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DIVISION OF DOCUMENTS
SPECIAL REPORT

OF

CAPTAIN GEORGE P. AHERN,
NINTH U. S. INFANTRY,

IN CHARGE OF

FORESTRY BUREAU, PHILIPPINE ISLANDS,

COVERING THE PERIOD

FROM APRIL, 1900, TO JULY 30, 1901.

DIVISION OF INSULAR AFFAIRS,
WAR DEPARTMENT.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1901.

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SPECIAL REPORT
OF
FORESTRY BUREAU, PHILIPPINE ISLANDS.

By Capt. GEORGE P. AHERN, Ninth United States Infantry,
In charge of Bureau.

WAR DEPARTMENT,
Washington, D. C., July 30, 1901.

SIR: Pursuant to instructions from the office of the Secretary of War, I have the honor to submit the following report of the operations of the forestry bureau, Philippine Islands, from its organization in April, 1900, to the present date:

The undersigned, at present on leave of absence, has been authorized by the Philippine Commission while in the United States to visit the forestry schools at Cornell, Yale, and Biltmore for the purpose of conferring with professors and students with the object of securing graduates of these schools for the Philippine forestry service, and was also authorized to have exhibited at Buffalo, N. Y., and later at the Agricultural Department at Washington, D. C., a collection of Philippine woods.

The forestry bureau was organized by the undersigned pursuant to General Orders, No. 50, Office United States Military Governor in the Philippines, Manila, P. I., April 14, 1900. A report detailing operations of this bureau up to and including June 30, 1900, and one dated May of this year have been submitted to the governor of the Philippine Islands.

PERSONNEL.

The Spanish Government had inaugurated the forestry service in 1863, some three hundred and forty years after their occupation of the islands. The forestry officials were selected from the forestry service of Spain, where a similar service had been started and a forestry school organized. The subordinate places in the service in the Philippines were partly filled by Filipinos, and at no time, up to the American occupation in 1898, had a Filipino risen to any of the higher places in the service. This was due principally to the fact that none had taken the necessary course in the forestry school of Spain.

After the undersigned took charge of this service, notices were sent to the former forestry officials to make application for service in the bureau if they so desired, such men, acquainted with the country, forest botany, people, language, and former regulations being consid-

ered more useful in inaugurating this work than any official obtained from other countries. A number of these officials presented themselves, with their credentials, which consisted usually of diplomas from the Agricultural College of Manila, and a detailed history of their former service. None but natives presented themselves, the Spanish foresters having returned to Spain, thus leaving the islands without a single highly trained forester. The post-office addresses of 14 native foresters and 30 rangers were taken for future reference, and these men were called upon as the service required. Authority was received to employ 4 foresters, 2 rangers, a stenographer, and a translator; the foresters at \$100 and rangers at \$50 Mexican per month.

Under Spanish administration a force of 66 expert foresters and 64 rangers, with 40 other subordinates as clerks, draftsmen, etc., formed the personnel of the forestry service.

The headquarters for the service was established in the old Intendencia building, in Manila, where the archives of the former forestry service were gathered together. For the first few weeks the small force employed was engaged in arranging these archives for future reference. The translator was employed in the translation of the former Spanish forestry regulations and public-land law in force at the time of the American occupation. A careful investigation of these archives failed to discover any plans of exploitation, statistics of standing timber, or forest surveys. These records consisted principally of applications for licenses, memoranda of revenues, private woodland registrations, and the ordinary official correspondence of the bureau. Upon inquiry of the former forestry officials it was learned that no plans of exploitation and no statistics of standing timber had been made. The forest zones had not been surveyed and reserved, as the last Spanish land law of 1893 had contemplated.

In the course of a few months, authority was given to increase the force employed. As competent men presented themselves, and as conditions permitted, stations were established in the provinces. A forestry service had been partially organized by the insurgents, and this fact made it more difficult to obtain a sufficient force of competent men. On October 12 an act of the United States Philippine Civil Commission prescribed the following personnel: One officer in charge; 1 inspector, at \$150 gold per month; 1 chief clerk, at \$100 gold per month; 1 botanist, at \$100 gold per month; 1 translator, at \$100 gold per month; 1 law clerk, at \$75 gold per month; 1 record clerk, at \$75 gold per month; 10 assistant foresters, at \$50 gold per month; 30 rangers, at \$25 gold per month. Later in the year authority was received to employ 2 foresters from the United States, at a salary of \$200 gold per month. A further addition to the force is contemplated which will add 4 foresters, at \$200 per month; 4 inspectors, at \$150 per month; 20 rangers, at \$25, and 2 clerks, at \$50 per month.

Owing to the disturbed conditions in the provinces, a disposition was shown by the native officials to avoid service beyond Manila.

These men stated that they would be in considerable danger of violence from insurgents, as their work very often took them from the vicinity of United States troops. As a matter of fact, two rangers disappeared, one of whom reappeared after a month's time and claimed that he had been captured by the insurgents and had bought his freedom. The other disappeared in February of this year and has not been heard of since. At times the native officials would receive threat-

ening notices, and as quite a number of natives friendly to Americans had been captured and murdered by the insurgents, these officials in the forestry service felt considerable alarm and could hardly be induced to inspect the rafts in the suburbs of Manila unless accompanied by one of the American officials of the bureau.

