Manabat, Dr. Rafael Tan, Dr. Hernani Esteban, Prof. Floyd Carlson, Prof. Domingo Jacalne, Ulpiano de Leon, Pedro

Martinez and other government officials are invited to join in the celebration of the anniversary. Sofronio Quimson will be the guest of honor.

The Commission on Parks and Wildlife was established on July 20, 1953. It was later reorganized and its name was changed to Parks and Wildlife Office on January 16, 1957, implementing reorganization plan No. 30-A of the government survey and reorganization commission.

Its objectives are:

1) To conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations; and

2) To promote the effectual planning, development, conservation and maintenance of national parks and monuments, and of provincial, city, and municipal public parks as well as the conservation of wildlife.

Charged with the duties to establish and administer national parks so as to provide the people with recreational centers and resorts for their use, observation, pleasure and inspiration, the Parks and Wildlife Office devote its time to parks and wildlife affairs and has taken upon itself the responsibility of conserving the natural scenery, geologic features of considerable extent and natural curiosities such as waterfalls, springs, gorges, areas of prehistoric and historic value and of devising effective methods for improving the accessibility and usefulness of national parks as well as the conservation and protection of wildlife.

Starting from scratch and despite insurmountable handicap due to inadequate funds, the Parks and Wildlife office has accomplished remarkable achievements during the 8 years of its existence. Ten of the 39 national parks of the Philippines are accessible to the public. Outstanding among the developed national parks which are ideal health resorts and recreation centers now frequented by tourists and residents during weekends, especially in summer are: Mt. Arayat National Park in Pampanga, Bulusan Volcano National Park in Sorsogon, Mayon Volcano National Park and Tiwi Hot Spring National Park in Albay, Quezon National Park in Quezon Province, Hundred Island National Park in Pangasinan, Pagsanjan Gorge National Park in Laguna. Mt. Data National Park in Mountain Province, Rizal National Park in Zamboanga del Norte, Sohoton Natural Bridge National Park in Samar and Bicol National Park in Camarines Sur.—*The Manila Times, July 22, 1962.*



ILLEGAL LOGGERS CLOSELY WATCHED

CABANATUAN CITY, July 29— Nueva Ecija district forester Ambrosio Juinio has mapped out plans for more rigid supervision of logging activities of concessionaires in the province and the subprovince of Aurora.

He said he had taken the initiative of revising the supervision of logging in this district shortly after attending the recent confab of district foresters in Manila convened by the director of forestry.

Juinio reiterated his belief that there is no smuggling in forest areas in his district. In spite of the lack of personnel, he said, he has been trying his best to visit logging concessions to enforce forestry rules and regulations. The Nueva Ecija forester said he has issued instruction to his inspectors, to make ocular inspections of cut timber logs to determine whether concessionaires are under-invoicing their cargo or not.

The system of under-invoicing, he explained, involves the deflating of cut logs to avoid payment of the required forestry fees.—*The Manila Times*, July 30, 1962.



FORESTRY BUREAU SEEKS DATA FROM CONCESSIONAIRES

QUEZON CITY, Aug. 3— (CNS) — Director Mateo S. Pecson of the Bureau of Forestry issued a circular requiring all forest concessionaires additional requirements as proofs that the surety bonds posted by them in connection with their operations, is in accordance with the terms and conditions of their licenses.

The circular which was prepared after consultation with the forestry staff is as follows:

- 1) A certificate from the bonding firm showing that the concessionaire is up to date in the payment of his annual premiums;
2. That he is of good standing with the bonding company;
3. The surety bond is duly backed up by a collateral which would be sufficient enough to cover the money value of the surety; and
4. A certificate from the Securities and Exchange Commission attesting to the solvency of the bonding company.

Pecson warned the concessionaires that failure to comply with the requirements will cause the termination of their licenses, leases or permits, and has set the deadline as December 31.

USE OF WOOD BY-PRODUCTS PROPOSED

ZAMBOANGA CITY, June 26— Forestry director Mateo S. Pecson said utilization of forest waste products will provide ample employment opportunities to the people.

Pecson and Customs Commissioner Cesar Climaco were guests in the inauguration of the multi-million peso chipboard factory of a local lumber company (Timex) here.

The new factory, said to be the first of its kind in the country, will produce for the commercial market chipboards out of logs and lumber waste which are usually thrown away. German experts assisted by Filipino technicians of Zamboanga built the complicated processing machine. They said no waste will be left unused in the process.

