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FORESTRY LEAVES

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

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LOYALTY

If you work for a man, in heaven's name work for him, speak well of him and stand by the institution he represents. Remember - an ounce of Loyalty is worth a pound of *Q*severness... If you must growl, condemn, and eternally find fault, why - resign your position and when you are on the outside, damn to your heart's content - but as long as you are a part of the institution do not condemn it, if you do, the first high wind that comes along will blow you away, and probably you will never know why ::

Elbert Hubbard



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 students and alumni of the U.P. College of Forestry in connection with its Moving-Up Day issue.

The role that foresters and forestry graduates play in the growth and development of Philippine economy cannot be underestimated.

I wish you all warm congratulations and sincere hopes for success in all your endeavors.


E. RODRIGUEZ

Manila, April 5, 1962



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE AND NATURAL RESOURCES
BUREAU OF FORESTRY
P. O. Box 2069, MANILA



In Reply, Address
DIRECTOR OF FORESTRY
P. O. Box 2069, MANILA

Z - College of Forestry
(1962 Moving-Up Day)

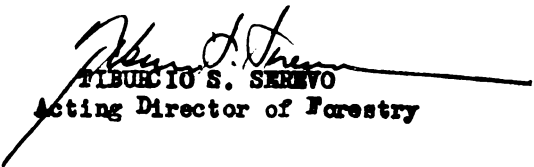
M E S S A G E

As the graduates step out of the portals of the College, a new challenge awaits them. It is a challenge more demanding, more trying and more exacting than that they had courageously accepted and successfully hurdled while in the College.

This time, however, the challenge that awaits the forestry graduates is more exciting, more satisfying and more embracing if the investment of efforts in the task is powered by more courage, more determination and more sacrifices.

You have prepared yourselves for the task. The task is certainly difficult. But yours is the immeasurable satisfaction of knowing that your labors are all for the generations born and still unborn. Forestry, as you have learned in College, encompasses the whole of time. A forest officer, therefore, essentially plans and works for the future so that those who are coming after him will enjoy the blessings of the forests.

I have faith in the forestry graduates. I believe they have all that can make them succeed in their chosen profession. To them, go my congratulations and best wishes.


ALBINO S. SERRANO
Acting Director of Forestry

April 3, 1962



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

M E S S A G E

It gives me great pride and pleasure to congratulate you - new graduates of the College of Forestry. After years of conscientious study and training, you are about to leave the portals of your Alma Mater with the cherished feeling that you are now ready to pursue your chosen profession. Your profession is a noble one for it concerns not only the utilization of the forest resources but also the conservation of the same which undoubtedly will contribute to the socio-economic growth of the nation.

As you go out to begin a new life, I would like to give this reminder: Your destiny is in the hallow of your palm. If you want to succeed, there is no substitute for hard work and resourcefulness. Do not gamble your future by relying on good luck to come to you. If opportunity does not come to you, create the opportunity. If we want the forestry profession to be respected, let us take the initiative to raise the standard of morality within our circle. Let it be said that where a forester goes, there goes an honest and upright man.

The College of Forestry has for years infused to you, in a complex way, these special qualities and it is my fervent hope that without abandoning any of these, any line of endeavor you pursue will be in the right direction.

I am wishing everyone of you, therefore, many fruitful years ahead.


JOSE VIADO
Administrator

April 2, 1962

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



M E S S A G E

It is a great pleasure to be one of the first to greet the Graduating Class of 1962 of the College of Forestry, and on this occasion I wholeheartedly congratulate every graduate for the successful completion of their studies.

Our country, more than ever, needs more Professional Foresters. The conservation of our natural resources, particularly the forest, should be given a serious thought and more Foresters in the field, will undoubtedly contribute immeasurably in implementing the conservation program of our country.

Every forestry graduate has great opportunities for service and their field is unlimited. My best wishes to members of the graduating class for their continued success in all their endeavor.

Very truly yours,

A handwritten signature in dark ink, appearing to read 'Vicente de la Cruz'. The signature is fluid and cursive, written over a light background.

VICENTE DE LA CRUZ
Director



University of the Philippines
COLLEGE OF FORESTRY
COLLEGE, LAGUNA

M E S S A G E

The College of Forestry hopes that each graduate leaves his alma mater imbued with the best possible technical training necessary to equip him in his profession. The Forestry graduate is not only one who knows botany, economics, engineering, entomology, harvesting of forest crops, pathology, sociology, and other courses given him in college, but an educated man who, guided with these skills is able to integrate them into further skills which will bring wealth to the forest. It is a laudatory feat if the forester goes out equipped in this manner but there are other qualities of a higher division which this college cannot provide nor can it measure in immediate tangible terms but are nevertheless the very roots by which this technical know-how can find its fruition. These qualities are those which create responsible leadership expressed in terms of service to mankind through constant preservation and prudent management of nature's handiwork, the forest - its products and its resources. The task of achieving these immense qualities is the College's challenge to its graduates.


GREGORIO ZAFUCO
D e a n

Department of Public Works and Communications
BUREAU OF POSTS
 Manila

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The undersigned, **IGNACIO G. PATAGUE**, Business Manager, Forestry Leaves (title of publication), published quarterly (frequency of issue), in English (language in which printed), at College, Laguna (office of publication), after having been duly sworn in accordance with law, hereby submits the following statement of ownership, management, circulation, etc., which is required by Act 2580, as amended by Commonwealth Act No. 201:

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What is a Scientist

By

ROBERT F. CHANDLER, JR.

*Director, The International Rice
Research Institute*

It is a distinct honor to be invited to speak before the Society for the Advancement of Research. I am aware that your members form an impressive roster of scientific and educational experts, who are known here and abroad for their contributions to various branches of the natural sciences.

In selecting a topic for this occasion, I was undecided whether to speak on a phase of scientific endeavor in which I had previously played a personal part or to present a broader subject. Obviously, the latter is more in keeping with my present administrative activities, while the former has the advantage of imparting certain specific, and possibly more helpful, information to the listener. In spite of somewhat favoring a specialized scientific subject, I have chosen the rather general topic. "What is a Scientist?", as being more appropriate for a varied group like yourselves.

Our concept of what a scientist is differs according to our experience. The uninitiated often think of the scientist as a bearded, long-faced, absent-minded individual locked up in a world of test tubes and awesome formulae, inevitably apart from his fellow men. True, there have been such individuals and true enough too they have sometimes left the world better off for their ivory-tower dedication to scientific pursuits. Nevertheless, though such types still exist and probably will always be found somewhere, happily most scientists are rather normal human beings following the usual pattern of living pres-

cribed by today's conditions. They are, however — or they should be — in some ways a distinct breed. Certain qualities are essential to the successful scientist, and perhaps we might examine these more.

A scientist must be completely objective in his studies. He must retain an open mind and must look at his results, even after the most prolonged and arduous efforts, in a completely detached way. This does not mean that he cannot have hypotheses. Many a sound research project has been conceived and carried out as a result of a hypothesis developed by the investigator. The essential thing is that the scientist be ready to discard or alter his hypothesis if the results of his research do not support his original idea.

A scientist should be well educated in the basic sciences, even though from the outset he intends that his contributions be made in the applied sciences. Mathematics, physics and chemistry are obviously the fundamental subjects back of most branches of agricultural science, for which they provide an immeasurably valuable foundation. Moreover, a purely scientific background no matter how thorough, is not quite sufficient. If I, for instance, were to start my career over again, I would first obtain a good basic education in the arts, as well as the basic sciences, before specializing as a graduate student in my chosen scientific field. Much of the excellent research in the biological sciences in the United Kingdom, continental Europe and Australia, for example, is a result of top-

quality and complete instruction in the fundamental sciences, overlaying a thorough groundwork of humanitarian studies.

A good scientist must not only be soundly educated, he must be curious, imaginative, resourceful and ingenious. This is a large order; and, obviously, with the heterogeneity of mankind, there will be considerable variation in these qualities, even among scientists. All scientists, if they are to be creative, however, must first of all have an enthusiastic desire, almost a compulsion, to know the cause of things and must be resourceful in attempting to obtain answers to the many perplexing problems about our environment.

A true scientist maintains such an open mind that he accepts nothing merely because it is believed to be true. Always he seeks real evidence. Man, through his investigations, only approximates what actually exists in nature. Nevertheless, his approximations are often accurate enough to be considered as truths, at least for practical purposes.

Let us think back for a moment to man's concept of the universe in Aristotle's time (350 B.C.). The universe was believed to consist of a vast but finite globe of space with the earth motionless in its center. The heavens were conceived to be a series of concentric shells, which were the planet-bearing spheres. This concept held as the most generally believed theory for almost 2,000 years until Copernicus, the famous Polish scholar (1473-1543), conceived an essentially correct view of the movement of the heavenly bodies, with each planet not only moving in an orbit but also revolving on its axis.

Copernicus would never have discovered this fact if he had blindly accepted the theory taught in all the universities of his time. The lesson for us today is that any theory not yet adequately proved should be questioned by all, and those of us who are qualified by education and training should continue to explore all possible avenues to the truth.

Established concepts are still being upset. We all recall that the Nobel Prize in physics was given in 1957 to Dr. T. D. Lee and Dr.

C. N. Yang for having discovered certain violations of the principle of space reflection symmetry, a theory previously taught for generations. This discovery rapidly led to substantial advances in the physics of elementary particles.

May I say a bit about the role of the young men in science. If we look at history, whether of ancient or of recent times, we note that the major discoveries generally have been made by young men. Sir Isaac Newton (and he was no "sir" at the time) during his 23rd and 24th years developed in mathematics what is now known as the binomial theorem and established the basic principles of differential and integral calculus. In the same two-year period he started his significant work with optics and color and first wrote that he was "thinking of gravity as extending to the orb of the moon." Newton was still only 44 years old when he brought forth his theory of gravitation, which finally explained the forces responsible for the movement of planets and, of course, for many other phenomena.

Justus von Liebig, the famous German chemist who can be said to be the father of agricultural chemistry, made all of his basic chemical studies before he was 35. It was in his 37th year that he published his famous work suggesting that plants obtain carbon dioxide and ammonia from the air and minerals from the soil. (He was right about everything except the ammonia, of course, which we now know comes directly to the plant from the soil.)

Dr. Albert Einstein was 37 years old when he published his famous paper on the theory of relativity.

Incidentally, the Dr. Lee referred to above was just 31 years old when he and his colleague upset a fundamental concept in physics.

There is no doubt that man's most creative period is before his middle years and that this is demonstrably true of scientists in particular. Let me hasten to add in defense of those of us who are over 45 not only

that there are exceptions to this rule regarding creative research but also that the counsel of older and wiser men is essential to the guidance of all investigations.

Important ingredients of the successful scientist are a zeal for knowledge and the courage to defy established thinking. Galileo's findings were due in part to his tremendous enthusiasm. His "Dialogue on the Two Great World Systems," published in 1632, was a masterpiece that combined such an animated and eloquent style with such strength and clearness of scientific exposition that it brought a new light of knowledge into a reactionary age. Yet because this work supported the Copernican system of astronomy (considered at the time to be heresy by the Church), Galileo was summoned to Rome by the INQUISITION and remained or less in forced seclusion for the remainder of his life. Courageously, however, and of course fortunately for us, he continued to write articles and to correspond with others.

We have been considering some of the qualities that make a successful scientist. Let us now turn to the scientist in relation to the physical world in which he lives. Dr. Warren Weaver, for many years Director of the Natural Sciences Division of The Rockefeller Foundation, expressed the matter well when he wrote the following, "Science is a noble intellectual and artistic pursuit, one of man's major attempts to assess himself in relation to the universe.

"For example, we are just in the process of gaining a scientific picture of the total ascent of life. By far more vast and significant than the Darwinian view, this modern evolutionary doctrine begins with the elementary particles of the nuclear physicist and moves through the whole range of the atomic and molecular world up to the nucleic acids which, in their capacity to reproduce pattern and to pass on codal information, seem capable of forming the primitive basis for a living organism. From this point it is conceivable to move on to the gene, the chromosome, the cell and ultimately human life. Whether or

not man is the present climax of this ascent is itself now under question: for we have radar-listening devices directed at inconceivably distant parts of the cosmos, seeking to determine whether there are other and possibly more advanced beings there trying to communicate with earth-bound man.

"When the sights are set as high as this," continues Dr. Weaver, "the view transcends all the compartments of science. This is not, in any exclusive sense, physics or biology or chemistry or astronomy. This is the whole of science engaged with a problem of majestic dimensions. The sweep and depth of such a view of matter, man, and the universe fairly suggest what science really is — not a trivial business of tricky hardware, not the phony bubbling retorts of advertisements, not strange men with white coats or beards, but the response, at once poetic and analytical, of man's creative mind to the challenge of the mystery of matter and life."

Few scientists can play as phenomenal a role in scientific advancement as did Copernicus, Galileo, Newton, Darwin and Einstein, for example; but each of us can contribute something of value to the further enlightenment of mankind. The noble tradition of science is the gradual establishment of true knowledge, thereby gradually lessening the grip that superstition and ignorance still hold on a major segment of the world's population.

Scientists, by being men of reason, have an obligation in the community to live lives that stand for truth, honesty and sound logic. They should show their confidence in an orderly world governed by dependable natural laws. They should help to instill in the non-scientific segment of the population an appreciation of science as an honored profession served largely by the curious mind and the disciplined imagination. Through their own training, scientists can serve their communities by helping to resolve the many local issues of health and sanitation, of communication, of education.

Having examined science and the scientist in highly complimentary terms, perhaps we should now consider a few of the dangers of being over-factual, over-materialistic, over-technical—attitudes likely to capture the unwary scientific mind.

Science has indeed brought man comfortable living, quick communication and many things that make for a good life (provided one has the wherewithal to buy those advantages). Such achievements, however, cause us to tend to evaluate people and cultures by the physical facilities they have been able to amass, the standard of living they have attained. In America, it has often been said that our educational institutions have taught young people how to earn a living but not how to live.

The cultivation of the intellect involves much more than a knowledge and understanding of our natural and physical environment. An appreciation of art, music and literature, a knowledge of the world's great religions are essential to a full understanding of man and his many-faceted accomplishments. Without such an understanding of and respect for man's cultural side, the scientist labors out of contact and out of context the inner development of the human species.

Just as great scientists have opened new avenues of thought and knowledge, so renowned artists and writers have produced works so great that it is indeed regrettable for any man to go through life unaware and unappreciative of them. Exquisite poetry, powerful prose, famous paintings and immortal music, when viewed by educated man, give a lift to the human spirit that cannot otherwise be attained.

An acquaintance with these subjects not only adds richness to our lives but helps us to appreciate the enduring human values. For the arts are eternally concerned with human understanding—a search, not scientific but spiritual, for the truth. As science endeavours to analyze the universe so the arts seek to express and understand the human spirit. Both serve the whole of man-

kind, regardless of the incidentals of race, color, creed or nationality, As the motto in the International House on this campus states, "Above all nations is humanity."

This world will attain permanent peace only when man ceases his inhumanity to man; when he accepts the fact that all human beings are the same in needs and in rights, and that their difficulties can be resolved by intelligent discussion, with a willingness on the part of all to give and take in the interest of the common good.

The practice of these principles can extend to nation and to the world only when it is adhered to by the individual. Is not the scientist rather well-prepared to play a significant role in promoting in his community, in his province, in his nation, goodwill among men of all kinds? Science, like music, is a universal language. Scientists tend to be factual, logical people who look at issues objectively and who are not swayed unduly by emotion and prejudice. As such, they can be among the world's most valuable citizens.

It is obvious from my remarks that I am proud to belong to the scientific fraternity. It is equally obvious that, like the majority of its other members, I am concerned that its standards never decline. The stature of our profession can be upheld only by diligent effort and by top-quality work. We all must re-earn continually the right to be called scientists; the standard set by our predecessors demands this.

In the field of agricultural sciences alone, many challenging problems confront us today. To understand the nature of the cadang-cadang disease of coconuts, for instance, to develop a dairy cow really suited to tropical conditions, to produce a much-improved variety of Indica rice—these are only a few of the goals that will tax the best scientific talent we can muster.

Can we measure up to the challenge? Surely the answer is yes. Let us reassess ourselves, let us ready ourselves, for there are exciting times ahead!

Philippine Lumber Industry in the Light of Broader Aspects of Philippine-American Relations*



By
Hon. ANTONIO DE LAS ALAS
*President, Philippine Lumber Producers'
Assn., Inc.*

Mr. President, Members of the Philippine Mahogany Association, Ladies and Gentlemen:

The Philippine Lumber Producers' Association sends you its most cordial and expressive greetings.

Ever since the Philippine Lumber Producers' Association became a member of this organization in 1950, it has been my cherished dream as President of the Philippine organization to be able to attend even once your annual convention. Somehow, due to circumstances beyond my control, it is only now that I am able to honor your invitation. I am deeply grateful for the opportunity you have afforded me to address this important assemblage. My preference and plan was just to appear before you without any prepared speech and instead engage in an informal heart-to-heart talk with you about our common problems. But I was expressly asked to prepare a speech and furnish a copy thereof to your Association before my arrival here, and to this requirement I gladly yield.

As you are dealing with a Philippine

commodity and almost all of you have offices or representatives or direct connections in the Philippines, I am sure you are familiar with Philippine conditions in so far as our forestry and wood products are concerned. However, let me first review very briefly the Philippine situation.

Our biggest problem of course is the conservation of our forests. Admittedly we had one of the biggest forest resources in the world, but during the last few years, there have been considerable depletion of our forests due to many causes among which were what we call "kaiñgin" which consists of clearing the forests by burning for the purpose of planting rice and other agricultural products; withdrawal of forest areas from forest reserves to make them available for ordinary agricultural purposes; "squatting" or occupation of land without any legal license or any color of title, and ruthless and indiscriminate destruction of forests usually committed by forest concessionaires who cannot afford to practice selective logging or to reforest logged areas or cannot provide themselves with equipment that will enable them to avoid the trampling of small trees. However, what remains can still be compared with the extensive forest areas of other countries and if appropriate measures

* Speech of Hon. Antonio de las Alas delivered at Boulder Colorado, U.S.A. during the Annual Convention of the Philippine Mahogany Association on July 16-20, 1961.

are taken to protect the forests and reforest the logged or denuded areas, the wood resources of the Philippines will continue to be an immense wealth. At present there is a bill in Congress which I am sure will be approved to determine and delimit the forest reserves and, once thus delimited, it cannot at all be opened for agricultural or other purposes. The government has also taken a decisive step to reforest denuded or logged areas by creating a separate agency charged exclusively with the work of reforestation and all areas thus reforested will be kept as permanent forest reserves.

There was also a very serious movement to lessen the cutting of trees by prohibiting or limiting the exportation of logs from the Philippines. The movement started on account of the large volume of logs exported to Japan. Although it is obviously to the advantage of the Philippines to retain our logs and process them right in our country into manufactured products, our Association opposed the proposed prohibition or limitation as it would result in the closing of business of probably more than one half of the companies and persons now engaged in the wood products business to the detriment and prejudice not only of such companies and persons, but also of the many employees and laborers employed by them. Furthermore the coffers of the government will suffer a tremendous loss. Our Association proposed that any limitation to be adopted should be only to the extent the logs that must be retained can be absorbed by the existing processing plants.

Neither do I deem it necessary to discuss the different problems pertaining to the trade of wood products between the United States and the Philippines as they have been the subject of a great deal of correspondence between your Association and our Association and furthermore, they may be in the agenda of this convention or may be taken up in the course of our deliberation. Suffice it to say that the most important pro-

blem is still the high freight rates charged in shipping our wood products to the U.S. We have persistently worked for a reduction of the rates to a reasonable level but we have so far failed to receive fair treatment. You are in a better position to influence in this connection as the shipping officials in the Philippines are mere agents and have to submit our petitions to their corresponding head offices abroad. The shipping combined alleged that one of the reasons why they cannot consider a reduction in the freight schedule is the high expenses they have to incur in Philippine ports in connection with inspection and boarding by our customs officials. We are now seeking the necessary remedy in this connection. The only other subject submitted to your Association worthy of special mention is the expansion of the market for our products in America. Your market is too *selective* and we have been urging that ways and means be sought to absorb some of our wood products of lower grades. The fact that the Japanese buyers accept both high and low grade logs to feed their industrial plants is the reason why the greater bulk of our production is channeled to Japanese destination. We are confident that with the American know-how and technical advancement a process can be discovered and utilized to convert our low grade products into something that can be useful and acceptable to American consumers.

But rather than devote my time to the elucidation of these problems which, as I have said, can be discussed in the course of our deliberation, I would prefer to consider the lumber industry of the Philippines in the light of the broader aspects of Philippine-American relations.

An unexpected event about the end of the last century brought the United States to the Philippines. Having struggled for freedom from a colonizing country we could not accept domination by any other nation so we resisted tenaciously America's design

to occupy the Philippines. But the struggle was so unequal that after a brief skirmish we had to bow to American sovereignty. We soon understood the American motives and objectives. America did not mean to colonize the Philippines but rather their policy was to prepare us for self-government with a view to eventually granting our independence. The Americans with the hearty cooperation of the Filipinos embarked in the complicated task of preparing our country and people for independent nationhood. We worked together in perfect harmony and understanding, and this developed a genuine sincere relationship of respect, admiration and love for one another. During the first world war the Philippines showed her support and adherence to the cause for which the United States was fighting by individual Filipinos enlisting with freedom armies in Europe and the Philippines organizing and offering a complete army division to the United States.

In 1934 the Tydings-McDuffie Law was approved by the Congress of the United States and this law expressly provided for the granting of independence to the Philippines. However, although politically speaking, the Philippines was prepared for a complete and absolute independent existence, it was believed by Filipino and American statesmen that there should be a transition period during which this country could build up its economy and at the same time free itself from too much dependence upon the United States market. The Commonwealth Government was set up in 1936 and the law provided that after ten years, the Commonwealth would cease and the Philippine Republic must then be established and recognized. But in 1940 the second world war broke out, resulting in the occupation of the Philippines by Japan during the years 1941 to 1944. In this second world war the Filipinos played a very important role. Together with the American soldiers they fought against the Japanese invaders. They were able to hold the invaders for over four

months in Bataan and Corregidor and this undoubtedly spoiled the timetable of the Japanese and enabled the Allied Armies to organize and prepare for the counter-offensive. The successful Philippine-American resistance could be considered the turning point of the war in the Pacific. After the formal surrender of the American and Philippine Armies, the Filipinos engaged in "guerrilla" warfare which softened the resistance of the Japanese Army when the American Armed Forces returned to liberate the Philippines.

Since the economic preparation of the Philippines was interrupted by the war, the free trade between the two countries was continued but, by law and agreements like the Laurel-Langley Agreement, a schedule of gradual liquidation of the free trade between the two countries was agreed upon.

In the meanwhile, aid in various forms was extended to the Philippines the most notable of which was the war damage payment. Up to now assistance is being given through American organizations like the International Cooperation Administration (I.C.A.). So far we have not asked for any increase in the volume or amount of the aid, nor protested against any reduction, and much less resorted to a sort of extortion to get greater assistance like what some countries do.

I have dealt perhaps at length with the history of the Philippine-American relationship to be able to call attention to evident deductions and conclusions, to wit:

(a) That the United States has followed a benevolent, noble and altruistic policy towards the Philippines;

(b) That the United States voluntarily relinquished her sovereignty over the Philippines and granted the latter her independence, and this set a precedent and a pattern for all the colonizing nations which undoubtedly influenced the birth of independent nations out of the

former colonies without any violent struggle and as a voluntary act on the part of the mother countries;

(c) That the United States helped and cooperated with the Filipinos in the task of politically preparing the Philippines for an independent nationhood;

(d) That the Philippines joined the United States in the first world war to fight dictatorship and domination of a country by another and to preserve democracy;

(e) That the Americans and the Filipinos fought side by side in the second world war waged for freedom and democracy;

(f) That today the United States, the Philippines and other free nations are fighting communism so that democracy and freedom may be preserved and to enable the people to enjoy the free ways of life, and

(g) That the United States has been helping the Philippines to enable her to rehabilitate and recover from the ravages of the last world war so that she can enjoy prosperity and a stable economy.

I am sure that a puzzle immediately surges in your mind as to what all these historical facts have to do with the purposes of our Associations and the agenda and themes to be taken up in this convention. This I will now explain.

The noble and novel experiment of the United States in the Philippines, as I have said, bore fruit in the form of many colonies that were set free and given independence by the colonizing countries. But the heavy responsibility of America with regard to the Philippines did not end with the granting of independence. There still remains to be seen how that experiment has resulted in so far as the prosperity, happiness and living standards of the Filipinos are concerned. If misery and discontent prevail in the Phil-

ippines that would be considered as conclusive evidence of failure of the United States.

The second world war has resulted in almost complete devastation of the Philippines. This being the result of the Philippines joining the United States in the world conflict, the Filipinos having shed their blood side by side with the American freedom fighters, the United States is under an obligation to help in rehabilitating and building up the economy of the Philippines.

Then there is that colossal struggle between communism and dictatorship on the one hand and democracy and freedom on the other. Again the Philippines joined the United States in this struggle. She demonstrated her unstinted support, not only in the diplomatic field—in the United Nations and international conferences—, but even in the battlefields, the Philippines having participated in the Korean War. This struggle is even more dangerous as it may penetrate into the very heart of any nation in the form of internal subversion. The modus operandi is to cause discontentment and armed conflicts among the population and attain control of the country by encouraging and actually helping with arms and sometimes even with men the party or faction that embraces or favors the communist ideology. Poverty and unemployment breed discontent and cause subversion which the communists take advantage of to seize power and expand their sphere of influence or domination.

If the United States wishes the noble experiment she undertook when the Philippines was granted independence to be concluded successfully; if she intends to fulfill her obligation of rehabilitating the Philippines by repairing the losses and damages caused by the ravages of the last world war, and if she does not want the Philippines to be another hotbed of communist propaganda and subversive activities and, on the contrary, she expects this country to be strong and in condition always to collaborate with her, she

must make every endeavor to help the Philippines so that this country's economy will be sound and stable and the Filipino people happy and contented.

Being a peaceful and patient people coupled with their firm and sincere adherence to the common sacred cause of preserving democracy and freedom, the Filipinos have not shown restlessness in their attitude towards America; they have not even been vocal by airing publicly their impression that America has been found wanting in fulfilling what is justly expected of her to help the Philippines. The different aids extended to the Philippines have been ineffective and even considered meager compared with what former enemies and so-called neutrals have received. We have not resorted to a sort of extortion as some countries are known to have done. The war damage payment is still incomplete as the amount promised could not be paid for lack of Congressional appropriation. And even if the total amount is given, it will still be enormously less than the damages and losses suffered by the Filipinos on account of the war. Barely two months ago the Filipino people was shocked by an unjust treatment perpetrated by the Department of Agriculture of the United States government in connection with the allocation of sugar quota. Instead of describing this incident myself, let me quote a news item published in a Manila newspaper. It reads as follows:

"Oland D. Russel of the Scripps-Howard Newspapers, in an editorial in the New York World-Telegram of June 16, 1961 questioned the American decision to award additional sugar quotas to India and Brazil, affirmed neutral countries, because this was done at the expense of the Philippines, a staunch ally. Russell expressed the fear that even Brazil and India may not be impressed if they were to realize that friends like the Philippines are being taken for granted by the USA. These two neutrals,

Russell said, would know that the moment they become 'friends' and not 'un-committed,' they'd be treated as the Philippines is being treated now."

This hasty decision was later rectified by restoring to the Philippines its rightful share of 150,000 tons of additional quota. But the Philippine quota is still relatively small. It is also dependent on the future of United States-Cuban and Dominican relations. If the quotas for those countries are restored the Philippines stands to lose again. What is needed is a permanent increase of this country's allocation based on equity rather than on contingencies in the international situation. A sudden loss of this additional allocation may disrupt the Philippine sugar industry as it takes plenty of equipment and funds to expand the sugar production and it is not easy to convert sugar lands into farms for other crops.

Notwithstanding regrettable failings on the part of America, not the least doubt should be entertained that the Philippines will always be a faithful and belligerent ally of America in so far as the fight for democracy and freedom as against communism and dictatorship is concerned. I am sure you have read the accounts of how warmly and sincerely our people welcomed General MacArthur during our Independence Day celebration on July 4. This, to my mind, demonstrates the continuing deep affection of the Filipinos toward the American people. But we hope and expect that no acts inimical to the economy of the Philippines will be committed. I especially have in mind two matters that concern your wood industries.

But first let me explain that the wood industries is vital to the economy of the Philippines. Notwithstanding substantial depletion of our wood resources, it still constitutes the greatest known wealth of the Philippines. Its potentiality is immense and, wisely exploited, it can be a decisive factor in solving the present economic problems of

the Philippines. As a matter of fact today wood products already occupy third in importance among Philippine exports, next to copra and sugar which rank first and second, respectively. The United States constitutes our biggest market in so far as wood products other than logs are concerned. But now two serious menaces threaten our wood export traded with America.

The use of the term "Philippine Mahogany" is again being challenged. We have used this term for certain species of our wood from time immemorial. We began its use in the Philippines for these species are known there as mahogany and when we invaded the United States market we continued using the same term. Complaints were heard which reached the Federal Trade Commission. After a tedious litigation covering many years the controversy was decided in our favor, with the Commission recognizing the propriety of calling our wood "Philippine Mahogany" and affirming our right to use that term to describe and designate certain species of Philippine woods. All efforts to reopen the matter in the Commission failed. Likewise, the various court cases brought to block the use of the term were resolved in our favor. But now it looks like another attempt is being made. As a result of active systematic work undertaken by your Association we have been able to build up a sizeable market for our mahogany in this country. To deprive us of the use of that term will undoubtedly prejudice our wood trade in the United States and this will affect adversely and seriously the economy of our country.

The other matter concerns our plywood

export to the United States. The plywood industry constitutes an important segment of the wood industries of the Philippines. Our plywood industry has expanded to its present level partly due to American aid extended through the I.C.A. (International Cooperation Administration). Last year we exported to the United States 213,572,965 square feet. This is only about 17.9 per cent of the total importation of plywood into the United States. During the last few years bills have been presented in the United States Congress to curtail or restrict the importation of plywood in the United States. Every year an effort to this end is made in Congress. I hope and pray that no such restriction will be applied to Philippine plywood. We feel that the present volume of plywood imported into the United States is so small that it should be allowed to expand further. This will help the Philippines immensely and will go far in realizing the dream of a stable economy for the Philippines.

With prosperity and contentment of the Filipinos and the Philippines enjoying a stable economy, America and the Philippines will continue marching together towards a world characterized by enjoyment of untrammelled freedom.

My friends, I have come to renew our pledge of cooperation with the Philippine Mahogany Association. Your organization and our Association will remain as partners in the great task of protecting and furthering our mutual interest.

Allow me to extend to you my heartfelt appreciation for your generosity and hospitality.

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WHAT SHOULD A FOREST PRODUCTS MAJOR BE EXPECTED TO LEARN *

by
GUS N. ARNESON
Technical Director

PHILIPPINE WOODCRAFT & VENEER CORPORATION

In this discussion we are seeking to identify and evaluate some of the things that should be emphasized in the college curriculum of one who plans a career in the utilization of wood. What, in brief, should be the academic foundation of a College of Forestry student who is majoring in Forest Products?

Before dispensing advice to representatives of the faculty of a great university, I should tell you honestly that I claim no distinction as a scholar and certainly, that I am without experience as a teacher or a school administrator. It has happened, however, that circumstances have led me into employment in several aspects of the wood industry and thereby given me an opportunity to study a broad range of forestry and forest products problems and also — which is more pertinent to this discussion — to learn something of the needs of the men who must cope with these problems.

Much of what I hold to be desirable in a college curriculum is what I have, in later years, discovered was lacking in my own background and to which I have wished someone had directed me earlier in my career.

Let it be granted at the start that a career

* A paper presented to the faculty of the College of Forestry, University of the Philippines at Los Baños on Feb. 21, 1962.

is a matter of a lifetime and that the pursuit of professional excellence is a lifetime pursuit. This being true, in view of the many years of learning that still lie ahead of the college graduate, we are perhaps exaggerating when we say that the four or six years of college constitute the “foundation” of the career. It might be better to say the “beginnings” or the “footings” of the foundation. At any rate, they are extremely important and the stability of the structure to be reared on these “footings” is greatly dependent upon them.

Before discussing in detail the elements of this foundation, it would be helpful to look broadly at the plan for the structure — the career — which they are to support. What, ultimately, do we expect a forest products major to become? We know that in the course of events many will become specialized in some particular facet of forest products or forestry, and many will drift out of the fields of wood and forestry altogether, but I suggest that the ultimate objective of the forest products curriculum should be to prepare students to become wood technologists in the broadest sense of the term.

I doubt that there is any unanimity of opinion as to what constitutes a wood technologist. In fact, I do not know whether many people will agree that there is, or ought to be, such thing as a classification called “wood technologist”. I hold no brief for the

expression except that it serves as a convenient one under which to describe a person who has become generally proficient in the knowledge of wood and its characteristics and the various processes and techniques for efficiently utilizing it.

For a statement of what might be expected of a "wood technologist", I refer to Harry D. Tiemann's "Wood Technology" in which he writes:¹

"Technology - - - not only implies the scientific knowledge of physics, but includes its application to practical purposes. It has to do with the uses of wood as well as a knowledge of its mechanical, physical, and chemical properties and structure."

Of "Wood utilization", which Tiemann includes as part of the field of wood technology, he writes, "Utilization. . . . deals with the uses and may include the commercial economics. It generally requires a certain amount of knowledge of the scientific subjects but not necessarily. It deals with wood from the standpoint of art as compared to a science."

I am probably secure in the assumption that your object is to build in your students foundations to support the growth of broader professional men than simply wood utilization specialists in the restricted sense of being skilled in the art of using wood if for no other reason than that the "art" can be much better learned in a factory than in school room.

I am perfectly aware that taking the long look that I do, which encompass the years of learning from the start of college to the fully mature forest products expert, I am thinking of a program that cannot be presented in the scope of an undergraduate course and not being an educator, I am pretty certain to blunder if I try to suggest which courses can most safely be left to the individual enterprise of the student during his "after college"

years. In this connection, I ask one thing in particular, and that is that every teacher in every situation make it a never neglected policy to remind students that what the teacher and the college is able to impart is only the beginning of knowledge on any subject; that there are many subjects in which even a beginning cannot be made; and that the student must assume personal responsibility for finishing the job on his own if he aspires to become a fully educated person.

It might be taken for granted that any graduate of a forestry college should be reasonably well grounded in pure forestry subjects: silviculture, dendrology, forest mensuration, timber physics, wood structure, and basic characteristics of wood.

Of almost equal, and possibly, in some instances, even greater importance, are the sciences of mathematics; physics; chemistry; botany; geology; and also basic engineering as, for example, surveying and structural design. Indeed, it is hardly logical to consider these subjects separately from pure forestry and forest products because in many instances the sciences and engineering are prerequisites to an understanding of the forestry subjects.

Although it cannot reasonably be expected that the college can equip its students to manage woodworking factories, or even to handle relatively minor supervisory jobs until they have had some practical experience it is, none-the-less, important that wood products graduates know quite thoroughly the essential features of the various woodworking industries. We have a right to expect a fairly clear knowledge of lumber and lumber manufacturing including the machinery and problems of mill location with respect to raw material, labor supply, and transportation to market; and at least recognize the importance of grades and grading, the drying of lumber, and similar problems that are common to the sawmilling industry. Similarly, graduates should know about the manufacture of plywood; about hard board; chip and particle boards; and pulp. The student should know

¹ — Harry D. Tiemann *Wood Technology*. Pittman Publishing Co. 1942 p. 2.

with considerable confidence the various steps in each process and in the case of pulp he should know something of the chemistry of the principal processes in addition to knowing the essential steps in manufacturing pulp.

Some time should be devoted to the minor forest products industries; wood distillation; charcoal, gums and resins, wood preservation, and others.

You cannot be expected to turn out authorities on all of these subjects. You cannot even be expected to have authorities on all of these subjects on your faculty. But your graduates should certainly know something about all of them. They should have clearly labeled pigeon holes set up in their minds for all the forest products industries into which further knowledge, as it is acquired, can be accumulated.

I would like to see all forest products graduates have some groundwork in economics and business practices, including accounting; credit; and money and banking; because there will surely come a time in the lives of those graduates who climb high on the ladder when they will need a knowledge of these subjects.