All applicants for admission to the service were required to show record of former service and good character.

Before being sent into the provinces, officials were given at least one month's training in Manila. Many of these men were found to be competent and anxious to render good service; some were found incompetent, untrustworthy, and negligent of their duties. During the year two assistant foresters and twelve rangers were discharged for cause, one translator resigned, and one ranger transferred to another branch of the civil service. As the service expanded, considerable difficulty was experienced in finding competent men. More than 50 per cent of the officials of this service are at stations distant from Manila, and usually manage their offices and field work without assistants.

All timber cut on public land is cut by license. Each shipment of forest products must be classified, measured, manifested, and orders of payment issued, all of which requires considerable training, inasmuch as 160 varieties of native tree species are received in the market, not to mention many varieties of dyewoods, gums, resins, etc., with all of which the official must be thoroughly acquainted and able to promptly classify and appraise; this in addition to his duties in charge of the forests of his district, running his office, and instructing ignorant native loggers in the principal requirements of the forestry regulations.

The demand for forest products during the past two years has been so great in the Philippine Islands that men with the information just outlined were sought for by lumber companies and offered higher salaries than were given in the forestry service. Occasionally these flattering offers would be made to the officials in the service, but as a rule the latter preferred to remain in the service and take their chances of advancement as the service grew.

No forestry officials are permitted to receive any money (in addition to salary) for forest products, for supervising papers, or for any clerical or other work rendered in the course of their duties. When payment is to be made for forest products, an order of payment is issued by the forestry official, which is taken by the owner of the shipment to the nearest internal-revenue office, and when the receipt for the payment is shown to the forestry official permission is given in writing to move the forest products. This written permit the man in charge of said forest products must carry with him until the destination of shipment is reached. Each log is stamped with the bureau mark when first inspected.

A circular letter was sent to all important points in the islands requesting replies as to the extent and character of industries in the various localities in the line of forest products. Replies were received from all parts of the islands, which replies served as a guide in establishing stations for forestry officials. The location of parties operating under licenses to utilize forest products also served as a guide in establishing these stations.

Forestry officials are stationed near all important logging centers

and are in constant touch with parties handling even small quantities. Each official in the provinces keeps a diary of his daily operations, a transcript of which is submitted to the office in Manila every fifteen days. In addition is submitted a summary of forest products inspected by him during this period, the amount ordered paid into the internal-revenue office, and, finally, any observations he may consider necessary for the information of the central office.

Each shipment of forest products is inspected, classified, and appraised by him, and each log is stamped with the bureau mark. A copy of the manifest made out at this time is sent to Manila, a duplicate copy being given to the man in charge of the shipment. Upon arrival at its destination the forest product is again inspected and measured by a forestry official, and can not be disposed of until every requirement of the regulations is complied with. By this means a constant check is kept on all forest products taken from public and private lands. The manifest shows the name of licensee, location of cutting, the dimensions and value of each log cut, the name of the tree species, and a record of payment. This manifest appears at Manila shortly after the tree is felled. A glance at the manifest shows at once if the regulations are being followed. The restrictions as noted in the following articles act as a guaranty against any wholesale slaughter of timber, provided these regulations are enforced. At first some opposition was manifested to the many restrictions thrown around the licensees, but this opposition disappeared as they became better acquainted with the service and found that the double inspection of their shipments and the official papers did not delay the movement of their cargoes to market, as in the former administration.

ART. 59. 1. Licenses to gather or utilize forest products in the state forests shall be granted by this office.

2. Applications for said licenses must be delivered to the chief forestry official of the forest district or section, or to the district commander, who shall forward same to this office with the necessary indorsements of the forestry official of said district. In the application shall be stated the kinds of forest products desired, and the place where said products are to be gathered.

3. The gathering or utilization of forest products can be done only in the forests of the province specified in the license. If the concessioner should cut or gather forest products in the forests of any other province, said products shall be considered as unlawfully cut.

4. No charge shall be made for licenses, nor for the authentication or making out of manifests.

5. Reserved forests, and the species of trees the cutting of which is forbidden, will be noted in licenses for the information of the concessioner. The felling of trees of the superior and first groups, excepting ebony, camuning and lanetes, of a less diameter than 40 centimeters is absolutely prohibited.

6. The felling in the state forests of trees from which caoutchouc, gutta-percha, and gum elastic are extracted is prohibited.

7. The felling in the state forests of the ylang-ylang tree is prohibited.

8. The utilization of forest products not specifically mentioned in these regulations shall be by license, and said utilization shall be governed by special conditions, which may be ascertained upon presentation of application for a license to utilize said products.

ART. 60. Whosoever cuts or removes timber or other forest products prohibited by official order, or cuts species the utilization of which is prohibited by special mention in the license, shall incur a penalty amounting to four times the value of the products. A copy of these regulations shall accompany each license.