Lauding the Tansengco family of this city for their courage in investing million of pesos in a new industry, Director Pecson urged the licensees to practice scientific management to perpetuate the manifold benefits derived from the forests.

Pecson was accompanied by Forester Segundo P. Fernandez, Amador J. Evangelista, J. V. Valencia and M. Suarez.—*The Manila Chronicle*, June 27, 1962.



FOREST BOSS HAILED ON CONCESSIONS RULE

The Philippine Association of Log Producers and Exporters yesterday commended Bureau of Forestry Director Mateo S. Pecson for recommending the cancellation of licenses of those granted concessions but did not operate them according to the requirements of BF 11-13.

Pablo S. Sarmiento, acting PALPE president, said the plan to cancel the licenses as announced by Pecson will lead to better exploitation of forest resources for the good of the economy.

“Concessions should be granted to those who can operate them economically and provide forest conserving methods in the process,” he said.

Sarmiento observed that there are Filipino loggers and lumbermen who have the capital necessary and the desire to observe carefully forest management in the operation but are not given the chance to go into the industry nor to undertake expanded operations because most areas have already been granted to absentee and non-operating forest concessionaires.

"It is these people that should be given the chance to receive concession grants because they are the people that are in a position to fully exploit the awards on the most productive basis and on the sustained yield system which conserve forests," he said.

Sarmiento observed that the 25,000 hectares ceiling proposed by Pecson is big enough but that for the operation on a forest conserving method of veneer and plywood factories, an area of from 30 to 40 thousand hectares will be adequate.—*The Daily Mirror, August 14, 1962.*



SR. FORESTER MAXIMO ORO

Sr. Forester Maximo Oro, 67 years old, a native of Sapián, Capiz died of coronary thrombosis on April 23, 1962 in Iloilo City after a brief illness. Necrological services were held by his brother masons at the local masonic temple in the evening of April 27, 1962. On the following day his mortal remains was brought to Passi, Iloilo for burial on April 29th.

Sr. Forester Oro graduated under the 2-yr. Ranger curriculum in the school (now College) of Forestry, U.P. in 1913. He finished his B.S.F. degree course in the same institution after World War II.

He has been with the Bureau of Forestry from 1913 until his forced retirement in May, 1960, having held positions Ranger, Sr. Ranger, Forest Supervisor, Forester, Sr. Forester and Asst. Chief of Reforestation and Reclamation Division.

He is survived by his wife, the former Miss Josefina Trumfeta, a professor of the Philippine Normal College, and son, who is in the U.S.



VISITING FORESTRY STUDENTS HEAR PINES CITY MAYOR

Mayor Luis L. Lardizabal of Baguio City, exhorted forest officers to go about with their assigned duties honestly in order that the forest resources of the country may be properly protected and conserved.

The city mayor was the guest speaker at an open forum, which climaxed the three-day observation tour of some 140 students of the College of Forestry, U.P., from August 19-21, in Baguio and neighboring areas.

The concluding program, which was held at the regional office of the Reforestation Administration in Paadal, was under the auspices of the RA personnel headed by Sr. Forester Primo P. Andres, regional supervisor.

Lardizabal, who is chairman of the Baguio Forestry Council, took to task certain forest officers in this city, who, instead of protecting and conserving the pine forest of Baguio, became "agents" of forest destruction.

For a typical example, Lardizabal cited the case of tree farm leases within Baguio, where the supposed lessees, instead of planting coffee trees on the areas leased to them "put nightclub". This could have not happened if local forest officers were vigilant and honest in their duties.

The guest speaker recalled that shortly after he was inducted into office as mayor of Baguio in 1960, he had the occasion to visit Olongapo, where on the way, he noticed the extensive destruction wrought upon the forest in that area. This same pattern of destruction was also observed by him in La Union and in his home province of Ilocos Sur.

"It was in these observations that I acquired the love for trees, and I promised myself that as long as I am the city mayor of Baguio, all possible efforts will be exerted to conserve the remaining forest of the city and reforest the barren areas, particularly the watersheds and forest reserves, where the city draws its water supply," Lardizabal said.

Lardizabal said he had not gone to college to study the intricacies of forestry as a science, but he believes that as long as the forest vegetation of Baguio is not restored, no amount of efforts or planning would be able to solve the recurring water shortage problem of the city.

To the forestry students, Lardizabal exhorted: "When you shall have finished with your studies in the College of Forestry, you will be assigned in the different parts of the country as custodians of the forest.