Throughout the course there should be a considerable amount of well directed training in research for all candidates for degrees. Not that many will follow careers of research—indeed very few can be expected to—but everybody should be mentally equipped to follow the methods of research in seeking the correct answers to problems. A considerable amount of such training will be derived from the science courses, provided, of course, that sufficient emphasis is put on experimental work and reasoning as contrasted with memorizing. What we want to develop are graduates who, when they observe a phenomena, will ask themselves why it happens, what is the cause behind this effect, and when they have answered themselves let them ask whether their own answers make sense and if not, reject them and keep an open mind while they seek further.

Teach students to weigh the significance of their observations. I do not mean to work out standard variance on every observation or set of observations, but a well trained mind will ask whether a conclusion drawn from a given amount of information is reasonable or even whether it is reasonable to attempt conclusions from the evidence at hand. A well educated person will know when to say “it is possible” or “it is probable” and not say one when he means the other. Such a mental approach to problems ought, it seems to me, to be acquired in college.

Good writing and speaking should be required and they should be insisted upon in every course where the written or spoken word is used. Ability to express oneself clearly and properly should be considered a prerequisite to the assumption that a student has become an educated person and it cannot be acquired by taking a semester or two of “composition” and a short course in public speaking. Every report; every examination paper; every recitation; should be subject to criticism as to the quality and effectiveness of writing or speaking.

I am willing, since it is without doubt necessary, to leave history, sociology, philosophy, literature, and the other liberal arts to the students' own responsibility, but I do so reluctantly and would hope for a college faculty sufficiently aware of the importance of these subjects that it would send its graduates forth with convictions that acquiring, at least a smattering of them, is a part of their life work and that getting about it should not be long delayed.

I suppose one of the commonest causes for regret among people who have reached professional maturity is that it took so long after leaving college to find out that their education was not finished but only begun, and I do not doubt that many a man who has achieved his degrees with honors has flunked in his real life work because finding it out took him too long.

I believe, and here I am repeating what I said earlier, that every teacher bears a responsibility to see that all students who come under his or her influence have this fact so impressed in their hearts and minds that the transition from education under the guidance of college professors to self-education will seem normal and be made with enthusiasm and confidence.

Remember that it is possible for an enterprising person with a good mind to become a competent wood man without benefit of academic training in a college of forestry, and that many men have done it. It would be a sad mistake to allow students to think their college degrees gives them a sort of squatter's right on the good forest products jobs of the future because it does nothing of the kind. It does, I am sure, equip them with a distinct advantage—a faster start—but someone with less complete equipment but with as good a mind, more courage and stronger de-

termination can, and if the graduates are careless, almost certainly will, pass them by. There is little that you teach that a man cannot learn for himself if he sets his mind to it. Direct the attention of your students to that.

One final point. In my opinion, the graduates who are most likely to succeed are those that know how to work with their hands; are willing to work with their minds; and preferably, who like to work with their hands. If much of wood utilization, as Tiemann writes, is an "art", then your graduate has to learn that art after he leaves school because you cannot teach it in class. It must be learned by working at it with the hands and probably while standing erect with both feet on the floor.

I recall that when I went to college there existed a certain type of professor who lead students to believe that since they were entering the world with college educations, they were members of a sort of privileged group that was different from other men who must labor. I suppose some such professors still exist, but I hope not here in Los Baños. I could speak at length on the fallacy of this idea, but will content myself with saying that we would like to look to the foresters and forest products men to lead our industries; to lead, they must teach others how to do their jobs; and we are not justified in expecting a man to teach another how to do a job if he cannot do it himself.

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The Tug-of-war on Readmission: or Modernism vs. Traditionalism

By

A. M. GUERRERO

Dean of Student Affairs

When Dean Zamuco wrote to me a few days ago, requesting me to read a paper in the seminar of the Faculty of this College, I accepted the invitation readily. I thought then — and I still think so now — that this invitation will give me an opportunity to proffer my opinion on a question which involves the relationships of the new Office of Student Affairs with the College of Forestry, in particular, and the other academic units of the University in general. I refer to the matter of readmission of students which has occasioned quite some discussions in the recent past.

Specifically, in the case of the College of Forestry, the matter revolves around the question of who should deal preliminarily with the cases of the readmission of students, — the Committee on Admissions of the faculty or the college counselor (for lack of a college office of admissions) in representation of the Dean of Student Affairs who handles matters on admission. I thought that this question had been settled long ago but the recent letters and discussions show that it is far from resolved in the College of Forestry. It is for this reason that I have chosen to entitle my paper the *Tug-Of-War on Readmissions: or Modernism vs. Traditionalism*. In connection with this situation, let me cite the codal provision which runs as follows:

No readmission of dismissed or disqualified students shall be considered by the Deans or Directors without favorable re-

commendation of the Dean of Student Affairs. Cases in which the action of the Deans or Directors conflicts with the recommendation of the Dean of Student Affairs may be elevated to the Executive Vice-President. His decision shall be final.

This is a new provision in the Revised Code of the University. It is designed to place the admission practices of the University in conformity with the modern trend in academic administration. Knowing the resistant force of traditions in cultural change, I think that it strikes a happy compromise between the modern and progressive trend (single-person executive) in the university administration, on the one hand, and the traditional practice (committee executive) in the University of the Philippines, on the other. This will be apparent in the brief historical account which follows.

As you all know, the present outstanding American universities were not as large and as complex as they are now. Most of them were practically unitary colleges in the 18th and 19th centuries. They developed into mammoth institutions in this century. In view of the unitary character of these institutions, they were simple in administrative organization, obviously because of limited finance as well as the size of the institution.

In those days, in addition to their teaching functions, the faculty members were called upon much more than now to partici-

pate in the administration of the University. They could afford to do so because up to the 1870's the main function of the institutions of higher learning was simply to teach. This participation took the form of memberships in faculty administrative committees. Thus, in the old catalogs of universities were listed committees on students housing, admissions, and other phases of university concern doing their respective administrative tasks.

When Johns Hopkins University was established in 1876, it made research, in addition to teaching, a *raison d'etre* function of the institution. Some years later, the other universities followed the example of Johns Hopkins. Since then, the demand for faculty research rapidly grew; as a matter of fact, in American institutions at present, research plays a great justifying role in deciding faculty promotions.

The changed situation not only decreased tremendously faculty time for administration but also made many faculty members shy away from administrative assignments. Moreover, faculty involvement in administration gave occasion for doubts as to its propriety and advisability. The history of this conflict is too involved to recount here but suffice it to say that this conflict further reduced faculty participation in administration either as committee members or as single-person executives.

And then, on the advent of the 20th century, scientific management made great strides and was increasingly adopted in practically all phases of society where efficient administration is of prime consideration. It became the rule in business and industry.

For a time, the educational institutions stood aloof. Conservative and slow in introducing changes, these institutions operated practically as they did in the preceding century. The great break-through on the campus came about with aid of the Carnegie Foundation for the Advancement of Teaching. Mr. Morris L. Cooke, under the sponsorship of the Foundation, was commissioned

to look into the purchasing activities of the departments of physics in some colleges and universities. Through this study, Cooke found out that "committee management seems to be the scheme under which our colleges were administered." He frowned on this scheme for he believed that it "invariably involves lack of initiative, division of responsibility, and log-rolling." To these objections may be added the claim that committees are time-consuming, they degenerate in the last analysis into action by one person, and they vacillate in their decisions. "As one college president expressed it," reported Reeves and his associates, "the most effective committee is the committee of one." Columbia University illustrates this concept in its development. Said President Butler of Columbia University:

Fussy administration manifests itself chiefly through the committee system, which is a plural executive with necessarily divided responsibility. Many minds chosen for their representative character and capacity are needed to formulate and to settle questions of policy, but when policies are once formulated and settled, they are far better executed by a single individual than by a number of men acting in consultation.

But committees have their own advantages. They foster democracy and are good policymaking bodies. "The 'committee' as an agency of accomplishment, reported Henderson, an authority on administration, "has been laughed at since the time of Aristophanes; but the committee and the council as policy-deciding bodies are not to be laughed off." Moreover, they insure careful consideration and prevent hasty decisions. As Mary P. Follet, another acknowledged authority on management, says, "they make for the group idea after the interpenetration of all ideas of the member." In other words, committees are good for policy-making but too slow for the implementation of the policies.

This seems to be the consensus among most universities; for, where they used to

have boards or committees for administration, they created administrative offices headed by executives. These institutions left the business of policy-making to committees or to bodies like faculty councils.

In the implementation of policies — administration — the predominant concept among universities and colleges is that of the single-executive. "On general principles," say John D. Russell and Floyd W. Reeves,

it seems desirable that administrative functions should be assigned to executive officers, rather than to committees. It is well understood that the policies with respect to the admission and registration of students should be controlled by the faculty, but there seems to be no need for a faculty committee on admissions to pass on the case of every applicant or even on borderline cases. Instead, the dean or the registrar or some other executive officer should be empowered to enforce the policies of the faculty and to apply them in all cases to individual students.

And as Andrew S. Draper, former president of the University of Illinois, tersely said, "Bodies legislate, individuals execute."

Add to all these is the fact that the universities have made it their concern to look after the welfare of the students, establishing offices for student affairs, admissions, counseling and testing, housing and others.

In sum, the following points have evolved in the development of academic administration:

1. The increase of the functions of academic institutions has made it inadvisable for the faculty to participate more actively in administration.
2. Committees have given way to single-individual executives in matters of administration.
3. The educational institutions have become more paternalistic and human in the discharge of their functions.
4. Student Affairs have been placed in administrative offices with executive heads.
5. Policy-making and legislation are entrusted to committees or bodies and implementation of these policies and legislation to administrative heads.

Against this backdrop, as it were, let me project the situation here in our University. The University of the Philippines was established in 1908. In its early years, it also adopted certain outmoded practices in American universities. Then, admission of students was handled by committees. Thereafter, the matter of admissions was transferred to the Office of the Registrar and only transfer students who carry collegiate credits became the concern of faculty committees.

In the particular case of the College of Forestry, a committee still handles the re-admission of students. The College Counselor is a member of the Committee. Since the College Counselor, an extension of the personality of the Office of Student Affairs, is a member of the Committee, this Office has not interfered with the decisions of the Committee except when requested in connection with extraordinary cases.

With the recent approval of the Revised Code of the University, however, a change has been effected in line with the modern and progressive trend in academic administration. This is the codal provision that I have cited in the beginning in which the newly established Office of Student Affairs has become involved in the readmission of students in the University. No dismissed or disqualified student could be refused readmission without the concurrence of the Dean of Student Affairs.

In this connection, it should be said that the offices of admission in American institutions of higher learning operate under the offices of the student affairs or offices of deans of students. The rationale of this provision as well as the placement of the admissions work under the Office of Student Affairs is that the Office, through its facilities on counseling and testing, health service, and others, is in a better position to say whether or not the student is worthy of retention in the University. Considered in the light of the poor training which these students have had in the high school, the campus so-

cial conditions in which they find themselves, and the young age at which they enter the University, this provision, to my mind, is justifiable indeed.

In the light of the above situation — the historical development of the academic administration concerning admission and re-admission in American institutions and in the University of the Philippines — I would think that the desirable arrangement under the circumstances would be to leave the decision on the cases of readmission to the College Counselor and the Dean — i.e., the

Counselor studying and making recommendations on the cases and the Dean approving or rejecting the recommendations. In other words, dismissed or disqualified students may petition to the Dean of the College, stating their reasons. And then the Dean of the College refers this petition to the college counselor for study and recommendation. Then the college counselor studies the case, using the facilities of the College and the Office of Student Affairs, and makes the necessary recommendation to the Dean of the College. The dean decides as he sees fit.

Aside from the fact, as mentioned above, that the college counselor can bring the facilities of the Office of Student Affairs to bear on the cases, there is another compelling justification for the proposed arrangement. It will free the faculty member from administrative drudgery and will give him more time for his teaching and research. At present, faculty members of the U.P., carry a teaching load of 15 to 18 units a semester. This is heavier than the normal load of faculty members in the United States who carry from 8 to 12 units only. And yet, both are under obligation to conduct investigation and research. If the faculty members are relieved of the administration of admissions, they will have that much more time to devote to revitalizing their teaching and to carry on research activities. Research in forestry, in particular, is imperative in this country because of the vital role which forests play in our economy.

This is the tug-of-war on readmissions. I have proposed a measure which I think is desirable under the circumstances. Let us not permit this issue to be clouded by emotional attachments to traditional practices. This issue should be decided in the light of the concepts of scientific management, by the paramount functions of the institution, and by the greater need for effective teaching and vital research in forestry that will vitally contribute to the well-being of the country as a whole.

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Implementing the Joint Educational Program

A consuming pre-occupation of Freemasonry in the Philippines now is to make itself a more vibrant and useful segment of the body politic. To attain this end, the Grand Lodge and the Scottish Rite Freemasonry in the Philippines evolved a program known as the Joint Educational Program. Mainly through the *Freemasons' Educational Bulletin*, the program aims to enlighten public opinion on the current problems that affect the life of our country and people, particularly the problem of improving the financial structure of our school system; to stimulate active participation in the solution of these problems; and to encourage all members of the craft to involve themselves in all social and civic movements for the enlightenment and uplift of the masses of our people, including the out-of-school youth.

In the last meeting of the Committee on Education of the Supreme Council the following specific objectives were adopted: (1) promotion of civic and citizenship education and (2) strengthening democracy in action. It is needless to state that the realization of these objectives mainly depends upon the efforts of our local Bodies and Lodges. It is therefore anticipated that active participation in the attainment of these goals will not be wanting, for, as we have stressed time and again, it is only in terms of actual deeds and performance as envisaged in our Joint Educational Program that Freemasonry can fulfill its avowed mission of service to man, country, and God.

It should therefore be of interest to know how the Joint Educational Program is being implemented. From a speech of Bro. Purisimo Ramos, 33°, at the KCCH investiture ceremonial held on February 9, 1962, we cull out the following information:

“An event of important significance of this Lodge and one which is always looked forward to with great anticipation by the Masons and

non-Masons alike, is the yearly public installation of officers. Attendance in this Masonic function usually exceeds 400. Such public gathering helps clear up the many misconceptions held by our non-Masonic friends, giving them a more widespread knowledge of our activities, of our mission in the world, what our Fraternity stands for, and of its noble aims and purposes.

“It is not a matter of common knowledge to many of you that besides Lincoln Lodge No. 34, we have the following fraternal organizations, all actively functioning in Olongapo:

“1. The Rebecca Parrish Chapter No. 5, O.E.S., a very active chapter whose membership consists of Filipinos, Americans, and Chinese, all working together in promulgating the principles taught by the Order. Under a Scholarship Committee, the Chapter yearly maintains poor but deserving students as scholars in the local high school.

“2. The York Rite Bodies, complete with its Chapter, Council, and Commandery. These Bodies yearly spend a considerable sum for the indigent families of Olongapo.

“3. The Mabuhay Shrine Club, a counterpart of your Bamboo Oasis here. Members of the Club are Shriners coming from different Temples in the U.S. and Hawaii. The Club renders valuable assistance during every Shrine Ceremonial held in Manila. It makes yearly substantial contributions to the funds of our city hospitals for crippled children.

“As citizens and Masons, we are confronted with a challenge which concerns us very deeply, and this relates to our youth. It is well for us here to keep in mind that 25 years or so from now, the youth of today will take over the various branches of our government and fill positions of public trust and great influence. The extent of the interest we now take in their training and the examples set by us, will have an important bearing on the future well-being of our country. So, we as Masons are called upon to take an active interest in all worth-while projects having to do with the teaching of good citizenship and patriotic duty, so that our youth may be better fitted for the responsibilities that will be theirs in the years ahead when the destiny of our country will be in their keeping.

“Masonry’s greatest opportunity, challenge, and responsibility in this field, in my humble and personal opinion, lies in our Masonic-sponsored groups like the Order of DeMolay, the Order of Job’s Daughters, and the Rainbow Girls. These groups, if they are to continue channeling the activities of our young people and youth leaders into proper and wholesome direction, will need the combined leadership, the combined efforts, and the combined financial support of all branches of Masonry. With these in mind, the Western Luzon Bodies make yearly donations to the

T. R. Yangco Chapter, Order of DeMolay, Bethel No. 1, O.J.D., and the Boy Scout Troop No. 5 sponsored by Lincoln Lodge No. 34.

“In this connection, I would like to mention that the zeal and enthusiasm with which these youngsters enter into their affairs is truly inspiring. This alone is sufficient manifestation of their reverence for our Fraternity. We cannot and must not let them down.

“I also desire to mention something about charity. This is one of our foremost and important tenets and must always be an essential part of every Lodge’s program. We must consider it to be our moral duty as Masons to provide adequate relief for our distressed brethren and the widows and orphans of Masons. Western Luzon Bodies have complied with this duty to the best of its ability. It has also generously contributed to P.T.A.’s, the Blood Bank, the Red Cross, and other local charities.

“A project worthy of attention is the ₱3,000 concrete waiting shed constructed by the W.L.B., in line with the civic activities aimed at beautifying the town. This project has already been completed recently and will in due time, with proper ceremonies, be turned over to the municipality. This contribution, I believe, is the best in civic improvement given to this new town, not barring those given by such organizations as the Jaycees, the Lions, and the Rotary.

“Very few non-Masons know of these Masonic activities, for Masons are not given to advertising their good works. All these activities carried out in the name of Masonry are important Masonic duties and we understand that in doing what we ought to do Masons hunger for no praise.

“In connection with the Joint Educational Program under the joint auspices of the Grand Lodge and the Supreme Council, the purpose of which is to help in improving the standards of our public schools by promoting studies of vital aspects of education, Bro. Federico Piedad, one of the members of the Speakers’ Corps, was invited to address the luncheon held in connection with the 4th Annual Convention of Masonic District No. 8, held in Olongapo on November 18, 1961. The subject of his address was: ‘The Community Development Program as a Masonic and Democratic Project for Nation Building.’

“Moreover, during the meeting of the Zambales Confederation of Parent-Teachers Associations held in Olongapo on December 9, 1961, a resolution was approved that all Municipal PTA’s as well as the Zambales Confederation of PTAs prepare resolutions urging the Zambales Congressman to support the proposed act of stabilizing the support of our public schools. This resolution was presented by Wor. Bro. Juan Arce, Jr., president of the O.H.S. PTA and the Federation of Olongapo PTAs. We, of the Western Luzon Bodies, hope that by this service we have played our humble role towards the solution of this important prob-

lem confronting our country and people. We are one with sponsoring Bodies of this Joint Educational Program when they declared that the performance of this social service is more than the mere performance of a civic duty, that it is an opportunity for us to demonstrate that Freemasonry is not dormant but keenly alive to the problems that confront our Young Republic.

“In conclusion, I would like to say that we the Masons in the provinces are with you in the belief that the world today is in need of more organizations that carry aloft the banner of Brotherly Love, Relief, and Truth, especially during these days when there is general unrest among peoples in many countries; when there are strong forces threatening to destroy our way of life and undermining the moral principles of institutions and organizations as the Masonic Fraternity. It is good that we have fraternal orders in our country, strongly exerting its efforts toward the preservation of those moral principles, without which no democratic institution can long endure. With this sad state of the world today, it is but fitting and proper for us to consecrate ourselves anew to the combined principles and teachings of all Fraternal Institutions which stand for the same thing, and channel our efforts united toward peace and good will that each may be able to contribute his share in making this world a better place to live in.”

We commend the members of the Western Luzon Bodies for so ably demonstrating the feasibility of making our Fraternity the real instruments for social enlightenment and uplift that we avow it to be. We have always maintained that involving ourselves in some kind of civic and social movement means more than the performance of a civic duty. Such an involvement is a demonstration in actual deeds that, contrary to a prevailing impression, our Fraternity is not a cloistered, egocentric institution concerned only in ceremonies, rituals, and conferrals of degrees but an institution that is keenly alive, sensitive, and responsive to the realities, problems, and challenges of life around us.

The main objective of our *Educational Bulletin* is to disseminate information on the problems of our public schools and stimulate a strong public opinion to bear on our lawmakers to meet squarely the problem of school finance through proper legislation.

Bro. Venancio Trinidad, 32° KCCH,—former Director of the Bureau of Public Schools—Educational Consultant and Chairman of the Board of Editors; Bro. Manuel C. Garcia, 32° KCCH, Managing Editor.

"The Present State of the Conservation of Nature and Natural Resources in the Philippines"

DR. VICENTE DE LA CRUZ
Director of Parks and Wildlife

Natural resources utilization in countries in Southeast Asia has gone on an upswing these recent years. This is particularly so in the Philippines. Fifteen years ago, since the Philippines has been granted its political independence, we have been and we still are trying to build up and stabilize our economy.

The job of building up and stabilizing a country's economy is a complex and intricate process involving so many factors like capital, increased per capita income, balance of trade and others, which all are dependent on what a country could draw upon and in our particular case, the natural resources.

The present condition in the Philippines has been brought about by many factors which is not only so in the country but in many parts of the world today.

Firstly, the population in the Philippines is rising fast. In the last population census made, on June 15, 1960, it was reported that the Philippine population has reached a total of 27.5 million people, an increase of 6.3 million over that of 1948, reported at 19,234,000 or an increase of about 33%. The Philippines, according to authorities has the highest birth rate in Asia. Increase in population would invariably affect the rate and character of the economic development of the country.

Secondly, coupled with population increase is the fast rising standard of living. As a people progresses in economic and social development, major demands are made on the country's resources. To keep up with the fast rising standard of living, heavy drains are

made from the natural resources which supply the basic raw materials of a country.

Thirdly, the Philippines striving for self-sufficiency in all its economic requirements, has undertaken a program of industrialization. It should be understood here, however, that the Philippines though rich in natural resources, does not have the necessary facilities to process the available raw materials, like iron ore and other basic raw materials. For example, the Philippines has to export the iron ores to Japan and imports semi-manufactured steel products, like ingots, blooms, billets, black sheets and wires. This brings about a situation wherein the Philippines has to make use of more raw materials, like ores, round logs, copra and others more than what would normally be required, to be able to bring into the country the materials necessary for the local industries.

In 1958, the Philippines imported ₱632 million worth of raw materials, which is 56% of our total importation for that year, and exported ₱593,787 million worth of crude materials which is 60.45% of our total export for 1958. This in effect is a big drain on the natural resources of the country.

Our people, however, would want nothing better than to be unreservedly proud of the great progress we are making in industrialization. The only real cause for misgiving is our handling of the renewable resources.

The fast increasing population in the Philippines today, which, as previously mentioned here is "the highest birth rate in Asia",

presents another factor affecting the natural resources.

More and more agricultural crops must be produced in an ever-decreasing area available for the purpose. Though our agricultural lands do not as yet produce maximum yields, due to the fact that only in limited areas modern farming methods are practiced and added to this is the age old problem of absentee-landlordism, the majority of our people feel they should open up new areas to be able to produce sufficient crops. Since most of the land that is available to small farmers (and we have a great number of these) are public lands, the major portion of which is covered by forests, one can imagine the extent to which the forest resources areas are reduced. The type of agriculture practiced by most of the people being the shifting system of cultivation, most often than not, done in protection forests, would affect a great variety of resources which would ultimately result in lesser food production and other vitally important services. We have one good example of this case in the Philippines. The National Power Corporation of the government, which supplies most of the electric power in northern and central Luzon including the city of Manila and suburbs, has two big hydroelectric power plants nestled among the mountains in Northern Luzon. The major watersheds in the area has been invaded, so to speak, by *kaingineros* (those who practice shifting system of cultivation) and small cattle raisers, who wastefully burn big areas for grazing purposes. This has resulted in the lowering of the water table in the area, and a resultant reduction of electrical power generated, that during the dry season, a "brown out" is imposed to save electricity. The surrounding area experiences frequent floods and droughts and most rivers which were navigable 20-30 years ago could now be crossed without a man's rolled-up pants getting wet. All other resultant bad effects are obvious and need not be mentioned here.

With the great and tremendous changes

that are occurring in the Philippines today, some of them phenomenal, like our "population explosion", the renewable resources suffer the most.

Our records show that about 6 million cubic meters of timber have been cut in the Philippines in commercial forest alone which is about 31.37% of our total vegetative cover as of June 30, 1959. Of the 1670 licensed timber operators in the Philippines on record, operating in about 500 thousand hectares of forest concessions only about 30 operators follow selective or scientific logging techniques in only about 25 thousand hectares. Added to this is the ₱15 million worth of timber wastefully cut and burned annually from 30,000 to 40,000 hectares of forests by *kaingineros*.

The reforestation work so far has only covered 1% of the total forest area destroyed which is estimated at 1.4 million hectares. It would appear now that with the present rate of reforestation, the job will never be accomplished.

If the situation as obtaining in the Philippines today should be taken for what has been said, it would appear that nature and natural resources conservation in the Philippines is a lost cause.

If we will all go back a little bit in time, when the Philippines had a President who had the "common man" close to his heart, we will be able to find another answer to the question, "Why is this alarming state of conservation in the Philippines like this today?"

We are not trying to blame the late President Magsaysay's program of alleviating the lot of the "Common Man", but the "Common Man" interpreted his program of "Land for the Landless" literally. We must understand here that the program of "Land for the Landless" was enunciated by the late President Magsaysay to counteract the advances of communism in the Philippines at that time. The local communists were exploiting the lot of the poor and the underprivileged. This

program solved the social and political ill that was beginning to undermine democracy in the Philippines, but at the same time became an all time problem for conservationists.

This is one side of the question which usually is overlooked by critics of the conservation programs in the country.

Yes, shifting agriculture has been the practice of most of the people in the country for a long time and so are the squatters on public land, but the situation was aggravated when the above program was instituted. This came about, because the program of amelioration, of giving "land for the landless", did not provide for sufficient controls.

Soil and water conservation work in the Philippines has not advanced very fast compared to institutions of similar nature in other countries. The reason for this slow progress is due to the inherent difficulties encountered in the promotion and actual application of the principles of sound land use.

At the beginning the problem was the lack of competent men to do the job. Then later on other problems set in to make the work lag behind. These were, the absence of a coordinating agency to look into the technical as well as in the evaluation of the work done, the apathy of our public officials and the disinterested attitude of the farming population, and finally was the lack of financial backing from the government.

These, and other minor factors contributed to the slow advancement of soil and water conservation in the country.

Numerous obstacles have been encountered in the implementation of the sound principles of resource development. Until the present time we have not been able to decrease or lessen those problems, but we at least decreased the magnitude of those obstacles that now the rate of accomplishment is tolerable enough.

Today, the main problem is to convince our public officials of the importance of the work on conservation. Time and again, it has

been our experience, that because of their indifference it would mean insufficient money for research, equipment and other facilities, plus the lack of support from the public due to their attitude. With the disinterested attitude of the Legislature, there would be no regulations and incentives created to encourage the farmers to change customary ways or traditions in their farming practices.

Another problem is the predominance of small landholdings. Owning a hectare or two would not offer an opportunity for land use changes. In addition, most of our farmers lack the capital to make added expenditures in the farm, much less, make drastic changes in the farming operations. On the part of the government, the problem is the lack of necessary personnel to undertake demonstrational and educational campaign among the rural people.

In spite of the limited support provided for by our government for soil and water conservation, we have thus far finished the soil surveys of over 22,000,000 acres; soil conservation surveys on 2.5 million acres; land capability surveys on more than 3.5 million acres; about the same acreage for special investigations which consist of the various activities not mentioned above, erosion surveys on about 7.5 million acres; about 60,000 acres covered under co-operative soil conservation work. In addition, there has been conducted numerous demonstrations of the different conservation practices and conducted fertilizer field experiments.

On the national parks and the wildlife, I am submitting separate reports.

All these however, should not make us lose hope that the situation in the Philippines will not be corrected in time. This, of course, would require a concerted approach by all conservation agencies in the country through proper education and proper enforcement of conservation laws in the Philippines.

It is not all dim for the cause of conservation of natural resources in the Philippines.

Schools now have included in their curricula, subjects on natural resources conservation. An extensive educational campaign is being undertaken by all agencies in the Department of Agriculture and Natural Resources aimed at natural resources conservation, particularly on the flora and fauna, soils and water.

All these of course will take time before its results could be evaluated and its importance felt.

Additional conservation officers are added every year, but limited funds and facilities still are our ever present problems.

With the limited number of conservation officers, the effort placed behind conservation programs would appear negligible on the face of the majority of the people who are still dependent on the land to make a living. The economic level of most of our people would not allow them, in times of greatest need,

heed to good conservation practices.

These are the problems confronting us in the conservation of nature and natural resources in the Philippines today. We are faced by great odds but we are not giving up. Little by little we are gaining ground.

In the last session of Congress, a law was enacted making national forests permanent. This is one big gain for the cause of conservation. We have gained the sympathy of our Legislators through the assistance of sportsmen and civic organizations. They are helping a lot in bringing about the realization of this objective.

Given time, and with the support of an organization like the UNESCO and the assistance that all of you could give, we will be able to shape out a workable conservation program for the Philippines that all of us could be proud of.

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Forest Conservation Must Be Taught in Public Schools

by

FRANCISCO N. TAMOLANG

Much talk has been generated in our country about forest conservation and we have yet to see how this monstrous ideal may come to reality. The inception of this forest conservation movement cannot be definitely ascertained but with the establishment of the School of Forestry in 1910 it has been obviously taken for granted that forestry consciousness first developed as a result of the nation's experience. Since then for almost fifty-one years, this has grown to such proportion that even congress, alarmed by past and recent floods that wrought havoc to lives and property amounting to millions of pesos, has taken steps to legislate toward forest conservation. Indeed, this is significant because at last the country realizes that our forest heritage is not inexhaustible and has been constantly nibbled through some unsound practices in timber cutting and utilization, tree vandalism, unlawful cutting and burning of trees, illegal clearing or kaingins, etc., which have been exercised rampantly and indiscriminately to an acute cancerous predicament of almost impossibility to halt these ills. Fortunately, however, we find consolation from the hard work and assurance of foresters that forests are replaceable and can be conserved by wise use.

While this national awakening in forest conservation has been played up in the newspapers, expounded in various commendable speeches and radio programs, and recently dramatized with telling effect by the movie film "Molave", this is just one phase of a concerted effort for a nation-wide education on forest conservation for the present mature

generation. The other phase, which has been rather overlooked, is the new frontier of educating the young generation primarily those in our public schools. This should serve as the mainstay or grass-roots of a long-term yet the most realistic forest conservation program.

It is true that in many years past, Arbor Day was celebrated in public schools and in 1954 this was stretched to Arbor Week by presidential proclamation. The effects of this annual celebration, although encouragingly fruitful, were not considered sufficient to imbibe this forestry nationalism in the minds of children in school. Dr. Gilbert Perez commends the public schools for their great efforts during Arbor Day celebrations in bringing to the attention of the children the importance of trees as well as forests. His greatest criticism, however, is that there has been too much celebration and not enough positive continuation. True enough on Arbor Day, it is easy to get teachers and pupils parade and to plant trees but it requires more persistent efforts for them to follow up these trees grow and become of permanent value. He advocates that elementary forestry should be a part of the school curriculum as a definite unit in social programs for geography, biology, economics, and general science. This is not to make them foresters but to make them realize that every citizen should know something about the country's forest wealth and the intrinsic benefits he derives from it for his welfare and happiness. Forest conservation, therefore, should be taught in public schools to build up a potentially strong and well-developed citizenry receptive to all pro-

grams involving the proper utilization and perpetuation of our natural resources.

The question may be asked: How can forest conservation be taught in public schools? This is rather a difficult question but it can be answered this way. In the last Golden Jubilee celebration, Hon. Jose Y. Tuazon, Undersecretary of the Department of Education, has indicated that forest conservation can be integrated in the courses in public schools provided there are textbooks on forestry suitable to the primary, intermediate and high school levels. He laments the present lack of necessary teaching materials but he gives the assurance that so long as there are information or educational forestry materials available, the Department of Education would take care of making them into acceptable textbooks. This assurance, therefore, is a significant step for teaching forest conservation in our public schools.

The Society of Filipino Foresters has not overlooked the pointers of Undersecretary Tuazon. Since its organization, it has created a committee charged with the responsibility of preparing a forestry primer for the use of public schools. In 1958, this committee prepared detailed outlines of textbooks for the primary, intermediate and high school levels. It received in 1960 a meager financial aid and additional members to reinforce its staff. Its work is now in full swing and let us hope that the forestry primers will be received soon by the Department of Education for review and implementation.

To my mind, however, this is not the rest to it. It should be supplemented by an elementary forestry project in each school. Let us call this "public school forestry" which is not far from the practice of gardening, which is never as hard as nor harder than its care, instruction and implementation. It differs only in the time involved; that while gardening is concerned with agricultural and short-time crops it treats of trees that are long-time crops. Any small yard may be made into a forestry plot for the purpose. In other words,

this project implements Dr. Perez's suggestion that we plant trees, take good care of them and see to it that they became of permanent value. This is a realistic demonstration of elementary forestry and obviously of forest conservation because children actually practice and learn not only the rudiments of wise conservation but ultimately the sterling principle of respect for public property such as the public forests which are the patrimony of this generation and the generations yet to come.

A small building of reasonable cost, like those for home economics, carpentry shops, health centers, etc. may be erected in each public school. In this building, supplementary forestry educational materials may be exhibited such as, posters, tree seeds, botanical and wood specimens, minor forest products like almaciga, rattan, medicinal products, and others as pencils and paper. A sand table showing the effects of floods and erosion, and graphs showing the income from forests, people dependent on forest industries, etc., could draw much interest from onlookers.

As a shop teacher is to the carpentry or industrial arts, or a home economics teacher is to a home economics industrial work, this public school forestry project can be taken care of by a specially trained teacher. In this particular case let us call him a "forestry teacher" who has had an in-service training in forestry at the College of Forestry, University of the Philippines. Or he can be a forestry graduate with special training in teaching or forestry education. The Department of Education and the College of Forestry can coordinate in producing these forestry teachers for the public schools.

Like the PACD, the Department of Education can start producing forestry teachers for each municipality in forestry afflicted areas, then eventually cover most municipalities of the Philippines. At least a forestry teacher in each municipality can be kept busy in the forest conservation movement because

(Continued on page 28)

An Analysis of the Recent Mindanao Floods

By

ROSALES A. JUNI

*Forestry Supervisor for Research
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It seems that every time there is a flood, indiscriminate logging is invariably blamed. Let us take the case of the recent Mindanao floods. The consensus is that heavy logging activities have speeded up deforestation in Mindanao. In other words, the syllogism seems to be: Forests prevent floods; There are no forests in Mindanao; Therefore, Mindanao floods are caused by deforestation.

This is a sweeping indictment. The fallacy of the syllogism can best be proved by setting forth this fact: The bulk of the country's forests is found in Mindanao! The implication is inescapable — that forests can not exactly prevent floods caused by geodetic phenomena.

To clinch the argument, let us take the experience of other countries. Indonesia, some parts of the United States, Chile, Spain and Cambodia, to mention only a few, have been periodically visited by destructive floods despite the fact that they have very much bigger forest per capita than the Philippines.

Actually, the floods are due to many factors: (1) Heavy precipitation, (2) Vegetative cover, (3) Soil depth and permeability, (4) Land-use practices, (5) Topography, (6) Stream channel sedimentation, (7) Geology, and (8) Inherent flood potential of the drainage basin. Let us analyze each factor separately:

Heavy precipitation. The soil can absorb water only as long as it is not fully saturated.

When the maximum saturation point is reached, rain water can no longer be soaked in and the water flows on the surface. The heavier the rainfall, the faster the saturation is reached. It is obvious that a prolonged heavy precipitation will result in large volumes of surface run-off. The heavier the surface run-off, the faster the rivers and streams will swell, resulting in floods. The *main cause* of any flood is a *heavy rain*.

Vegetative Cover. Considerable evidence has shown that forests check surface run-off pretty well. The trunks, roots and underbrush obstruct run-off. The litter of the forest floor increase the porosity of the surface, and water percolation is enhanced. The roots, living and dead, act as water conduits increasing permeability of water into the soil. Deep-rooted brush, shrubs, grasses and other plants, act similarly as forest cover in decreasing surface run-off during rains. When the vegetative cover is nil or the soil is bare, surface run-off is expected to be heavy as such soils are less porous and of very low permeability.

Soil depth and permeability. The deeper the soil, the greater water storage capacity — that is, if such soil is permeable as sand or sandy-loam soils. Deep soils often lose their absorptive ability when their surfaces are tamped or rendered impermeable by cattle trampling, excessive soil erosion, overgrazing, improper logging, etc. Soil permeability is affected by the soil structure. Fine clay soil is not porous. Farm soils are porous

when properly tilled, but when plowed improperly, the soil of cultivated lands becomes less porous.

Land-use practices. On how the surface soil is handled will depend to a large degree the absorptive capacity of the soil beneath. The manner the land is used will result either in the porosity or non-porosity of the soil.