ART. 61. The concessioner must gather said forest product together and pile it in the district where cut or gathered, and not where the cutting of timber or other utilization of forest products is forbidden. For any violation he shall incur a penalty of four times the value of the product gathered.

ART. 62. 1. The trees to be cut shall be selected and cut down close to the ground, care being taken that no damage be done in falling to the adjacent trees. The concessioner shall compactly pile the branches of all trees felled, and place said branches where the least damage shall be done to the younger growth.

2. Forest products shall be transported as far as possible by routes where there are few trees, avoiding as far as practicable the destruction of the younger growth.

3. Concessioners shall be held responsible for any damage to the forests through failure to comply with the above requirements. They shall also be held responsible for violations of said regulations on the part of their representatives or their employees.

ART. 63. When the cutting or gathering of forest products has been finished, the concessioner shall notify in writing the nearest forestry official of the place where said product is deposited, the classes and amount of the same, and its destination.

He shall also state if he has left any felled timber in the forest, and if so, the number of trees and the classes.

A forestry official shall verify the "statement" of forest products presented by the concessioner, examining and measuring the same. He will make out, in duplicate, the manifest for each shipment, and give one copy of this to the concessioner.

ART. 64. The concessioner shall not load, sell, nor use any forest product which has not been paid for, unless he has had express authority from the chief of the forestry bureau, and has given a satisfactory guaranty to that official.

Stations have been established at the following places:

Town.	Province.	Town.	Province.
Aparri	Cagayan.	Aringay	Union.
Iloilo	Panay.	Guinayangan	Tayabas.
San Fernando	Pampanga.	Laoag	Ilocos Norte.
Baguio	Benguet.	Legaspi	Albay.
Malabon	Manila.	Pasacao	Camarines Sur.
Batangas	Batangas.	Lingayen	Pangasinan.
Subig	Zambales.	Orani	Bataan.
Tarlac	Tarlac.	Cebu	Cebu.
Laguimanoc	Tayabas.	Calumpit	Bulacan.
Arayat	Pampanga.	Lucena	Tayabas.
Angeles	Do.		

A number of other stations will be established in the near future, as conditions permit.

As the service grows more and more difficult is experienced in securing competent native officials. The Filipino knows nothing of estimating standing timber, selection of trees to be felled, or the protection of the younger growth. These must be taught him by trained foresters from other countries. Although authority has been received by the undersigned to employ trained foresters in other countries, none have as yet been secured, with the exception of the two from the United States noted above. The two mentioned are not what we would call foresters, but are good, practical lumbermen and will render good service. We must look to tropical India and Java for trained men. A recent letter from Java informs this office that an offer of \$200 gold per month will not induce any of their officials to enter our service, as their trained men receive the following salaries: Foresters, from \$130 to \$310 gold per month; inspectors, from \$320 to \$440 gold per month; chief inspectors, from \$440 to \$600 gold per month.

The foresters of India are also very well paid, and, in addition, the forestry officials of all countries but ours have the prospect of retirement with pay after a certain number of years' service, or for disability. As a rule, the scientific forester has taken his degree before entering the forest school; then, after a course of between two and three years, he enters the lower ranks of the forestry service in his country and

has a well-paid position, with a prospect of retirement for disability or for age. Service in the Philippines involves some danger, not only from the pernicious fevers, but, at the present time, from insurgents. A forester from Java would not care to give up his life position for service in the Philippines with a prospect of disability and no government aid afterwards. We have here a vast virgin field for scientific investigation, which makes the Philippine Islands to-day one of the most attractive fields for original work, but the objections noted above deter many from entering the service.

Many applications are being received from parties in the United States desiring to enter the forestry service. Very few applicants have had any training as foresters; some have been engaged in logging business and sawmills, and some apparently are anxious only for a change of scene. Others seek this service as a means of furthering schemes for future timber exploitation by private parties. Applicants residing in the United States are required to pass a civil-service examination, prepared by the Bureau of Forestry in Washington. Applicants in Manila are required to take a civil-service examination there.

Two expeditions are in the field at present: One, consisting of an assistant forester and botanist, is in southern Mindanao investigating the varieties and amount of native-tree species producing gutta-percha, rubber, and other gums; another party, consisting of a forester and assistant forester, is in the Camarines making a thorough investigation of the timber on the tract of public land operated over by the largest lumber concern of the Philippine Islands. A forestry official is stationed permanently near the headquarters of this concern. A report from this expedition will inform this office of the amount and variety of timber standing in this tract, methods of felling and hauling, the condition of the younger growth, whether or not forestry regulations are strictly complied with; in fact, will report on all matters of interest to the forestry service. From previous reports from this same region we are led to believe that the cutting by this company is a mere thinning of the forest, and works an actual improvement of forest conditions, the annual growth on this tract being many times the volume extracted by this company each year. At present this company is somewhat hampered by the loss of nearly all of their carabaos, due to an epidemic of rinderpest which recently swept over the islands, carrying off many thousands of these animals, which are the only source of transportation in the islands.