"You will meet with so many risks. Your job will be hazardous. You will be influenced in your decisions by politicians, who can make it hard for you if you do not cooperate with them. But, with or without pressure from politicians, you should always strive to be guided in your work by what you think is for the best interest of the public."

Stressing the importance of honesty and loyalty as desirable qualities for forest officers, Lardizabal said that as long as the guardians of our forests are wanting in these virtues, there is little hope for us to see our forest resources really conserved for this and many more generations to come.

Lardizabal deplored the attitude of certain forestry officials, who have joined the service for "selfish interest."

Earlier Prof. Teodoro C. Delizo, who led the visiting students, and Sr. Forester Rufino A. Sabado, regional forestry director, delivered brief remarks, Delizo referred to Lardizabal as a "forestry-conscious" city mayor. Closing remarks were given by Mr. Andres, who served as moderator in the open forum.

Local forestry personnel led by District Forester Cornelio Luczon, looked after the needs of the visiting students during their Baguio stint.

The basketball team of the visiting group played with the Baguio Tech and Saint Louis College, losing both games by slight margin. For social of the students, the Orchids Club held an informal dance in their honor in the evening of August 19, at the forestry headquarters.



BAGUIO—The municipal council of Makayan, Benguet, Mt. Province, adopted recently Resolution No. 16, authorizing the appointment of the members of the municipal council of that town as municipal firewardens with their salaries to be paid out of town coffers.

Approved by the provincial board of the Mt. Province under its Resolution No. 698, Mankayan Mayor James D. Guanzo appointed Vice Mayor Agosto Santos, and Councilors Pablo Ambas, Guindaoan S. Sayud, Ricardo Sab-it, Dalmacio Lawana, Bonifacio Likigan, Gaspar Cayetano, Miguel Motes, and Antonio Pacsi, municipal firewardens during the period from January 1 to June 30, 1962, at the rate of ₱24 per month, each.

Copies of the appointments of the municipal firewardens were furnished in the forestry district office in this city.

In acknowledging receipt of the copies of the appointments of the municipal firewardens, District Forester Cornelio Luczon wrote to Mayor Guanzo:

"The appointment of municipal firewardens, even if they cover only their respective districts in Mankayan, is indeed significant in the field of forest conservation, taking into consideration that the initiative came from the municipal council, and that the funds for their salaries are defrayed by the municipality.

"In other words, the appointment of municipal firewardens under the above-recited circumstances is a novelty by itself, and worthy of emulation by other municipalities not only in the Mt. Province, but also throughout the Philippines.

"It may seem needless to point out here that the move taken by the municipal council of that town

is unique and marks the sign of progressive and sound forestry movement, which gives full focus to the importance of forest and forestry, the benefits of which would accrue for generations of our people yet unborn to enjoy.

"In behalf, therefore, of the Director of Forestry, please allow us to extend on you and the Municipal Council of Mankayan, our utmost appreciation and commendation for this novelty, which you initiated in forest protection and conservation."



USING WOOD TO GREATER ADVANTAGE

Rome, July 3—Nine working groups will meet here from 16-18 July to discuss developments in the field of wood technology, and to start preparations for the Fifth Conference on Wood Technology. This will be held by the Food and Agriculture Organization (FAO) during late 1963 at the United States Forest Products Laboratory at Madison, Wisconsin.

This series of meetings will be followed, from 19-20 July, by the first technical session of the newly-formed International Wood Research Society (IWRS). This international body was launched in Paris in May 1960, under the auspices of FAO.

"The FAO Conference series and the IWRS both have as their ultimate aim the more efficient and cheaper use of forest resources, as well as expanding the number of wood and wood-based products," said Dr. Egon Glesinger, Director of FAO's Forestry and Forest Products Division. "Obtaining information on the structure and chemical and physical properties of wood are essential steps towards this aim, as are new methods of wood conversion and the development of products based on low-grade or small-dimensions wood, non-commercial species, or factory and forest residues."

The nine working groups will cover the following fields: testing of mechanical properties of timber; physical problems of wood and wood-based materials; testing methods for fibreboard and particle board; testing methods for veneer plywood and other glued veneer constructions, structural grading; fire-test methods for wood and wood-based materials; sawing and machining; classification of wood-based materials, and wood preservation.