In *kaiŋgin* farming, the trees are cut and burned. The soil is burnt and exposed. If heavy rains follow, the surface soil is easily eroded, and if the *kaiŋgin* is on a high slope, erosion increases. On "*kaiŋgined*" slopes, the water cascading downhill has a high erosive capacity as it carries along sand and gravel and stone, thus scouring the topsoil from the slopes.

Bad and improper logging scours and hardens the soil considerably. If the yarding lines run up and downhill, the erosion of the soil and the speed of surface run-off greatly increase.

However, since the implementation of the selective system of cutting our forests in 1954, soil scouring by improper yarding of logs has become practically nil. Under this system, adequate trees and seedlings are left as residuals so that enough tree cover is left to prevent excessive surface run-off during rains.

Bad farming results in soil erosion, especially when plowing is done up and down slopes and crop rotation is not practiced. Shallow plowing results in low porosity of farmland soils. Non-contour plowing, when done in slopes of more than 10 per cent, results in heavy soil erosion and gully formation. The surface run-off in these badly farmed lands is high, and greatly contributes to the flood potential of rivers and streams.

Over-grazing is bad on the soil. Not only is the soil tamped hard by pounding of cattle and other animals, but also the scanty grass and anemic shrubs offer little vegetative cover to heavy rains. When over-grazing is on lands of high slopes, erosion and

surface run-off during big rains are certainly heavy.

Mining, industrial installations, highways, urban centers of population and others, contribute to the amount of surface run-off and the water level of rivers one way or another. In the drainages of the Davao and Agusan rivers, these land use phases do not constitute a big problem, and may be disregarded as their adverse effects on the flood may not be of consequence.

Topography. The velocity of water running on the soil surface increase with the slope. Thus, when the topography of the lands in the upper reaches of the rivers and streams flowing into a certain drainage basin is rough, the rise of the water in the channels is faster.

The terrain surrounding the western bank of the Davao river from above the Golf Course up to Malagos is quite rough. From Mandog upstream, both sides of the river are hemmed in by undulating, often rough terrain. Corn, coffee, bananas, up-land rice, and other crops are now grown there where abaca plantations used to be. The narrow flat lands along both banks of the river do not aggravate the flood potential, but the sloping farms on the upper plateaus and undulating hills *certainly do* contribute tremendous amounts of surface run-off and silt during heavy rains. The upper reaches of Davao river and its tributaries traverse one of the roughest regions in Mindanao. From Malagos, northwards to the birthplace of Davao river on the east slopes of Mt. Tangkulang, near the Davao-Cotabato-Bukidnon provincial boundaries, is a rough country, quite *heavily forested* and pock-marked here and there by *kaiŋgins* and abandoned clearings. Rapid flowing streams and rivers, deep canyons and gorges, cascade down to the main channel of Davao River. From its source down to its delta at Davao City, the Davao river flows about 130 to 150 kilometers.

The Agusan river drainage covers a very much larger area than the Davao river, but

the configuration of the lands from where the main Agusan river and its tributaries have their sources is just as rough. The source of Agusan river is in the foothills of Mt. Tagubod north of Mati and west of Caraga towns. From its source to its mouth, Agusan river measures about 350 kilometers. This drainage basin, plus the drainages of the Libang, Adgaoan and Umayam rivers from the Bukidnon-Agusan provincial boundary, and the Wah-wah and Gibung rivers from the Agusan-Surigao provincial boundary, aggregate several thousand square kilometers. The banks of Agusan river are much wider than the Davao river, and the presence of large swamps and marshes in the towns of Viruela down to Talacogon, greatly lessens the flood potential of Agusan river. Were it not for this natural reservoir, Butuan City would be more often flooded or inundated. The extensive Liguasan marsh above the town of Cotabato, considerably minimizes the flood hazards of the town.

More timber cutting and more extensive kaingin farming are found in the drainage area of the Agusan river and its tributaries than that of the Davao river. But the same condition prevails insofar as farming and grazing practices are concerned. More communities and consequently larger population inhabit the Agusan river drainage basin. More roads, trails, town and barrio sites and greater area of improperly tilled lands are found in the Agusan river drainage.

It is not surprising, therefore, that this river over-flows almost every year.

Stream channel sedimentation. The amount of silt and debris in the deltas of the Davao and Agusan rivers is tremendous. The tons and tons of sand, gravel, stone and other debris accumulated through years of soil erosion engendered the silting and considerably decreased the water load of the channels of both rivers. Owing to their shallowness, the water levels rise up pretty fast during rains. *A glass half-filled with sand can contain only a half glass of water.*

Without exception, all the big rivers in the Philippines are badly silted. Studies on sediment discharge of nine river systems in the United States ranging from a watershed area of 16,660 to 565,200 square miles, show that the average annual sediment discharge per square mile ranges from 0.13 tons to 1,724 tons, depending on the health of the watersheds. Considering the torrential rains that we have in the Philippines, the amount of sediment discharge in our river systems, per square kilometer, would certainly be larger than those in the United States.

Geology. The porosity of the underground rock strata greatly affects the amount of water stored in the watershed area. The kind of rock and its formation either increase or decrease the water storage capacity of the substrata of our watersheds, I will not speculate further on the tie-up between geology and hydrology.

Inherent flood potential. Like people, river systems have their individual characteristics which are inherent in their natural location and position. *Even if the whole areas of the watersheds of the Davao, Agusan and Cotabato rivers were forested, floods would still occur during heavy rains.* When nature is tampered with by man, things go topsy-turvy. Rivers which may be relatively tender and mild, will, as a consequence of man's interference, turn into cruel "monsters" of death and destruction. The histories of rivers all over the world follow this unfortunate pattern. Man's poor husbandry of the green Earth he inherited has incited Nature to go on a cruel rampage.

Granting that the aforesaid eight factors or causes of the recent floods are responsible for inundating the cities of Davao and Butuan, we may well ask these questions: Who among them is the main "culprit"? If all of them are responsible, to what extent is the responsibility of each?

We do not know the answers to both questions. It would require a thorough and systematic investigation of a team of tech-

nicians — the hydrologist, the geologist, the soil expert, the climatologist, the geophysical expert, the engineer, the forester and other technical men, to pinpoint the extent or gravity of the "offense" of each "offender." This we can say with certainty: There is not only one "criminal" — they are many.

The conclusion is clear: *Forests can not prevent floods. They can only help in decreasing surface run-off during rains.* Let us not lose sight of the fact that the scene of the recent floods is in the most thickly forested parts of the country.

Reforestation is not the only solution. The problems of flood control and their solution is so complex that they need the com-

bined talents and knowledge and labours of a team of technicians.

That we have too much water when we least need it and too little when we most need it, is indeed a paradox. Recurring floods and droughts and severe soil erosion are serious problems which deserve serious attention.

Perhaps it is about time that a Flood Control Act be enacted by our Congress. The country urgently needs a workable water policy and program. It seems that in our enthusiasm to push through a massive reforestation program, we over-look one need which is more pressing — *the protection and conservation of our remaining forests.*

FOREST CONSERVATION. . .

(Continued from page 24)

he can also extend this objective to the PTA and to every Boy Scout or Girl Scout organization in the municipality. Congress can accelerate this scheme by legislation requiring each public school to have a forestry teacher and providing funds therefor. This is justifiable because the Bureau of Forestry contributes annually a big share to the government income.

Public school forestry would be something new in this country unlike other countries. It originated in Victoria, Australia in 1923. The idea spread to the adjoining states, that in 1928 the first of its kind was established in Marburg, Queensland. There were, up to 1949, 228 forestry school plots maintained by the Queensland Department of Public Instruction in cooperation with the Sub-Department of Forestry, which are now giving monetary returns to that State. In Wisconsin, U.S.A. the scheme was adopted and in addition boy scouts were trained as junior forest rangers.

This public school forestry scheme works very effectively in Australia particularly in North Queensland. The public schools in Atherton have forestry school plots raised and maintained by school children. This public school teacher has a lesson plan which he fol-

lows everyday in teaching the rudiments of seed collecting, sowing, transplanting, weeding, protection from insects and rabbits, pruning, thinning, measurement of growth, tree nomenclature, etc. Each pupil prepares an album containing his observations and the lessons covered.

The school plots were interesting to see especially when the children and the teachers are at work. One could hardly believe that these are children-made. But they are genuinely real as monuments of the children's prodigious work, diligence, rigorous discipline, love and respect for trees. One would feel guilty therefore, to break even a single twig from these trees knowing pretty well that tiny and dexterous hands have shaped them as they are for so many years.

The examples and success of other countries afore-mentioned invite us to adopt a similar scheme in our public schools. Our pattern should be the teaching of forest conservation in the classrooms as well as its actual demonstration or implementation in a forestry school plantation. With this motivation, we are sure to develop and build up a diligent citizenry which is not indifferent to our forest resources but is a well-trained lover, protector and trustee of trees and forests that build the nation.

PROPOSED PLANT SPECIES FOR REFORESTATION IN THE PHILIPPINES

By

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It is believed that the greater portion of the people of the Philippines have now finally realized the evils of shifting cultivation or *kaingin* as well as uncontrolled, illegal logging or overcutting of our vaunted or so-called "inexhaustible" forests. Both of these practices have caused a lamentable and tremendous deforestation of our watersheds, hills and mountains all over the country from Cagayan in the north to Sulu in the extreme south. As consequences, wildlife has almost vanished from our local scene, streams and creeks dry-up easily during summer, and we suffer periodically during the rainy season from devastating floods which inflict harrowing destruction on lives and property, particularly by bringing down sands, stones and boulders from the high lands to blanket many fertile lands thereby rendering them practically useless for agricultural purposes later on. It is high time, therefore, that proper and immediate remedial measures be undertaken to implement our reforestation laws, which are intended primarily to regenerate our forest resources, minimize floods, increase wildlife, etc.

It is not sufficient that we reforest our barren hills and denuded mountains with any kind of tree seedlings that we can lay our hands on, or that are fast growers. The planting materials should be selected carefully and with vision taking into consideration the future and complex needs of our country.

For example, one way of increasing wildlife is to provide it indirectly with fresh wa-

ter to drink, i.e., by regenerating streams and creeks as a result of effective reforestation, in addition to the planting of trees bearing edible fruits at strategic places in reforestation or afforestation areas. There are in this country hundreds of trees or shrubs that bear edible fruits good for men, birds and wild animals. Some of them are acacia (*Samanea saman* [Jacq.] Merr.), kalios (*Streblus asper* Lour.), *kamachile* (*Pithecolobium dulce* [Roxb.] Benth.), kalumpit (*Terminalia microcarpa* Decne.), santol (*Sandoricum koetjape* [Burm. f.] Merr.), bitoñgol (*Flacourtia rukam* Zoll. & Mor.), datiles (*Muntingia calabura* L.), guava (*Psidium guajava* L.), duhat (*Syzygium cumini* [L.] Skeels), *kasui* (*Anacardium occidentale* L.), mango or mangga (*Mangifera indica* L.), mabolo or kamagong (*Diospyros philippensis* [Desr.] Grüke), and many others.¹ Furthermore, as shown in Table I below, the woods of some of these trees are good for the manufacture of wooden products.

It would indeed be a wise step if the needs of the different wood-using industries, such as the pulp and paper manufacturers, producers of wooden shoes and carvings, wooden tool handles, baseball bats, bowling pins, bobbins and quills for use in the textile industries, gunstocks, wooden fermentation and vinegar barrels or wine-aging wooden containers; makers of furniture and cabinets,

^{1/} Jacalne, Domingo. 1960. Edible fruit-bearing trees in the Philippines. *Forestry Leaves*, Vol. 12, No. 1, pp. 23-41.

wooden drapes, venetian blinds, musical instruments, etc., are taken into account in our reforestation efforts.

People of Paete, Laguna, for instance, a town widely known not only for growing sweet lansones but also for making wood carvings, including religious statues of excellent quality, require proper kinds of wood; likewise the wood carvers in the Mountain Province need suitable woods like sangilo for their handicraft. It is but logical for these people to rely on the forests nearby from which to get their raw materials. In most cases, the desired species are fast disappearing from their areas or are now totally extinct. The same can be said of firms in Binmaley and Lingayen, Pangasinan engaged in the manufacture of beds, dressing tables, cabinets, chairs, and others. These cabinetmakers usually depend on narra they procure from San Jose, Nueva Ecija or farther North. If the nearby mountains and hills of Sual, Alaminos, Labrador, Mangatarem, and Aguilar were properly replanted with suitable wood species, cabinetmakers could, in the future, draw from these forests raw materials for use in their trade. Makers of string musical instruments in Cebu and other

places require also suitable wood species for use in their business. These examples can be multiplied many fold.

In Hong Kong, Taipei, and other places in Southeast Asia, many cabinetmakers and wood carvers earn a lot of money by making such things as camphor, teak or cedar chests. These items are luxuries, no doubt, and they command fantastic prices. Many tourists visiting Hong Kong or Taipei invest sizeable sums in these pleasant-smelling trunks to be brought home as souvenirs. Many of our Filipino cabinetmakers can certainly also make similar products, if not better, provided they can lay their hands on suitable wood species.

It is suggested that materials for use by these different wood workers and wood-using industries should be taken into serious consideration in the planning of reforestation work in as many sectors of the Philippines as possible.

Hereunder are two tables listing some wood species suitable for making certain items. These lists are based on the studies thus far conducted by the Forest Products Research Institute.

Table I. Some wood species suitable for making certain wooden products.

Wooden items	Common name	Scientific name
1. Tool handles	agoho	<i>Casuarina equisetifolia</i> Forst.
	binggas	<i>Terminalia citrina</i> (Gaertn.) Roxb.
	katilma	<i>Diospyros nitida</i> Merr.
	ata-ata	<i>Diospyros mindanaensis</i> Merr.
	guijo	<i>Shorea guiso</i> (Blanco) Blume
	Vidal lanutan	<i>Bombycidendron vidalianum</i> (Naves) Merr. & Rolfe
2. Bobbins and quills	tamayuan	<i>Strombosia philippinensis</i> (Baill.) Rolfe
	bolon	<i>Alphonsea arborea</i> (Blanco) Merr.
	karaksan	<i>Linociera ramiflora</i> (Roxb.) Wall.
	taingang-babui	<i>Gonocaryum calleryanum</i> (Baill.) Becc.
	balobo	<i>Diplodiscus paniculatus</i> Turcz.
	salisi	<i>Ficus benjamina</i> L.
3. Bowling pins	balakat	<i>Ziziphus talanai</i> (Blanco) Merr.
	magabuyo	<i>Celtis luzonica</i> Warb.
	balobo	<i>Diplodiscus paniculatus</i> Turcz.
	bolon	<i>Alphonsea arborea</i> (Blanco) Merr.
	karaksan	<i>Linociera ramiflora</i> (Roxb.) Wall.

Wooden items	Common name	Scientific name
4. Baseball or soft-ball bats	Vidal lanutan	<i>Bombycidendron vidalianum</i> (Naves) Merr. & Rolfe
	palosapis	<i>Anisoptera thurifera</i> (Blanco) Blume
	dagang	<i>Anisoptera aurea</i> Foxw.
	agosip	<i>Symplocos villarii</i> Vid.
5. Gunstock or pistol butt	balakat	<i>Ziziphus talanai</i> (Blanco) Merr.
	lumbayau	<i>Tarrietia javanica</i> Blume
	dao	<i>Dracontomelum dao</i> (Blanco) Merr. & Rolfe
	akle	<i>Serialbizia acle</i> (Blanco) Kosterm.
6. Wooden shoes	narra	<i>Pterocarpus indicus</i> Willd.
	bansalagin	<i>Mimusops parvifolia</i> R. Br.
	akleng-parang	<i>Albizia procera</i> (Roxb.) Benth.
	dita	<i>Alstonia scholaris</i> (L.) R. Br.
7. Venetian blind	lanete	<i>Wrightia laniti</i> (Blanco) Merr.
	santol	<i>Sandoricum koetjape</i> (Burm. f.) Merr.
	tangile	<i>Shorea polysperma</i> (Blanco) Merr.
	white lauan	<i>Pentacme contorta</i> (Vid.) Merr. & Rolfe
	red lauan	<i>Shorea negrosensis</i> Foxw.
	kupang	<i>Parkia roxburghii</i> G. Don
	lanutan-bagyo	<i>Gonystylus macrophyllus</i> (Miq.) Airy Shaw
8. Furniture	palak-palak	<i>Palaquium lanceolatum</i> Blanco
	malabulak	<i>Salmali malabarica</i> (DC.) Schott & Endl.
	lumbang	<i>Aleurites moluccana</i> (L.) Willd.
	anongo	<i>Turpinia ovalifolia</i> Elm.
	almaciga	<i>Agathis philippinensis</i> Warb.
	palosapis	<i>Anisoptera thurifera</i> Foxw.
	acacia (rain-tree or monkey-pod)	<i>Samanea saman</i> (Jacq.) Merr.
	narra	<i>Pterocarpus indicus</i> Willd.
	tangile	<i>Shorea polysperma</i> (Blanco) Merr.
	white lauan	<i>Pentacme contorta</i> (Vid.) Merr. & Rolfe
dao	<i>Dracontomelum dao</i> (Blanco) Merr. & Rolfe	
mayapis	<i>Shorea squamata</i> (Turcz.) Dyer	
red lauan	<i>Shorea negrosensis</i> Foxw.	
apitong	<i>Dipterocarpus grandiflorus</i> Blanco	
tindalo	<i>Atzelia rhomboidea</i> (Blanco) Vid.	
supa	<i>Sindora supa</i> Merr.	
kamagong (mabolo)	<i>Diospyros philippensis</i> (Desr.) Gurke	
camphor	<i>Cinnamomum camphora</i> (L.) T. Nees & Eberm.	
teak	<i>Tectona grandis</i> L. f.	
Central American mahogany	<i>Swietenia mahagoni</i> Jacq.	
dalingdingan	<i>Hopea foxworthyi</i> Elm.	
9. Wood carvings	acacia (rain-tree or monkey-pod)	<i>Samanea saman</i> (Jacq.) Merr.
	narra	<i>Pterocarpus indicus</i> Willd.
	lanete	<i>Wrightia laniti</i> (Blanco) Merr.
	molave	<i>Vitex parviflora</i> Juss.
	akleng-parang	<i>Albizia procera</i> (Roxb.) Benth.
	sangilo	<i>Pistacia chinensis</i> Bunge
	batikuling	<i>Litsea leytensis</i> Merr.

Wooden items	Common name	Scientific name
10. Musical instruments	narra	<i>Pterocarpus indicus</i> Willd.
	tangile	<i>Shorea polysperma</i> (Blanco) Merr.
	maranggo	<i>Azadirachta excelsa</i> (Jack) Jacobs
	kalantas	<i>Toona calantas</i> Merr. & Rolfe
	apitong	<i>Dipterocarpus grandiflorus</i> Blanco
	nangka	<i>Artocarpus heterophylla</i> Lam.
11. Prosthesis (artificial limbs)	almaciga	<i>Agathis philippinensis</i> Warb.
12. Cigar boxes or cigar wrapper	Spanish cedar	<i>Cedrela odorata</i> L.
	kalantas	<i>Toona calantas</i> Merr. & Rolfe
	mayapis	<i>Shorea squamata</i> (Turcz.) Dyer
13. Railroad ties	yakal	<i>Shorea astylosa</i> Foxw.
	molave	<i>Vitex parviflora</i> Juss.
	ipil	<i>Intsia bijuga</i> (Colebr.) O. Ktze.

For dying mats, bags, hats, clothes, food, etc., the following wood species could be used: sibukau (*Caesalpinia sappan* L.), nangka (*Artocarpus heterophylla* Lam.), ipil (*Intsia bijuga* [Colebr.] O. Ktze.), palomaria (*Calophyllum blancoi* Pl. & Tr.), and achue-te (*Bixa orellana* L.).²

Table II. Some wood and bamboo species found promising or suitable for pulp and paper making.

Wood and bamboo species (common name)	Scientific name	Fiber length (mm.)
African tulip	<i>Spathodea campanulata</i> Beauv.	0.92
Almaciga	<i>Agathis philippinensis</i> Warb.	5.31
Balsa	<i>Ochroma pyramidale</i> (Cav.) Urb.	1.59
Benguet pine	<i>Pinus insularis</i> Endl.	3.45
Buho (species of bamboo)	<i>Schizostachyum lumampao</i> (Blanco) Merr.	2.42
Giant bamboo	<i>Gigantochloa aspera</i> Kurz	3.78
Gubas	<i>Endospermum peltatum</i> Merr.	1.62
Hinlaumo	<i>Mallotus ricinoides</i> (Pers.) Muell.	1.11
Kaatoan bangkal	<i>Anthocephalus cadamba</i> (Roxb.) Miq.	1.43
Katmon	<i>Dillenia philippinensis</i> Rolfe	2.68
Kauayan-kiling (bamboo)	<i>Bambusa vulgaris</i> Schrad. ex Wendl.	2.33
Moluccan sau	<i>Albizia falcata</i> (L.) Back.	1.11
Paper mulberry	<i>Broussonetia papyrifera</i> (L.) Vent.	0.95
Red lauan	<i>Shorea negrosensis</i> Foxw.	1.59
Toog	<i>Combretodendron quadrialatum</i> (Merr.) Merr.	2.36
Tuai	<i>Bischofia javanica</i> Blume	2.19
White lauan	<i>Pentacme contorta</i> (Vid.) Merr. & Rolfe	1.37
Mindoro (Zambales) pine and many others	<i>Pinus merkusii</i> Jungh. & de Vr.	4.00

^{2/} Brown, William H. 1921. Minor Products of Philippine Forests. Vol. II. Department of Agriculture and Natural Resources Bull. No. 22.

(Continued on page 38)



Figure 1. Showing bundles of rattan harvested from the nearby forests in the Ulai Mountain reforestation projects. Here rattan seedlings as well as ipil-ipil seeds from the Philippines have been planted.

Figure 2. Showing beds after beds of one- to two-year tree seedlings in a government nursery. These reforestation nurseries are very well taken care of under the supervision of expert government foresters.



Figure 3. Showing a country-side charcoal kiln (Japanese style beehive type) taken outside of Taipei. It takes about 2 weeks to convert the green wood of *Acacia confusa* into charcoal in this type of charcoal kiln.

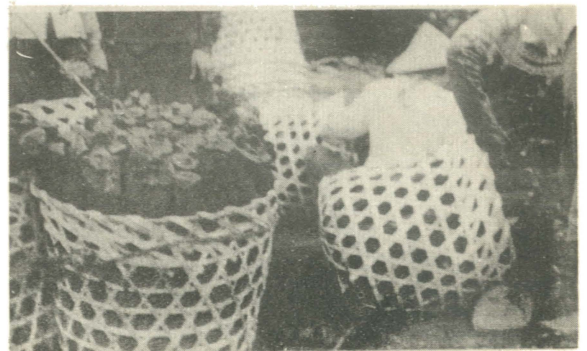


Figure 4. Showing Chinese (Taiwanese) peasants sorting and putting in baskets the charcoal obtained from *Acacia confusa* preparatory to marketing. This is a heavy density wood species that thrives very well even on barren hills.



House of Dr. Jose Rizal in Dapitan, Rizal Park, Dapitan, Zamboanga del Norte.



Entrance to a cave in Sohoton Natural Bridge N.P. Basey, Samar.



We Need Permanent National Park Law and Adequate Funds

By

EUSEBIO G. VIBAR

PWO Information Editor II

We, in the Philippines have 40 National Parks with an aggregate area of only 228,183.4900 hectares, less than one per cent of the total land area of the country. The National Parks of the Philippines are dedicated to the conservation of the Philippines scenic, scientific and historic heritage for the benefit and enjoyment of the people. National Parks are established individually by Presidential Proclamation in pursuant of Act 3915. Though dedicated to the primary purpose of preserving the superlative example of scenic and majestic Nature for public enjoyment they serve other important purposes such as wildlife conservation and regulation of stream flow through watershed protection.

Only lands of outstanding scenic, geologic and natural features are reserved for National Parks. The law requires that National Parks be administered to provide public recreation "in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations." In one sense our national parks are great outdoor museums in which people of all generations can view the magnificent splendor that contribute to making the Philippines the Pearl of the Orient.

Our National Parks are the choicest spots of the country. They include areas of historic, prehistoric and scientific significance, as well as superlative examples of Nature. Our National Parks contain wonderful waterfalls, medicinal hot springs, scenic and majestic volcanoes, areas with great scenic and panoramic beauty and wonderful flora and fauna.

Instead of allowing such outstanding areas to pass into private ownership they are set aside and established as National Parks for the use and enjoyment of all people. As National Parks these gifts of nature become the patrimony of all people — gifts which must be transmitted undiminished and unimpaired to generations yet unborn. In National Parks, development and maintenance is limited to what is required for protection and administration and needed for the comfort and convenience of those who visit National Parks for the inspiration and recreation in which they abound.

National Parks are great tourist attractions. More advanced countries like the United States, Japan, Canada and many others spend lavishly for the development and maintenance of National Parks. They know that their expenses are compensated by both the tangible and intangible benefits derived. With the increasing interest in travel and outdoor recreation, developed National Parks become magnets of international interest. Developed National Parks in other lands meet the desire for the enjoyment of natural wonders, both at home and abroad. Here in the Philippines we are only beginning to realize the value of great volcanic phenomena and other attractions which we in the Philippines have to offer. In our national parks lie an important key to promote tourism in the country. We have something great for the tourists to see in our National Parks once they are properly developed.

The United States appropriated \$21,397,-

795.00 for national parks alone in fiscal year 1955-56 and reported 50,000,000 people entered the national parks for one year. Japan reported a collection of \$50,000,000.00 from tourists who visited their national parks in that same year. In 1959-60 Canada appropriated \$51,192,239.00 for national parks purposes whereas the Philippine government appropriated only ₱580,940.00 for national parks for the fiscal year 1960-61 and has recorded 600,000 visitors who visited our national parks during that year.

National Parks in the Philippines are imperilled by dismemberment or eventual dissolution. Four thousand hectares of Mt. Apo National Park had been converted for agricultural purposes on May 5, 1957 under Proclamation No. 413; Luneta National Park was converted into a site for the National Cultural Shrine and its administration transferred to the Jose Rizal Centennial Commission under Proclamation No. 470 dated December 30, 1957; the administration of Makiling National Park was transferred to the University of the Philippines and the area was converted to an outdoor laboratory of the School of Forestry under Proclamation No. 692 dated August 5, 1960; the area of Naujan Lake National Park was reduced from 21,655 hectares to 1,966 hectares under Proclamation No. 493 dated September 29, 1961; the area of Mts. Banahaw-San Cristobal National Park was reduced from

11,133.305 hectares to 9,056.2773 hectares and the area released was converted for agricultural purposes; and lately the administration of Quezon Memorial Park was transferred to the Quezon City government. Only God knows when we will stop dismembering our National Parks!

Legislation is needed to stop the unsound practice of releasing and converting areas of national parks or purposes other than for which they were established. This present trend to lop off big chunks of national park area is unprecedented in National Park History.

In order to keep the National Parks intact so as to make it possible to transmit this patrimony to the generations yet to come, it is necessary that measures or laws — a permanent national parks law — that safeguard the permanency of national parks from mere summary executive proclamation be enacted. Under such a safeguard any proposed amendment to the boundary or status of national parks can be accomplished only by an act of congress.

It is unfortunate that since the establishment of our 40 national parks no serious efforts have been made by the government to develop National Parks to their full usefulness for the enjoyment of the people. Records show that up to the present time there has been no appropriation providing for the development and improvement of even one national park in the Philippines. It is, therefore, important and essential to provide appropriate and adequate funds for the proper development and management of these wondrous manifestations of nature found in our national parks.

“Every consideration of patriotism and the love of nature and beauty of art requires us to spend money enough to bring all these natural wonder within the reach of the people.”

R. GARINGAN TIMBER ENTERPRISE

*Producer & Exporter of Philippine
Mahogany Logs*

Butuan City

The Forest Wealth of Basilan City

By

JOSE R. CLAVERIA

Acting Regional Forestry Director

The City of Basilan is composed of several islands, the biggest is Basilan Island from which the City took its name, with an aggregate land area of 135,900 hectares. Of this area only 46,966.05 hectares representing 23% of the total land area remain timberland out of which 40,504.05 hectares is under the control of the Bureau of Forestry and 6,451.00 hectares is under the control of the Parks and Wildlife Service. Thus, about 77% or 88,933.95 hectares had been released for agricultural purposes, subdivided and apportioned to the landless inhabitants of this City located about 518 nautical miles south of Manila.

The remaining 46,966.05 hectares of forest land (comprising forest reserve, National Park, timberland, commercial forest and mangrove swamp) is presently dedicated to the continuous and unending source of valuable timber and other forest products and beneficial forest influences on the people, agriculture, soil, climate, rainfall and

streamflow. Of this 34,836.95 hectares of solid forest land comprising the Basilan Working Circle is actually under the sustained yield management program of the government thru selective cutting. Thus, the economic and social life of the City which hinges intimately with these forest resources are assured thru the rippling years!

For the present, from the unlogged area of about 10,357.72 hectares we have about 768,542,824.00 board feet of lumber available for immediate harvest and from the logged over areas of 17,282.28 hectares by means of the selective system of cutting we have about 209,132,178.48 board feet of standing timber harvestable in a rotation cycle of from 25 to 30 years.

During the last six (6) years, we have harvested 1,561,304.69 cubic meters of timber from which the government derived an income of ₱2,190,114.79 representing forest charges and reforestation charges broken down as follows:

Fiscal Year	C U B I C		M E T E R S		T O T A L
	1st grp.	2nd grp.	3rd grp.	4th grp.	
1954	2,990.79	936.87	233,495.09	151,769.84	389,192.59
1955	3,099.72	1,465.21	196,960.89	140,121.16	341,646.98
1956	2,877.63	400.54	195,355.98	129,216.96	327,851.11
1957	720.33	142.96	121,086.02	88,406.60	210,355.91
1958	319.60	33.29	84,142.29	59,641.41	144,136.59
1959	125.79	8.40	82,694.41	65,292.91	148,121.51
Total	10,133.86	2,987.27	913,734.68	634,448.88	1,561,304.69
Income derived					
(a) Forest Charges	468.52	974.54	142,168.36	380,669.33	564,280.75
(b) Reforestation Fund Charges	066.94	493.69	365,493.82	253,779.55	625,834.04
Total	40,535.46	7,468.23	1,507,662.23	624,448.88	2,190,114.79

For the same period, this City exported to foreign countries, the following:

Fiscal Year	Country	Board Feet	Value (Pesos)
1954	Japan, United States	99,186,057	14,428,108.10
1955	Korea, Taiwan	72,930,516	9,039,716.33
1956	Canada and	67,209,101	8,085,199.58
1957	Africa	53,719,930	6,545,276.90
1958		39,798,965	5,194,094.39
1959		33,150,910	5,010,342.93
TOTAL		365,977,479	48,302,738.23

At present there are five (5) active licensees: (1) Basilan Lumber Company, (2) Western Mindanao Lumber Co., Inc., (3) Sta. Clara Lumber Company, (4) American Rubber Company, and (5) Johnston Lumber Company. All these lumber companies employ no less than 1,500 laborers with dependents of not less than five (5) persons each laborer. While only 7,500 people are directly connected with the forest industries, yet it can be safely said that all the inhabitants of this City derive endless benefits from its forest, a beautiful gift of nature in this growing City of Basilan. From a very conservative estimate of pay for each employee and/or laborer of ₱4.00 a day, this City has not less than ₱30,000 under circulation a month from these lumber companies! Remove or destroy this forest wealth and the economic stability of Basilan is doomed.

SUSTAINED YIELD MANAGEMENT THRU SELECTIVE LOGGING

Basilan City which comprise the whole territorial jurisdiction of Forest District No. 44 was made in February 20, 1953, the pilot forest district of the Philippines for sustained yield management thru selective cutting. On the later part of 1953, the late Forester Nicanor Lalog headed a group of Foresters to map out the whole forest area of the City gather the necessary data needed for the establishment of management areas: viz, Working Circle, compartments and management units. This group of foresters pioneered the long sought wholehearted cooperation of all timber licensees, both under

lease agreement and yearly basis, in order to properly and successfully implement this sustained yield management program.

From the raw data gathered, the management plan of the Basilan Working Circle was evolved. This Management plan was immediately implemented in 1954 by the then District Forester Hipolito Marcelo. The same work was carried on by Forester Martin Reyes upon the resignation of Forester Marcelo in the later part of 1955. However, the data on management gathered during this period had to be discarded because the areas thus timber marked were subsequently released for alienation and disposition in reluctant obedience to directives from higher offices.

This sustained yield program thru selective logging is premised on the assumption that the licensees will eventually cooperate in reducing the power of their existing high-powered logging equipment; also, they will cooperate whole heartedly in the protection of their logged over areas. However, succeeding events undoubtedly seem to point out the sad yet truly realistic fact that the agencies of the licensees and the Bureau of Forestry were impotent in successfully warding off the splurge of squatters, and some of the licensees were lukewarm towards the full implementation of the program.

Nevertheless, the program had to go on. In 1957, the gathering and/or collection of data was reorganized and permanent record books were provided. From this year, too, it saw the great interest shown by other

logging areas all over the archipelago, so much so that this district became the seat for the proper training of prospective Timber Management Assistants.

As shown in the following tabulation, the progress on "Timber Marking" and "Residual Inventory" is very encouraging as it indicates an upward trend both in the number of residuals marked and actually saved.

Some skeptics remarked that the remaining forest land in Basilan City is still very good for agriculture, so it is incumbent upon the government to have the same released for the benefit of the landless inhabitants. This statement is hardly contestable if we only think of the land as it is. But if we consider the fact that our crops have luxuriant growth not so much of the present

1956-1957

Diameter Classes	T I M B E R M A R K I N G				R E S I D U A L I N V E N T O R Y			
	Total		Per Hectare		Total		Per Hectare	
	Tree	Volume	Tree	Volume	Tree	Volume	Tree	Volume
30	11,479	3,627.56	7.9	2.57	14,148	4,452.95	8.4	2.65
40	10,109	11,565.00	6.2	6.83	11,062	13,482.23	6.9	6.89
50	5,432	12,986.08	3.1	6.84	6,046	14,885.97	3.2	7.51
60	2,576	10,887.97	1.4	5.26	2,779	10,765.74	1.6	5.94
70	1,146	7,543.40	.5	3.17	1,517	9,780.32	.8	4.77
Total	28,166	46,610.01	19.1	24.67	35,552	53,367.21	20.9	27.76

1957-1958

20	3,587	453.01	4.2	.53	4,710	741.97	4.1	.68
30	7,131	2,151.95	6.3	1.89	9,307	2,942.49	8.1	2.85
40	5,710	5,958.96	4.8	4.99	6,929	7,317.13	5.5	6.31
50	3,333	7,658.60	2.8	6.20	3,002	7,031.38	2.6	6.63
60	1,897	7,722.84	1.5	6.14	1,444	5,917.42	1.2	5.70
70	1,217	7,153.85	2.6	5.55	1,036	6,170.00	.9	5.29
Total	22,875	31,099.21	22.2	25.30	26,428	30,120.39	22.4	27.46

1958-1959

20	8,106	968.14	7.1	.92	8,160	1,055.80	7.2	.94
30	6,198	1,826.17	9.7	2.80	6,552	2,038.32	4.9	1.54
40	4,485	4,476.81	3.5	3.53	5,558	5,557.72	4.2	4.16
50	2,851	6,654.35	2.2	5.60	3,991	9,268.65	3.8	6.62
60	1,446	6,185.17	1.1	4.56	2,358	10,131.01	1.6	6.78
70	960	5,861.58	.7	4.23	2,039	12,425.85	1.3	7.98
Total	24,046	25,972.22	24.3	21.64	28,658	40,477.35	23.0	28.02

This happy trend to events is mainly due to the improved techniques in felling and yarding. The timber-marker has to determine the direction of fall to minimize the number of residuals to be crashed or otherwise damaged. Also, the cable lines are properly located with bull-blocks so as to evade the possible damage of residuals dangerously near those cable lines.

fertility of the soil but because of very favorable pattern of rainfall undeniably brought about by the presence of the forest, we must say: "At all cost let us have this forest remain undisturbed"! And surely it has got to be because from statistics, this island City, being small, cannot support itself from its agriculture alone but such support must also come from the wise utilization of its natural

resources which can readily be converted into profitable industries.