The forestry official acting as collector for the bureau was sent in January, 1901, to Zamboango, province of Mindanao, to make a collection of the leaves, fruit, and flowers of the native-tree species found there. He returned in three months with 425 varieties of wood and leaf with the fruit and flower of many. This collection was made within a very limited area in this province, and will give some idea of the problems to be solved by the forestry service when a small tract with several hundred tree species is to be prepared for the lumberman.

A rational forestry policy will necessitate the felling of all trees by selection. This will be met by the objection of the lumbermen that there is no market for four or five hundred varieties of tree species thus selected. The duty of finding a market for such varieties devolves upon the forestry bureau. The furniture makers of America import vast quantities of hardwood from Central and South America.

and in order to divert their attention to the woods of the Philippines 100 varieties of specially selected woods were recently gathered together and shipped to the United States, where they will be placed on exhibition at Buffalo, and later at the Department of Agriculture in Washington.

Anyone acquainted with American methods of lumbering, and especially anyone from the lake regions of the United States, will realize that if every tree for felling is not selected and rigid supervision of all logging operations not insisted upon, great and irremediable loss will result. Rigid supervision is indispensable and is only possible when thoroughly trained scientific men are employed. The existing regulations provide ample safeguards against forest devastation, but the immediate need is for a trained corps of foresters to properly enforce these regulations.

A forestry school should be organized as soon as possible, and the first foresters employed should give part of their time to the training of native officials now in the service. In time specially qualified graduates from colleges in the Philippines should be offered inducements to enter the forestry school and thus provide for the extension of the service.

REGULATIONS.

The Spanish forestry laws and regulations in force in August, 1898, were found to be excellent, practicable, and in line with similar laws and regulations of Europe, where the science of forestry has reached such a high state of perfection. These laws and regulations, up to the time of our occupation, had not been fully enforced and scientific forestry not practiced, as the records and testimony of officials show.

Under the Spanish administration licensees cut any and everything. Trees to be felled were not selected, no minimum size was prescribed, valuable rubber and gutta-percha trees were felled, and the most valuable woods used as firewood; in fact the officials began their work after the trees left the forest and not before.

The Spanish forestry regulations were translated and a new set compiled, based practically upon the old, but arranged in more compact form. Some changes were made, as will be noted below. Blank forms similar to the old are used, with some additions, nearly all of which are printed in Spanish with English notes. The regulations went into effect July 1, 1900, and were published in the form of a general order (No. 92) from the office of the United States military governor of the Philippine Islands, dated Manila, P. I., June 27, 1900. These regulations have not been amended since publication.

As soon as peace is thoroughly established in the islands and officials can work in the field without danger, data will be secured upon which to base a revision of the present regulations. However, the regulations as enforced at present seem to give general satisfaction. Several thousand copies were printed, both in Spanish and English, and sent to every part of the islands. At least one copy is sent with each license, and the attention of the licensee is drawn to the fact that the regulations must be followed.

These regulations consist of 77 articles arranged in 5 chapters. Chapter 1 is entitled "Tariff on state timber and instructions for its application." In this chapter we find the tree species of the islands

classified into six groups, the unit of measure being the cubic foot. The price per cubic foot for state timber is as follows :

	Number of varieties.
Superior group, 14 cents Mexican.....	15
First group, 10 cents Mexican.....	20
Second group, 8 cents Mexican.....	86
Third group, 3 cents Mexican.....	133
Fourth group, 2 cents Mexican.....	234
Fifth group, 1 cent Mexican.....	33

At present the timber is classified and measured after it has been felled and piled. In appraising the valuation of timber hewn on four sides, 25 per cent is added for wood lost in hewing; sawed timber has 15 per cent added; ebony has 200 per cent added, and camagon 100 per cent added. The wood of groups 3, 4, and 5 only will be cut for fuel, thus saving from felling for this purpose 121 tree species of higher grades. This restriction is noted on back of license. In the Spanish regulations the tree species were arranged in five groups, with a maximum valuation of 6 cents per cubic foot. The present regulations set aside fifteen of the most valuable woods as a superior group and place a valuation on them of 14 cents per cubic foot; this price acts as a special protection for these valuable species and tends to divert the lumbermen to other varieties at a lower rate. Some objection was raised to the increased valuation placed on forest products, but it has been found that the above valuation remains very close to 5 per cent of the present market price of timber in Manila.

Chapter 2 is entitled "Utilization of timber in the state forests," prescribes how timber should be felled and moved, and the procedure necessary before the licensee can take his product to market.

Chapter 3 has to do with the gratuitous use of state timber. It provides for the free use of timber by needy residents, and for timber for public works.

Chapter 4 is entitled "Firewood for market."

Chapter 5 contains provisions relating to the extraction of gutta-percha and other gums.

Chapter 6, general provisions.

LICENSES.

Licenses are issued by the officer in charge of the forestry service upon written application made either to the central office in Manila or to any of the forestry officials in the provinces. If application is made in the provinces, the forestry official sends the application to his immediate chief, with some recommendation as to the character and responsibility of the applicant. The indorsement also must approve or disapprove the application, with the reasons therefor. An applicant must state just what forest product he wishes to take from the public land, and must also specify the district where he wishes to operate. Under Spanish administration this district was usually a province. As a rule, during the last six months we have been confining licenses to a more limited area and close to some pueblo. By this means we know at once where to place the responsibility for any violation of the forestry regulations, as to manner of felling and removing of forest products. Where a number of licensees are operating in one province it is difficult at times to know just where to place the responsibility for any infractions, as noted above.