IWRS meeting will have two technical sessions: rheology of wood (with discussion leader Dr. F. Kollmann, Director of the Wood Research Institute, University of Munich); and dielectric heating and its use in wood glueing and drying (with discussion leader Dr. J. Collardet, Director of Centre Technique du Bois, Paris). Authors from France, Germany, Poland, Sweden, U. K., Israel and Canada will present papers.



AGUSAN CHIPS

A floating log is a floating gold. Like in the old Western stories, watchman or guard could be riddled with lead in his defiant stand to protect his employer's goods. Many lives had been wasted and death in all its dastrady way will continue to take its toll in the flight for the possession or protection of this commodity, unless something is done to curb or minimize it. This is the unfortunate situation of the lumber industry in Agusan.

"Frogman" who are caught hijacking rafted logs may be shot without mercy by logpond guards or brought before the courts of justice. Launches towing logs in the open sea or river are held up and sometimes the logs pirated. Export logs ready for loading are sometimes forcibly taken at gun point from the guard. A single log when sold in the backmarket as "Blue Seal Log" may run into several hundred bucks ready to be squandered in the cockpit, gambling joints or flesh mart. No timber concessionaire is immuned from these obnoxious practices of timber thieves. That is business.



The local counterpart of the PLEUSP (BF, BIR, PC, and representative of the Governor's Office) thru the initiative of Governor D. O. Plaza and the respective heads of the office members have formed several teams, each team represented by each office, who are bent on running after timber thieves, smugglers, hiackers and violators of forest license regulations. Another object is to break the network of a syndicate that is plying its nefarious trade in the acquisition of logs taken from all kinds of questionable transactions and sources which is becoming a growing menace to the lumber industry in Agusan.

Governor Plaza staked his political career when he launched this movement of curbing once and for all timber thieveries. Being a progressive and successful licensee, he has been a victim for many times of log piracy. All the legitimate licensees many of whom are his political opponents are in full support with this movement.

These licensees have pledged to donate funds for the purchase of additional two outboard motors, fuel and oil for the use of the local PLEUSP in order that the objectives set forth may be attained. Logs found to have been cut in violations of the terms of the license or illegally gathered are either fined or confiscated in accordance with previous Presidential Directive.

Special mention is given to Mr. Jose C. Aguino, a progressive licensee and log exporter who is donating one complete water patrol craft equipped with radio, including fuel and oil for the continuous operation of the team, aside from the proposed other two radio walkie-talkies which he will donate to be used by the other teams in their 24 hours duty.



Another team of the PLEUSP is inspecting the different forest concessions to determine those undesirable licensees who have little or no operations but were able to manifest big volumes of timber. Such timber manifested are cut outside the license by licensees who are already overcut in their quotas or from illegal sources.

These questionable licensees have been made the willing tool of smugglers and fly-by-night operators in the invoicing of pirated or hijacked logs, as well as those cut without license.

The only sure way to this unhappy situation is employment of competent and reliable scalers in every license area who are to be closely and strictly supervised.



The forest management work in Agusan would be a total failure if this type of operation of some smart licensees or exporters are not put to an end. Overcuts are invoiced in other licenses where there is little or no operations.

The volume of timber and lumber exports of the last fiscal year in this province was 326,900, 870 board feet with a value of ₱28,038,802.27 as compared with 1961 exports of 318,224,400 board feet with a value of ₱34,136,879.20. Agusan maintains to be the premier province in the lumber industry in the country up to this time.



There is nothing holier, in this life of ours, than the first consciousness of love—the first fluttering of its silken wings. — LONGFELLOW.



Every man has freedom to do all that he wills, provided he infringes not the equal freedom of any other man.

—HERBERT SPENCER



Sunshine Corner

Compiled by ROSS B. GOZE

Very Important

Scaler: "Sir, I've been trying all week to see you; may I have an appointment?"

Manager: (busy going over some paper): "My boy, can't you see I'm busy? Just make a date with my daughter, she's my secretary."

Scaler: "That I did sir, and we had a nice and grand time together but I still want to see you. It's very important!"

Manager: "Important, what?"

Scaler: "You see sir, your secretary requested me to tell you that we are getting married."

Collect the Remains

In a remote section of the country an elderly native died. Word of his passing reached the country seat. The coroner, a tall, strapping young fellow, got his car and drove out to the deceased's house.

"Did Sam Williams live here?" he asked the weeping young widow who opened the door.

"Yes", replied the woman between sobs.

"Well", said the coroner, "I've come for the remains". The woman's crying died down as she slowly sized up the handsome young fellow standing in the doorway.