I am appealing, therefore, to all Filipinos to help the Bureau of Forestry conserve this forest wealth not so much for the staggering figures of its monetary value but also for the one thousand and one benefits

that mankind derives therefrom now and in the future; that it is a legacy our forefathers left to us to husband, use and protect, so it is incumbent upon us to have this same legacy pass on to the generations yet to follow in much the same manner if not more so as we receive it to show our deep concern for the welfare of those coming after us.

PROPOSED PLANT . . .

(Continued from page 32)

Many valuable woods, such as dao, supa, yakal, tindalo, ipil, and others used in house construction or cabinet manufacture are fast disappearing, or are found these days only in inaccessible places. It is but wise and logical, therefore, that these vanishing but desirable wood species, if possible, be propagated widely in our deforested areas. The people living in the vicinity then would be

encouraged to open up at least wood-using cottage industries knowing that they could in the future rely on the nearby forests to supply them with the needed wood raw materials.

The accompanying pictures were taken by the author in November of 1960 in Taiwan (Formosa), where he spent about a week visiting forest products laboratories, pulp and paper mills, charcoal, particle and hardboard plants, health resorts and reforestation projects.

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O.T. Licensee

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Mahogany Logs*

Butuan City

Literary Attempts

"MY REPLY TO YOUR INVITATION"

By Florentino R. Andaya

It is indeed very kind of you to extend me your wedding invitation, Norma. Thanks for the generosity. Must I accept the invitation? Would it be of paramount importance for me to witness your going away? Could I bear to see him there beside you. Am I to brave whatever mockery that may possibly wreak havoc to my ego as a man?

I shall summon enough courage to come. Certainly, I will be there. Yes, to wish you luck and to have a good look at you for the last time. Very soon he will take you away from my sight and I'll be left behind treading along the deserted avenue of privation and loneliness. As I'll be at the threshold of that dreary walk, I shall remain silent all along, however, but deep in my heart I want to shout in reprisal to the high heavens your inconstancy. I can't go on pretending that I am all right when gnawing pain is wearing my heart out.

I thought I was being noble in being liberal to you before, but you got me all wrong and you condemned me for insincerity. You made me think glitter of gold and the sweet tinkle of silver had no fascination for you. I made it known to you that our future will not be a bed of roses. That must have filled you with apprehension.

Norma, don't worry, I'm a man and will always be one—I can take it on the chin. I shall learn to smile, or perhaps even to laugh. I'll just feel fine although my heart right now is full of regret. I can hardly hold back my tears at the thought of our happy memories. I thought then that we were meant for each other. But now those wonderful dreams of ours seem destined to be castles in the air, evanescent rainbows.

Tonight, will be my last night to dream of you—Norma. And as I dream I'll see you again your devastating charm and captivating smile. I'll remember your promise and sweet kisses. Other nights to come will surely be different. These will be empty void in my heart after you are gone.

Tomorrow Norma, you'll be wearing a wedding dress, and over your veil orange blossoms will crown your lovely head. In your exchange of vows, I hope that what you will promise him will not be the same pledge of deception you once gave me.

I congratulate him for having found you for his own and at the same time wish you both happiness and success in life. Believe me, there will

be no rancor in my heart, just forgiveness and vain regrets, bitter longings has given way to calm resignation to an inscrutable fate.

* * *

TRUE CONFESSION

Tito Excelsior

This is a confession. . .

Sometime ago I became a friend of a jolly group of five boys, I liked them, indeed, they were so gay, light-hearted, unpretentious. We were together quite regularly. We went to dances, parties and excursions. We rode on bicycles and roamed about the city.

But later on new friends came. New friends who immediately attached themselves to us. New friends who brought their own friends, and so we gained in number. Our former light banter was turned into a bedlam of nervous voices.

It was then that I began to notice a great change in the group. They began to drink and form new ideas, ideas about power, power in number.

They began to take measures to make themselves known. They wrote their names on fences, on walls of school buildings, in every space they could—the names of fun-loving teen-agers.

So the people called us vandals. Vandals. I hate that name. We were not vandals.

But eventually I realized that we were going too far. Most had become professional smokers. They drank too much, delighted, too, in pilfering food from canteens, goods from stores, just for the hell of it. They had a sense of power believing that they were mighty and indestructible.

The gang became a big organization. It had permanent headquarters and permanent territories. No other gang could enter their territory unless they wanted to fight. And so there were always fights.

I often heard my grandfather cry out in exasperation. "What is this new generation coming to?" And I answered him "To greatness."

But deep in my heart, I knew they were not headed for greatness, for I had witnessed the drinking, orgies, the parties turned to bedlam by trouble makers, the bloody fights.

So on whom shall we put the blame? To lenient parents? Maybe. To foreign influence like that of the teenagers of America? Partly. To

modern trends, liberty and democracy? Yes. For what we are doing now is just the result of a mistaken idea of democracy. We have followed the saying, "This is a free country; I can do whatever I please."

And we have done as we please. Yes, you can do as you please, provided you are doing the right thing.

And is it right when we try to break each other's heads, when we try to make trouble, knife and shoot each other down?

You know that it is wrong. But unfortunately we do not.

And we now appeal. . . .

We, the teenagers, of this century seek your help. We seek understanding and sympathy, not blind, severe punishment. Because punishment will result in bitterness. It will make us think that we are not wanted. It will make us hate you and the world. We need teachers and parents who will understand us, who will realize that we are only normal, developing adolescents. Make us see that what we have been doing is wrong. So we will be what you wanted us to be, law-abiding, loyal citizens of a progressive democracy.

We, the youth, are the most important people in this world today. We, the youth, are meant for tomorrow. We will not only run the world tomorrow, we will help you run it now! All over the

country you see youthful doctors, agriculturists and farmers, youthful teachers, professors and government employees—young men and women with new and inborn ideas imbued in their minds that will result to a rapid progress of our beloved country, the Philippines.

We, the youth, shall safeguard this democracy. We will, when time comes, offer our life for this country, for this government and to you.

Save us the youth, save us and we will serve you and save this democracy of today.

"WE TO UNDERSTAND"

by Semie Savellano

*Shall we roll back the curtains
That surround our lives,
See the heart's contents
And know the truth of life.
Often we would find it better
As judgment when exposed forever
If only we understand . . .*

*If we know the cares and trials
The efforts all in vain;
The bitter disappointment so discouraging
And amplify loss but abate the gain.
This life's rough surface
Yet there's wonder, just the same
As we are surprised! We pity! yet we are to blame.*

*We judge in ignorance
Unaware of life's hidden forces;
We did it once,
Not knowing we are half so good, so restless.
Scrutinizing not the evil
We faced the good
This makes love so good; Unveil!
It's indeed good! we understand.*

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the name is your guarantee*

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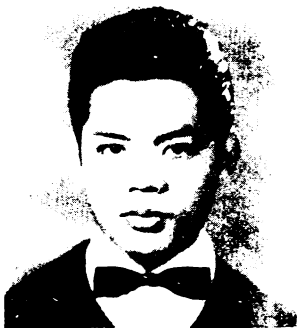
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Davao City

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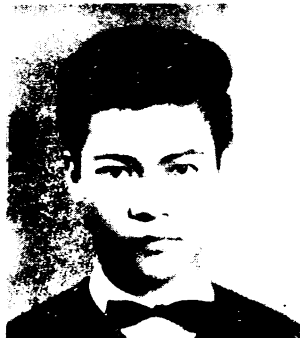
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THE SENIOR CLASS



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 Immurung, Baguio, Cagayan
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 Ranger Certificate (1960)
 Secretary, Forestry SBO
 (1961-62)
 Treasurer, Junior Class Org
 (1960-61)
 Treasurer, UPSCA (Forestry chapter)
 (1961-62)
Business Manager, Senior Class
 Org (1961-62)
 Member: Makiling Literary Club
 Philippine Society of Photogrammetry
 Gamma Sigma Delta Honor Society



FLORENTINO ANDAYA y RAMOS
 Cordon, Isabela
Bachelor of Science in Forestry
 Ranger Certificate (1960)
 Artillery Entry, Weapon Stripping
 Competition (1958)
 Cadet Corps, U. P. ROTC Los Baños
 Unit (1958)
 Member: Forestry "YM" Club
 Society of Philippine Photogram-
 metrists
 Tobacco Growers' Ass'n
 U. P. Forestry Alumni Ass'n



ARMANDO ARANAS y LAPITAN
 312 Garcia St., Cavite City
Bachelor of Science in Forestry
 Ranger Certificate (1960)



SARONGNAN ISAIAS y VENTURA
 Bara, Asingan, Pangasinan
Bachelor of Science in Forestry
 Ranger Certificate (1961)
 Associate Editor, Forestry Leaves
 (1961-62)
 Rep. to UPSCA Central Council
 (Diliman) (1961-62)
 Contributing Editor, Forestry Leaf
 lets (1961-62)
 Member: Phil. Society of Photo-
 grammetry
 Makiling Literary Club
 Tobacco Growers' Association



**GUILLERMO CABANERO y MAN-
 GAOL**
 Laog, Ilocos Norte
Bachelor of Science in Forestry
 Ranger Certificate (1960)
 Treasurer, Sophomore Class Orga-
 nization
 Member: Y. M. C. A.
 U. P. Los Baños ROTC Band



ELPIDIO CABOTE y CABRERA
 Tayug, Pangasinan
Bachelor of Science in Forestry
 Bureau of Forestry Scholar (4 se-
 mesters) (1960-62)
 Senior Forester, Bureau of Forestry
**Business Manager, Makiling Li-
 terary Club (1961-62)**
 Staff Member, Forestry Leaves
 (1960-62)
 Member: Society of Filipino Fore-
 sters



**BENJAMIN CARIÑO y CABAN-
 TING**
 District No. 6, Solana, Nueva
 Vizcaya
Bachelor of Science in Forestry
 Ranger Certificate (1960)
 Holder, Physical Stamina Scholar-
 ship
 Captain, Forestry Soccer-Football
 Team
 Sgt. at Arms, Soph. Class Org
 (1959-60)
 Member: Philippine Society of
 Aerial Photogrammetry
 Model Co. ROTC Unit
 Vigilance Committee



**POLICARIO CAYABYAB y LU-
 GUIT**
 San Jose, San Jacinto, Pangas-
 inan
Bachelor of Science in Forestry
 Member: UPSCA



EDMUNDO CORTES y VILLAMOR
 Maebate, Masbate
Bachelor of Science in Forestry
 cum laude
 Ranger Certificate (1955)
 University Scholar (one semester)
 College Scholar (3 semesters)
 College Editor The Philippinesian
 1962
 President, Senior Class
 Managing Editor, Forestry Leaves
 (1961-62)
 Vice-President, Forestry S. B. O.
 (1960-61)
 Vice-President, Makiling Literary
 Club (1961-62)
 Member: Gamma Sigma Delta Hon.



REYNALDO P. CRISOSTOMO
 La Torre, Bayombong, Nueva
 Vizcaya
Bachelor of Science in Forestry
 Ranger Certificate (1960)
 Member: U.P.S.C.A.
 Philippine Society of Photogram-
 metry



SILVESTRE CRUZ y CERVANTES
 San Juan, Hagonoy, Bulacan
Bachelor of Science in Forestry
 Ranger Certificate (1960)
 Member: Forestry Basketball and
 Volleyball Teams
 Forestry "YMCA" Chapter
 (1960-61)



**OTON DAGDAYAN JR. y N-
 NANG**
 Tudela, Misamis Occidental
Bachelor of Science in Forestry
 Ranger Certificate (1962)
 Member: Beta Sigma Fraternity
 Forestry "YM" Club



GERONIMO FALLORAN y PANTALEON

San Marcelino, Zambales
Bachelor of Science in Forestry
Ranger Certificate (1953)
Philippine Army Educational Benefits (4 semesters)
Bureau of Forestry Scholar (4 semesters)
President, Freshman Class (1951-52)
Treasurer, S B O (1951-52)
Auditor, Forestry Residence Hall Association
Forester, Bureau of Forestry
Member: Beta Sigma Fraternity



ROBERTO DORMENDO y ALVAR
Mangagoy, Bislig, Surigao del Sur

Bachelor of Science in Forestry
Ranger Certificate (1960)
Member: Forestry UPSCA



JULIO DE LUNA y PERALTA

Pasauquin, Ilocos Norte
Bachelor of Science in Forestry
Ranger Certificate (1934)
B.F. and R.A. Scholar (4 semesters)



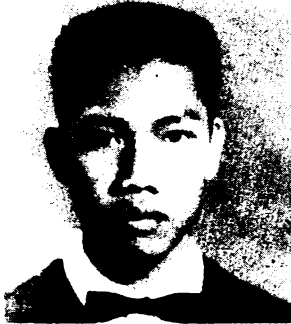
DOMINADOR DEL ROSARIO y TORRES

Alcala, Cagayan
Bachelor of Science in Forestry
Ranger Certificate (1940)
Forestry Scholar (1941)
S.F. Scholar (6 semesters)
President, Freshman Class Dipn (1951-52)
Vice-President, Forestry Residence Hall Assn (1962)
Rep. to UPSCA, Central Council (1961-62)
Secretary, Working Literary Club (1961-62)
News Editor, Forestry Leaves (1961-62)
President, Zeta Beta Phi Fraternity (1961-62)
Captain, Forestry Volleyball Team (1961-62)
Member, Philippine Society of Photography
Member, Phi Kappa Psi Fraternity



FRANCISCO GUZMAN y FERNANDEZ

Pilat, Cagayan
Bachelor of Science in Forestry
Ranger Certificate (1960)
Member: Beta Sigma Fraternity



CONRADO GULMATICO y VALENCIA

Los Baños, Laguna
Bachelor of Science in Forestry
Ranger Certificate (1961)



ISABELO GONZALEZ y GARDUQUE

Pasauquin, Ilocos Norte
Bachelor of Science in Forestry
Elem. Teacher's Certificate, St. William's College (1952)
Ranger Certificate (1960)



SENECIO FESTIN y DULAY

Binalonan, Pangasinan
Bachelor of Science in Forestry
Ranger Certificate (1962)
Bureau of Forestry Scholar (6 semesters)
Vice-President, Junior Class Org. (1960-61)
Secretary, Sophomore Class Org. (1959-60)
Member: Beta Sigma Fraternity
Forestry "Y" Club
Forestry Pensionado Club
U.P. Future Agriculturists and Foresters of the Philippines



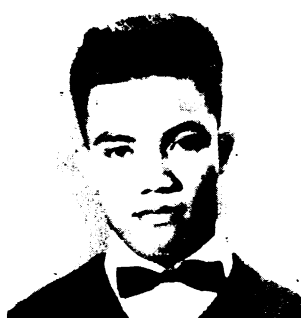
NELSON LLAVORE y ALCOMENDRAS

179 Griffin, Fabrica, Negros Occ.
Bachelor of Science in Forestry
Ranger Certificate (1960)
Master of the Rolls, Beta Sigma Fraternity (1960-62)
Member: U.P. Beta Sigma Fraternity
UPSCA (1958)



BUENAVENTURA VIDAD y BAUTISTA

Incangan, Dupax, Nueva Vizcaya
Bachelor of Science in Forestry
Ranger Certificate (1960)
Vice Pres., SCM Los Baños Unit, Forestry Chapter (1958-59)
Business Manager, N. Vizcaya Varistarian (1959-60)
Auditor, Beta Sigma Fraternity (1961-62)
Wielder of the Sword, Beta Sigma Fraternity (1958-61)
Sgt. at Arms, Junior Class Org (1960-61)
Member: Vigilance Committee
Beta Sigma Fraternity



GONZALO JAMERA JR. y PARADERO

ILCO Woods, Fabrica, Negros Occ.
Bachelor of Science in Forestry
Ranger Certificate (1960)
Secretary, Forestry UPSCA (1960-61, 1961-62)
Member: Beta Sigma Fraternity
Vanguard Fraternity, Los Baños Unit (1959-60)



SOMPOL HINCHIRAHAN

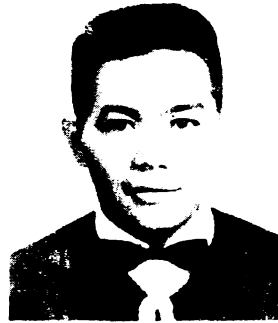
307 Prannak Road Dhanburi, Thailand
Bachelor of Science in Forestry
Ranger Certificate (1950)
Member: International Club
Beta Sigma Fraternity
Thai Student Association



FRANCISCO LOZANO COLLADO
San Isidro, San Nicolas, Pangasinan
Bachelor of Science in Forestry
Ranger Certificate (1960)
Bureau of Forestry Scholar (6 semesters)
Auditor, Sophomore Class Org. (1959-60)
Supreme Fellow, Zeta Beta Rho Fraternity (1961-62)
Fellow, Herald, Zeta Beta Rho Fraternity (1960-61)
Sgt. at Arms, SBO (1960-61)
Member: Makiling Literary Club
Forestry Leaves Staff



SATURNINO MACARAEG y ORPIANO
Nongabagan, Sta. Maria, Pangasinan
Bachelor of Science in Forestry
Ranger Certificate (1960)
Co-captain, Forestry Volleyball Team (1961-62)
Recipient, U.P. Los Baños Letter (1962)
Member: U.P. Los Baños Varsity Volleyball Team (1961-62)



PETRONILO MUREX y SOLIMA
Luzara, N. Butuan City
Bachelor of Science in Forestry
Ranger Certificate (1960)
Entrance Scholar (1956)
B.F. Scholar (5 semesters)
Vice Supreme Fellow, Zeta Beta Rho Fraternity (1961-62)
Athletic Manager, SBO (1960-62)
Captain, Forestry Soccer-Football Team (1959)
Athlete of the Year (1961)
Member: Zeta Beta Rho Fraternity
Forestry Leaves Staff (1962)
Makiling Literary Club
U.P. Varsity Teams:
Soccer Football (1959-62)
Track and Field



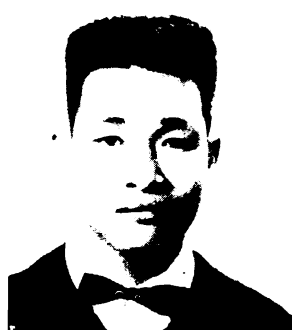
EMILIO PACLOB y AGTUA
Pata, Claveria, Cagayan
Bachelor of Science in Forestry
Ranger Certificate (1960)



APOLINARIO PAEZ y MURATA
Butuan City
Bachelor of Science in Forestry
Ranger Certificate (1960)
Treasurer, For. Res. Hall
Member: Beta Sigma Fraternity
Forestry Leaves Staff
Phi. Soc. of Photogrammetry
Makiling Literary Club
YMCA, Los Baños Chapter



GREGORIO P. PRINCES
Sta. Cruz, Marikinae
Bachelor of Science in Forestry
(cum laude)
Ranger Certificate (1961)
University Scholar (one semester)
College Scholar (3 semesters)
B.F. Scholar (8 semesters)
Editor, Forestry Leaves (1960-61)
ASAC, Editor, Forestry Leaves
Vice Pres., Senior Class (1961-62)
Secretary, SBO (1961-62)
Auditor, Makiling Literary Club
Member: Soc. of Filipino Foresters
Phi Kappa Phi Honor Society
Gamma Sigma Delta Honor Soc.
Beta Sigma Fraternity



WILFREDO REBOTON y IBRADO
Cádiz, Negros Occidental
Bachelor of Science in Forestry
Ranger Certificate (1960)
Member: Los Baños Varsity Basketball Team (1961-62)
Los Baños Track and Field Team (1962)
Forestry Basketball Team (1959-62)
Forestry Soccer-Football Team (1959-62)
Makiling Youth Club



EMETERIO V. RODULFA
Solug Dist., Catbalogan, Samar
Bachelor of Science in Forestry
Ranger Certificate (1952)
Bureau of Forestry Scholar (4 semesters)



JORGE SEGUERRA y BANDIAN
14 Junction St., Los Baños, Laguna
Bachelor of Science in Forestry
Ranger Certificate (1960)
Bureau of Forestry Scholar (6 semesters)
Captain, Forestry Basketball Team (1961-62)
Fellow Scribe, Zeta Beta Rho Fraternity (1961-62)
Fellow Charge d'affaire, Zeta Beta Rho Fraternity (1960-61)
Business Manager, Sophomore Class Org. (1959-60)



REYMUNDO TABUNO y TABUR
Sta. Domingo, Ilocos Sur
Bachelor of Science in Forestry
Ranger Certificate (1960)
Treasurer, Alpha Phi Omega Fraternity (1961-62)
Member: UPSCA



TERENCIO TALOMA y PADAGAS
Tayum, Abra
Bachelor of Science in Forestry
Ranger Certificate (1960)
Member: Forestry Leaves Staff
Makiling Literary Club
UPSCA, Forestry Chapter



ERNIE TREMOR JR. y MCGRATH
Sta. Domingo, Ilocos Sur
Bachelor of Science in Forestry
Ranger Certificate (1960)
G.P., Beta Sigma Fraternity (1961-62), Los Baños Chapter, Forestry Unit
Wielder of the Sword, Beta Sigma Fraternity (1959-60)
Member: Forestry Club
UPSCA, Forestry Chapter



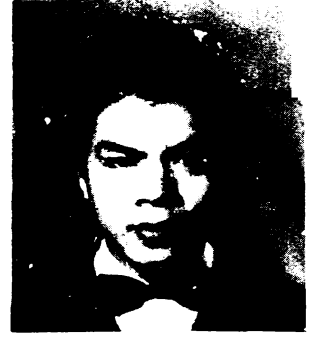
GIL URGINO y VILLAJUAN
 Pantabangan, Nueva Ecija
Bachelor of Science in Forestry
 Ranger Certificate (1962)
 B.F. Scholar (3 semesters)
 Vice-President, Forestry SBO
 (1961-62)
 Vice Grand Prince, Forestry Beta Sigma Fraternity (1962-6)
 Business Manager, Junior Class Organization (1962-6)
 Business Manager, UPSCA Forestry Chapter (1962-6)
 Sgt. at Arms, Forestry SBO (1962-6)
 Member, Makiling Literary Club



ROMEO VALDEZ y SALINAS
 11 — G. de Jesus St., Baguio City
Bachelor of Science in Forestry
 Ranger Certificate (1963)
 B.F. Scholar (2 semesters)
 President, Forestry SBO (1961-62)
 President, Makiling Literary Club (1961-62)
 Representative, U.P. Junior Council (1956-57)
 Associate Editor, Forestry Leaflets (1961-62)
 Literary Editor, Forestry Leaves (1961-62)
 Member, Upsilon Sigma Phi Fraternity
 Zeta Beta Rho Fraternity



GUILLERMO VALENA y DE LEON
 Calauag, Quezon
Bachelor of Science in Forestry
 Ranger Certificate (1962)
 Entrance Scholar (1957)
 Gold Medalist, Public Speaking Contest, Forestry Day (1961)
 Editor, Forestry Leaflets
 Business Representative, The Philippines (1962)
 Bursar, Zeta Beta Rho Fraternity
 Member, Forestry Basketball Team (1957, 60, 61)
 Forestry Volleyball Team (1957, 60, 61)
 Makiling Literary Club
 Forestry Leaves Staff



CARLITO VERTUDES y PAGADOR
 Sta. Domingo, Ilocos Sur
Bachelor of Science in Forestry
 Ranger Certificate (1962)
 Member, Beta Sigma Fraternity
 Vigilance Committee (1959)
 Forestry "Y" Club
 Phil. Society of Aerial Photography



NEPTALE ZABALA y QUIRONES
 Bssud, Comarinas Norte
Bachelor of Science in Forestry
 Ranger Certificate (1960)
 Bureau of Forestry Scholar (5 semesters)
 Chairman, UPSCA Forestry Chapter (1961-62)
 Captain, Forestry Softball Team (1961-62)
 Vice-President, UPSCA Los Baños Unit (1961-62)
 Treasurer, Forestry Student Body Org. (1961-62)
 Auditor, Senior Class Organization (1961-62)
 Member, Forestry Volleyball Team
 Makiling Literary Club

SENIORS — NOT PICTURED

1. Mr. Juanito D. Lamanilao, Adviser
2. Dalangin, Napoleon B
3. Gines, Fernando A
4. Lacuesta, Gil L
5. Zapatero, Ricardo D
6. Lizardo, Antonio M



THE JUNIOR CLASS



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ADVISER



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B. F. Pensionado
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Makiling Literary Club



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ROGELIO D. CANTUBA
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Member: UPSCA



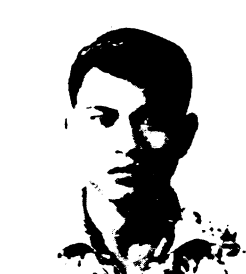
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Managing Editor: Forestry Leaves
Managing Editor: Forestry Leaves
Editor: Forestry Leaves
Member: Zeta Beta Rho Fraternity
Upsilon Sigma Phi Chapter



VICTOR M. DOTIMAS JR.
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Fellow-Whip, Zeta Beta Rho Fraternity
Auditor, Junior Class Organization
Sgt. at Arms, SBO



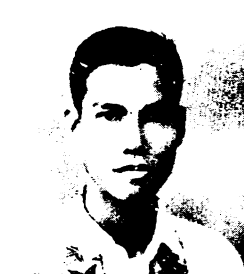
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CRISANTO A. GALO
Binalonan, Pangasinan



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Treasurer, Makiling Literary Club
B. F. Pensionado
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President, Forestry Chapter



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U. P. Basketball Varsity



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Member: Alpha Phi Omega Fraternity
YMCA



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Jones, Isabela
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Cadet Officer (1960-61)



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C.N.I. Pensionado
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PRO, UPSCA (1962-63)
Member: Alpha Phi Omega Fraternity
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Laoc East, Manaog, Pangasinan
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Entrance Scholar (1956)
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Member: Makiling Literary Club
UPSCA



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Naguilian, La Union
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Member: YMCA



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Gattaran, Cagayn
Member: YMCA
U.P. ROTC band



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YMCA
Pensionado Club



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Victoria, Laguna



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UPSCA



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Tapei, Gonzaga, Cagayan
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MYC



LAMBERTO SUAVERDEZ
Infanta, Quezon



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Dagupan City
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ALEJANDRO A. TOMACDER
Santa Catalina, Binalonan, Pangasinan



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Villa Verde, Nueva Vizcaya
Member: U.P. Tambling Delegate to the Student Festival Fair (1959-60)
YMCA
Forestry Softball Team (1961-62)



Mindanao Map made by Rizal located in front of Dapitan Catholic Church, Dapitan, Zamboanga del Norte.

JUNIORS — NOT PICTURED

- | | |
|---------------------------|---------------------------|
| 1. Abugan, Benigno, Jr. G | 17. Hamada, Vidal A |
| 2. Bartolazo, Demetrio L | 18. Ishmael, ALRashid |
| 3. Bucsit, Arsenio R | 19. Lucop, Aligan D |
| 4. Burgos, Segundo T | 20. Malto, Ben D |
| 5. Camello, Ismael E | 21. Mariano, Angel A |
| 6. Cariño, Honorio F | 22. Mendoza, Antonio M |
| 7. Clemente, Francisco A | 23. Mendoza, Pepito M |
| 8. Dacanay, Bernardino B | 24. Nalupa, Isidro E |
| 9. Dasig, Policarpio U | 25. Pangoga, Pangaga P |
| 10. Dispo, Orlando D | 26. Paragas, Bienvenido G |
| 11. Dumpit, Sergio V | 27. Pascua, Arthur C |
| 12. Enrile, Florentino B | 28. Patague, Ignacio G |
| 13. Esber, Gayred G | 29. Pavo, Aniceto S |
| 14. Enriquez, Erico T | 30. Ragasa, Rogelio L |
| 15. Felias, Tanciano G | 31. Versoza, Lamberto N |
| 16. Gonzales, Vidal A | |



Case Cuadrada or Rizal's Workshop Rizal Park, Dapitan, Zamboanga del Norte.

THE SOPHOMORE CLASS



MANUEL R. ARIZABAL
Virac, Catanduanes
Member: UPSCA



VIRGILIO BASA
Bayambang, Nueva Vizcaya



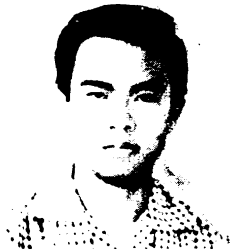
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Dumaguete City
Treasurer, UPSCA
Member, Alpha Phi Omega



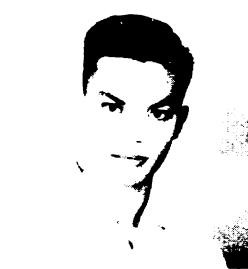
SANCHO C. RETONDO
Malisbang, Plimbang, Cotabato



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Masbate, Masbate
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SOPHOMORE — NOT PICTURED

- | | | |
|-----------------------------|-------------------------------|-------------------------|
| 1. Agbisit, Teogenes T | 22. Gendrano, Oscar A | 43. Yaptenco, Dexter C |
| 2. Alcomendras, Artemio F | 23. Ginez, Felicisimo S | 44. Agustin, Rogelio C |
| 3. Andalis, Ernesto A | 24. Glori, Antonio V | 45. Alvarez, Eleno A |
| 4. Azula, Lorenzo M | 25. Gumand, Jose G | 46. Ausan, Adam S |
| 5. Bacug, Emmanuel M | 26. Ingosan, Noe L | 47. Bacena, Conrado P |
| 6. Bautista, Luisito G | 27. Madamba, Manolo R | 48. Bertuso, Arnaldo E |
| 7. Benzon, Jesus P | 28. Malbog, Salvador B | 49. Caceda, Virgilio F |
| 8. Blando, Augusto M | 29. Marquez, Ernesto C | 50. Chan, Proculo R |
| 9. Bongbonga, Prescillano D | 30. Morales, Danilo M | 51. Gabot, Urbano G |
| 10. Calixto, Pedro V | 31. Nacino, David Jr. B | 52. Garcia, Angel M |
| 11. Camero, Rogelio A | 32. Nisperos, Epifanio O | 53. Gatán, Florante M |
| 12. Castillo, Cenon M | 33. Ocoma, Manuel N | 54. Orsolino, Rogelio S |
| 13. Constantino, Leovino M | 34. Petilos, Gerundio P | 55. Piansay, Pacito M |
| 14. Dela Rosa, Rogelio M | 35. Principe, Antonio G | 56. Pilor, Rodolfo R |
| 15. Duldulao, Anacleto C | 36. Ragudo, Teodulo J | 57. Rivera, Rodolfo S |
| 16. Dumlaio, Artemio C | 37. Reyes, Serafin D | 58. Saavedra, Marcial Q |
| 17. Ealava, Felix Jr. M | 38. Sulit, Mario Jr. Q | 59. Sabio, Santos Jr. S |
| 18. Estrada, Venancio Jr. L | 39. Tamolang, Francisco Jr. B | 60. Tacague, Johnson L |
| 19. Federizo, Antonio B | 40. Tugada, Leonardo S | 61. Tremor, Alerto E |
| 20. Fernandez, Virgilio A | 41. Ugalino, Juanito R | 62. Velez, Hipolito T |
| 21. Ferrer, Oscar S | 42. Vergara, Ester T | |

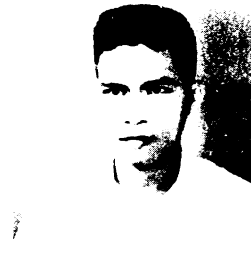
THE FRESHMAN CLASS



Dr. Artemio V. Manza
Adviser



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Lucena City
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Elpidio S. Padre
Bangui, Ilocos Norte
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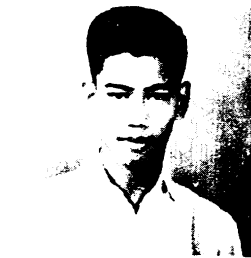
Teotimo M. Redulla
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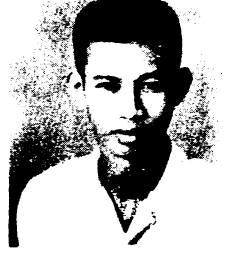
Mariano Z. Cajucom
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Binmaley, Pangasinan



Celerino R. Daniel
Cabanatuan City, Nueva Ecija



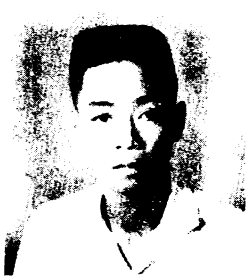
Edmidio M. de la Peña
Bayombong, Nueva Vizcaya



Isidro C. de la Peña
Tanauan, Batangas



Elias G. Dumelod
San Mariano, Isabela



Pacifico A. Dumlao
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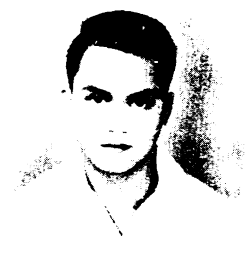
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Member, Forestry Basketball Team



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Aguilar, Pangasinan



Florencio C. Galinato
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George R. Garcia
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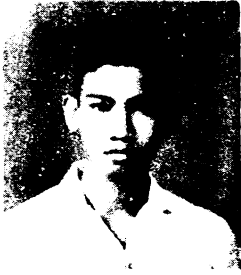
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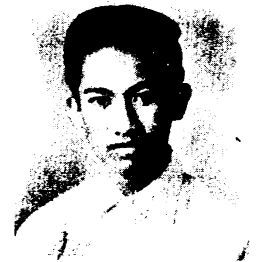
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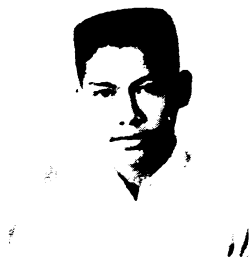
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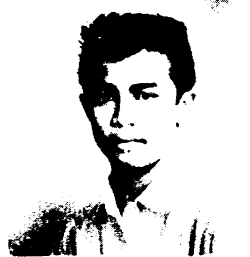
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Cagayan



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Lambuncio, Iloilo



Salvador C. Manglinong
Narvacan, Ilocos Sur



Roman A. Menor
Nagbacalan, Paay
Ilocos Norte



Rogelio E. Obay
Alaminos, Pangasinan



Valerio T. Rabanal
Sto. Domingo, Ilocos Sur



Daniel M. Ramos
Asingan, Pangasinan



Venancio M. Rodelas
Botilao, Sta. Cruz
Marinduque



Arturo C. Saxon
Gumaca, Quezon



Felix S. Soriano
San Manuel, Pangasinan



Raulito L. Tacugue
Woods, Fabrica
Negros Occidental



Cesario G. Ursua
Tarece, San Carlos
Pangasinan
Member, UPSCA



Generoso C. Valiente
Pagudpud, Ilocos Norte



Leonardo D. Velasco
Baguio City

FRESHMAN — NOT PICTURED

- | | |
|----------------------------|------------------------------|
| 1. Boada, Romeo C | 18. Leprozo, Ernesto A |
| 2. Borja, Dan B | 19. Lunay, Mariano P |
| 3. Buñiel, Agapi G | 20. Magistrado, Rodolfo B |
| 4. dela Cruz, Reynaldo E | 21. Manuel, Rodolfo D |
| 5. de Ramos, Sancho G | 22. Martinez, Francisco C |
| 6. Kalim, Odin M | 23. Mercado, Conrado Q |
| 7. Balilia, Sergio P | 24. Nacino, Alfonso B |
| 8. Bambo, Yolando B | 25. Olay, Felipe L |
| 9. Caguimbal, Arsenio A | 26. Pascua, Agustin Jr. N |
| 10. Canceran, Malquiades D | 27. Rebosura, Reynaldo F |
| 11. Cerceña, Winston R | 28. Rosales, Angelito G |
| 12. Consolacion, Pastor I | 29. Salapang, Herminigildo C |
| 13. Ecura, Marcial E | 30. Sespeña, Arturo V |
| 14. Evaristo, Pacifico V | 31. Simbulan, Wilfredo G |
| 15. Gacula, Eduardo P | 32. Sonico, Faustino M |
| 16. Garcia, Avelino I | 33. Tanzo, Carlito P |
| 17. Guzman, Elias S | 34. Tavita, Josefino L |

FPRI Technical Notes

SOME COMMON DEFECTS FOUND IN PLYWOOD PANELS

This technical note describes the causes of some of the most common defects found in the manufacture of plywood. It suggests also the steps for minimizing or eliminating these defects.

Starved glue joint

This is a defect brought about either by insufficient amount of glue or a discontinuous film of glue between the veneers of a cured plywood panel. Probably this is the most common defect encountered. The general appearance at the glue line shows the absence of a glue film on the wood surface or broken joints indicating little or no wood failure.

The condition of insufficient glue or a discontinuous film of glue is caused by either (a) inadequate spread, (b) excessive flow or rapid penetration into the wood surface, or (c) with dense woods, too much pressure. The second has always been regarded as the main cause of starved glue joints.