The application for a license finally reaches the central office at Manila, containing the indorsements of the forestry officials and with evidence of the character and responsibility of the applicant.

Licenses are issued on special forms: There is the timber license, the firewood license, the gratuitous license, and then a general form to include any special product desired, such as gutta-percha, rubber, and other gums. Where the government valuation of a forest product has not been specifically mentioned in the regulations, provision is made that a valuation of 10 per cent on the prevailing market price in Manila will be charged for such product. The licenses are issued for one year, and may be revoked for violation of the regulations. A gratuitous license is issued to needy residents upon application, accompanied by a certificate by the president of the town in which the applicant resides, to the effect that the applicant is a needy resident and that he should be granted the license. This license runs for a period of six months. The licensee is not permitted to utilize more than 1,000 cubic feet of timber, and is prohibited from utilizing tree species of the superior and first groups. (Thirty-five tree species thus protected; this restriction is noted on back of license.) A gratuitous license may also be issued to government officials upon written application, stating the public work for which such timber is to be used and the amount and variety of woods desired.

A list of licenses is sent to the forestry officials in the provinces, and the instructions of these officials provide for the supervision of the methods of operation in the forest of the various licensees.

Parties bringing into market forest products without license are fined for first offenses 25 per cent of the valuation of said products, an increased fine for the second offense, and confiscation of products with a fine of 100 per cent provided for the third offense.

It has been found that many of the dealers in forest products, and not the actual loggers in the woods, were the holders of licenses. This has been the subject of careful investigation during the past six months, and as far as possible none but the actual lumbermen working in the forest are now given licenses.

Owing to the disturbed conditions in the islands many natives engaged in logging were afraid to leave their districts and go far from home, and as the forestry officials were always in towns garrisoned by United States troops, many natives never came in contact with the forestry officials, and operated in the forests without license. As conditions improve, this difficulty will be removed.

Under Spanish administration no form of license was issued. The applicant received his letter of application with an indorsement of the central office in Manila, stating whether or not he was permitted to utilize the forest products.

Prior to March 2, 1901, 467 licenses had been granted by the forestry bureau at Manila.

Up to May 14, 1901, the number of licenses granted by the military government were as follows:

Timber	348
Firewood	169
Rubber and other gums.....	32
Dyewood	10
Gratuitous	21
Total	580

Part of these licenses expire in six months; the remainder in one year from date of issue. Under the Spanish administration an average of 1,000 licenses were issued each year by the forestry bureau.

Where an applicant employs a number of the people of a thinly populated district, and where he shows that he can cut all that should properly be cut for the present needs in that district, other licenses for that particular limited area are not granted. Up to the present time this has worked without objection. The licenses granted so far cover but a very small part of the forest area of the islands. Vast areas of virgin forest throughout the islands are practically untouched and will not be entered for some time to come, owing to the lack of roads, driveways, scarcity of labor, and means of transportation.

A cable dispatch from Washington, D. C., was received early in March giving notice of the passage of what is known as the Spooner amendment. This law provides "that no sale or lease or other disposition of the public lands or the timber thereon or the mining rights therein shall be made."

Orders were given the forestry bureau to grant no more licenses to cut timber on public lands. Several weeks later a copy of the opinion of the law officer of the Division of Insular Affairs, giving the War Department's construction of the Spooner amendment, was received, and the forestry bureau notified that "such provisions of said General Orders, No. 92, as are intended to protect and preserve the interests of the United States in said forests are in harmony with said enactment and not affected thereby."

The opinion stated:

This enactment permits the President of the United States to grant such temporary privileges as are "clearly necessary for the immediate government of the islands and indispensable for the interest of the people thereof."

The licenses granted have never been in excess of the immediate and imperative needs of the islands, and the cutting under these licenses in the islands has never been equal to the necessities of the people, and has not been sufficient to bring down the price of timber to what it formerly was. The cutting nowhere in the islands has been equal to what would have been selected by the scientific forester whose principal object was the betterment of forest conditions.

Owing to a lack of facilities for logging and sawing, it was found impossible to supply the United States military forces in the islands with the timber necessary for the construction of storerooms for supplies, and barracks for troops, timbers for bridges, and other public works immediately necessary for the care of the troops. Several million feet of American timber were imported to supplement the native timber brought to market. The United States Government utilized at least 50 per cent of the native timber brought to market in the Philippines. The merchants used a large part of the remaining 50 per cent for new buildings, additions, etc., leaving the private householders but a small and ridiculously inadequate supply for the repair of their homes. The number of homes destroyed in the Philippines during the insurrection will never be even approximately known, and it will be years before the supply of native wood will meet even the absolutely necessary demand of the native residents.

PROCEDURE AS PRESCRIBED IN FORESTRY REGULATIONS IN ORDER TO
EXTRACT FOREST PRODUCTS FROM THE PUBLIC LANDS OF THE
PHILIPPINES.