"Well", she explained, "I am the remains, but you'll have to wait until I pack my clothes."

Statistics

An instructor in Statistics 11 was explaining to his class some fundamental operations in statistics after which he told his class his system of grading his students. Said he, "You must get an average of 60% in all your quizzes in order to pass this course."

Al, after computing the average of his quizzes with a borrowed slide rule, stood up. "Sir", he said, "with your system of grading if you follow it strictly, I must confess I will not graduate in the second semester, however, if you employ what we have just learned from you about the degrees of freedom, I am certain I will pass. You see sir, I got an average of 55% for 5 quizzes and if you will divide the sum of my 5 quizzes by 4, that is with the degree of freedom, under type I error and 99% probability, I will pass with an average of 63 plus or minus 2 standard deviation."

Lumbering 2

Professor (pointing to a student wearing colored

glasses): "You, there, will you give me an example of a labor union?"

Student (just awakened from his sleep): "In union there is strength!"

Exams in P. E. Ia

Instructor (writing questions on the board): (a) Differentiate corn from callous. (b) Anopheles mosquito from Culex mosquito.

Student (writing his answers on a bluebook): (a) Corn is something we can plant while callous we can not. (b) Annapolis mosquito is a species of mosquito which caused the malaria epidemic in the navy while ...
..... Culex

Right

Auntie: "And what will you do, my little darling, when you grow up to be a great big girl?"

Child: "Reduce".

Pleasure not Business

A motorcycle cop pulled up beside a car parked on a road outside the college campus in the wee small hours of the morning.

"Hey!" he yelled. "What business have you got to be out this hour of the morning?"

"This isn't business," came a voice from within, "it's a pleasure!"

Speak Up

Judge: "Are you the defendant in this case?"

Negro: "No, suh. I'se got a lawyer to do my defendi'. I'se de gent'man what stole de chickens."

Biased

"Why don't you like girls?"

"They're too biased."

"Biased?"

"Yeh—buy us this, buy us that, until I am broke."

Good Bye

A Rhoan visited his girl friend, a luscious coed in a nearby village. Their conversation went on pleasantly that when the girl saw the clock it indicated past midnight.

"It's after midnight and your place is a little bit far," said Lyd. "You'd better get started."

"All right", agreed Al. "Turn off the light!"

Smart Guy

A wise guy stepping up to a bus as it stopped the other morning said to the driver: "Well Noah, you've got here. Is the Ark full?"

The motorman answered back: "Nope, we need one more monkey, Come in."

Modern

Chief Sitting Bull visited an Indian tribe in one of the national reservations. Meeting him was a chieftain. "I am Brave Eagle," said the Indian chief to the former. "This is my son, Fighting Bird". "And here," he added, "is my grandson Friendship 7".

Fore and Four

Jones is a devoted golf player and his wife is equally fond of auction sales. They both talk in their sleep. The other night the people in the next apartment heard him shout "Fore!" and immediately his wife yelled, "four and a quarter!"

Perfect Understanding

"Who's calling?" was the answer to the telephone. "Watt"

"What is your name, please?"

"Watt's my name."

"That's what I asked you. What's your name?"

After a long pause, and then from Watt, "Is this Joe Brown?"

"No, this is Knott."

"Please tell me your name."

"Will Knott."

Whereupon they both hung up.

Chaser

Fratman: I went in that bar twice and got me two straight whiskey without paying.

Sorority coed: What did you have for a chaser?

Fratman: The bartender.

Course for Sadness

Johnny found Bert in a depressed mood under one of the Mahogany trees on the forestry campus. The former saw Bert threw a piece of crumpled paper nearby. He picked it up and found terms translated in Tagalog—Halt!.....Hinto!. fire!... ..sunog!. At ease.....Easy lang padre; right shoulder arms.....Sa kanang balikat ang baril; order arms.....magutos ka ng kamay.

Johnny asked Bert what was he lamenting about and the latter pointed the bottom portion of the paper which read Pamantasan ng Pilipinas, Kolehiyo ng Kagubatan (University of the Philippines, College of Forestry) Kumusta ka ... (Greetings) naghirapily makatapos... (satisfactorily passed) ... Binata ng atb (B.S.F.)

"See what I mean Johnny! "It's no longer U. P."

FPRI HIGHLIGHTS . . .

(Continued from page 98)

June. Dr. Lee W. Crandall, expert in timber physics and engineering, and Mr. Earl R. Schafer, adviser to the Chemical Investigations Division, left on June 7 and June 17, respectively.