There are several possible causes of excessive flow or penetration of the glue at the glue line. Each one of these at one extreme will tend to produce a starved glue joint. Among these are:

(a) *Short assembly periods.*—The assembly time may be too short to allow for some drying to take place. Although the interval between spreading and pressing is affected by many variables, as a general rule, the glue on the spread veneers should still be tacky as pressure is applied. To remedy starved joints caused by short assembly periods, it would be advisable to employ longer times especially with dense species. The addition of more catalyst to shorten the time the adhesive is in the fluid stage may also be necessary but this will consequently shorten the pot life.

(b) *High press pressures.*—Pressure causes the movement of the glue into the veneer and toward the edges of the assembly. High pressure results in the starving of the glue line by "squeeze out." The pressure used must be such as to cause only the right degree of glue penetration and to bring the adherent surfaces in intimate contact.

(c) *Low glue mix viscosity.*—A certain amount of movement of the glue mix is necessary for the formation of a good glue bond. Flow is greater when the viscosity of the spread is lower and thus, causes excessive penetration. To remedy this situation, a range of glue mix viscosity must be standardized in a plant by checking the amount of solvent used.

(d) *High moisture content of the veneers.*—Glue penetrates faster on veneer of high moisture content. It would be best to use veneer of proper moisture content. Veneers with 5 to 8 percent moisture content have been found ideal for hot-pressing and those with 7 to 12 percent for cold-pressing.

(e) *Faulty extension.*—Fresh flour with low ash content and suitable water-taking capacity should be used. The incorporation of nut-shell flour from 10 to 25 percent of the total extender might also be desirable to check excessive penetration.

(f) *Foamy glue mix.*—The use of a foamy mixture introduces air in the assembly which may cause uneven spread, thus a spotty absence of glue film may occur at the glue line. To remedy this, the mixer speed must be decreased.

Blow or blister

This defect, which is a typical starved joint, is a spot or area bulging like a blister as a result of the failure of the veneer to adhere together. It is confined to hot-pressed plywood panels. Some causes of the defect are:

(a) *Short assembly time.*—The assembly period must be increased somewhat to allow for some drying to take place.

(b) *Too high moisture content of veneers in the assembly.*—Proper drying schedule must be used in the drying process to insure that the desired moisture content is attained. Moisture content requirements will depend upon the type of glue used. Generally, it ranges from 5 to 12 percent, the higher value being used for panels that will be exposed outdoors.

(c) *Non-uniform moisture content within a sheet of veneer.*—It frequently occurs that wet spots are present in the veneer. The wet spot in the assembly causes formation of a pocket of steam upon application of temperature thus, producing stresses within the panel and upon the relief of pressure, blister may likely occur. Conditioning period is required after drying in order to bring the veneers to a more or less constant and uniform moisture content and also to eliminate these wet spots. However, the use of materials with defects such as knots, wormholes, cross grain and those that may cause non-uniform moisture content must be avoided.

(d) *Too high press temperature.*—High temperature causes abrupt setting of glue thereby inhibiting the steam formed from escaping. This causes

blister upon the release of pressure. The platen temperature must be reduced and pressing time must be increased if necessary.

Bleed through

This is a condition of the glue mix penetrating the faces of the panel. Dark-colored glues are more likely to stain the light-colored veneers. The face of the panel presents a "muddy" appearance.

The bleed-through areas are difficult to stain or finish despite sanding. It is more prevalent in hot-pressed panels. Some possible causes are:

(a) *Faulty type of extension.*—The incorporation of filler has been found to check excessive glue penetration. Nut shell flour in the amount of 10 to 25 percent of the total extension has been found to decrease if not eliminate the amount of penetration.

(b) *Adhesive mix too thin in consistency.*—Proper viscosity should be maintained to provide a good spread.

(c) *Poor quality veneer used in assembly.*—When using poor quality stock, the tendency is to apply heavier spread to overcome the veneer roughness. This, however, may cause two things: (1) glue may come up to the faces and (2) glue will fill the space or gap, but not all glues can fill without affecting the bond quality. To remedy such happenings it is suggested that good veneer quality must be maintained.

Face checking

Face checking is identified by cracks or checks on faces of the plywood panels. It occurs in hot—and cold-pressings but more so with hot-pressed panels. This is because hot-pressed panels are subjected to high temperatures during pressing which consequently brings about the rapid drying of the faces. Upon the release of pressure, these faces will tend to shrink immediately, but since the grain direction of the core or cross band is at right angles to that of the face, the core will tend to restrain this shrinkage and to place the surface in tension. Consequent checking or rupture occurs if the tensile strength of the wood is exceeded. Among several causes of this defect are the following:

(a) *Faulty grain type and direction.*—The effect of this factor has been found to be significant irrespective of moisture content of veneer at assembly or the quality of the veneer. Generally, coarse-grained veneer of higher specific gravity will check more than fine-grained veneer of lower specific gravity. To minimize the effect of this factor on face checking, it is advisable to refrain from using knotty material but to consistently observe parallel clipping of veneer and to use better grade species for faces.

(b) *Improper moisture content.*—It has been found by experiment that high moisture content in the veneer at layup results in more severe face checking regardless of the grain type and direction, and the quality of the veneer. The tendency of the face to shrink will evidently be greater for an initially high-moisture content. It is advisable, therefore, to use veneer components with the proper moisture content.

(c) *Improper conditioning of pressed panels.*—It is always good practice to allow gradual cooling of the panels after pressing. Solid stacking for a minimum of 2 hours before processing it further has always been considered a good practice for hot-pressed panels. To achieve moisture redistribution, cold-pressed panels should be stickered at least for 48 hours.

(d) *Carelessness in handling.*—Splits and checks usually appear in the assembly due to careless handling of the veneers especially those of the face ply. To remedy this situation, loaders and off-bearers must be trained to handle the dried and glued veneer with care.

Warping or distortion

This defect is a variation of a panel from the true or plane surface. Other names given are cupping, bowing or twisting. In plywood up to about 5 mm. thick, a certain amount of waviness across the grain is not uncommon and for many purposes it is not detrimental, but any warping in thicker plywood may be serious enough to render the panels unsuitable for many purposes. The most probable causes of this kind of defect are:

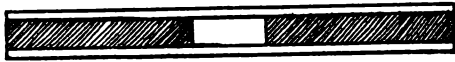
(a) *The direction of grain of the veneer is not parallel to the clipped edges of the sheet.*—Warping caused by irregular or diagonal grain would most likely result in twisted panels. It would be best to practice parallel clipping of veneer and to use better grade species for faces.

(b) *Uneven moisture content resulting in dimensional instability of the finished panel.*—Moisture content difference between faces and backs or between other plies, when sufficiently great, causes warping which manifests itself as cupping, bowing or both. To minimize warping, hot-press panels must be allowed to cool gradually by solid stacking, faces and cores must have uniform thickness to obtain uniform spread, and the veneer used in the assembly must have a uniform moisture content.

(c) *The use of relatively thick veneers for faces and cross-bands may also contribute to the warping of the plywood.*—Panels with thinner face and crossbands would be expected to perform better than otherwise. Tenderizing the inner plies might also be helpful although the evidence of this technique is not convincing.

Overlaps and gaps

These defects occur more in the core where the several pieces composing the core are not jointed and spliced properly. Overlaps and gaps could be identified by referring to the following illustrations:



Gap



Overlap

Gaps and overlaps cause the weakening of the plywood panel as a whole. They are less dangerous in multi-ply panels when not immediately under the outer veneer. Any overlap or gap in the ply adjacent to the face veneer generally reflects itself as a ridge or depression when the plywood is finished and painted.

To remedy this situation, handling of the glued assembly must be done with care. Jointing and tapeless splicing should be properly done.

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BAMBOO FOR PULP AND PAPERMAKING

Bamboo belongs to the same family as corn, wheat, and other grasses. There are about 700 known species of bamboo all over the world. Thirty (30) of these are found growing in the Philippines.

Bamboo varies in height from 15 cm. to over 30 meters at maturity. This perennial monocotyledonous plant can thrive at temperatures ranging from 9 to 36 degrees Centigrade and has been found at altitudes as high as 3700 meters above sea level as in South America.

As a raw material for pulp and papermaking, bamboo has several advantages. It is relatively clean and, unlike wood, does not require barking. Its fibers are generally longer than those of other grasses and hardwoods. Fibers of some bamboo species have been found to be as long as those of the conifers, if not longer.

Generally, bamboo is easy to propagate. It grows rapidly. In India it is exploitable from 6 to 12 years after planting and at 3 to 4-year harvesting cycles thereafter. Unfortunately, reliable information on sustained yields of Philippine species are not yet available. It is likely that climatic and other environmental factors in the Philippines are similar to those in many bamboo areas of India. Hence, there is every reason to believe that Philippine bamboos behave similarly. It is encouraging to note that in Burma, India, and Pakistan sustained yields of 1.6 to 9.1 metric tons of dry bamboo per hectare per year have been reported. In the United States and Japan it has been noted that the annual yield of pulp per acre from bamboo is as much as 5.5 to 7 times greater than that for pine pulpwood which, in addition, takes a much longer time to grow before it can be harvested.

At present, bamboo is the principal raw material of the pulp and paper industry in India and it is a potential raw material in Burma. The annual consumption in India is about 400,000 tons. It is also used for the same purpose in Thailand, Japan, Taiwan, and Pakistan.

In India, clear cutting or cutting of all the culms in a clump or in an area was found to be destructive to the health of the plant and led to a deterioration in yield. On the other hand, selective cutting which is now practiced there and in Pakistan requires the cutting of only the mature culms in cycles of 3 to 4 years to ensure high sustained yield. In this regard, felling rules prescribe the number of culms to be cut, when and how the cutting is to be done.

The harvested bamboo culms are brought to the pulp mill either by rail, trucks, or by floating in rivers.

PREPARATION OF RAW MATERIAL

Crushers

The crushers used are similar to those used in sugar mills. The culms are split and broken by feeding them through pairs of rolls with progressively narrowing clearances and grooves.

Chippers

Modern high speed chippers having 5 to 10 knives, like those used for pulpwood, are being used in recently constructed mills. Some chippers have provisions for holding the culms against the chipper knives.

In some mills combinations of crushers and chippers are used. The culms are first lightly crushed and then chipped.

After crushing and/or chipping, the chips are screened and the fines discarded. The oversized pieces are reduced to the proper size by passing

through hammermills, disintegrators, and other similar devices. The screened pieces go to the bins, silos, or direct to the digesters.

The crusher produces subdivided pieces which are very easily penetrated by cooking liquor. However, the bulk of pieces produced in crushers is greater than that of an equal weight of chips produced in chippers. The material produced in the chippers contains less fines and the chips are of more uniform length (1 to 1½ inches) than those produced in the crushers. The crushed material consists of irregular-sized pieces, some of which are as long as 5 inches. Because of the high silica content of bamboos, which easily dulls the knives, frequent regrinding or replacement of the chipper knives is required.

PULPING METHODS

The sulfate and sulfite processes are employed in bamboo pulp mills today. The soda process is also suitable for bamboo, but the pulp is inferior in quality in most respects to that produced by the sulfate process. Experiments in mechanical grinding, neutral sulfite, cold soda semichemical pulping, and continuous kraft digestions have been done on bamboo, but these are not yet practical on a commercial scale.

Sulfate method

The sulfate method is the most widely used in bamboo pulping because it readily produces acceptable pulp from mixtures of species. The pulp is stronger than that made by other processes and the chemical recovery system is efficient and reliable.

There are two methods of sulfate digestions, namely, the fractional or two-stage method and the single-stage method.

The fractional method is based on the studies of Raitt at the Indian Forest Research Institute. The first stage of digestion uses the spent liquor from the second stage of a previous digestion. Raitt's process is carried out at a temperature of about 108 to 115 degrees Centigrade for two hours using about 8.5 percent active alkali as sodium oxide. During the first stage, the starches and pectins are removed. The black liquor is pumped to the recovery plant at the end of this stage. Subsequently, fresh liquor containing active alkali as sodium oxide equivalent to 15.5 percent of the weight of the chips is charged and the cooking proceeds at 153 to 158 degrees Centigrade for one hour and for two hours more at 140 degrees Centigrade. Delignification occurs during this stage. The spent liquor from the second-stage cook is drained into the digester of a first-stage cook. The pulp obtained by this method is easily bleached by a single hypochlorite treatment. However, the modern two-stage methods use (1) in the first stage, 2 to 3 percent ac-

tive alkali as sodium oxide and a cooking time of 2 to 4 hours at 142 to 150 degrees Centigrade and (2) in the second stage, 12 to 13 percent active alkali as sodium oxide and a cooking time of 4 to 4.5 hours at 162 to 170 degrees Centigrade.

The use of less complex single-stage cooking methods to produce bleachable pulps is now possible due to the modern multi-stage bleaching processes. The single-stage sulfate method takes 4 to 5 hours at 165 to 173 degrees Centigrade with 15 to 16 percent active alkali as sodium oxide. The sulfidity of the cooking liquors used for both single- and two-stage digestions varies from 10 to 25 percent.

Studies in the Philippine Forest Products Research Institute have shown that some Philippine bamboo species such as bolo (*Gigantochloa levis*), buho (*Schizostachyum lumampao*), giant bamboo (*Gigantochloa aspera*), kauayan-kiling (*Bambusa vulgaris*), kauayan-tinik (*Bambusa blumeana*) and yellow bamboo (*Bambusa vulgaris* var. *striata*) respond well to the single-stage sulfate method using 15.5 percent alkali as sodium oxide with 25 percent sulfidity, a cooking time of 3 hours, and a maximum temperature of 170 degrees Centigrade. The yields ranged from 40 to 47 percent.

Sulfite method

A disadvantage of the sulfite process for pulping bamboo is that each species must be cooked separately as different digestion conditions are required. Of course, more labor is required in handling each species separately in stacking, chipping, etc. The cooking time is much longer than that required by the sulfate processes. Another factor which has hindered its wider use has been the lack of a chemical recovery system. The application of modern recovery systems now available could possibly make this process competitive with the sulfate process.

The sulfite process is employed by only one mill in India. The magnesium-base cooking liquor contains about 1.95 percent free SO₂ and 2.3 percent combined SO₂. The total sulfur in the liquor is equivalent to about 8.0 to 8.6 percent of the weight of the chips. Cooking takes 19.5 to 20.5 hours and the maximum temperature varies from 155 to 160 degrees Centigrade. Because of the low capacity of this mill it is not economical to recover the chemicals for re-use.

BLEACHING

Two-stage cooked sulfate pulps are bleached in the mills by two hypochlorite treatments with washing after each treatment. The available chlorine consumption ranges from 7 to 10 percent.

Multi-stage bleaching is used for sulfite and for single-stage sulfate pulps. This consists of chlorination, caustic extraction, and one or more stages of

hypochlorite treatment, with every stage being followed by washing. Available chlorine consumption varies from 6 to 8 percent.

PAPERMAKING

The processes and equipment used in bamboo papermaking are essentially the same as those used for other fibrous materials. Bleached sulfate and sulfite bamboo pulps, either alone or in mixtures with other pulps, are used for making a wide variety of writing, printing, and wrapping papers, newsprint (as the chemical pulp portion), and paperboards. Unbleached bamboo pulp is used for paperboards, wrapping, and bag papers.

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PHILIPPINE WOODS FOR TOOL HANDLES

American Hickory (*Carya* spp.) is the ideal wood for tool handles. As a shock-resisting wood, it is considered the best. This wood species which is found only in North America and predominantly in the eastern region of the United States is used principally for tool handles in the Americas, England, Australia and in some European countries. It possesses all the properties required of tool handles, namely: toughness or shock resistance, ability to wear smoothly or hardness, resistance to splintering or splitting, good drying, turning and finishing qualities. It is highly probable that there are among the 3,500 Philippine native woods that have properties, which would compare favorably with those of hickory.

There are three general-use classes of tools, namely: (a) striking tools such as axes, picks, mattocks, and hammers of all kinds (b) lifting tools like peavies, cant hooks, spades and spading forks, and (c) tools to be struck as chisels and the like. For all striking and lifting tools, the wood handles should possess all the above enumerated properties and qualities. In all striking tools, the shock applied at the moment of impact, is greatly absorbed by the wood particularly within the "eye" of the tool. If the tool handle is not made of very tough wood, the blow or strain to which the wood is subjected can be sufficient to cause severe mechanical damage. This emphasizes the primary consideration of *toughness* or resistance to impact in selecting the right wood whenever the use of the tool involves the striking of severe blows. *Toughness* of wood is measured here in the F.P.R.I. by a pendulum-type of testing machine.

The second consideration for wooden tool handles that are to be struck, like a chisel, is *hardness* which is measured by the modified Janka ball test at the Forest Products Research Institute. However, weight and hardness are closely related properties for, as a general rule, woods that are heavy are also hard. Considering this relationship, the weight of Philippine woods which is considered good for tool handles should approximate the weight of hickory, which is 40 pounds per cubic foot or its equivalent specific gravity of 0.62.

All conditions being equal, it is expected that straight-grained woods possess higher bending and

toughness values than cross-grained woods. These are confirmed by the results of toughness tests conducted on several local wood species in the Institute. So the next consideration in selecting the right wood for tool handles should be preferably the straight-grained woods provided they are resistant to splintering or splitting.

A good wood for tool handle must also possess good drying, turning, and finishing characteristics. These properties are important in reducing cost of production.

Wood is expected to be very stable when dried to the moisture content level consistent with the locality where it will be used. Generally, a moisture content level (equilibrium moisture content) of 14 to 16 percent is acceptable in most parts of the Philippines. For tool handles, therefore, the use of wood dried at 2 or 3 percent lower than the expected moisture content level in a locality will insure sufficient snugness of the wood to the eye of the tool. This dryness will cause the wood to swell as it picks up moisture approaching the equilibrium moisture content of the locality thus producing a strong grip on the eye of the tool.

The study of the suitability of some local species for tool handles has been going on in the Institute for some time. Four local wood species so far were found by laboratory tests to be promising for tool handles, namely, in the order of their rank: ago-ho (*Casuarina equisetifolia* L.), binggas (*Terminalia citrina* (Gaertn.) Roxb.), katilma (*Diospyros nitida* Merr.) and ata-ata (*Diospyros mindanensis* Merr.). The Institute has been providing the tool handle industry with wood samples of these promising species. Based on actual performance, however, of these four species, binggas wood is preferred by manufacturers and users for striking handles. For several years now, binggas is considered, in the tool handle industry, the premiere substitute for hickory.

Some of the distinguishing botanical and wood characteristics of the four species including their local habitat, distribution and supply are:

Binggas.—Tree attaining a diameter of about 90 centimeters or more; bole somewhat irregular; wood slightly interlocked-grained, fine-textured, comparatively heavy (specific gravity 0.75) and hard, seasons well, works and finishes well with sharp tools. Distribution almost in all provinces of the Philippines. It is found at low or medium altitude. Supply is not abundant.

Agoho.—Tree attaining a diameter of about 90 centimeters and a height of about 50 meters, usually smaller; trunk straight, cylindrical, about 10 meters clear of branches; wood straight-grained, fine-textured, hard and moderately heavy (specific gravity 0.77), seasons and finishes well but is difficult to work on because it dulls cutting tools easily. Distribution is throughout the Islands, in almost pure stands along sandy seashores and rivers. It is found at elevation as high as 800 meters. Supply is not abundant.

Katilma.—Tree small to medium-sized; bole straight, tends to be irregular; wood straight-grained, moderately fine-textured, comparatively heavy (specific gravity 0.69), hard, tends to warp in drying, works and finishes well. It is found growing at low or medium altitude in many provinces and islands. There is a limited supply.

Ata-ata.—Tree small to medium-sized; bole straight and regular; wood straight-grained, moderately fine-textured, comparatively heavy (specific gravity 0.69), hard, tends to warp in drying, works and finishes well. It is found at low or medium altitude in many provinces and islands in the Philippines. The supply is limited.

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FPRI Highlights

"Keeping up daily production on research is the basic job of FPRI staff members", wrote Dr. George M. Hunt to Director Eugenio de la Cruz. "Day-by-day progress on the program of research is most important; growth and expansion must not take too much time and energy."

From reports given him, Dr. Hunt noted continuing progress as well as continuing growing pains in the FPRI. This great old man, it will be remembered, was co-organizer and a long-time adviser to the Forest Products Research Institute. His latest "voice from retirement" is his publication, *The Philippine Forest Products Research Institute-Its Development and Future*, released by FAO, Rome.

December Symposium—A Big Success

Easily the most important event that took place at the Forest Products Research Institute during recent months was the symposium on "The Role of Wood Utilization in Forest Conservation", conducted last December 14.

Attended by about 200 key officials of local wood-using industries, engineers, contractors, architects, researchers of different scientific organizations, students, and members of the technical staff of the FPRI, the affair was acclaimed to be the most successful symposium ever conducted by the Institute.

FPRI Director Eugenio de la Cruz, who gave the key note address, mentioned that symposia are intended to disseminate to the public the useful information the Institute gathers from time to time and to bring the wood-using industries closer to the Institute for mutual exchange of ideas on the proper utilization of wood.

He pointed out that one of the better ways of conserving forests is the proper and more complete utilization of wood.

In driving home his point, Director de la Cruz mentioned that with our present methods of wood utilization, only about 25 percent of the wood from each tree cut for commercial purposes reaches the end-users, pointing out that the rest or 75 percent usually goes to waste.

He explained that it is the main purpose of the Institute to minimize this waste by improving methods and techniques in processing wood, developing new industries thru integration of related factories, and prolonging the life of wood in service.

Following the address of Director de la Cruz, four valuable papers were read. These papers were:

1. Contribution of Timber Engineering to Forest Conservation by Agustin N. Ramos, Jr., FPRI senior forest products technologist.

2. Wood Seasoning by Eugene Krueger, Yard and Kiln superintendent, Bislig Bay Lumber Co., Inc.

3. Wood Preservation—Its Contribution to Forest Conservation by Rosario T. Cortes, FPRI supervising forest products technologist and Justino B. Seguerra, Jr., FPRI senior forest products technologist.

4. Prestressed Laminated Structure by Engineer Ernesto Sarangaya, General Manager, Durabilt Structures, Inc., Quezon City.

The presentation of papers was followed by an open forum, participated in actively by the delegates. Some of them contributed useful information about the subjects discussed while others brought to the attention of the audience the problems of their industries.

The open forum was followed by a luncheon meeting at the International House during which Dean Enrique Ruiz of the U.P. College of Architecture and Fine Arts was guest speaker.

Dean Ruiz read a paper dwelling on tropical architecture, which he said is very much appreciated in European countries and in the Americas.

Among the more interesting features of the luncheon meeting was the inspirational talk of Regent Florencio Tamesis. He recounted his difficulties and more remarkable experiences since his early boyhood until he retired as Director of the Bureau of Forestry.

Some of those who actively participated in the affair were FPRI Assistant Director Manuel R. Monsalud, who also acted as master of ceremonies, Regent Florencio Tamesis, Eng. Dominador Cepeda, president of the Beta Construction Company, Mr. Jose Sanvictores of the Aras-Asan Lumber Co., Dean Gregorio Zamuco of the U.P. College of Forestry, Dr. Lee W. Crandall, FAO-UN consultant of the FPRI.

Visiting professors from the New York State College of Forestry at Syracuse University, New York now detailed at the U.P. College of Forestry, including Professor Alfred E. Bishop, Dr. Charles Larson, and Prof. Floyd E. Carlson also participated actively.

Publications

The fourth of a series of articles on the *Fiber Dimensions of Certain Philippine Woods, Agricultur-*

al Wastes and Other Plans. IV. by F. N. Tamolang, J. A. Meniado, E. A. Phillips, C. K. Lindayen, T. M. Lindayen, and B. C. de Vela appeared in TAPPI (USA) magazine, Feb. 1962, 45: no. 2. Another technical article appearing in the same issue is *Pulp and Paper Research at the Philippine FPRI* by Manuel R. Monsalud and F. N. Tamolang.

Contributions of Timber Engineering to Forest Conservation by Agustin N. Ramos, Jr., was published in the PAENCOR, Jan., 1962, 9: no. 19.

In the Philippine Lumberman, August-September 1961 issue, several articles appeared including, *Air Seasoning Studies of Some Commercial Species Under Conditions Prevailing at the FPRI Compound* by T. G. Cuaresma and R. T. Cortes; *The Application of Quality Control Methods in P.I. Veneer and Plywood Industry* by E. Jaranilla; *Relative Economy of Treated and Untreated Wood* by FPRI staff. The December '61—Jan. '62 issue carried the articles on *Soft-rot and Decay Problems of Wood Used in the "West" Industries* by E. M. Mendoza and the *Common Names of Philippine Indigenous Plants* by F. M. Salvoza.

The FPRI *Industrial Report*, a new publication put out by the Institute came out with its first three numbers.

As its name connotes, this publication is a serialized report on the results obtained in the prosecution of the research projects of the Institute and is intended primarily for the benefit of wood using industries.

The publication is not issued at regular intervals. It only comes out everytime a project is completed so that the findings could be used immediately by interested parties. The first three issues of the publication dwell on the veneer cutting, drying, and gluing properties of manggasinoro, apitong and mayapis.

Like the FPRI Technical Note series, copies of this Industrial Reports are given out free, but unlike the Technical Note, copies of each issue of this report will be distributed to industries concerned only, unless requests are received from other parties.

The manuscript of a proposed book, *Forestry Lexicon of Philippine Trees* by Dr. Felipe M. Salvoza will soon go on final print. It is expected that at least 6,000 copies of the book will be printed. Interested parties who desire to own a copy of said book are now advised to send their reservations to the Institute.

Meanwhile, a total of 46 progress reports were approved by Director Eugenio de la Cruz during the period, September, 1961 to March, 1962.

The breakdown of reports by the division are as follows: Wood Technology—16, Wood Preservation—14, Industrial Investigations—11, Chemical Investigations—3, and Timber Physics and Engineering—2.

Visiting VIP's

Mr. Alfred H. MacKenzie, the new U.N. Resident Representative in the Philippines, made a brief tour of the FPRI facilities and research activities. Mr. MacKenzie succeeded Mr. N. Corry, who is now on a new assignment in Bangkok.

Miss Justina MacLean, fellowships officer of the Food and Agriculture Organization in Rome, Italy, came several weeks before Mr. MacKenzie's visit.

Both FAO officers were favorably impressed by the FPRI laboratory set-up, and by the Institute's program of research on forest products, and by its accomplishments within its five years of existence.

Two seminars were held at the Institute's conference hall when Dr. Arthur Anderson and Forester Gene Fobes spent some time at the Institute. Dr. Anderson, a professor at the University of California, discussed solvent drying of lumber, a method in which the sample is placed in closed containers where acetone is made to circulate to remove the water from the wood. Dr. Anderson remarked that good results are obtained by this method of drying some wood species that do not season well by kiln drying method.

Gene Forbes, on the other hand, discussed the possibility of producing dissolving pulps and rayon from Philippine hardwoods. He stated that rayon could be better produced from hardwoods than from soft-woods. Since the Philippines has an abundant supply of this raw materials, it can engage profitably and extensively in rayon production. Forester Forbes, is a technical consultant to Von Kohn International Corporation, New York. He also talked of his experiences in Indonesia.

Society of Filipino Foresters Annual Meeting

With Director Eugenio de la Cruz as moderator in an open forum during the annual meeting of the Society on April 13, 1962 at the Philippine Columbian Clubhouse, the affair came out to be a very lively one. Dr. Francisco N. Tamolang, chief of the Wood Technology Division presented a paper entitled, *New Development in Forestry*.

Display Committee Created

An Exhibit and Display Committee to handle the permanent display of the FPRI was created by Director Eugenio de la Cruz.

The new committee shall formulate and execute, upon approval by proper authorities, plans to effect a coordinated and more impressive permanent display of wood products, flow charts, and other illustrative materials. These will be displayed at the lobby and corridors of the FPRI.

The committee is composed of Mr. Dominador G. Faustino as chairman, and seven members representing the different divisions of the Institute.

To Propose Forest Products Week Observance

A preliminary step toward a proposed nationwide annual observance of a Forest Products' Week was made recently when Director Eugenio de la Cruz named and instructed a committee to lay the ground work for the proposal. The committee, headed by Mr. Lauro Ynalvez, is now working out plans and necessary steps to get the presidential sanction of the proposal. Although plans are not yet definite, according to Director Eugenio de la Cruz, who conceived the idea, such an observance, which will be nation-wide, shall take place during the week coinciding with the anniversary of the FPRI, which is July 5.

Training Courses Completed

Felix Eusebio of the Timber Physics and Engineering Division and Isaias Elayba of the Administrative Management Division underwent a two-month training course at the Cavite Naval Base. Eusebio was trained in electronics while Elayba was trained in the field of machining.

Flordeliza M. Mamaril of the Wood Technology Division and Eduardo Cortez of the Chemical Investigations Division were trained in radioisotopes for six weeks at the Atomic Energy Commission.

From the Speakers' Bureau, a course in public speaking and radio programming, E. A. Artuz-Phillips, U. S. de Leon, Primitivo Galinato, and Maximo J. Sagrado completed the course after an intensive one to three-week participation.

All of these personnel who underwent special training courses received their certificates of completion.

Personnel Glimpses

While the heat wave has caused the frowning of many a face, the Institute's personnel are beaming with smiles. Reason—the half-day session which started April 2 and will extend to June 15. These off-office hours enable them to circulate around the neighboring barrios and towns. For what? — — fiestas!

Arrivals and departures

Feliciano M. Lauricio, a senior forest products technologist of the Timber Physics and Engineering Division, returned to the Institute last February following a year's specialized training at the CSIRO, Division of Forest Products, Australia. "Lauritz" training there was sponsored by FAO, Rome.

Returning to the Institute on February 15 were Mr. and Mrs. Melecio "Miles" Avanzado. After three and one half years in Wisconsin, USA, Miles

returns to his position as chief of the Physical Properties Section, FPRI. He received his Master's degree from the University of Wisconsin. His wife, Norma, a Jr. Forest Products Technologist of the Chemical Investigations Division, was a project assistant in the Entomology Department of the University of Wisconsin. Miles had an ICA-NEC one year scholarship, while Norma was sponsored by the Rockefeller Foundation.

Jose Zerrudo, Forest Products Technologist of the Chemical Investigations Division, arrived in March after spending four years in the University of Adelaide of the "Land Down Under". Joe visited most of the Australian pulp and paper mills all over that country, including a 3-month training and observation trip to New Zealand. Joe was under a Colombo Plan scholarship grant.

Mr. Jose A. Semana, Forest Products Technologist of the Chemical Investigations Division, departed in January for Stockholm on one-year training grant from the Swedish Agency for International Assistance. He will be working in the field of semi-chemical pulp and fiberboard at the Defibrator AB, Stockholm.

Marriages and arrivals via stork

Flordeliza E. Mendoza of the Wood Technology Division exchanged "I do" with Cristobal Mamaril, accountant of the FPRI, in a simple rites at the Calamba Church on March 29, 1962. Director Eugenio de la Cruz stood as sponsor while Vic Tagle and Zeny Torrijos were best man and bridesmaid, respectively. Reception was held at the bride's residence in Calamba.

Josie Sta. Cruz, Forest Products Technologist of the Chemical Investigations Division, became Mrs. Jess Gonzalez after early morning ceremonies at the Pinaglabanan Church, Manila on February 14, 1962. The bride is an alumna of the University of Sto. Tomas and Syracuse University. The groom is a civil engineer from U.S.T. who has also traveled abroad.

Mr. and Mrs. Adolfo Decena were parents of a healthy baby boy born at the Children's Maternity Hospital last January 27, 1962. Other stork recipients were Mr. and Mrs. Pat Bawagan who were blessed by another baby boy (three in a row); Mr. and Mrs. Enrique Amio (boy); Mr. and Mrs. Teofilo Lindayen (boy); Mrs. Rufo Bautista (girl); and Mr. and Mrs. Rene Sasondoncillo (girl).

PWO Notes

PARKS AND WILDLIFE REGIONAL OFFICES

In compliance with the Reorganization Law (R. A. 997, as amended) and implementing the Reorganization Plan 30-A, Parks and Wildlife Regional Offices were organized in the different strategic parts of the Philippines where national parks are located in order to attain a more effective and efficient management and administration of all national parks and wildlife of the country. These regional offices were organized by virtue of special orders issued by the Parks and Wildlife Office.

The following are the Parks and Wildlife Regional Offices with their corresponding sphere of jurisdiction:

Region 1 — Parks and Wildlife Regional Office, Dagupan City

- | | |
|-------------------------|------------------|
| 1. Ilocos Sur and Norte | 7. Zambales |
| 2. Abra | 8. Pangasinan |
| 3. La Union | 9. Nueva Vizcaya |
| 4. Mt. Province | 10. Dagupan City |
| 5. Tarlac | 11. Baguio City |
| 6. Isabela | |

Region 2 — Parks and Wildlife Regional Office, Manila

- | | |
|------------|------------------|
| 1. Cagayan | 3. Nueva Vizcaya |
| 2. Isabela | 4. Batanes |

Region 3 — Parks and Wildlife Regional Office, Manila

- | | |
|--------------------|----------------------|
| 1. Nueva Ecija | 12. Bataan |
| 2. Pampanga | 13. Laguna |
| 3. Bulacan | 14. Batangas |
| 4. Rizal | 15. Oriental Mindoro |
| 5. Quezon | 16. Occ. Mindoro |
| 6. Cavite | 17. Marinduque |
| 7. Palawan | 18. Tagaytay City |
| 8. Cabanatuan City | 19. Cavite City |

- | | |
|--------------------|-------------------------|
| 9. Pasay City | 20. Trece Martires City |
| 10. San Pablo City | 21. Lipa City |
| 11. Quezon City | 22. Manila |

Region 4 — Parks and Wildlife Regional Office, Naga City

- | | |
|--------------------|----------------|
| 1. Camarines Sur | 5. Catanduanes |
| 2. Camarines Norte | 6. Masbate |
| 3. Sorsogon | 7. Naga City |
| 4. Albay | |

Region 5 — Parks and Wildlife Regional Office, Cebu City

- | | |
|------------|---------------------------|
| 1. Antique | 5. Oriental & Occ. Negros |
| 2. Capiz | 6. Bacolod City |
| 3. Iloilo | 7. Roxas City |
| 4. Romblon | 8. Iloilo City |

Region 6 — Parks and Wildlife Regional Office

- | | |
|--------------------|-------------------|
| 1. Negros Oriental | 6. Cebu City |
| 2. Bohol | 7. Dumaguete City |
| 3. Leyte | 8. Calbayog City |
| 4. Samar | 9. Tacloban City |
| 5. Cebu | 10. Ormoc City |

Region 7

- | | |
|------------------------|-------------------|
| 1. Misamis Occidental | 6. Zamboanga City |
| 2. Zamboanga del Sur | 7. Dansalan City |
| 3. Zamboanga del Norte | 8. Iligan City |
| 4. Lanao | 9. Ozamis City |
| 5. Sulu | 10. Basilan City |

Region 8

- | | |
|---------------------|------------------------|
| 1. Surigao | 6. Davao |
| 2. Cotabato | 7. Davao City |
| 3. Bukidnon | 8. Butuan City |
| 4. Misamis Oriental | 9. Cagayan de Oro City |
| 5. Agusan | |

(Continued on page 58)

R. A. Notes

LIST OF REFORESTATION PROJECTS UNDER EACH REGION

Region I — Ilocos Norte, Abra, Ilocos Sur, La Union, and Mt. Province

Headquarters: *Pacdal, Baguio City.*

<i>Name of Project</i>	<i>Location</i>
1. Paraiso	Tangaoan Piddig, Ilocos Norte
a. Birbira Sub. Nur.	Vintar, Ilocos Norte
b. Delangen Sub. Nur.	Vintar, Ilocos Norte
c. Sumiling Sub. Nur.	Sumiling, Ilocos Norte
d. Piddig Sub. Nur.	Piddig, Ilocos Norte
2. Nueva Era	Nueva Era, Ilocos Norte
a. Tumeditdted Sub. Nur.	Banna, Ilocos Norte
b. Manalpac Sub. Nur.	Solsona, Ilocos Norte
3. Mapaso	Lagayan, Abra
a. San Antonio Sub. Nur.	Bangued, Abra
b. Casamata Sub. Nur.	Bangued, Abra
4. Lagangilang	Bituen, Lalangilang, Abra
a. Malatada Sub. Nur.	Abas, Bucay, Abra
5. Sto. Domingo	Sto. Domingo, Ilocos Sur
a. Oay Sub. Nur.	Oay, Sabta, Ilocos Sur
6. Caniaw	Bantay, Ilocos Sur
7. Santa	Santa, Ilocos Sur
8. Cabunagan Gate	Sabangan, Bontoc, Mt. Province
9. Bessang Pass	Maggon, Cervantes, Ilocos Sur
10. Ambuklao	Bokod, Benguet, Mt. Province
11. Baguio	Banao, Bokod, Benguet, Mt. Province
12. Itogon	Mambolo, Itogon, Benguet, Mt. Province
a. Binga Sub. Nur.	Binga, Benguet, Mt. Province
13. Kennon Road	Camp 4, Tuba, Benguet, Mt. Province
14. La Union Cooperative Nursery	Burgos, La Union
15. Dacanay	Alipang, Pugo, La Union

Region II — Cagayan, Isabela, Nueva Ecija, and Cabanatuan City

Headquarters: *Buaya, Diadi, Bagabag, Nueva Vizcaya (via Cordon, Isabela)*

1. Nasiping	Tumauini, Isabela
2. Callao	Peñablanca, Cagayan
3. Magat	Buaya, Diadi, Bagabag, Nueva Vizcaya
a. Liuanag Sub. Nur.	Tumauini, Isabela
4. Salinas	Bambang, Nueva Vizcaya
5. Consuelo	Sta. Fe, Nueva Vizcaya
a. Dupax Sub. Nur.	Dupax, Nueva Vizcaya
6. Carranglan	Carranglan, Nueva Ecija
7. San Jose	Poncan, Carranglan, Nueva Ecija

Region III — Pangasinan, Dagupan City, Zambales, Tarlac, Bataan, Pampanga, Bulacan, Quezon, Rizal, Cavite, Cavite City, Tagaytay City, Trese Martires City, Batangas, Camarines Sur, Naga City, Camarines Norte, Albay, Legaspi, Sorsogon, Catanduanes, Marinduque.