I. Application by letter to the forestry bureau of the party desiring license. The writer must be known to the bureau or vouched for by some responsible party. The forestry official in the district where the license is to be granted must indorse the application. No particular form of letter is required in making this application.

II. The particular license requested, if granted, is made out on a special form, signed by the head of the forestry bureau, and stamped. (See Forms 4, 5, 6, 7.)

The license is sent with a copy of the forestry regulations to the applicant. A Spanish copy of the regulations is sent to all native or Spanish applicants. Notice of said license is also sent to the forestry official in the district covered by the license. It has been customary for many years to grant licenses covering whole provinces, but lately the policy has been to restrict the license to a district covering but one or two pueblos or townships.

In the province of Abra, owing to severe cutting in former years, no licenses were granted by the Spanish bureau. Since the organization of the present bureau but one license has been granted in this province. This license was given at the solicitation of the military government, and was for the purpose of supplying the needs of the military forces.

In other provinces as many as 37 timber licenses have been granted. In many provinces and islands where there is much valuable timber not one application has been received for timber or other licenses.

After license is received the licensee may proceed to the district covered by his license and begin operations.

Article 62 of the Forestry Regulations prescribes that the trees to be cut shall be selected. This has been done under the personal supervision of the undersigned in the pine region of Luzon, where the timber is thin and where vigorous cutting might be harmful to future forest growth. But, as a rule, the cuttings in other regions have been so moderate that up to the present time it has not been found necessary to mark the trees to be felled. This will be done in the near future, or as soon as any logging company begins to operate on a large scale. At present loggers are taking out one tree where they could take 100 and not injure the forest growth. This state of affairs is not likely to continue many months longer.

When the logs are ready for removal the licensee notifies (see article 63) the nearest forestry official, who measures his wood and makes out an order for payment (Form 3), and also gives to the licensee a manifest (Form 13) on which is noted the kind and dimensions of each log.

In some cases (article 66) the licensee pays at once for his wood. In other cases he may pay at the destination of cargo if in the Philippines.

In every case the forestry official retains a copy of the manifest, inscribes one copy in his records, and sends one copy to the Forestry Bureau at Manila.

At the end of each two weeks he submits a report (Form 17) of work done during this period. This gives twice each month complete and

detailed information to the central office at Manila of operations over the entire archipelago.

After payment for the wood the licensee shows a receipt for the same to the forestry official and receives from this official a permit to unload (Form 1) and a note of the customs guards (Form 2).

At destination of cargo a second inspection is made (Form 12) and if a difference is found between the original manifest and second inspection, this difference must be accounted for, and in certain cases penalties may be incurred. If an excess of cargo is found at this second inspection, an order of payment (Form 10) is issued and a receipt for said payment must be shown before said cargo can be moved.

In the case of private woodlands, the owner or his authorized agent submits a copy of the title to his woodlands to the forestry bureau for registration. If the title is *prima facie* a good one, it is registered and a statement (Form 9) of said registration given to the owner. After cutting his wood, he secures a certificate from the mayor of the township in which his land is located, to the effect that this wood was cut on his land, and then a permit for free transit is given (Form 15).

BLANK FORMS USED IN THE FORESTRY BUREAU, MANILA, P. I.

- No. 1. Permit to unload forest products.
- No. 2. Note to customs guards to permit unloading of cargo.
- No. 3. Order of payment. (English.)
- No. 3. Order of payment. (Spanish.)
- No. 4. License—Rubber, gums, gutta-percha, etc.
- No. 5. License—Firewood.
- No. 6. License—Timber.
- No. 7. License—Gratuitous.
- No. 8. Acknowledgment of receipt of payment on excess of cargo.
- No. 9. Statement of registration in forestry bureau of title to private woodlands.
- No. 10. Order of payment on excess cargo found at second inspection.
- No. 11. Permit by forest ranger to move parts of a cargo of forest products (issued after payment).
- No. 12. Statement of inspection of forest products at destination.
- No. 13. Manifest of timber cut on public lands.
- No. 14. Manifest of firewood cut on public lands.
- No. 15. Permit for free transit of forest products taken from private woodlands.
- No. 16. Order to unload forest products in Manila paid for at another place.
- No. 17. Form of semimonthly statement made at each forestry bureau station.

Forestry bureau. Form 1.

FORESTRY BUREAU.

No. 21.

MANILA, P. I., July 1, 1901.

Juan Garcia, having paid the State valuation of the timber brought to Manila on steamer *Salvadora*, the forestry employees will permit the unloading in Manila Bay. When unloading is finished this order will be taken up and the manifest given in exchange, so that the timber can be carried where desired, provided no excess of cargo is found at inspection.

GEORGE P. AHERN.

Captain, Ninth Infantry, in Charge of Bureau.

[Stub.]

FORESTRY BUREAU.

No. 21.

MANILA, P. I., July 1, 1901.

Origin, Aparri. Concessioner, Juan Garcia. Name of vessel, *Salvadora*. No. of pieces, 12. Cubic feet, 400. State valuation, \$40. Date of statement, June 15, 1901. Date of order of payment, July 1, 1901. Date of order to unload, July 1, 1901.