Enrique Amio, Senior Forest Products Technologist of the Chemical Investigations Division, left for Japan early in June to specialize in Forest Products Processing for six months.

Ricardo Casin departed July 12 for Melbourne, Australia for a one-year training in wood seasoning at the CSIRO.

Expected to leave soon are Melencio Laxamana of the Wood Preservation Division and Exequiel Mendoza of the Industrial Investigations Division. Mr. Laxamana has accepted a one-year scholarship to train in Germany on wood preservation while Mr. Mendoza will go to England to specialize in wood processing for one year.

Reynaldo Adriano, Junior Forest Products Technologist, returned to the Philippines after completing one year of training in veneer cutting at the Forest Products Laboratory in Madison, Wisconsin.

Justino B. Segueria, Jr., Senior Forest Products Technologist, arrived from Sweden after attending a three month course in wood drying and preservation.

Miscellaneous

Dean and Mrs. Hardy Shirley of the College of Forestry at Syracuse University graced the list of

guests who were present at the retirement and birthday party for Eugenio de la Cruz.

Dr. F. N. Tamolang was recently interviewed by a USIS representative. Subject of the interview, which was broadcast over the radio, was the Institute's contribution to forest conservation.

"The Versatile Forest", which appeared in the July 28, 1962 issue of the News Digest, paid tribute to the work of the FPRI as valuable in the field of forest research. The article discussed the work of the Institute, making particular mention of the research studies now being conducted on pulp and paper making and charcoal briquetting. It also pointed out the concern of the administration and responsible leaders of the country over the rapid depletion of our forests.

We welcome this as another healthy sign of our growing consciousness and appreciation of our forest, which has long been a victim of our passive attitude or of our ignorance.

In keeping with the Government policy of maintaining a high level of effective performance among government employees, Dr. Bienvenido Gesmundo, Training Officer of the Institute, initiated an in-service training course on "Management Supervision" to which recommended personnel from each division were invited. The course, which started in June, was designed to last from three to four weeks. The first batch to attend the course sat for the exams on July 24th. And we thought we were done with exams at this stage of the game!



June 8, 1962

129 Bascom Place
Madison 5, Wis.
June 6, 1962

Dean Gregorio Zamuco
College of Forestry
University of the Philippines
College, Laguna
Philippine Islands

Mr. Eugenio de la Cruz
Forest Products Research Institute
College, Laguna
Philippines

Dear Dean Zamuco:

Dear Cruz:

The arrival at my desk of the last issue of "Forestry Leaves" has caused a complete cessation of work while I went through it from cover to cover. For the past hour I have been vicariously revisiting the College, the Laboratory and my many friends of the period Dick and I spent with you.

At last retirement has overtaken you after nearly 10 years as Director of the Forest Products Laboratory and its successor, the Forest Products Research Institute. There have been very fruitful years for forest products research and development in the Philippines, thanks to your leadership and guidance. You should have great satisfaction in your part as the leader who by foresight, dedication and hard work has developed the Institute from nothing to its present large staff and high state of competence, effectiveness and prestige. You have been indefatigable in your efforts to increase the size and usefulness of the Institute year by year and to increase the knowledge and competence of its individual members through training abroad. Having worked closely with you during seven of these years, I know of the many obstacles and frustrations you encountered during that time but I have never seen you discouraged. You bounced back from every temporary defeat and overcame every obstacles and frustration. Now you leave to your successor a well-organized and smoothly running machine for serving the Philippine people. May it ever continue to grow and be more useful. I salute your great accomplishments.

A few days ago the last progress reports came from Charlie Larson and I have been through these also. The changes, the developments, the growth and the vigor of the College are all so very impressive. It is difficult to believe that so many things have happened in the three short years Dick and I have been away. It is most gratifying to know that the program of growth and development is proceeding, even though there are of course, periods of frustration and there are still problems to be solved. It speaks well for the sustained efforts of you and your staff and I feel sure the future will continue to reveal the strong progress of the past few years. Please find enclosed my personal check for \$10.00. I apologize that it is in dollars rather than in pesos, but over here dollars are easier to get. Will you please use the money in support of Forestry Leaves? Your suggestion on page 15 caused me to decide to send the check along. I hope it will be possible to enter a subscription for me and that you will calculate the cost of postage in determining the rate. Frances and I plan to spend a considerable time in Europe this summer. Frances is in Copenhagen now, and I will leave tomorrow to join her. We will then travel to Italy and eventually visit England before coming home. We wish we were coming as far as the Philippines, but that must wait for some other time. This year Dean Shirley will do the visiting for all of us.