Headquarters: *Diliman, Quezon City.*

1. San Manuel	San Manuel, Pangasinan
2. Bugallon	Bugallon, Pangasinan

- | | |
|------------------------|---|
| a. Mabini Sub. Nur. | Mabini, Pangasinan |
| b. Manleluag Sub. Nur. | Mangatarem, Pangasinan |
| 3. Labney | Mayantoc, Tarlac |
| a. Maamot Sub. Nur. | Sula, Tarlac, Tarlac |
| 4. Arayat | Arayat, Pampanga |
| 5. Magsaysay | Balatan, Aglao, San Marcelino, Zambales |
| a. Cabangan Sub. Nur. | Mammel, Cabangan, Zambales |
| 6. Olongapo | Olongapo, Zambales |
| 7. Lamao | Limay, Bataan |
| 8. Montalban | San Mateo, Rizal |
| a. Makiling Sub. Nur. | College, Laguna |
| 9. Quezon Memorial | Amao, Pagbilao, Quezon |
| 10. Marinduque | Sta. Cruz, Marinduque |
| 11. Buhi | Buhi, Camarines Sur |
| 12. Balatan | Cabanbanan, Balatan, Camarines Sur |
| 13. Pili | Castilla, Sorsogon |

Region IV — Romblon, Aklan, Antique, Capiz, Roxas City, Iloilo, Iloilo City, Occidental Negros, Bacolod City, and Palawan

- | | |
|--------------------|--------------------------------------|
| 1. Aklan | Ibajay, Aklan |
| 2. Culasi | Culasi, Antique |
| 3. Valderrama | Valderrama, Antique |
| 4. Sibalom | Sibalom, Antique |
| 5. Mt. Tag-ao | Dumarao, Capiz |
| 6. Jalaur | Calinog, Iloilo |
| 7. Aganan | Leon, Iloilo |
| 8. Northern Negros | Minapasok, Fabrica, Negros Occ. |
| 9. Canlaon | Calapnagan, La Castellana, Neg. Occ. |
| 10. Magallon | Moises Padilla, Negros Occ. |
| 11. Cauayan | Cauayan, Negros Occidental |

Region V — Masbate, Samar, Leyte, Cebu City, Bohol, Oriental Negros, and Dumaguete City.
Headquarters: *Cebu City.*

- | | |
|-----------------------|---------------------------|
| 1. Danao | Dunga, Danao, Cebu |
| 2. Cebu | Camp 7, Minglanilla, Cebu |
| 3. Bohol | Dagohoy, Bohol |
| 4. Loboc | Subayan, Bilar, Bohol |
| 5. Talinis | Dawin, Negros Oriental |
| a. Siquijor Sub. Nur. | Maria, Negros Oriental |

Region VI — Zamboanga City, Zamboanga del Norte, Zamboanga del Sur, Basilan Island, Basilan City, Jolo, Misamis Oriental, Cagayan de Oro City, Misamis Occidental, Ozamis City, Bukidnon, Lanao, Surigao, Agusan, Davao, and Cotabato.
Headquarters: *Cagayan de Oro City.*

- | | |
|------------------------|---------------------------------|
| 1. Anakan | Anakan, Gingoog City |
| 2. Malasag | Cagayan de Oro City |
| 3. Impalutao | Impalutao, Impasugong, Bukidnon |
| 4. Cinchona | Malaybalay, Bukidnon |
| 5. Malaybalay | Dinaig, Cotabato |
| 6. Dinaig | Dipolog, Zamboanga del Norte |
| 7. Zamboanga del Norte | Isabela, Basilan City |
| 8. Basilan | |

**AN ACT CREATING THE REFORESTATION
ADMINISTRATION**

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

SECTION 1. A separate government agency in the Department of Agriculture and Natural Resources to be known as Reforestation Administration is hereby created to take over the functions of the existing Reclamation and Reforestation Division of the Bureau of Forestry.

SEC. 2. All reforestation funds collected pursuant to Republic Act Numbered One hundred fifteen shall be turned over to the Administrator of the Reforestation Administration to be spent exclusively for reforestation purposes, subject to the approval of the Secretary of Agriculture and Natural Resources, and all areas reforested under this section shall be considered as permanent forest reserves.

SEC. 3. The Secretary of Agriculture and Natural Resources shall, upon recommendation of the Administrator of the Reforestation Administration, declare what areas are to be reforested and placed under the management, administration and control of the Reforestation Administration and that after the area or areas have been reforested, they shall not be declared agricultural lands.

SEC. 4. All personnel now actually performing productive reforestation work, including all records, supplies, equipment, furniture, vehicles and existing buildings, improvements and other facilities and properties in the various reforestation projects now in existence as well as in the central office, Bureau of Forestry, Manila, are hereby transferred to the Reforestation Administration.

SEC. 5. The Reforestation Administration shall have one Administrator to be known as the Administrator of Reforestation Administration and one Deputy Administrator with the salary range of 62 and 57, respectively, in accordance with the wage and position classification (WAPCO), and who shall be appointed by the President of the Philippines with the consent of the Commission on Appointments of the Congress of the Philippines. The Administrator of Reforestation Administration shall, subject to the approval of the Secretary of Agriculture and Natural Resources, organize its personnel into such divisions or sections as will insure the simplest organization and maximum efficiency. The Administrator shall likewise organize branches in the provinces which shall coordinate their work with the Bureau of Forestry. The Administrator of Reforestation Administration shall possess the powers generally conferred upon bureau chiefs.

SEC. 6. For the current fiscal year, all appropriations under the current budget which pertain to the Division of Reclamation and Reforestation of the Bureau of Forestry are hereby transferred to the Reforestation Administration for the proper establishment and carrying out of the purposes of this Act.

SEC. 7. All laws, orders and regulations inconsistent with this Act are hereby repealed.

SEC. 8. This Act shall take effect upon its approval.

APPROVED, June 18, 1960.

**GOZON BATS FOR MASSIVE
REFORESTATION**

Sets Criterion For Ideal Gov't Employees

Secretary Gozon batted for more reforestation following President Macapagal's endorsement of reforestation as one of the four means to achieve his bold economic program.

Secretary Gozon was the guest speaker during the Reforestation Administration's monthly convocation sponsored by the Accounting Division at the DANR Building, Diliman, Quezon City last January 29, 1962.

In exhorting the personnel of the Reforestation Administration to exert extra efforts in reclaiming the country's lost forest vegetation, the DANR Secretary lamented the fact that the adverse effects of forest denudation are now being felt in almost every part of the archipelago. Manila the very nerve-center of the country's activities, is experiencing acute water shortage. Most of the time, water comes out of the faucet of our farms so that crop failure is no longer strange to us, according to him.

Realizing this danger, the President has therefore authorized the Budget Commission to increase the appropriations of the Reforestation Administration so that the government's reforestation accomplishment will be hiked to a degree such as will check the accumulation of the backlog of around 20,000 hectares of deforested areas annually.

With the cooperation being extended the Reforestation Administration, we must show our gratefulness by following the criterion of a good public servant. Employees should know their duties and be guided by them so that at the end of the day, they shall have honestly earned their day's pay. Employees should remain servants instead of masters of the public, the Secretary emphasized.

Administrator Viado closed the affair by informing his audience that the cause of reforestation found a champion in President Macapagal who, upon being appraised of the country's deteriorating forest con-

dition, instructed Budget Commissioner Faustino Sy-Changco to double the current funds for the agency's 1963 budget.

According to the Administrator, the added outlay will mean more responsibilities for the agency to fulfill but the earnestness of the President in promoting the socio-economic welfare of the country is enough inspiration for one to give the most in terms of service to the government and the people.

ADMINISTRATOR TO CONVERT MINDANAO PROJECTS

Administrator Jose Viado has recently enunciated the new policy of making all reforestation projects in Mindanao production projects. Planting will be undertaken not only to protect the watersheds but to produce raw materials that will feed the country's manifold industries.

Rubber trees and other species that produce resin, turpentine, pulp, oil and other raw products needed for basic industries will be used for reforestation purposes extensively.

The Administrator stated that as an independent entity, the Reforestation Administration will benefit very greatly from the sale of the new materials thus, augmenting whatever deficits the agency might incur in the pursuance of its reforestation goals and objectives. This year's reforestation fund collection has declined greatly in spite of increased forest charges so that unless a novel idea such as the Mindanao project is resorted to, the reforestation work of the government might lag, according to him.

Administrator Viado disclosed that more rubber trees will be planted in Southern Mindanao while benguét pines and *Albizia falcata* (for pulp and turpentine), *Almaciga* (for resin) will be grown in Northern Mindanao. Lumbang trees will also be planted to some suitable areas for the oil they produce for paints and varnish.

REFORESTATION ADMINISTRATION EDIFICE TO RISE AT DANR COMPOUND

Administrator Jose Viado announced recently that the Reforestation Administration building will soon be constructed at the DANR compound.

The three-storey edifice will house the staff and personnel of the Central Office as well as the regional staff of Region III.

According to the Administrator, an initial appropriation of ₱200,000 has already been released for the construction of the building. He said actual

work on the project will start as soon as some legal matters relative to its erection are settled.

Atty. Rosario T. Jaramillo, chief of the Legal Staff, was kept busy clearing all legal impediments to the building's construction at press time.

It should be recalled that the building's cornerstone was laid by former DANR Secretary Cesar M. Fortich and blessed by Fr. Patricio H. Lim U.P. catholic, chaplain, last September 15, 1961.

MULCHING BENGUET PINE SEEDLINGS

by
TOMAS BINUA
Forester-in-Charge

Western Albay Reforestation Project

The open and denuded areas successfully planted to Benguet Pines in the Cebu Reforestation Project, Camp 7, Minglanilla, Cebu, have elevations that range from 1,700 to 2,100 ft. above sea level. The climate in the locality falls under the third type and the planting season is from the later part of May to June, October and November. Planting can be extended to December in case sporadic rain occurs.

During the 1959 planting season, mulching of new Benguet Pine seedlings was done and the method was observed to have increased the percentage of survival in the field.

When the seedling is already properly planted, the planter collects the cogon grass brushed around the hole by the digger and rolls the grass like a loosely braided rope ranging from 3 to 5 centimeters in diameter. The rolled cogon is placed on the ground circling the lower portion of the stem of the seedling.

The technique mentioned above was practiced during the 1959 planting season on all pine seedlings set out by the personnel of the Cebu Reforestation Project and the following results were observed;

1. The mulching material (cogon) which was placed around the planted pine seedlings did not allow the growth of cogon grass in the area covered by the mulch.

2. The seedling received more amount of sunlight needed for growth due to the space left open in the immediate perimeter.

3. The moisture content of the soil was preserved and same was one factor that accounted for better percentage of survival of the planted seedlings in the field.

4. "Ringweeding" was not necessary for the pine seedlings were already in the same level with the cogon grass when the mulching material decomposed. At this period, some seedlings were already over-

(Continued on page 55)



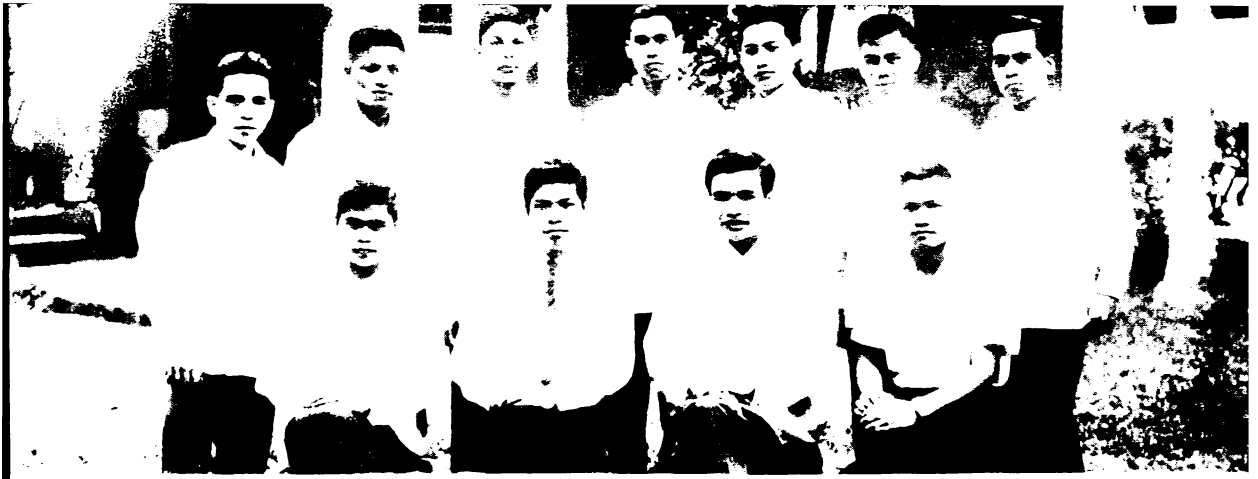
Members of the In-service Trainees (Forest Guards) of the Bureau of Forestry at the lumber yard of Insular Lumber Co., Fabrica, Negros Occidental.



Prof. & Mrs. Floyd Carlson



In-service Trainees class inside the Forest Station at Fabrica, Negros Occidental composed of Forest Guards coming from Negros Occidental, Iloilo, Aklen, Romblon, Capiz and Antique.



OFFICERS OF THE JUNIOR CLASS ORGANIZATION (1961-62)

Seated left to right: Alberto Picardo, Secretary; Mr. Filiberto S. Pollisco, Adviser; Claudio C. Guerrero, President; Romulo Casilla, Treasurer; standing same order: Angel Mariano, Bus. Manager; Victor Dostimas, Jr, Auditor; Emmanuel Hilario, Athletic Manager; Rosalio B. Goze, Vice President; Macorro Macumbal, P.R.O.; Antonio Mendoza and Aligan Lucop, Sgts. at Arms. Not in the picture — Jaime Albay, Rep to the F.S.B.O.



D-39, Personnel — Bukidnon Province: Sitting L to R.— FSW D. C. Urbanoso, FSW H. S. Sivila, Clerk C. S. Palomo, Dist. Forester M. Caayupan, Scaler S. P. Magbanua, FG B. M. Llido, standing L to R — FG P. Alvarez, FG N. Lleses, FG G.B. Pagsuguiran, FG M. Gurrea, FG A. Mangmang, FG J. Bagonoc, FG F. S. Pino, Scaler C. K. Canaman, FSW S. Absin, FG P. P. Poliquit, FG G. Lumances and Scaler C. A. Obidos, Jr.



FORESTRY BASKETBALL TEAM. 1961 Intramural Champion

Left to right: Conrado Gulmatico, William Dy, Jorge Segueria (Capt.), Wilfredo Simbulan, Wilfredo Reboton, Jess R. Rola (Coach), Silvestre Cruz, Emmanuel Hilario, Mariano Cajucom, Oscar Hamada

Campus Notes

FORESTRY HELD J-S PROM

by Romulo C. Casilla

The spotlight fell on the juniors and seniors when they held their annual prom at the Lake View Family Pavilion on February 17, 1962. The juniors played the traditional hosts to the seniors.

Highlights of the affair were the passing of the Key of Responsibility by the president of the senior class, Mr. Edmundo V. Cortes, to the president of the junior class, Mr. Claudio C. Guerrero, and the presentation of the officers of both classes. Dean Gregorio Zamuco made the closing remarks. The seniors gave each junior the traditional souvenir, which was, this time a symbolic "key chain".

The reception committee headed by Dean Gregorio Zamuco was composed of Dr. and Mrs. Artemio V. Manza, Mr. and Mrs. Filiberto S. Pollisco, Mr. and Mrs. Juanito D. Lamanilao, Mr. and Mrs. Edmundo V. Cortes, and Mr. Claudio C. Guerrero and Miss Filomena Concepcion. Some of the guests who attended the affair were the visiting professors and instructors of the U. P. College of Forestry, and with them were their wives.

Mr. Filiberto S. Pollisco and Mr. Juanito D. Lamanilao, advisers of the junior class and senior class, respectively, supervised the affair. The affair was emceed by Alberto C. Picardo, secretary of the junior class.

FORESTRY RESIDENCE HALL HELD MOVING-UP DAY TILT

by O. Gendrano

Moving-up day is spick-and-span day for the Forestry Residence Hall boys as they flexed more muscles to put extra touch of tidiness, order and manliness to their respective rooms. Each occupant busied himself in waxing the floor more shiny; in wiping out dust from the ceiling and cabinet tops; in arranging bookshelves, clothes and bedding, as each chamber vied for the title "Most Presentable Room".

A three-man board of judges composed of Prof. N. T. Vergara, Prof. R. C. Yaptengco and Mr. L. Angeles adjudged room 212 the first prize winner, room 211 the second prize winner and room 219 the third prize winner of the perspiringly coveted title. Prize donors were Dr. F. B. Tamolang and two visiting professors, Floyd Carlson and John Sammi.

R. A. NOTES . . .

(Continued from page 54)

topping the cogon grass. In not undertaking "ringweeding" during the first year of the seedlings in the field, the cost of this important silvicultural practice was thus saved. The cost of "ringweeding" is almost the same as that of the cost of planting and if speaking in figures, it is as follows:

1. Cost of planting potted pine seedlings per hectare ₱50.00
2. Cost of "ringweeding" per hectare 32.00

5. The decomposed mulching materials adds little amount of fertilizer which is greatly needed by the young seedlings.

Cogon grass in the province of Cebu rarely grows higher than one meter and this is due to the continuous burnings done by the farmers every dry season to make cultivation of their squatted lands easier during every coming wet season. The soil is therefore exposed to the elements and in many parts of the province, erosion effects are already acute that even cogon and other grass hardly exist.

Cogon grass in Cebu province are more deep-rooted than in any other part of the country due to its earlier control of the open areas and continuous

burning does not destroy the root system. The roots therefore penetrate the ground deeper and the upper root system spreads wider. This prevailing condition made all trial plantings done by the project personnel in broadcasting fine seeds like Agoho, Benguet Pine and even ipil-ipil seeds, a total failure.

It was found thru experience that if cogon lands in Cebu are plowed and fine seeds are broadcasted, the roots of the grass are disturbed and the deeper the plowing is done, the greater amount of rhizomes are scattered on the ground. And the desired seeds broadcasted indeed germinate and the rhizomes also begin to grow. Some grass grows faster than seedlings, the latter being always defeated unless expensive follow up work is undertaken. In broadcasting big areas follow up can not be undertaken by reforestation projects due to limited funds. Broadcasting in Cebu Reforestation Projects is successful only on areas immediately vacated by the squatters which are mostly clean and cultivated.

To control cogon grass in Cebu, Benguet Pine was found to be the best species to grow for the soil is arid, acidic and the elevation of all the bald mountains favors the growth of the species. To make Benguet Pine seedlings grow faster, economical and practical methods in its planting must be studied, observed and applied to warrant success and also to make the planting of Dipterocarp species possible.

Sunshine Corner

POSTPONEMENT

A senior meditating in front of the college building was worried about the completion of his thesis before April. Gazing skyward, he pleaded to the mahogany trees to defer the falling of their leaves to postpone "Moving-Up Day".

* * *

Shortly after they were married, the bridegroom and his stunning young bride were invited to a formal dinner party. To do justice to the occasion his wife bought a strapless blue evening gown and spent the afternoon of the party in a beauty parlor. When she paraded in front of her husband before they left the house, he was speechless with admiration.

"I'm glad you think I look all right," she said, "But I'm awfully nervous. I'm afraid I won't know what to talk about."

"That's easy," he said, "just say No to the men—the women probably won't talk to you anyhow!"

* * *

In the midst of a busy morning, the county agricultural agent got a call from a woman who said she was starting a chicken farm and wanted to know how long she would leave the rooster with the hens.

"Just a minute," said the agent, who was busy talking on another phone.

"Thank you very much," said the woman, and hung up.

* * *

A businessman hired a new secretary, and the first morning she worked for him he dictated a letter to his wife, who was away on a trip. When she brought the letter back to him for his signature it was perfect, with one exception. She had omitted his final words, which were, "I love you."

"Did you forget my last sentence?" he asked.

"Why, no, I didn't forget," she said. "I just didn't realize that you were dictating."

* * *

A young seaman aboard a ship during World War II, having lied about his age to get into the Navy, had second thoughts after a few days at sea. His homesickness became almost unbearable. Seeking out the chaplain, the distraught sailor poured forth his story. Finally, in a burst of emotion, tears welling in his eyes, he blurted out, "Sir, I'm only 16 years old!"

"Don't worry, son," the chaplain replied. "You'll get over that."

* * *

A young minister who in delivering his first sermon to a new congregation quoted the parable of

the loaves and the fishes. "Now," he said dramatically, "consider the scene where the Master with 5000 loaves and 200 fishes fed five people." A murmur of amusement ran through the church and one old man up in front laughed out loud.

The poor young minister was so humiliated that the following Sunday he decided to regain the ground he'd lost by using the same parable in another sermon. "Now consider the scene where the Master with five loaves and two fishes fed 5000 people," he said. Then having regained his confidence, he leaned over the pulpit and spoke to the old man who had laughed at him, "You couldn't do that, brother."

"Oh, yes, I could," said the old gentleman. "If I had what was left over from last week!"

* * *

When an American officer and his wife were stationed in the Philippines sometime ago, his wife set about raising a garden. The labor officer supplied an elderly Filipino gardener. The wife painstakingly explained and demonstrated how she wanted the various items planted, fertilized, cultivated, pruned, tied up, sprayed and pampered.

In typical Filipino manner he listened intently, maintained a polite bearing and followed the instructions—to a degree. The garden emerged as the finest on the block, and the wife felt a great sense of pride and accomplishment.

One day the gardener announced apologetically that he would have to leave; he was returning to his old job. After expressing her regrets and praising him for helping her raise a good garden, the wife asked, out of politeness, what his old job was.

His answer: "Professor of horticulture at the University of the Philippines."

* * *

A typical group of soldiers and Army families was waiting to board a transport plane at the Air Force Base. A stewardess appeared at the loading gate to announce the flight, saying, "Unaccompanied pregnant women will board the plane first. Please step forward as I call your names."

The little WAF stewardess had no sooner called the names of two women than a pompous colonel shouldered his way forward. "See here," he demanded. "Ranking personnel are to board first. As senior officer present, I order you to check me onto the plane."

"Certainly, Colonel," coolly replied the stewardess. Then, as the colonel strutted by, she turned to the group and announced. "If there are any other pregnant colonels in the group, they may also board now."

B. F. Notes

VISITING PROFESSOR

Dr. Hitoshi Kihara, director of Japan national institute of genetics, paid a courtesy call recently on acting director Tiburcio S. Serevo of the forestry bureau.

Kihara attended the recent inauguration of the International Rice Research Institute at Los Baños, Laguna, of which he is a board of trustees member.

He was shown around the forestry office by forester Constancio Reyes who listened to the visitor's lectures on genetics while in Japan last year.

AMADOR J, EVANGELISTA
Acting Chief, Forestry Information
Section

OBSERVATION (VISITOR)

The Philippine forests have the ability to renew themselves with desirable species even after destructive logging and that selective logging practiced by the forestry bureau has resulted in heavier reproduction stands.

This was the observation of Forester Mackay B. Bryan, visiting aerial forest inventory expert of the United States, gathered from his recent trip to Zamboanga del Sur and Basilan and Zamboanga cities.

He said that logged-over areas looked as if they could stand another cutting in twenty years or so. Areas more heavily cut would take longer to mature but could soon become well-stocked if protected from clearing.

Bryan recommended vigorous implementation of timber stand improvement project of the forestry bureau. Investment in this project in large areas of cut-over forests, he said, would pay better dividends than money spent for reforestation or planting non-forest areas.

The American expert is a member of the three-man group now in the country assisting in the inventory by aerial photogrammetry of Philippine forests under the AID-NEC program.

AERIAL FOREST INVENTORY

Organized in 1954 (with Philcusa funds) to gather basic data required by the Bureau's sustained yield management program, the forestry bureau's inventory parties have recently initiated the use of aerial photos and photogrammetric techniques in forest inventory work, after training for several months in Los Baños. The long-felt need to change to a better and faster means of collecting forest

statistics other than the tedious and expensive ground survey method is at last being met with the start of the forest resources inventory in the Zamboanga peninsula early this year. The expanded inventory aims to obtain volume and land use data on both forest and non-forest areas besides procuring valuable information on changes that have taken place in them—facts and figures that are important in management planning and policy-making.

A joint project of the U.S. Agency for International Development and the National Economic Council of the Philippines, the aerial forest inventory requires a 100 per cent photo coverage of the country. In the meantime, negotiations are underway for the Philippine Air Force to undertake strip flight photography to cover the country in strips 15 kms. apart so that the field crews can work with newer and larger scale photos.

The project counts on the support of the new Secretary of Agriculture and Natural Resources and the cooperation of both the AID and the NEC. For its part, the Bureau of Forestry should exert every effort to solve the problems confronting the project, the most pressing ones being the delays in the release of funds, the need for qualified personnel to bolster the field force and the purchase of badly needed equipment and materials. Young, energetic graduates of the College of Forestry with training in photogrammetry would make good field men, while the use of short cuts and innovations in the accounting and auditing procedures should remedy the costly delays in getting funds for the field parties and the purchase of necessary materials and equipment.—bca

Republic of the Philippines
Department of Agriculture and Natural Resources
OFFICE OF THE SECRETARY
Diliman, Quezon City

FORESTRY ADMINISTRATIVE ORDER
No. 32-2
Series of 1962

May 25, 1962

SUBJECT: *Further Suspension of Forestry Administrative Order No. 32, dated February 14, 1961.*

Effective immediately, the suspension of the force and effect of Forestry Administrative Order No. 32 is hereby extended for another period of one (1) month. No further extension shall be made thereafter.

(SGD.) **BENJAMIN M. GOZON**
*Secretary of Agriculture and
Natural Resources*

PWO NOTES . . .

(Continued from page 50)

PROPOSED PROJECTS OF THE PARKS AND WILDLIFE OFFICE FOR FISCAL YEAR 1961-62 National Parks

For the next fiscal year, the Office plans to undertake the following projects in several national parks. It will develop and improve the Mainit Hot Spring National Park in Davao, Biak-na-Bato National Park in Bulacan, Pagsanjan Gorge National Park in Laguna, Quezon Memorial Park in Quezon City and Hundred Islands National Park in Pangasinan specifically described as follows:

- 1) To construct office quarters, resthouse and outdoor kitchens and cottage in Mainit Hot Springs National Park, Compostela, Davao;
- 2) To construct office quarters in Quezon Memorial Park, Diliman, Quezon City;
- 3) To construct office quarters, resthouses, dancing pavilions, outdoor kitchens and cottages in Bulusan National Park; and
- 4) To develop recreational facilities in the Hundred Islands National Park, like the construction of dancing pavilions and opening up of camping, picnic and play grounds. It will clean and introduce devices in designated bathing places to insure safety for the swimmers.

EUSTAQUIO LEDESMA

O.T. Licensee

Lumber Dealer

Maramag, Bukidnon

OROMECA LUMBER COMPANY, INC.

*Producer & Exporter of Philippine
Lauan Logs*

Butuan City

Wildlife

Along wildlife conservation, the office plans to undertake the following projects:

- 1) The deer-farm at Quezon Memorial Park will be used for the study of the life history of the Philippine deer — (*Cervus (Rusa) sp.*). The study will be undertaken in coordination with the project of the Manila Zoological and Botanical Garden. These two studies will be coordinated in order to achieve a better result.
- 2) To undertake research work on the life history of the Philippine monkeys and other highly commercial species of our Philippine wildlife.
- 3) To conduct the inventory of our wildlife resources throughout the Philippines. The project will be undertaken by field personnel assigned in different stations with the cooperation of Forestry personnel and field agents of other bureaus of the Department of Agriculture and Natural Resources.
- 4) To conduct an accurate physical count of the present tamaraw population in Mindoro. In this connection, the proposed Mt. Iglit Game Refuge and Bird Sanctuary will be fully supervised in such a way that remaining tamaraw in the province of Mindoro could propagate unmolested and increase within the sanctuary.
- 5) To intensify the campaign in the issuance of Ordinary Hunting License through the assignments of provincial collectors to go from one municipality to another and issue Ordinary Hunting License in coordination with agents of the Philippine Constabulary. A collecting personnel will also be assigned at the Firearm and Explosive Section of the Philippine Constabulary to handle the issuance of Ordinary Hunting License to all applicants for rifle and shotgun license.

Compliments of the...

Philippine Union Mission Corporation of Seventh-Day Adventists Sawmill

Mountain View College
Malaybalay, Bukidnon

Prof. T. C. MURDOCH
Manager

D. A. LADION JR.
Asso. Manager

Forestry in the News

JAPAN FIRM TO IMPORT PI LOGS (Special to *The MANILA TIMES*)

CAGAYAN DE ORO CITY, Jan. 18—A big Japanese lumber importer has decided to negotiate for the importation of Cagayan de Oro logs as a result of the increased logging operations in this area, Pedro N. Roa, head of the enterprises that bears his name announced yesterday.

Roa said that the Manila firm that handles his company's exports has received a letter from Fumio Fujihara, its sales agent in Japan, that the Shugo Noda & Co., Ltd., has authorized him to go ahead with negotiations to import Cagayan de Oro logs.

Fujihara requested for instructions on the matter.

Roa said that his Manila representatives have already cabled instructions to Fujihara, endorsing in principle, the proposals of Shugo Noda but asking the Japanese sales agent to strike for a long-term contract and for the Japanese firm's specifications on the logs to be imported.

Roa said that his firm's log output could easily fill up the demand of the Japanese company because the forest reserves in this area are virtually virgin and because of the recent acquisition of the Cagayan de Oro logging firm of new equipment designed to increase its output.

Shugo Noda & Co. Ltd., is importing a monthly average of five million board feet of logs mostly Lauan, from the Philippines, Roa said. Its local suppliers which have operated in other parts of Mindanao seem to have limited output because of eventual exhaustion of their forest reserves.

The growing importance of Cagayan de Oro as a logging terminal has been recently stressed in the newspapers and it was predicted that this port will in no time become Mindanao's top logging center.

Nichiman Co., Ltd., of Osaka has up to now been the only Japanese outfit buying logs from Cagayan de Oro.

THE MANILA TIMES, February 19, 1962

* * *

PI LOGGERS DENUDATION DISCLAIMED

The Philippine Association of Log Producers and Exporters has reacted adversely to indiscriminate condemnation of loggers as responsible for forest denudation and the periodic occurrence of floods.

Valeriano C. Bueno, PALPE president, explained that forest denudation in our country is caused by defective forest policies and the indiscriminate operations of alien-backed small logging companies.

The prominent lumberman urged a reexamination of the country's policies on our natural resources in order to bring about not only forest conserving rules and regulations but also the confinement of direct exploitation and benefits from natural resources only to Filipinos.

He explained that this would require more stringent screening of applicants for the exploitation of our natural resources and the strengthening of our anti-dummy law.

At the same time Bueno observed that it is distressing to note that oversight of certain atmospheric disturbances and geodetic phenomena by certain responsible national officials should lead them to condemn loggers for periodic occurrences of floods.

He added that these disturbances have caused floods in heavily timbered areas like Indonesia, Spain, Chile and the American Midwest.

THE MANILA TIMES, February 12, 1962

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LOG EXPORTS REVEALED (Special to *The MANILA TIMES*)

CALAPAN, Or. Mindoro, Feb. 19—Logs and lumber worth ₱26,629.11 in forestry inspection fees were exported from this province to four foreign countries during the past 19 months, according to Mamerto Villanueva, district forester for this province.

The lumber export which totalled 5,023,514 board feet consisted of 4,990 logs of white and red lauan, otherwise, called Philippine mahogany. Villanueva said that these logs and lumber are made into plywood, veneer for cabinets and all kinds of furniture.

The log exports by countries are as follows:

Japan—2,010 logs containing 1,932,781 bd. ft., with ₱6,942.65 in forestry inspection fees.

Inchon, Korea—1,576 logs containing 1,773,904 bd. ft., with ₱6,522.00 in forestry inspection fees.

Italy—1,153 logs containing 1,096,724 bd. ft., with ₱12,081.46 in forestry inspection fees.

France—251 logs containing 219,995 bd. ft., with ₱1,083 in forestry inspection fees.—CRN.

* * *

LUMBERMEN CITE AIMS

Valeriano C. Bueno, president of the Philippines Association of Log Producers and Exporters, pinned down the main objectives of the association for the year 1962.

Bueno set the following as the main objectives of association:

1. A policy setting down the area for concessions to not less than 20 thousand hectares and the lease term to 25 years renewable for another 25 years;

2. Expansion and diversification to allow the setting up of veneer and plywood factories;

3. Establishment of listening posts abroad for market development and trends intelligence; and,

4. Greater incentive for further growth by making available liberal credit policies, and more generous taxation, and more sensitive fiscal programming on the part of the government.

THE MANILA TIMES, February 2, 1962

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FIRMS BOOST LOG INDUSTRY

(Special to The MANILA TIMES)

PAGADIAN, Zamboanga del Sur, Jan. 1—Logging, one of the principal dollar-saving industries in this province, has been given a substantial boost for the last two years, Tiburcio Simbajon, chief of the local bureau of forestry office here, said today.

During its toddling years, logging in this province was not as profitable as it is now. The industry saw considerable business returns only with the operation of the Mindanao Lumber Company in Alicia, followed by the Martha Lumber Enterprises in Malangas, the Colorado Timber Company and the Watts Selective Timber Company in Ipil.

Simbajon disclosed that logging had an unprecedented rise in output only last year when the Sta. Clara Plywood and Lumber Company made a hit in the local market and abroad with its Philippine mahogany logs and finished products.

This company has its factory in Kabasalan town, this province. He said that the province has derived much revenue from this industry. However, he suggested that certain provisions of the internal revenue code be "relaxed" and improved so that individual companies will have to pay their taxes right in the towns where they are operating.

As it is, Manila logging companies pay their taxes in Manila instead of paying in Zamboanga del Sur. Under the present set-up, Simbajon averred, the provincial and municipal governments are losing tremendous amount of money unless local officials were clever enough to make representations for the restitution of such losses.

Moreover, Simbajon deplored the indiscriminate cutting of timber, causing a big waste in the timber stand of the province.

In view of the lack of personnel, the local bureau of forestry is helpless in its mission to enforce forest laws to the letter. Besides, it has been noted that areas which have been logged over are im-

mediately turned into kaingins, thus preventing all chances for natural reforestation.

While it is laudable thing to have logged-over areas reforested for posterity, bureau plans have remained plans due to the lack of funds to carry out proposed reforestation projects.—L

* * *

ACT TO CURB ILLEGAL LOGGING

TARLAC, Tarlac, Feb. 19—Full constabulary protection has been sought by the local bureau of forestry office in its current drive against unlawful logging and kaingin farming reported to be rampant in the western part of this province.

The government drive against illegal timber cutters and kaingin farmers has reportedly encountered difficulty due to the limited number of forest rangers to go after the forest culprits.