Forestry bureau. Form 2.

FORESTRY BUREAU, MANILA, P. I.

No. 21.

Juan Garcia, having paid the State value of the timber brought to Manila by the steamer *Salvadora*, the order to unload has been given on this date.

Customs guards will please note.

GEORGE P. AHERN,
Captain, Ninth Infantry, in Charge of Bureau.

Forestry bureau. Form 3 (English).

FORESTRY BUREAU.

No. 21.

MANILA, P. I., July 1, 1901.

Juan Garcia will pay at the office of internal revenue of Manila the sum of forty dollars, value of the timber brought to Manila in steamer *Salvadora*, as per statement made by Juan Garcia, dated June 15, 1901, and which has been cut by authority of license granted to Juan Garcia, dated January 10, 1901.

GEORGE P. AHERN,
Captain, Ninth Infantry, in Charge of Bureau.

Forestry bureau. Form 3 (Spanish).

FORESTRY BUREAU, MANILA, P. I.

Son \$40.00.

Núm. 21.

Don Juan Garcia, deberá ingresar en the internal revenue office la cantidad de forty dollars valor de las maderas conducidas á Manila en steamer *Salvadora* según relación formada por el Juan Garcia de fecha 15 de Junio y que han sido cortadas en virtud de licencia que se le ha concedido al interesado en Aparri 10 de Junio de 1901.

GEORGE P. AHERN,
Captain, Ninth Infantry.

Order to pay to internal revenue office State valuation for forest product.

[Stub.]

FORESTRY BUREAU.

Núm. 21.

Procedencias, Aparri. Concesionario, Juan Garcia. Buque cargador, *Salvadora*, Núm. de piezas, 12. Piés cúbicos, 400. Tasación, \$40. Fecha de la relación, June 15, 1901. De la orden de ingreso, July 1, 1901. Des las órdenes de descarga, July 1, 1901. Manila, 1st de July, de 1901.

Forestry bureau. Form 4.

FORESTRY BUREAU.

No. 10.

MANILA, P. I., January 1, 1901.

LICENSE FOR RUBBER, GUMS, GUTTA-PERCHA, ETC.

In accordance with existing law, a license is hereby granted Juan Garcia, resident of Aparri, to extract rubber in the public forests of the province of Cagayan, subject to the accompanying regulations and tariff.

GEORGE P. AHERN,
Captain, Ninth Infantry, in Charge of Bureau.

[Stub.]

FORESTRY BUREAU.

MANILA, P. I., January 1, 1901.

LICENSE FOR RUBBER, GUMS, GUTTA-PERCHA, ETC.

No. 10. Name, Juan Garcia. Province, Cagayan. Remarks, resident of Aparri.

In Charge of Bureau.

[On back.]

TARIFF.

Concessioners shall, for the present, pay 10 per cent of market value (in Manila) of forest products utilized by virtue of this license.

The felling of rubber, caoutchouc, gutta-percha, and gum elastic trees is prohibited.

Forestry bureau. Form 5.

FOR FIREWOOD CUT FOR THE MARKET.

FORESTRY BUREAU.

No. 50.

MANILA, P. I., *January 1, 1901.*

FIREWOOD LICENSE.

In accordance with existing law, a license is hereby granted Juan Garcia, resident of Aparri, to cut firewood in the public forests of the province of Cagayan, subject to the accompanying regulations and tariff.

GEORGE P. AHERN,
Captain, Ninth Infantry, in Charge of Bureau.

[Stub.]

FORESTRY BUREAU.

MANILA, P. I., *January 1, 1901.*

FIREWOOD LICENSE.

No. 50. Name, Juan Garcia. Province, Cagayan. Remarks, resident of Aparri.
In Charge of Bureau.

[On back.]

TARIFF.

First class: Rajas composed of pieces 75 centimeters to 1½ meters in length, 20 to 40 centimeters in circumference, \$1 per thousand rajas.

Second class: Pieces of small size, 20 cents per cubic meter, if for domestic consumption; 40 cents per cubic meter, if for export.

Tree species of the third, fourth, and fifth groups only permitted to be cut for firewood.

The felling of rubber, caoutchouc, gum elastic, gutta-percha, and ylang-ylang trees is prohibited.

Forestry bureau. Form 6.

FORESTRY BUREAU.

No. 25.

MANILA, P. I., *January 1, 1901.*

TIMBER LICENSE.

In accordance with existing law, a license is hereby granted Juan Garcia, resident of Zamboanga, to cut timber in the public forests of the province of Zamboanga, subject to the accompanying regulations and tariff.

GEORGE P. AHERN,
Captain, Ninth Infantry, in Charge of Bureau.

[Stub.]

FORESTRY BUREAU.

MANILA, P. I., *January 1, 1901.*

TIMBER LICENSE.

No. 25. Name, Juan Garcia. Province, Zamboanga. Remarks, resident of town of Zamboanga.

In Charge of Bureau.

[On back.]

TARIFF.

Per cubic foot.