I hope the coming years will be kind to you and your family and that you may have many more opportunities to the service of the Philippines as the years go by. Congratulations and best regards.

Yours most sincerely,
(Sgd) George M. Hunt

Our best wishes to you, your family and to our many friends in the Philippines.

Sincerely,
C. Eugene Fansworth
Campus Coordinator
Philippine Program

To be acceptable as scientific knowledge a truth must be a deduction from other truths. — ARISTOTLE.

Literary Attempts

My Mountain Cantic

*Green things over the mountain,
What grandeur they possess--
Silver threads of fountains
And zephyrs that caress.*

*Green cover of the mountain:
I salute thee with reverence,
For without thee never again
Shall I know men to be friends.*

*Thy art, the food of my vision,
Thy art, the seclusion of my soul.
My energy is for thy protection
And thy protection is my goal.*

*It is in loving that the virtue of giving
Has softened the hearts of men,
And the green things over the mountains
Has inspired the hearts of men.*

Erico T. Enriquez

✓ The Sylvan Redeemer

*His fabric is made of steel molded to feature
the fierceness of a mechanical tiger. He is
fanatic to his devotion to a way of life:
rugged, wanting, and lonely beyond glamour
and excitements.*

*. . . this morning, his dozer bogged
down, the swivel in his boom refused
to give way just as he was ready to
load, and late this afternoon, a downpour
washed out the gravel from his main . . .*

*The brilliant flash that flicked some seconds
late was gold never gained, almost lost.
Deliberation took its form in the luxury of
the moment, that is why he despises luxury.*

*He will distort only to recreate, and nature
loves him for the way he is devotedly
unselfish to keep the cycle moving.*

*. . . tonight, he will shape his bottle
to form the missing pin for the
boom and he will blacken his wine
to ooze its way to his dozer.
From his tray, he will scoop all
the gravel for his much needed
main . . .*

*He fights a lonely battle and will always
stay fighting. And he will commit
anything ungodly to gather all the
sand from the bottom of the seas to
dump it in the upper aperture.*

*. . . a bearded face sighed
complete resignation.
And if only the day was his last,
he could have whispered to his
last breath of life, "Ah, rest at last."*

—Eddie Dizon

FORESTRY LEAVES

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

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Editorials:

Arbor Week and Forest Conservation

This year almost all the local dailies carry articles about our receding and decreasing forest resources. Editorials, news items and comments in any form grace the papers in bold expression of sentiments in the way our forest are being mismanaged due to our irresponsibility.

Years ago forestry experts warned us about the way we are heading—towards forest destruction and a possible timber famine. Yet we seem to keep our ears deaf and our eyes closed to the truth about forests. We havemet the problem only with cold indifference not with zeal and concern.

Arbor week comes but once a year. In its observance various interpretations and activities are made. Some people plant trees for the sake of planting, others take it for granted. If we give the occasion some reflection perhaps we may find the truth, its essence and purpose. What we need and must do to conserve our forests, not only during Arbor Week, should be our utmost concern. Forest utilization goes throughout the year: forest conservation should be given better attention and should not be merely a “palabas” during Arbor Week.—RBG

A Case for the Kainginero

Kaingin-making, a malpractice that cuts against the grain of every forester, is truly one of the big threats to the nation's fast dwindling forest reserves. It is a problem which has become so serious that unless effective measures are applied to combat it the future of Philippine forestry will remain ominously bleak.

Recent data show that there are about 65,000 families engaged in mountain farming. This is roughly composed of 400,000 people thoughtlessly cutting trees year in and year out on forested areas. This menacing multitude cuts 30,000 hectares of public forest lands and destroys timber worth ₱15,000,000 annually.

The destruction being done is really alarming, more so because our laws do not seem to provide an effective curb. We have legislations that specifically prohibit the cutting of trees from public forests; they sound drastic, but the poor "kainginero's" dire need of food defies all risks, nay, respects no prohibition.

A closer look at the problem suggests that the solution does not necessarily depend on a more strict enforcement of existing laws. These people are usually those who are in need of better agricultural land to raise crops therein and earn their family's livelihood. However, they are unable to acquire a piece of land more suitable for planting. Most of the more desirable ones are owned by imperious "hacenderos" and politically influential persons who do not need them as badly as the poor farmers do. These less fortunate farmers have no recourse but to clear forested mountain slopes and even mountain tops.