District Forester Toribio Manzano said that if the illegal logging remains unchecked the government would stand to lose sizable revenues.

The district forester also said that farming by the kaingin methods would also result in large-scale deforestation which is claimed to be responsible for the series of floods that hit the country recently, especially in Central Luzon.

The local constabulary command headed by Maj. Jose Gutierrez, provincial commander, is expected to detail troopers in the government-owned forests here to augment the bureau of forestry rangers guarding the areas.

THE EVENING NEWS, February 19, 1962

* * *

SAVE OUR FORESTS

Dear Editor:

It was foretold not so many years ago that the denudation of our forests in Mindanao would cause great floods throughout Mindanao. This so-called "lumber boom" during the Quirino and Garcia administration has enriched a few who became millionaires overnight, but the destruction wrought by these floods would not in any manner counterbalance the gains we made in revenues for the provinces of Mindanao.

It is said that the entire forest resources in Mindanao will be exhausted in 10 years at the rate the Japanese are buying lumber. It is not yet too late to save our forest and stop all these logging operations and illegal cutting of timber. Our eyes have now been opened by the mistakes of administrations of the past. Let us save our forest while there is still some left for our future generations.—CASIANO ANGELES, 1010 Jade St. San Andres Subdivision, Manila.

THE MANILA TIMES, February 16, 1962

FORESTRY LEAVES

APPEAL TO MAC: PRESERVE BUKIDNON FOREST RESERVE

Dear Editor:

The Pinamaloy Forest Reserve is almost gone. The big trees surrounding the beautiful Pinamaloy Lake are disappearing fast. There is no more water shed at Don Carlos, Maramag, Bukidnon. Not very long from now, the place will become a desert.

Why is this so? The squatters claim that the Pinamaloy Forest Reserve was released just before the elections. So they have had a nice time cutting the trees and occupying the area illegally.

We cannot understand why the Pinamaloy Forest Reserve should be released. There are still many residential lots in the proposed town site that are still unoccupied. There are no compelling reasons to release the area except that it only served a political purpose of a congressional candidate.

Trees along the Sayre highway have been cut. They had been a source of pride to district foresters assigned in Bukidnon before. No action was taken against the violators because it was election time and no action has been taken against them until now. Big houses were being built by squatters but they are not prosecuted by government authorities.

We know the bureau of forestry has always been against the release of the Pinamaloy Forest Reserve area. The Pinamaloy Lake has long been proposed as a national park. So the release, if true, is a big surprise to us. The bureau has been for the preservation of the forest in the Pinamaloy area.

Not only the people of Don Carlos need the Pinamaloy Lake but the people of Bukidnon as well. We are therefore against the release because it was not motivated by good intention. On the contrary, it only afforded protection to squatters, who violated forest laws and who worked hard for the election of one aspirant to an elective office.

One thing is worth looking into. Until now the local forestry office has not yet been furnished the release papers. But the bureau of lands already has the order to subdivide it.

We appeal to the President to leave the Pinamaloy Forest Reserve intact. It should be protected so that it will provide watershed for the surrounding areas. It should not be released just to satisfy political followers. If it has been released, then we appeal to the President of the Philippines to have the release revoked.—JOSE ADLAWON, Maramag, Bukidnon.

THE MANILA TIMES, January 9, 1962

* * *

WATERSHEDS RESERVATION RESIDENTS FACE OUSTER

BAGUIO, Feb. 4—Some 115 persons residing in the critical Bakakeng watershed in this city, may

face ejection proceedings or charges of illegal construction as Mayor Luis L. Lardizabal today directed City Attorney Sixto A. Domondon to take a firm hand against the Bakakeng residents.

Lardizabal directed Domondon to subpoena the Bakakeng residents for appearance at the city attorney's office Saturday.

His directive was prompted by findings of District and City Forester Cornelio Luczon that the presence of the squatters and other persons within the proposed Bakakeng watershed poses a serious danger of pollution to the spring.

The Bakakeng watershed has an area of about 256 hectares where some 115 persons presently reside.

Luczon found that the water feeding the Bakakeng pumping station will be polluted during the rainy season when all the creeks within the watershed converge to the main creek flowing into the pumping station, carrying the waste materials from the adjoining homes.

The Bakakeng creeks form the principal source of water supply for Baguio residents living in the adjoining areas.

To safeguard the main creek from pollution, it was recommended by the inspecting forest officer that the tributaries feeding the main spring be diverted from the latter since the tributaries are adjacent to the homes of the squatters and other residents and are the possible sources of pollution.

This the department of public services, on the other hand, said recommendation is impractical, and suggested instead the use of sand filters to prevent waste materials from flowing into the tributaries.

THE MANILA TIMES, February 5, 1962

* * *

RASH OF FOREST FIRES SPURS APPEAL FOR CIVIC VIGILANCE (Special to *The MANILA TIMES*)

BAGUIO, Feb. 16—Forestry and city authorities here directed yesterday a strong appeal to local civic organizations and the residents of Baguio and the Mt. Province for cooperation in preventing forest fires during the current dry spell.

The appeal was made by Mayor Luis L. Lardizabal, chairman of the Baguio city forestry council, and district and city forester Cornelio Luczon, who has immediate supervision over the conservation of the pine forest in the city and the province.

The first two weeks of this month already witnessed a rash of grass and forest fires in this city and several places along the Halsema mountain road within the Mount Data National Park, exacting a heavy toll upon the heavy stand of pine forest.

Last Sunday alone, four big fires broke out almost simultaneously in Ambiong, Quezon Hill, Zigzag road, and in parcel 1 of Forbes Park, all within Baguio.

Luczon himself led the handful of forestry fire-fighters in putting out the blaze at Ambiong, which is the watershed of the Busol Forest Reserve, one of the main sources of water supply for the city.

When the Ambiong fire got out of control, Mayor Lardizabal mobilized the city fire and police departments to assist the forestry men. The Ambiong fire lasted five hours.

While the Ambiong fire was raging, three other blazes started in Quezon Hill, Zigzag road below the police checkpoint, and Forbes Park.

Due to lack of forestry fire-fighters, the Zigzag road fire was not attended to until the one in Ambiong was dismissed. Meanwhile, another unit of the city fire department assisted in fighting the Forbes Park fire. Residents in the vicinity, including Boy Scouts and school children helped place the fire under control.

Earlier last week, the bureau of public works reservation near the Vallejo Hotel was visited by a grass fire, which was fought by men under Regional Supervisor Primo P. Andres of the reforestation administration, assisted by Boy Scouts from the local BSP headquarters.

Among the precautionary measures issued by forestry authorities were: 1) Lighted cigar and cigarette stubs should not be thrown away carelessly along the road or on the edge of public forests; 2) Roadside burning of grass cut by roadsweepers or maintenance men should be guarded carefully to prevent its spread to the adjoining forest;

3) Roadsides should be trimmed of dry grass to lessen the danger of starting fire when lighted cigarette or cigar stubs and *saleng* are thrown away; and 4) forest fires should be reported immediately to the nearest forestry or police station.—GEM

* * *

PROPOSE 6-POINT PLAN TO SAVE NAT'L FORESTS

A Liberal congressman last night turned the attention of the lower house to swift depletion of forest reserves which he attributed to *kaingineros*, squatters, fly-by-night timber concessionaires, and on official indifference.

In a privileged speech, Rep. Vicente Pimentel (L, Surigao del Sur) proposed the following six-point program to remedy the situation:

1. An effective and practical reforestation program;
2. Setting aside parts of permanent forest lands and giving permanency to the status of these lands;

3. Immediate application of sound selective logging system;

4. Launching of vigorous and systematic educational campaign to awaken public appreciation of, and support for, our forest conservation program;

5. Institution of an adequate system of forest protection; and

6. Providing the bureau of forestry with adequate facilities, personnel and funds to carry out its essential functions.

To stress the gravity of the depletion of the country's forest reserves, Pimentel cited government statistics showing that forest-deficient provinces total 31, and that only 13 provinces have actual forest excess.

Pimentel revealed that the Philippines today has barely 35 cubic meters of forest per person. Thailand, he said, has 157 and Finland, 273. He emphasized that at the rate forests were being destroyed, it would take 250 years at a cost of from ₱500-million to ₱800-million to reforest at the rate of 6,000 hectares a year.

Pimentel said the *kaingineros*, squatters, and irresponsible lumber concessionaires pose the greatest dangers to the country's forests.

In plugging for adequate support for the forestry bureau, Pimentel said there are only around 675 forest guards assigned at present to man 19,367,750 hectares of forest lands. He said that this would boil down to one guard for every 20,708 hectares.

The lack of scalers to measure the logs for collection of forest charges, Pimentel added, has accounted for the yearly loss of some 30 per cent of the government revenues from timber.

Emphasizing that the country's forests are no longer as extensive and inexhaustible as people think, Pimentel cited the following facts:

"1. There are only some nine million hectares of commercial forests and only around 6.5 million hectares of these are accessible.

"2. Far from the over 400-billion board feet of estimated usable commercial timber, there is actually "very much less."

"3. The estimated wood growth of seven billion board feet a year "exists only in the imagination" according to forestry findings."

THE EVENING NEWS, March 6, 1962

* * *

7 KAINGEROS DRAW TERMS (Special to The MANILA TIMES)

SORSOGON, Sorsogon, Jan. 19.—Seven *kaingineros* have been convicted by the justice of the peace court of Castilla town, this province, it was disclosed today by Amado Pura, district forester.

Convicted for unlawful occupation and destruction of public forest and sentenced to one month imprisonment each were Manuel Zepeda, Juan Aguilar, Pelagio Domanico, Marcelino Razo, Jorge Lato, Teodoro Gonzales and Olympia Franes.

They were apprehended by Sulpicio Buelbo, forest guard. The charges were filed before the Castilla JP by the bureau of forestry office here for violation of Commonwealth Act No. 447.

* * *

LOGGERS' MEET SET TOMORROW (Special to *The MANILA TIMES*)

CABANATUAN CITY, Jan. 25.—Logging concessionaires in Nueva Ecija will hold a whole day conference in this city on Jan. 27, Saturday. Conference theme is "Forest Conservation through proper Selection of Trees."

The conference, sponsored by Caltex, will be conducted by the bureau of forestry, Councilor Bienvenido Buse, assistant manager of the Cabanatuan Sawmill and Lumber Dealer, is the conference coordinator.

Concessionaires and loggers in the sub-province of Aurora have also been invited to the conference.

Vital subjects in connection with the forests' conservation of the country, such as rules and regulations of the bureau of forestry, selection and maintenance of trees, policy in relation to timber management, will highlight the confab's agenda.

Among the speakers are Ambrosio Juinio, district forester; Eulogio Tagudar, chief of the timber management section, bureau of forestry;

Lt. Col. Ruperto Molato, provincial commander; Engr. Eugenio Garcia, M. O. Pritchett, Faustino Agrava, all Caltex representatives.—G

* * *

PROTECT THOSE PINES!

BAGUIO CITY, Feb. 21—The dry season has set in the Mountain Province, and the usual forest fires that occur during this time has already exacted a heavy toll.

The famed Benguet pine forest within the Mount Data National Park along Halsema Mountain Road may soon vanish completely. In the first week of February, five big fires broke out in this area, destroying old and young stands of timber.

These fires occurred on Km. 40, Km. 54, Km. 72, Km. 86 and Km. 102. More fires may break out, caused by forest vandals, until the rains come in May or June.

From both the aesthetic and economic points of view, it is important to preserve the Benguet pine forest. But until now, there does not seem to be any realistic forest fire protection program being carried out.

To draw up such a plan, one question must first be solved: What government entity should take charge of protecting the pine forest, an area of 5512 hectares?

Before the creation of the Commission on Parks and Wildlife a few days ago, the bureau of forestry had sole jurisdiction over Mount Data. Then the law transferred this authority to the parks commission.

Nevertheless, the forestry bureau continued maintaining forest stations all along the road for scaling and administrative work. Only the bureau has some sort of program for protection against fires but is undermanned and cannot cope with the big fires.

Other agencies that have an interest in the forest are the National Power Corporation and the Reforestation Administration. The NPC's Ambuklao hydroelectric project is dependent for its watershed on the timber stand along Halsema road.

A composite group consisting of all the agencies enumerated above could be the best answer to the problem of forest fires. A practical fire protection program could be evolved, with men and facilities being pooled for the common goal.

This group could solicit the support of provincial authorities as well as those of the bureau of public highways and the Philippine Constabulary. Perhaps even the Board of Travel and Tourist Industry might help.

For the forest conservation program to succeed an intensive public information and education drive should be launched. A body called the Baguio Committee on Public Information and Education in Forestry has been formed, but it hasn't been able to do anything yet.

During the recent rash of forest fires along Halsema road, no government entity seemed to bother about fighting the fire or checking its spread. The attitude seemed to be one of passing the buck. As a result, the blaze died down only when natural barriers were in its way or there was nothing more to burn.

Unless something is done fast, one of the Philippines' most beautiful spots may become just a memory.

THE MANILA TIMES, February 22, 1962

* * *

DEFORESTATION DID NOT CAUSE MINDANAO FLOODS

The devastating flood in Mindanao were not triggered by deforestation.

Experts from the bureau of forestry insisted that forests can not prevent floods resulting from very heavy rains. Forests only help control the water flow.

Forestry men analyzed the cause of the recent Mindanao deluge which destroyed more than P50 million worth of private and public properties and agricultural crops.

Forestry Director Tiburcio S. Serevo who headed the experts' studies said the Mindanao floods were due to many factors.

He listed the following causes: 1. heavy precipitation; 2. soil depth and permeability; 3. land-use practices; 4. topography; 5. stream channel sedimentation; and 6. inherent flood potential of the drainage basin.

Worst hit by the floods were Agusan and Davao provinces where the bulk of the country's forest wealth is located.

He said 83 timber licenses involving more than five million hectares have been granted to applicants in Agusan. Davao has 102 timber licenses for almost one million hectares.

Serevo said heavy precipitation means the soil can not absorb water any more. The heavier the rainfall the faster the saturation is reached. It is obvious that a prolonged precipitation will result in large volumes of surface water run-off, thus causing rivers and streams to swell rapidly. The main cause of any flood is heavy rain.

The depth of the soil and its permeability control the flow of water. The deeper the soil, the greater water storage capacity. However, deep soils lose their absorptive ability when their surfaces are rendered impermeable by cattle trampling, excessive soil erosion, over-grazing and improper logging, Serevo said.

Bad land-use practices have contributed to the floods. Bad farming results in soil erosion, especially when plowing is done up and down slopes and crop rotation is not practiced. Shallow plowing results in low porosity of farmland soils. Non-contour slopes of more than 10 per cent, results in heavy soil erosion and gully formation,

The topography of Mindanao is unfortunately patterned for the occurrence of floods. The terrain surrounding the western bank of Davao river above the Golf Course up to the Malogos is very rough. The sloping farms on the upper plateaus and the undulating hills contribute tremendous amounts of surface run-off.

Rapid streams and river, deep canyons and gorges feed the main channel of Davao river which flows about 130 to 150 kilometers.

The Agusan river drainage covers a larger area than the Davao river. Its source is in the foothills of Tagubod north of Mati, Davao, and west of Caraga towns. From its source to its mouth, the Agusan river stretches some 350 kilometers.

Forestry men said more timber cutting and more extensive kaingin farming had ravaged the drained area of the Agusan river. More communities inhabit and more roads are found in the Agusan river drainage basin. Because of the expanding communities, the river over-flows almost every year.

Serevo said the amount of silt and debris in the deltas of the Davao and Agusan rivers is tremendous. Tons and tons of sand, gravel and stone accumulated through years generated soil erosion which engendered the silting and considerably reduced the water load of the channels of both rivers.

Owing to their shallowness, the water level rise up fast during the rainy season. All big rivers in the country are badly silted.

Mindanao rivers have their natural location and position. They have the inherent flood potential. Even if the whole areas of the watersheds of Davao, Agusan and Cotabato rivers were forested, floods would still occur during heavy rains, the forestry chief said.

Reforestation is not the only solution to solve the recurrent Mindanao floods. Forestry men urged Congress to enact the proposed Flood Control Act which will program yearly measures to stop floods and other calamities.

THE SUNDAY TIMES, February 18, 1962

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BATAAN PC LAUNCH ILLEGAL LOGGING DRIVE

CAMP OLIVAS, Pampanga Jan. 25--The Bataan PC yesterday launched a province-wide campaign against illegal logging and blast fishing.

Maj. Olimpio Manalang, Bataan PC commander, earlier conferred with Col. Lucas Cauton, I PC zone commander, and Bataan provincial and town officials regarding the operational setup of the campaign.

The large-scale drive was prompted by the renewed activities of illegal loggers and blast fishers.

Manalang said that illegal logging and blast fishing are two forms of economic sabotage because they threaten not only the national economy but also the security of the country.

He said that if these two illegal activities are not checked, they will destroy the fishing and trade industry on which thousands of Bataan residents depend for their livelihood.—SS

THE MANILA TIMES, January 26, 1962

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US MARKET NOW FAVORABLE TO PI HARDWOOD EXPORTS

ZAMBOANGA CITY, Jan. 4 (PNS)—Conditions are fast ripening for expansion of Philippine wood product exports to the US, according to Nicolas Capistrano Jr., president of the Misamis Lumber

Co. and vice president of the Philippine Lumber Producers Association.

Capistrano made this observation after a talk with Sam N. Nickey, head of a timber firm in the US who visited the Misamis Lumber Co. operations near here in the course of a market survey in Asia.

Capistrano said three major factors must first be overcome locally, however, before the Philippines can expand its markets abroad. These are: reduction of freight, improvement of quality and removal of government restrictions that tend to hamper foreign trade.

Capistrano was heartened by Nickey's report that the recent marked recovery in the American economy augured well for Philippine hardwood products.

Nickey said now was the time to give Philippine timber products a big push in the US.

But Philippine products will remain handicapped in free competition as long as the freight rates are too high, Capistrano said. In competition with Japanese exports, Philippine products pay much higher transport costs to the US, he added.

Capistrano pointed out that the Japanese were constantly improving the quality of plywood and other wood products being sold abroad and the Philippines must keep up with the quality improvements to be able to compete favorably for world trade.

Capistrano also said the government can help much by removing such restraints as margin fees and multiple exchange rates.

THE MANILA TIMES, January 5, 1962

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FOREST BUREAU STAND BARED (Special to *The MANILA TIMES*)

PUERTO PRINCESA, Palawan, Jan. 3—District Forester Buenaventura Rodrigo today further clarified the stand of his bureau in the wake of a report from Quezon Mayor Victor Pagayona that there is an alarming devastation of public forests in his town by Visayan immigrants.

Rodrigo said that the problem in Quezon is also the same problem in other municipalities because the sickness of Palawan farmers, especially native Tagbanuas, Palawanos and Bataks, is their backward means of farming wherein they prefer to clear virgin forests.

"The natives are mostly nomadic," is the general observation here and each year they find a new area to clear because it is easier than plowing a cogonal.

Rodrigo said that he had long dispersed his men to the field since the start of the "kaingin" season, "but it is just that Palawan is very, very wide for an inadequate force like ours."

The district forester here also hinted that transportation is another problem faced by his bureau. While other bureaus who are not even revenue earners for the government are provided with one or more vehicles, "our local office, much to my regret, does even have a panel for its personnel," he added.

Rodrigo's relentless campaign against illegal "kaingineros" started right upon his assumption to office here.

For two consecutive years now, according to sources, the courts have been filled with "kaingin" cases.

Last year, Rodrigo appealed to the local provincial board to help in their campaign. Still, many people insisted on clearing virgin forests.

Observers believe that unless the government give the local bureau of forestry the needed support, especially that Palawan is mostly forested up to this time, millions worth of commercial timber will go to waste.—SFL

THE MANILA TIMES, January 4, 1962

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5-YEAR REFORESTATION PROGRAM LAUNCHED TODAY

Secretary-designate Benjamin M. Gozon of agriculture and natural resources will be guest speaker at the formal launching of the five-year reforestation program of the Boy Scouts of the Philippines to be held at 3 p.m. today, Dec. 30 at the Luneta.

The formal launching of the project, which will be marked by the planting of symbolic trees at the premises of the national library building, will be sponsored by the Manila scout council.

The five-year BSP reforestation program will be undertaken with the cooperation and assistance of the reforestation administration and the department of agriculture and natural resources. The project envisions the existence of some three million living trees planted by boy scouts between 1961 and 1965.

Jose Viado, reforestation administrator, will introduce Secretary-designate Gozon at the Luneta ceremonies.

Antonio C. Delgado, vice president and deputy international commissioner of the Boy Scouts of the Philippines and concurrently chairman of the BSP conservation committee, will deliver the opening remarks. The closing remarks will be made by Antonio A. Maceda, president of the Manila scout council.

After the program Secretary-designate Gozon will officiate at the planting of seedlings of the narra tree at the national library premises. He will be assisted by G. A. Daza, BSP president and chief scout; Jose Viado; Vedasto Suarez, asst. director of the Jose Rizal Centennial Commission; Antonio C.

Delgado; Antonio A. Maceda; Ralph G. Hawkins, national scout director; Godofredo P. Neric, deputy national scout director; and Alfredo de los Reyes, Manila scout executive.

The following chairmen of the various districts of the Manila Council will also assist in the tree-planting rites: Gonsalo del Rosario, North Tondo; Manuel Camara, South Tondo; Eduardo Ortigas, San Nicolas-Moraga; Antonio I. Zarcal, Sta. Cruz-Binondo; Virgilio David, Quiapo-San Miguel; Vicente L. Escasa, Sampaloc-Sta. Mesa; Ricardo de la Cruz, Ermita-Intramuros; Primo A. Cruz, Paco-Pandacan; Manuel Padua, Sta. Ana-Punta; Gregorio Amistoso, Malate; and Tereso de Lara, Singalong.

THE MANILA TIMES, December 30, 1961

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MULBERRY TREE SUPPLIES PAPER

LOS BANOS, Laguna, Jan. 6—(PNS)—Paper mulberry locally known as “glugo” or “galuge” is one tree which gives high yield of pulp for paper manufacture and which can be grown easily in many parts of the country.

This was reported by Prof. Teodoro C. Delizo of the U.P. college of forestry here.

Delizo said that paper mulberry, besides being adapted to different elevations, could be propagated rapidly.

Also, the forest products research institute technicians have found that paper made from the pulp of printing paper made from a mixture of *buho* and this tree compares satisfactorily in strength with commercial newsprint, commercial bond paper and printing paper made from a mixture of *buho* and white lauan.

Paper mulberry is a medium sized and deciduous tree, according to Delizo, who has been studying its culture since 1935 when cuttings of the tree were first acquired from Southeast Asia. It attains a maximum height of 15 meters and a diameter of about 30 centimeters.

The species can be rapidly propagated by seeds, root sprouts, root cuttings and coppice, pointed the forestry expert. It has the unusual ability to reproduce by root sprouts that under favorable conditions a small plantation will double in area within four years, Delizo said.

He adds that propagated by seeds is the fastest and most common method.

Trials showed seeds sown in Mount Makiling.

Delizo reports that under Makiling National Park conditions, paper mulberry grows well at elevations ranging from 300 to 1,000 feet. In Dehra Dun, India, it thrives well at elevations ranging from 2,200 to 3,000 feet, he said.

THE MANILA TIMES, January 7, 1962

FOREST PROGRAM GETS SUPPORT

The country's forest conservation program got a big boost with the success attained by the symposium on the role of wood utilization in forest conservation conducted recently by the Forest Products Research Institute in College, Laguna.

Attended by about 200 key officials of local wood-using industries, engineers, contractors, architects, students, and researchers of other scientific organizations and members of the technical staff of the FPRI, the affair was acclaimed to be the most successful symposium ever conducted by the Institute.

FPRI Director Eugenio de la Cruz, who gave the keynote address, said that the symposium was the fifth of its kind already conducted by the FPRI in its effort to disseminate useful information and to bring the wood-using industries closer to the Institute for mutual exchange of ideas on the proper utilization of wood.

Director De la Cruz said that with “our present methods of wood utilization, only about 25 per cent of our timber stand reaches the end user, pointing out that the 75 per cent usually goes to waste.”

He explained that minimizing this waste by more complete utilization and prolonging the life of wood in service will greatly reduce the current extravagant expenditure of timber stand.

Among those who participated in the affair were FPRI Assistant Director Manuel R. Monsalud. Regent Florencio Tamesis, Dominador Cepeda, Jose Sanvictores, Dean Gregorio Zamuco of the UP college of forestry, Dr. Lee Crandall FAO-UN consultant of the FPRI.

Visiting professors from the New York State college of forestry at Syracuse University, New York now detailed at the UP college of forestry, including Prof. Alfred H. Bishop, Dr. Charles Larson, and Prof. Floyd E. Carlson also participated actively.

THE MANILA TIMES, December 21, 1961

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BATAAN GOV'NOR BARES TIMBER LICENSE RACKET

(Special to The MANILA TIMES)

BALANGA, Bataan, Jan. 17—Gov. Pedro Dizon has ordered the impounding of more than 300 logs illegally cut in the communal forest of Abucay, this province.

The governor issued the order following the seizure of some of the logs by a PC-police team in Samal.

He said that the logs were confiscated before they could be smuggled out of the province by logging trucks which passed Samal from the forest.

He revealed that the logs were cut under a gratuitous license issued to a certain Fidel Soriano allegedly by Abucay Mayor Lorenzo de la Fuente.

They allegedly were being smuggled to be sold to one Vicente Jorge of Hermosa under the license of Juan Bejamir.

Dizon said that he will seek the cancellation of the license of Bejamir. He said that Bejamir was not authorized to let non-licensed persons use his license.

He intimated that he will conduct an investigation of officials who have been reported to be conniving with timber thieves in this province.—M

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FORESTRY TEAM ON SURVEY TRIP

(Special to *The MANILA TIMES*)

NAGA CITY, Jan. 10—A group of forestry experts arrived here Monday for a week's survey of forestry projects in the Bicol region.

The region-wide survey is aimed at gathering first hand knowledge of the forest, parks and reforestation situation in the region so that necessary solutions can be had to meet its problems.

Composing the survey group are Floyd Carlson, US visiting professor; Prof. Domingo Jacalne, UP college of forestry; Atty. Amador J. Evangelista and Felipe Chicano Jr., bureau of forestry; and representatives from the local DANR office.

Principal places to be visited by the group are the Bicol National Park, Mt. Isarog, Mayon National Park, Tiwi Hot Springs, reforestation projects in Buhi, Balatan and Pili, and the bureau of forestry headquarters in Naga City, Legaspi City, Sorsogon and other forestry offices in the region.—LSA

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LUMBERMEN OKAY FOREST PROGRAM

Nicolas Capistrano Jr., first vice president of the Philippine Lumber Producers Association, has proposed a two-pronged forest conservation and reforestation program.

The lumberman said that the following steps should be undertaken immediately by the government to prevent further denuding of forests and avert the recurrence of disastrous floods.

1. Enactment of legislation delineating permanent forest reserves and parks; and

2. Concerted and intensified information and education campaign in the provinces to educate and inform farmers and squatters in lumber concessions of the disastrous effects of burning forests, or the *kaingin* system.

Capistrano said the setting aside of permanent forest areas would not only preserve wildlife and precious trees, but also define agricultural areas for cultivation purposes and farming.

He emphasized the need for an education and information campaign because of the ignorance of squatters in lumber concessions. He said that the denuding of forests could be traced largely to the *kaingineros*.

THE SUNDAY TIMES, March 4, 1962

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We the people

STRICTER ENFORCEMENT OF FORESTRY LAW NEEDED

Dear Editor:

The current flood in Mindanao is the worst yet, and the next may even be more catastrophic unless adequate measures are taken.

Our government has done nothing that will really help the people except distribute medicine supplies and food to the sufferers after the calamity. But our officials have never given a thought to the problem of preventing the calamities.

To the detriment of the many inhabitants not only in the south but also in Luzon, the bureau of forestry does not enforce tighter implementation of the rules and regulations embodied in the forestry law. Awardees of timber licenses and logging operators do not plant substitute trees after cutting the timber as required.

The government, during the administration of President Magsaysay, invited American foresters to study our forests. These experts explained that denuding the forests causes not only floods but also erosion. Trees serve as watershed, their roots absorb rain water so that it does not flow down to the lowland.

The Philippines supplies Japan with around 85 per cent of the raw logs she needs for her plywood factories. The Philippines also manufactures plywood from her own resources. But why is Japan able to export her product to the US and other countries at a lower price than our product? Why can't we compete in the world market?

This is painful to know, but our government has never cared to discover and weigh the problems confronting our manufacturers. Would it not be better if we exported finished products instead of raw materials? —NOLI F. SOLIS, Manila.

THE MANILA TIMES, February 14, 1962

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OFFICIALS' AID URGED IN FOREST CAMPAIGN

PAGADIAN, Zamboanga del Sur, Feb. 1—With the onset of the dry season when *kaingineros* are usually on the rampage, Tiburcio Simbajon, officer in-charge of the local bureau of forestry in this capital town appealed to Gov. Bienvenido A. Ebarle and all the 27 municipal mayors for cooperation in

the drive against the indiscriminate cutting of timber in the forest areas of the province.

In a statement to the press, Simbajon disclosed that much of the destruction on the timber stand of the province had been caused by the widespread practice of the so-called kaingin system in the past.

However, with most of the timberlands now under concession by logging and lumber companies this abominable malpractice has been abetted. Nevertheless, it has been noted that areas which had been logged over and are covered with second-growth forests are usually taken over by kaingineros.

At the same time, Simbajon exhorted the people, especially the barrio officials to report any violations of the Forest Law in their respective barrios.

He underscored the fact that denuding our forest lands causes erosion, and erosion ultimately causes floods resulting in the draining of the fertility of our lands.—L

THE MANILA TIMES, February 2, 1962

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RELEASE OF PUBLIC LANDS BLAMED FOR MINDANAO FLOODS

The indiscriminate release of public lands for agricultural purposes was blamed yesterday for the floods in Mindanao.

Manuel Luis Mañalac, general manager of the logging firm of G. S. Mañalac Enterprises of Davao, answered charges that the floods were caused by logging operations in Mindanao.

The real trouble, he said, lies in the release of public lands, whether or not the areas are watersheds or suitable for permanent forests.

Loggers, he pointed out, are concerned with forest preservation because this is a matter of survival to them.

The charge of indiscriminate log cutting cannot be true, he said, since undersized grades can only be sold at a loss.

Mañalac suggested that the government order strict classification of lands already released for agricultural purposes and revert areas more suitable for timberlands and watersheds.

To help in reforestation, he added, timber licenses should be given more responsibility in reforesting their areas, with the government extending technical aid and seedlings.

Mañalac, meanwhile, said that his firm had increased the salaries of 300 laborers by 15 per cent to meet the increase in the rise of commodities caused by decontrol.

THE MANILA TIMES, February 6, 1962

INCREASING TEAK PRODUCTION IN THAILAND

Protection against timber thefts and destructive farming practices urged for ailing forests.

Teak furniture of Scandinavian design has joined the fur coat, the new car and the holiday abroad as a success symbol—for which the people of Thailand are very glad, for teak forms an important part of that country's exports and is a major factor in the national economy.

Lately, however, the Government of Thailand became alarmed over falling teak production and increasing forest destruction, and asked the Food and Agriculture Organization (FAO) for assistance in managing the forest on a sustained yield basis, that is producing the required timber without decreasing the forested area.

A tall, spare Englishman recently returned to the Rome headquarters of FAO after spending a year in Thailand, travelling through the various forested regions, advising the Thai Government on principles of forest management and drawing up a sample management plan for a particular forest area.

Tremendous losses from theft and damage.

"It was easy enough to see why teak production was falling and the forests shrinking", said Sir Harry Champion, until recently Professor of Forestry at Oxford University and Head of the Imperial Forestry Institute. "I found that tremendous losses were being incurred through theft and damage. Illegal timber cutting totalled 150% of the amount planned for sustained yield of the forests. Timber quality and quantity was not what it should have been, due to damage from fire, inefficient tree felling and lack of tree-care.

"One of the main problems is the practice of squatting, or shifting cultivation, that is of clearing an area by burning, cultivating it for several years and then moving on leaving bush undergrowth to replace the tree-cover," said Sir Harry. "This happens particularly when areas are opened up for forest exploitation, and considerable damage is done by uncontrolled burning. This leads in turn to serious soil erosion, and one unforeseen result has been that eroded soil is settling behind the dams in new hydroelectric development schemes.

"Thai forests are divided up into units of 30 forest blocks, in which only the mature timber should be felled. However, when the foresters return to the first block they often find that it has virtually disappeared under the wave of shifting cultivation," he said, "for the forest is being destroyed by this practice at a very rapid rate."

It was obvious to Sir Harry that, despite adequate existing forestry laws, the main hindrance to

any plan of forest improvement was the absence of protection against theft and destructive practices, and of retention of forest land for forest use.

"My recommendations to the Thai Government stressed that technological advance was not possible till the forests were adequately protected against professional timber thieves and the advance of shifting cultivation," he said.

He found that there was a lack of scientific knowledge about the non-teak forests, and suggested that the country might profit by Malaya's experience with evergreen forests. In order, for instance, to make an inventory and draw up working plans, the Forest Service must be able to compute the tree growth rate. He explained that in continuously wet tropical climates there are no annual rings, which in temperate zones mark the check in growth of a tree during winter.

He also found that there was a noticeable absence of young trees of valuable species, for when the mature trees are cut down and not replaced their place is taken by worthless species, weed growth of climbers.

Trees planted now would produce in 10 years.

"It seems to me that the forests are not producing 10% of their capability," he continued, "and although it will take another half-century to achieve full production it is possible to plant trees now which will start producing poles or pulp wood in 10-20 years.

"Practising forestry is like maintaining a bank balance," he said. "You either use up all the money, or trees, right away and are left with nothing, or you live on the interest from capital, that is, felling mature timber and making sure that it is replaced by new stock."

This is the reason behind the Thai Government's request for a specific forestry working plan for one specific area. Sir Harry drew up a detailed plan of operations for some 1700 sq. kms. in the Mae Ngao forest of north Thailand, which will allow maximum yield of teak and other timber on a permanent continuing basis.

Combining tree-planting and crop production.

"You can see that forestry is a long-term business, but if Thailand is to maintain its place in the world it must see its forests to their fullest capacity," he said, "particularly in view of the rapidly-expanding population, which is itself, of course, one reason for the present condition of the forests. The population is obviously going to continue to expand and its demands must be met by firm measures, such as improved agricultural techniques for increased crop production, timber and fuel plantations which will give employment now and start producing after 10 years, and perhaps adoption of 'taungya', which

has been practised in Burma and Indonesia for many years now. This method allows people to clear the forest for farming land on the understanding that trees must be planted in conjunction with agricultural crops, and that they must move on to new land after several years' crops."

Other recommendations which have been made by Sir Harry include the extension of light hardwood plantations for the matchwood industry; further investigation of bamboo with a view to expanded use in the paper-pulp industry; investigation of the mangrove forests for use as fuelwood, poles and for charcoal-making; more efficient use of the dry dipterocarp (tropical type) forest for railway timber and fuelwood; elimination of present methods of tapping the pine forests for resin, which are rapidly destroying the trees; and expansion of the forestry staff on a territorial basis.

"Most important is a change in attitude of the general public towards the forests," concluded Sir Harry, "The Forest Department knows that the forests of Thailand are a major source of national wealth, but they can do little to stop the present heedless destruction until they are backed by the Government as a whole and the force of public opinion."

*Food and Agriculture Organization of the UN
From Features Section*

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FORESTRY CONFERENCES GEARED TOWARDS ENLIGHTENMENT AND UNDER- STANDING OF TIMBER OPERATORS HELD AT DIFFERENT FORESTRY DISTRICTS

Through the initiative and leadership of Forestry Director Tiburcio S. Severo, several conferences geared towards the enlightenment and understanding of forestry measures by timber operators were held in several forestry districts. These conferences are very necessary in order that different forestry laws, rules and regulations which the Bureau of Forestry is enforcing can be understood very well by the users of the forests. The objectives and purposes of these conferences were the following:

1. To inform the timber licensees of existing rules and regulations being enforced and carried out by them in the field and the possible remedies to be taken if such measures are hard to implement;
2. To enlighten timber operators of the procedures to be undertaken and problems encountered in the implementation of selective logging and other forestry practices in their areas;
3. To enlighten timber operators of the objectives and purposes of scaling procedures and problems connected thereto; and

4. To plan and carry out an effective forest protection of the remaining virgin forests and logged-over areas in the public forests.