If the predicament of these misplaced people is well seen, at least one immediate solution can be suggested. And this solution can only be carried out best by the government which should find in its domain the right places to be settled agriculturally that should be distributed to them. This cannot be a difficult thing to do if wisdom is exercised so that those who are really landless are the only ones given the land. They will then forget the idea of clearing and tilling forest areas.

What more can a poor farmer desire but a piece of land to earn his living from and establish a firm footing for his family.—*OAG*.

Forestry Day

This year's traditional celebration of Forestry Day was reminiscent of past celebrations. Highlights of the Day's activities were the open house, convocation at the auditorium, luncheon for the guests, the ball games and climaxing the affair, the evening ball. While the occasion had all the atmosphere and color of a town fiesta, still the Day was something more than merry-making.

Behind the open house was the justifiable pride of the students in "belonging" to a good school as they showed guests around their neat campus and buildings. The convocation was a fitting opportunity for awards to golden jubilarians in forestry. While ostensibly lending excitement and color to the celebration, the athletic activities and the evening ball were occasions for displaying the sportsmanship and social graces which the profession demands.

Unlike most fiestas and celebrations where the main concern is on enjoyment and fun, the annual Forestry Day Celebration is a unique blending of solemn moments and excitement, of fun and quiet retrospection. It is a day for renewing efforts towards greater goals, for rededication to the cause of forestry, whether academic, government or industrial forestry. Also, it is a day for clean fun and relaxation. For the students, faculty, alumni and guests it is their Day. We look forward for more to come. — *BCA*

University of the Philippines
COLLEGE OF FORESTRY
College, Laguna

Dear Fellow Alumni,

We are in quandary, faced as we are with a difficult task. We then thought of appealing to you for your kind help, knowing, as we do, that you have the interest and welfare of our Alma Mater at heart.

Here in the College, the *Makiling Literary Club* is doing the yeoman's job of raising funds for the purpose of purchasing new stage curtains and a piano for our auditorium.

Our College curtains bought during the early years of liberation are now faded and frayed at the edges. Our old piano, too, needs replacement. Every Forestry Day and Moving Up Day, the piano tuner has called our attention to the fact that many of its essential parts are so deteriorated that there will be a need for continual repairs and replacements, and that in the long run, it will be more economical to buy a new one.

January 11, 1963 has been set as the starting date for the drive by the MLC by presenting under its auspices a benefit show—a play "Walking Canes and Fans" by the U.P. Speech Association at the Baker Hall. This may be followed by a series of other shows until the goal has been reached before our Moving Up Day, sometime in the last week of March 1963. This date has also been set as the Inauguration Day of the Forestry Technology Building, latest addition to the new buildings on the forestry campus.

We wish to have a presentable auditorium with new curtains and a new piano during the Moving Up Day Celebration and the Alumni Reunion.

We were able to buy the curtains, the piano and other equipment through benefit shows and contributions from the alumni. We expect, with God's help, yours and friends' to be able to raise the necessary funds again for our needs.

May we solicit your most kind help and cooperation and your men's in this laudable project? Any amount you may wish to send will go a long way towards attaining our goal.

Please make all remittances to the Dean, College of Forestry not later than February 15, 1963, for which please accept our heartfelt thanks.

Very sincerely yours,

ROSALIO B. GOZE
President
Makiling Literary Club

APPROVED:

(Sgd.) JOSE B. BLANDO
Adviser, Makiling Literary Club

*Our heart felt thanks for their contributions;**

(PATRONS to "Walking Canes & Fans" presentation Jan. 11, '63)

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* As of January 5, 1963

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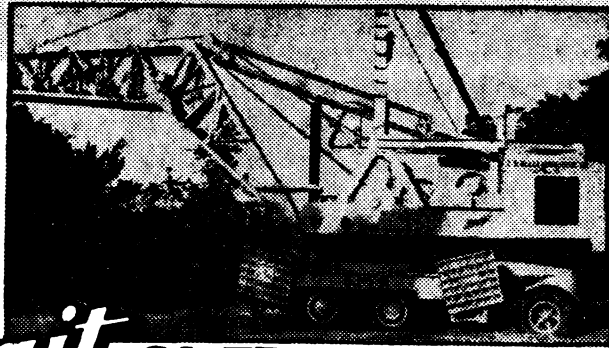
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