The first of these forestry conferences was held in the Island of Polillo under Forest District No. 15. The other conferences were held at Bayombong, Nueva Vizcaya last October 9 and 10, 1961; Tarlac, Tarlac last October 13, 1961; Iligan City, comprising the provinces of Lanao del Sur and Lanao del Norte last November 24 and 25, 1961; Baguio City last October 16 and 17, 1961; Dumaguete City last October 16, 1961; Bacolod City last October 20 and 21, 1961; Malaybalay, Bukidnon last October 26, 1961; Dipolog, Zamboanga del Norte, which includes the province of Misamis Occidental last October 28, 1961; Iba, Zambales last November 21, 1961; Daet, Camarines Norte last November 28 and 29, 1961; Odiongan, Romblon last December 7 and 8, 1961; and Calapan, Oriental Mindoro last December 12, 1961. Other conferences are scheduled in other provinces this last week of December, 1961 and others are scheduled for the next year, 1962.

Another conference, which is expected to be the biggest of its kind, is to be held at Davao City, comprising the provinces of Surigao del Sur and Surigao del Norte, Agusan, Bukidnon and Cotabato.

The most significant among these conferences was the one held at Baguio City where the Undersecretary for Natural Resources, Atty. Salvador Cunanan, was the key-note speaker and the Director of Forestry, Tiburcio S. Serevo and his ranking technical personnel were also resource speakers in the conference. In the afternoon of said conference, the Undersecretary presided over a holds-no-barred discussion, where the problems of timber licensees and pasture permittees were expounded, together with the problems on the control, management and supervision of their respective areas. Nineteen resolutions were prepared and adopted by the conferees which they believe to be of vital importance in the management of their respective areas.

Conferences of this nature are believed, according to the Forestry Director, to be of vital importance as this is the only chance by which timber licensees, on one hand, and the Bureau of Forestry, on the other, can exchange views and ideas concerning the better management of the Philippine forest. Accordingly, monopoly of knowledge can not be confined only in one individual but to a group of individuals which when pooled together will put forestry in the Philippines on a better and sounder basis.

The Director of Forestry had encouraged the holding of such conferences from time to time so that the forest, the most important of the natural resources of the country, will be managed for the benefit not only of the lumber industry but also of the Filipino people as a whole. (*Released Through The Bureau of Forestry Information Section*) — AJE

CHEMICALS PRESERVE PHILIPPINE FORESTS

LOS BANOS, Laguna, Jan. 6—(PNS)—Wood preservation by chemical treatment is playing a vital role in the conservation of Philippine forests.

It also offers an economical way of putting into more uses the less durable species of wood.

These were underscored in a joint report of forest products specialists J. B. Seguerra, Jr., and R. T. Cortes in a recent symposium sponsored by the forest products research institute at Los Baños.

By effective application of wood preservation in the various fields of wood use, the experts pointed out, it is possible to increase substantially timber savings from the annual timber drain of Philippine forests.

They cited that from July 1, 1959 to June 30, 1960, the Philippines used 1,130,000,000 board feet of lumber.

Assuming that only one per cent of this amount is used for replacement, the consumption would still amount to 11,300,000 board feet high, which through wood preservation practices, could have been avoided and used for other more important needs, they said.

The specialists disclosed that in the United States, it has been estimated that the annual timber savings thru the use of treated tiles, piles, poles and construction timber amounted to 7.24 billion board feet or about 20 per cent of the wood production.

Through preservative treatment, sapwood which would otherwise have poor acceptability to customers, can be made more acceptable.

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TIMBER ENGINEERING TO CONSERVE FORESTS

LOS BANOS, Laguna, Jan. 27—(PNS)—Dr. Agustin N. Ramos, Jr., senior technologist of the Forest Products Research Institute here, underscored the role of timber engineering in forest conservation recently.

Ramos said timber engineering have been contributing much to forest conservation through improved practices that prolong the life span of wood materials.

He attributed the transformation of wood into a better engineering materials to four significant advances in engineering. These are the development of lumber grading and working stresses; the improvement of wood-joint construction; the introduction of adhesives; and the improvement in engineering design and construction practices.

Ramos pointed out that improvements in these respective areas have contributed to making wood a truly modern engineering material.

"The development of lumber grading and working stresses has made it possible for us to obtain

large quantities of lumber of almost uniform strength characteristics and to exploit their structural potentials more efficiently than ever before," he said.

Improvements in the quality of lumber joint connection, Ramos continued, together with the development of better design and construction methods had made it possible to erect structural wood frames of almost any architectural shape.

The introduction of adhesives in the engineering field, on the one hand, has offered better structural utilization of wood, Ramos said.

This has also created numerous industries by making it possible to utilize what were formerly considered wood wastes resulting from logging, milling, and other manufacturing operations.

Ramos said engineers, designers and other wood users had always been on the lookout, searching for better ways of using wood more efficiently and more economically.

THE MANILA TIMES — Jan. 28, 1962

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FORESTS DEPLETION IN 6 TOWNS HIT

TAYUG, Pang., Dec. 24 (PNS)—The depletion of communal forests in six towns of this province due to large scale illegal logging has been reported to Gov. Conrado F. Estrella.

Mayor Jose C. Alamillo of Mangatarem reported that the rampant illegal cutting of timber by forest concessioners have almost denuded the forests of Mangatarem, Urbiztondo, San Carlos, Malasique, Bawang and Aguilar.

Alamillo said that forestry officials and municipal authorities appear powerless to stop the destruction of the forests. He estimated that the government has lost more than ₱1 million in forest fees alone.

Governor Estrella said that the bureau of forestry lacks personnel to enforce forestry laws, which he said were adequate to stop illegal cutting of timber. He added that municipal mayors must exercise their police powers and may even go beyond them to protect public property and welfare.

THE MANILA TIMES, December 25, 1962

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FOREST GUARDS GRADUATE

(Special to The MANILA TIMES)

BACOLOD CITY, Jan. 23 — Fifty-four forest guards and four concession guards who participated in the 13-day regional in-service training for forest guards held in this city were awarded certificate of graduation.

Gov. Valeriano M. Gatuslao, guest of honor and principal speaker, urged all the graduates to help the government in its forest conservation program. He asked them to report without delay any act of wood

destruction perpetrated in gross violation of our forest laws.

The program was opened with an introductory speech by Gerardo B. Tamayo, district forester of Negros Occidental, followed by Teofilo A. Santos, training officer of the Bureau of Forestry, who gave a brief resume of the course.

Tiburcio S. Serevo, director of forestry, awarded to the participants their certificates of graduation. He was assisted by Vicente G. Gobuyan, regional forestry director.

Honor students were Epifanio Talaban of Negros Occidental, first; Basilio Guillergan, also of Negros Occidental, second; Zacarias Parian, of Iloilo, third; Jesus Esculado, of Iloilo, 1st honor; Pablo Lucasan, Jr. of Negros Occidental, 2nd honor; Evangelino Revecenia, Negros Occidental, 3rd honor; and Jose Bus-ton, of Iloilo, 4th honor.

Each of the honor students was given prizes donated by prominent civic leaders and government officials in this province. Among the donors were Governor Gatuslao who gave the first prize; Bacolod City Mayor Teofisto M. Cordova, second prize; Provincial Board Member Benjamin C. Gaston, 3rd prize; Richard S. Kearns, ILCO general manager, 1st honor; Angel S. Tiangson, ILCO office manager, 2nd honor; Manuel Lim, manager of Silay Sawmill Company, 3rd honor; and Atty. Manuel de Guzman, asst. director of Parks and Wildlife Office.—AL

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FOREST PRODUCTS OUTPUT INCREASE

The utilization of forest products reached a new high in 1961, Forestry Director Tiburcio S. Serevo said.

He said the production was 6,596,400 cubic meters from which 441,285,000 board feet of lumber, 213,376,504 square feet of plywood and 164,695,788 square feet of veneer were manufactured.

Serevo said there are now 331 sawmills which daily capacities of 3,951,000 board feet, 16 plywood sawmills with a daily output of 1,662,800 square meters and nine veneer plants with a daily production of 1,222,000 square feet.

The forestry head said the inventory of present forestry statistics through the use of aerial photography or photogrammetry will be undertaken this year.

Serevo detailed a batch of forestry specialists in Los Baños, Laguna to train on photogrammetry. After the inventory of the present areas is completed, the bureau could adopt long-range plans for utilization of the forest resources.

There are five timber concessionaires which have adopted timber management plans. The program includes the method of cutting and regulation of the

amount of wood-raw materials, silvicultural operations to improve the forest and researches to determine the best forestry practice.

MANILA TIMES — Jan. 7, 1962

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DEFORESTATION ENDANGERS AMBUKLAO DAM OPERATION

Reforestation administration officials have warned that the Binga-Ambuklao hydro-electric dam would be rendered useless after 20 years unless the watersheds in the area are reforested.

Jose Viado, reforestation administrator, said the giant electric complex which supply power for Manila and some provinces in Central Luzon is now in danger of steadily losing its maximum capacity due to silt and debris in the waterways caused by the destruction of the forest areas.

He called for active government and public support to restore the watersheds that affect the power sources of the huge electric project.

Viado also announced that the Boy Scouts of the Philippines has launched reforestation program for 1962. Some 230,000 boy scouts will participate in the plant-a-tree scheme.

THE MANILA TIMES, January 7, 1962

* * *

REFORESTATION BUDGET HAILED BY LUMBERMEN

By A. de las Alas

President, Philippine Lumber Producers Association

It is very heartening to note that included among the measures that President Macapagal will submit to Congress is one appropriating ₱6,000,000 for vigorous reforestation work. This most constructive proposal ought to be approved as early as possible by our Congress.

Forests constitute one of the tangible great wealths of this country. But of late this wealth has suffered considerable depletion due mainly to wanton destruction of our forests by *kaiñgineros*. There are today large areas which have been denuded of trees.

In the meanwhile further destruction of our forests by *kaiñgineros* must be stopped. This is just as important as reforestation itself because we still have vast areas of forests left and they can still last indefinitely if logging by forest concessionaires is done in accordance with the system and methods prescribed by the bureau of forestry; if the government will desist from declaring good forest areas available for agriculture and other uses, and if logged-over areas are preserved for second or future growth of trees so that after a certain number of years they may again be suitable for logging.

In connection with the campaign against *kaiñgineros*, the cooperation not only of the armed forces of the Philippines and the Constabulary, but especially of the provincial and local officials, including the police forces, must be secured. The bureau of forestry at present does not count with sufficient number of guards and it is doubted whether they will ever be able to have an adequate number of them. Without the assistance and cooperation of the local officials it will just be impossible to protect our forests.

There must also be undertaken an aggressive educational campaign to inculcate in the minds of the people the value and utility of forests. They must be made to understand that forests are needed, not only for shelter and other human requirements, but also for the protection of their lives as well as of the lands that produce food and other crops.

The educational effort should include convincing the people to love trees. There is still a tendency on the part of a good many to consider trees as something that are only good for fuel or that can be destroyed without any remorse. If every citizen will regard a tree as something that he is duty-bound to protect and to care for, surely we can expect abundant luxuriant forests for all time. There was a time when all those interested in the preservation of our forests felt very desperate because the highest executive then believed that his policy of land for the landless should include the granting of any forest area to applicants even if they were squatters. There were cases of violators of the *kaiñgin* law being favored, not only by the withdrawal of the criminal complaints against them, but by giving them the areas they had denuded by burning or destroying the trees thereon. Let us hope that such an attitude will never again be assumed by any official.

In connection with the actual work of reforestation it should include personal planting by the citizens, especially by the students and pupils. If each student and pupil can only be made to plant in a year five trees and nurse them up to a certain growth, think of the number of trees we will have in a few years.

I say that the trees should be taken care of. The practice so far observed is that during Arbor Day people are invited to plant trees but these trees seldom live as after planting they are abandoned. I have planted during the last few years on Arbor Day no less than ten trees and not one of them is growing today. It looks like all we are interested in is the demonstration of planting and it really does not matter whether the trees live or not.

THE MANILA TIMES, February 11, 1962

DECONTROL WILL HIKE FOREST CHARGES

By Cip Apolinario

The bureau of forestry yesterday mapped out twin moves to tap more revenues from the lumber industry in the face of decontrols.

It will increase the collection of forest charges from 75 to 100 per cent and reshape the present method of awarding forest concessions.

The moves were in line with President Macapagal's five-year economic program which calls for more money than the government receives now from various sources.

Mr. Macapagal stressed in his state of the nation message that forestry and the lumber industry will generate some of the funds needed to mount the five-year economic scheme.

As one of the biggest dollar-earners, the lumber industry is expected to reap the premium benefits after decontrols.

Acting Forestry Director Tiburcio Serevo said his bureau will now intensify the collection of forest charges which were hiked from 75 to 100 per cent under Administrative Order No. 32 signed by former Agriculture Secretary Cesar M. Fortich.

This order reclassified the types of timber or trees into four classes that shall be subject to forest levies. The last tree reclassification was made in 1949.

Serevo explained that Order No. 32 merely listed various trees under different groups, so that if one type of tree used to be taxed for only ₱1.25, under the new classification, it may now be levied for ₱2.50 for every cubic meter of lumber.

He said the intensified collection under Order No. 32 will boost forest charge collections from ₱7 million to ₱12 million annually.

Several association from the lumber industry have protested the enforcement of Order No. 32 After Secretary Fortich resigned in 1961 and was replaced by Secretary Jose C. Locsin, the order became a bone of contention between the bureau and lumber producers.

Locsin suspended Order No. 32 on Nov. 24, 1961 through the representations of the lumbermen. However since the order was not yet published in the Official Gazette, the bureau believes that the Locsin suspension order was not yet enforceable. Hence the collections under the new classification could be intensified now.

The bureau in 1960-61 collected ₱7 million in forest charges, ₱2.8 million in reforestation charges and ₱6.5 million in service income. Forest charges are the biggest contributions to the national treasury.

Serevo also said that he has refiled through the office of Sen. Oscar Ledesma, chairman of the Senate committee on agriculture and natural resources, a proposed bill changing the methods of awarding forest concessions.

The present method is for any interested party to file his application and pay the necessary fees with the bureau. Observers said that in some cases politics is involved in the approval of such concessions.

The proposed Ledesma bill provides a better system of licensing and payment for timber cut by operators to stabilize the industry and insure the continuing productivity of lumber areas.

The salient point of the bill is to award forest concessions to the highest bidder. This same system is adopted by the US forestry service.

Under the existing laws, the forest charges paid on timber and other products cut are taxed regardless of the location and condition of the forests and the difficulty of logging.

A better organized lumber company can make more profits compared to a small-time operator because of the uniform taxes.

This situation is expected to be remedied by the system of appraisal and basing the forest charges on stumpage value which takes into consideration the cost of production and the value of timber.

The system will encourage and stabilize the lumber industry and will increase the revenues derived from the exploitation of public forests.

THE MANILA TIMES, January 28, 1962

* * *

New stove designed for Indonesia cuts fuelwood consumption of 60 Per Cent

COOKING MORE FOR LESS

Throughout history man has used wood for heating and cooking. However, in recent years its many other uses—for building, pulp and paper, chemical production—have made the cutting-down of trees for fuel appear wasteful. In many parts of the world fuelwood is extremely scarce, and it is important that it be used to full advantage.

One way of cutting down on fuelwood consumption is through more efficient wood-stove design. A swiss forestry expert, Hans Singer, working for the Food and Agriculture Organization (FAO) in Indonesia, has carried out tests on such a specially-designed stove. Wastage has been cut from over 90% in existing models to less than 20% in the new models. The stove has been so successful that Indonesia's President Sukarno has suggested its adoption throughout the country.

The design and testing of the stove was paid for by subsidies from the Swiss Government and FAO, following recommendations of another FAO forestry expert, J. A. von Monroy, in his report on Indonesian forestry and forest industries development.

"I found that the wood used in Indonesia stoves was very often not sufficiently dried", stated Mr. Singer after surveying current practice in that country. "The open-hearth stoves in use were very inefficient and a constant source of fire damage and fumes, while the stoves themselves lasted barely a year."

Mr. Singer laid down three important characteristics for the new stoves, lacking in existing models: a closed hearth with a limited intake of air for the combustion process; flues for the flames and fumes; and a chimney. Three types of construction are suggested for the new stove (which comes as both a high and a low model): burnt bricks; sun-dried bricks; or clay.

Cooking time and wood consumption cut with new stove.

"We made comparative cooking tests of typical Indonesian meals using traditional stoves and pots on the other", he said. "Cooking time in the traditional way was 137 minutes using 10 kilograms of wood, compared with a cooking time of 87 minutes using 3.65 kgs. of wood in the modern way."

Various courses on the stove were held by Mr. Singer in Indonesia. Nearly 80 representatives of some 55 organizations listened to lectures on the combustible properties of wood and properties of building materials, and saw practical demonstrations on the construction and use of the new stove.

"Though these stoves were specifically designed for Indonesia", reports Mr. Singer, "they could be used in other countries of Southeast Asia if they were adapted to differing habits and customs."

"Centuries of using wood for heating and cooking without replacement of the trees has succeeded in eliminating many forested areas completely", said Mr. Singer. "Even so, in many parts of the world the need for fuelwood and wood for charcoal is still the major reason for felling the forests."

Nearly 1,700 million cubic meters of wood is taken from the forests of the world each year, and of this total some 700 million cu. m. is for fuelwood and 1,000 million cu. m. for industrial purposes. However, Africa, Asia and Latin America, the home of two-thirds of the world's population, together cut 550 million cu. m. yearly, of which nearly 400 million is for fuelwood.

Urgent need for fuelwood in some areas of world

In the areas which have been denuded of forest cover the need for fuelwood becomes a matter of life and death. In the arid areas of West Pakis-

tan, for instance, everything is used for fuel: prickly shrubs, dried grasses, vegetable refuse and fuel-cakes made from dried dung. Production of fuelwood in West Pakistan amounts to 0.3 million tons a year, but present requirements are up to around 9.5 million tons.

"This lack of forest cover leads to rapid erosion of the soil", said Mr. Singer, "while the use of natural manure for fuel rather than fertilizer means that what soil remains is robbed of even this source of nourishment."

"Even in a more favoured country, such as Indonesia, where present fuelwood needs are satisfied, it has been shown that 93% of the total consumption of fuelwood is for household cooking", he concluded, "while a rapid increasing population means that the forests will soon have to be stripped to satisfy the rising demand. This is why a more efficient stove which uses 60% less wood assumes such importance."

Hans Singer was born in Langenbruck, Switzerland in 1919. He received his Mach. Ing., from the A.T. Juventus (Technical School), Zurich, and has been working for the Swiss Forestry Association as woodburning specialist since 1945. At present he is Chief of the Fuelwood Testing Station, at Soleure, Switzerland.

* * *

Full information on these stoves, including specifications, drawings and designs, is contained in the FAO technical report No. 1315. It is also available in a recent issue (Vol. 15, No. 3, 1961) of FAO's "Unasylva".

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DUMMIES IN FOREST CONCESSIONS EXPOSED

(Special to The MANILA TIMES)

BAYOMBONG, Nueva Vizcaya, Feb. 25—Gov. Jose G. Espino said today that he will make representations with President Macapagal for an immediate investigation of the alleged use of dummies in the acquisition of forest concessions in this province.

Espino said he will go "hammer and tongs" after timber smuggling which is fast denuding Nueva Vizcaya forests.

He said that if it is necessary to temporarily suspend the logging business throughout the province until the investigation is finished, "I will not hesitate to do so."

He suspected that several timber concessions in the province were granted under the names of dummy-concessionaires but actually they are being operated by aliens in violation of the law.

The provincial governor is utilizing the Nueva Vizcaya PC under Lt. Col. Artemio Bahia, provincial commander, in the all-out war against illegal loggers.—G

* * *

₱30,000 LOST IN 17 BAGUIO FOREST FIRES (Special to The MANILA TIMES)

BAGUIO CITY, Feb. 25—Seventeen forest fires have hit this city since Jan. 1, 1962, burning a total of 55 hectares of forest valued at ₱30,000.

According to a compilation made by the city forestry office, three watersheds were destroyed by fires materially reducing the city's water supply and further aggravating the already difficult water situation here.

The latest fire ravaged the city's four-year old reforestation plantation at Idis above the Busol forest area, one of the city's main sources of water. The damage was estimated at ₱3,000.

Local forestry fire-fighting unit aside from being undermanned is handicapped by the lack of modern equipment.

It is feared that unless the facilities are modernized by either the city or the national government, heavier losses will be suffered in the coming dry season as a result of this prolonged boundary dispute of the residents of the border barrios of Luzon, San Pascual and Maragnat in which many "killings" have been made.

* * *

FORESTRY MEN RALLIED (Special to The MANILA TIMES)

KALIBO, Aklan, Feb. 25—Norberto Orbigo, Aklan district forestry officer, ordered the redoubling of efforts to protect forests and watersheds in the province during a conference with forestry officers and employes here recently.

Orbigo's order came in anticipation of the opening of the kaingin season early in March. He ordered all forest guards to remain in their station for the duration of the kaingin season. He directed them to induct inspections of the areas assigned to them to prevent wanton destruction of valuable timberlands and watersheds by unscrupulous kaingin farmers.

Orbigo said that the destruction of timberlands and watersheds along the Aklan, Jalo, Ibajay, Barunga and Comarascas rivers unsystematic cutting of timber has brought about the floods that destroyed lives and properties in the lowlands.

Orbigo also reminded the forestry employes that unless they exerted extra efforts to protect the forests and watersheds of the province they will expose the people of the lowlands to the same calamities that devastated Agusan recently.

He also called on the holders of ordinary timber and firewood licenses and special use permits to cooperate with his office in enforcing forestry regulations.

He asked them to report cases of illegal cutting and smuggling of timber, squatting on public forests and illegal kaingin.—FD

* * *

FORESTRY CAMPAIGN STRESSED (Special to The MANILA TIMES)

SORSOGON, Sorsogon, Jan. 15—Some 30,000 hectares of forest areas are being denuded every year due to indiscriminate cutting down of logs, kaingins and fires, while only around 10,000 hectares are reforested.

This was revealed by Godofredo Neric, new boy scouts national director.

At this rate, the national director said, there will be a time when the country will be comparable to some countries in the Middle East where water is a perennial problem.

He attributed the frequent floods in some parts of our country to deforested areas which should have been reforested long time ago.

Neric said that the five-year tree-planting program of the BSP is just one among the many possible steps which could contribute to the conservation and reforestation programs of our government.

Stressing further the need for concerted efforts on the part of other government agencies in the reforestation program, Neric believes that a more assertive and positive legislation would place certain government bureaus on a footing that would eventually solve the problem.—JOC.

* * *

FORESTRY PROJECT STUDIED

DILIMAN QUEZON CITY, Jan. 17 (PNS)—Reforestation Administrator Jose Viado disclosed yesterday that technical men of his office are currently working on the details of a five-year reforestation project of the government.

Viado said that "localized" reforestation programs were being prepared by his men on orders of the new secretary of agriculture and natural resources, Benjamin Gozon.

Given top priority for reforestation work is the watershed of the Agno river, he said. To be reforested are the areas near the Binga and the Ambuklao hydroelectric power plants with a total area of about 50,000 hectares.

It is estimated that ₱250,000 would be spent by the government annually for a period of five years in reforesting the Agno river watershed.

Meanwhile, Viado said that five regional supervisors of the reforestation administration are now attending a 10-day seminar on public information by a visiting American forest conservation specialist at the UP college of agriculture in Los Baños, Laguna.

* * *

PI FORESTS INVENTORIED

Philippine forests have the ability to renew themselves even after destructive logging, a visiting American forestry expert reported.

Mackay B. Bryan, a member of the aerial photogrammetry team, said logged-over areas looked as if they could stand another cutting in 20 years or so. Areas more heavily cut would take longer to mature but could soon become well-stocked

* * *

FORESTRY CAMPAIGN MOUNTS

(Special to *The MANILA TIMES*)

BAGUIO, Feb. 23—Alarmed by the rampant illegal cutting of pine trees here, the city council started last week to explore preventive measures to check the clandestine cutting of pure timber.

Strictly checks on permits and licenses was agreed on during the meeting. Policemen forestry personnel were also asked to conduct more regular and extensive patrolling around the city to safeguard the surrounding forests from vandalism and fires.

The meeting was held following an urgent request by Councilor Jose S. Florendo to enact ways of stopping forest destruction.

District and city Forester Cornelio Luczon, police chief Leopoldo Nievera and Leopoldo Peñaera, representative of the city mayor, were on hand to assist the city council in studying ways and means to check forest destruction. Luczon offered to give a lecture to members of the police department on detection of illegal shipment of timber and firewood through invoice.

* * *

(Special to *The MANILA TIMES*)

BAGUIO, Feb. 23—Alfonso Calalang, president of the Chamber of Commerce of the Philippines, will be the guest of honor and speaker at the induction of the new officers of the Chamber of Commerce of Baguio tomorrow evening at the Pines Hotel.

The new set of officers is headed by Aseo C. Hamada, business manager of the *Baguio Midland Courier*, who was reelected president. Mayor Luis L. Lardizabal will induct the CCB officers. Johnnie M. Dimalanta will introduce the guest speaker.

The other officers are: Arturo C. Plata, vice president; Santiago P. Tabanda, treasurer; Serafin T. Gamayon, secretary; Santiago Gregorio Jr., auditor; and Cecilio D. Cid. Marcelino P. Contem-

prate, Johnnie M. Dimalanta, Virginia O. de Guia, Ignacio M. Lopez and Gregorio Verzosa, directors.—GEM

* * *

2-WEEK FORESTRY SURVEY SEMINAR SET; SURVEY IMPLEMENTED (Special to *The MANILA TIMES*)

ZAMBOANGA CITY, Feb. 9—A two-week in-service training for forestry personnel in Mindanao will be held here from Feb. 12 to Feb. 24, Jose Claveria, district forester, said today.

Trainees will come from forestry offices in Basilan, Zamboanga, Iligan, Marawi, Ozamis, Misamis Occidental, Lanao del Sur, Lanao del Norte, Sulu, Zamboanga del Norte and Zamboanga del Sur.

The in-service training will be held at the Pa-sonanca Park. Trainees will be housed in the boy scout cottages and the "Hall of Friends."

Among objectives of the seminar is to properly acquaint the trainees with the varied phases of forestry work as practiced in this country for more efficient work performance.

The training will cover such subjects as duties and responsibilities of a forest guard, forest guard's role in forest conservation, elementary forest surveying, instruments and their uses in forestry surveys;

Scaling and wood identification, field workshop, cooperation between the bureau of forestry and provincial and city fiscals in the prosecution of forest violations and in band registration cases.

Work-coordination between the bureaus of internal revenue and forestry, general administration and budgeting and fiscal management.

Resource speakers will be headed by Regional Director Claveria and forestry training officer, Teofilo A. Santos and the various division chiefs. Also scheduled to speak are District Foresters Lorenzo Diaz, Librado Sontillano, Quirino Ruiz, Santiago Morao, Mario San Luis, Francisco Barros and Assistant District Foresters Urbano Alcantara and Bernard Weinman.—MSE

* *

(Special to *The MANILA TIMES*)

ZAMBOANGA CITY, Feb. 9—The implementation of the recently approved aerial survey of Philippine forests has started here with the organization of the first forest resources inventory team which is now working in the Zamboanga peninsula with Zamboanga City as its operational base.

Among the objectives of this particular type of forestry work are to gather overall volume data on Philippine forest for Management planning and operation; 2) to find out the extent of the remaining forest which are under logging and subjected to illegal kaingin and, 3) to compile data on status of

cultivated area, open land, brushlands, and to determine their actual uses.

The 12-man technical forester team is composed of Mackay B. Bryan, Bernardo Agaloos, Eduardo Llapitan, Pedro Aganad, Cipriano Melchor, Jose Igmeda, Carmelo Cortes, Narciso Santos, Anacleto Bernardo, Anastacio Sison, Benito Battung and Saturnino Ponce.—MSE

* * *

LUMBER TOWN HIT BY FAMINE
800 DAVAO LUMBERJACKS ARE AFFECTED
(Special to The MANILA TIMES)

DAVAO City, Feb. 22—More than 8,000 lumberjacks, who have been forced out of work in the lumber concessions in northern Davao, are threatened with famine.

The lumberjacks—forced out of work because of suspended operations following this year's recurrent floods, live in Asuncion, Kapalong, Nabunturan, Compostela and Monkayo where the big lumber concessions are located.

Reports reaching this city said majority of the 8,000 jobless lumberjacks are now subsisting on root crops, the one left after the deluge.

Earlier, Lt. Col. Eugenio Avila, Davao PC commander, reported that 16,820 families and an estimated ₱1 million was lost in crop and private property in the floods.

Hardest hit among the flood-ravaged areas is Monkayo where the floodwater had risen to as high as 22 feet.

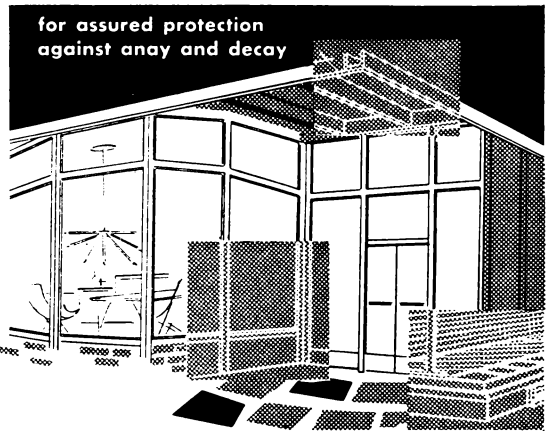
On the other hand, the highway district engineer and city engineer had reported that ₱1.2 million was destroyed in roads and bridges in the city and province.

The badly damaged roads and bridges also pose a problem to residents here. Travelling by land transportation here is difficult because the damaged roads and bridges have not yet been repaired.

Even the asphalted streets in the city are dotted with mud-holes.

Hopes for the immediate repair of damaged roads and other public works projects received another big boost Sunday when Vice President Emmanuel Pelaez assured local officials of the forthcoming assistance from the national government.

Pelaez conducted an ocular inspection of the destruction wrought by the floods during a brief stop-over from the also flood-stricken province of Agusan.—FAR



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Ibagué, Colombia Febrero 10/62

College of Forestry, College, Laguna, Philippines
Estimados señores:

Nos place presentar a Uds. un saludo cordial e informarles sobre la reciente creación de la Facultad de Ingeniería Forestal, como dependencia de la "Universidad del Tolima", con sede en la ciudad de Ibagué, República de Colombia.

Al mismo tiempo, nos permitimos rogarles las informaciones necesarias para obtener las publicaciones de Uds., de carácter forestal, y especialmente la denominada "FORESTRY LEAVES", que deseamos con destino a nuestra Biblioteca Forestal.

Expresándoles los sentimientos de nuestro mayor aprecio, anticipamos nuestras gracias por su atención.

Cordial Servidor,
J. HIPOLITO CAMARGO BECERRA
Facultad de Ingeniería Forestal.
Decano.

Supervision

General (Program, Objective & Goal)

January 12, 1962

The Director of Forestry

Manila

Sir:

In compliance with your verbal instruction during our Staff meeting on January 10, 1962, I have the honor to submit hereunder our Bureau program, objective, goal and how to accomplish it in forestry information and education during the next fiscal year 1962-1963.

Program.—The Bureau of Forestry will carry on intensive and massive public information and educational campaign in forestry within, of course, available personnel, funds and facilities. In this campaign, priority will be given to critical regions where illegal kaingin and forest fire problem is rampant as well as in places where there is need for watershed protection like that of Agno River Watershed, known as the Ambuklao and Binga Watershed.

Objective.—The principal objective is to minimize, if not stop, illegal destruction of our public forests thereby ensure conservation of our forest resources which are vital in agriculture, industries, and general economic stability of our country and people.

Goal.—Education of our people as to functions of the Bureau of Forestry, what it is doing and accomplishing, importance and value of forests to na-

tional economy and need for protecting and conserving public forests and forest resources.

How to Implement the Program and Accomplish the Goal.—The Joint Committee on Public Information and Education in Forestry, in collaboration with the UP College of Forestry, Parks and Wildlife Office, Forest Products Research Institute and Reforestation Administration which is functioning under the authority and guidance of the General Forestry Committee composed of heads of all forestry agencies, NEC, DANR and UP Regent Florencio Tamesis, will create throughout the country local committees like that created in Baguio City to conduct information campaign in coordination with the Forestry Information Section of the Bureau of Forestry and the Joint Committee. Information surveys, similar to that already conducted in the Mountain Province, Ilocos provinces and Cebu and that now in progress in the Bicol region, will be made to find out actual conditions, causes of forest destruction, people's attitude towards kaingin practices and forest fires, and opportunities and possibilities of forestry public information program in different regions. Materials will be prepared and provided for radio programs for consumption and benefit of the general public. Funds permitting, films and slides depicting forestry will be shown preferably to people in rural areas. Mimeographed reference materials and posters on forestry will be distributed to local forestry offices and stations, public schools and civic organizations. Collaboration in the celebration of Arbor Week will be continued and participation in expositions, fairs and carnivals will be maintained.

Very truly yours,
JUAN ACOGIDO
Chief, Administrative Services
Division

DRACOR
(D.R. AGUINALDO CORPORATION)
Investments & Management Services
Metropolitan Theatre Building
Plaza, Lawton, Manila
Philippines
January 22, 1962

College of Forestry, U.P.
College, Laguna
Gentlemen:

We are interested in engaging the services of a young man who is a holder of a degree in forestry course for employment in our Davao logging con-

cession. We would appreciate it, therefore, if you could recommend, and possibly send to our office, young men with qualifications along this line.

Thank you for your attention to this matter.

Very truly yours,

D. R. AGUINALDO CORPORATION
(SGD.)

E. V. CALIÑGASAN
Personnel Assistant

LIBRARY

College of Forestry, U.P.
College, Laguna

February 22, 1962

Mr. Hidehiro Ishibashi
Laboratory of Forest Engineering
Shimane Agricultural College
Nogi-cho, Matsuo
Japan

Dear Mr. Ishibashi:

Thank you for the two reprinted copies of your paper "On the Rehabilitation of Soil Properties in Sabo-Forests," which you sent to us. I am sure this paper will be useful to us. Both copies are in our

Library so they can be easily accessible to our faculty members and students.

Attached herewith is a list of persons who I think will be interested to exchange ideas with you in erosion control work.

Thank you again for your generosity and interest in this College.

Very truly yours,

(Sgd.) **GREGORIO ZAMUCO**
Dean

A List of Persons Interested in Soil Erosion Control

1. Forester Primo Andres, Reforestation Administration, Regional Office, Pacdal, Baguio City, Philippines.
2. Prof. Domingo Jacalne U.P. College of Forestry, College, Laguna, Philippines.
3. Mr. Ramon Ravanzo, National Power Corporation, Manila, Philippines.
4. Forester Rufino Sabado, Bureau of Forestry, Regional Office, Dagupan City, Philippines.
5. Administrator Jose Viado, Reforestation Administration, Diliman, Quezon City, Philippines.

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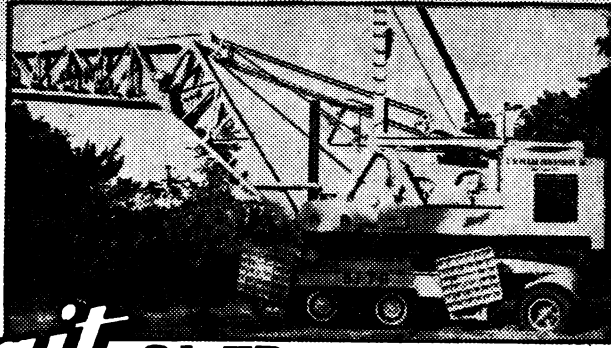
Editorial:

NEW VOLUME TABLES?

While an accelerated program of forest appraisal has been launched recently, nothing has been done in the past towards looking into ways of testing or improving the set of volume tables (B.F. Form 11aM) the Bureau of Forestry has been using all these years. Pros and cons regarding the accuracy and suitability of using the tables for very broad groups of species throughout the country have been bandied about.

The need to conduct actual field measurements and to test the volume tables are now the objects of a joint venture of the U.P. College of Forestry and the Bureau of Forestry. Plans are well underway to take field samples in six different climatic regions of the country to test four broad species groups classified according to the tree form, bole length, mode of branching and other tree characteristics.

Whether the study will show that we need new volume tables or not remains to be seen. The laudable fact is that steps are being taken in the right direction and we wish more joint endeavors for the promotion of Philippine forestry be undertaken by the different forestry agencies in the country — even if only to prove that the old esprit de corps so evident among foresters of yesteryears is still around, no matter to which agency one belongs. — bca



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