Superior group	\$0. 14
First group .....	. 10
Second group .....	. 08
Third group .....	. 03
Fourth group .....	. 02
Fifth group .....	. 01

The felling of trees of the superior and first groups of less diameter than 40 centimeters is prohibited, excepting ebony, lanete, and camuning.

The felling of rubber, caoutchouc, gum elastic, gutta-percha, and ylang-ylang trees is prohibited.

Forestry bureau. Form 7.

FORESTRY BUREAU.

GRATUITOUS LICENSE.

No. 12.

MANILA, P. I., *February 8, 1901.*

In accordance with existing law, a license is hereby granted Isidor Chanco, resident of San Fernando, Pampanga, to cut timber in the public forests of the province of Pampanga, subject to the accompanying regulations.

GEORGE P. AHERN,

Captain, Ninth Infantry, in Charge of Bureau.

[Stub.]

FORESTRY BUREAU.

MANILA, P. I., *February 8, 1901.*

Gratuitous license, No. 12. Name, Isidor Chanco. Province, Pampanga. Remarks, resident of San Fernando, Pampanga.

_____,
In Charge of Bureau.

[On back.]

Trees of the superior, first, and second groups shall not be cut under a gratuitous license.

Cutting limited to 1,000 cubic feet.

The felling of rubber, caoutchouc, gum elastic, gutta-percha, and ylang-ylang trees is prohibited.

Forestry bureau. Form 8.

FORESTRY BUREAU, MANILA, P. I.

Núm. 181.

Se ha recibido en esta inspección la carta de pago núm 46 importante forty-six dollars por diferencia que resultó de las maderas aprovechadas por el concesionario Pedro Martinez en province of Cagayan y conducidas á Manila en steamer *Salvadora* según relación del Pedro Martinez de fecha February 21.

Manila, 15 de March, de 1901.

GEORGE P. AHERN,

Captain, Ninth Infantry, in Charge of Bureau.

"Acknowledgment of receipt of letter of payment on excess of cargo of forest products as found at inspection at destination."

[Stub.]

Núm. 181.

Número del expediente, 46. Número de la carta de pago, 97. Diferencia, \$46. Concesionario, Pedro Martinez. Barco, *Salvadora*. Intervención, Juan Martin.

Acuerdo, _____.

Manila, 15 de March, de 1901.

Forestry bureau. Form 9.

FORESTRY BUREAU, MANILA, P. I., INTENDENCIA.

Núm. —.

MANILA, P. I., *February 10, 1901.*

A los efectos del artículo 75 de la Orden General, Número 92 de la oficina U. S. Military Governor of the Philippine Islands, de 27 de Junio, 1900, en este día quedó inscrita en esta oficina en el libro 1st, número 78, de inscripcion la escritura de hacienda que en el sitio de Santa Cruz, jurisdiccion del pueblo de Manila provincia de Manila posee 150 de hectareas, 7 áreas, 15 centiáreas de superficie.

GEORGE P. AHERN,
Captain, Ninth Infantry, in Charge of Bureau.

[Stub.]

Núm. —.

— sitio de —, pueblo —, provincia —. Libro —. Num. de inscripcion —, de —, parcelas cuya superficie mide — hectáreas, — áreas, — centiáreas.
Manila, —, —, 19—.

Forestry Bureau, Form 10.

FORESTRY BUREAU, MANILA, P. I., INTENDENCIA.

Núm. 86.

Don Pedro Martín deberá ingresar en el the internal-revenue office la cantidad de forty-six dollars, diferencia de valor de las timber que condujo á Manila según relación remitida por el Pedro Martín de fecha 8 de February.

Manila, 15 de February de 1901.

GEORGE P. AHERN,
Captain, Ninth Infantry, in charge bureau.

Diferencia, \$—.

Multa, \$—.

Total, \$—.

Núm. —.

[Stub.]

Concesionario Don ——. Núm. de la 1.^a orden de ingreso ——. Fecha de la orden de descarga —.

	Pies.	Milés.
Declarado		
Intervenido		
Diferencia		

	Pesos.	Cént.
Importe de la diferencia		
Id. de la multa		
Id. total de la orden ingreso		

Manila — de — de 19—.

Recibí la orden de ingreso en — de — de 19—.

EL INTERESADO.

Forestry Bureau, Form 11.

FORESTRY BUREAU, MANILA, P. I.

Núm. 62.

MANILA, P. I., *8 de February, 1901.*

El Juan Martín conduce timber expresadas al dorso comprendidas en la orden de descarga No. 181, de — de —.

RANGER.

[This paper is given to parties removing parcels of a cargo of forest products.]

[Stub.]

No. ———.

El _____ conduce _____ de la orden de descarga No. _____ de _____ de _____.

Manila — de — 19—.

Manila — de — 19—.

Forestry Bureau, Form 12.

INSPECTION AT DESTINATION.

No. 78.

INTERVENCIÓN DEL DÍA 8 DE FEBRUARY.

INSPECTION AT DESTINATION.

No. 78.

INTERVENCIÓN DEL DÍA 8 DE FEBRUARY.

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[Name of wood of each log and dimensions stated on each side of this form and then signed by official making the inspection.]

Forestry Bureau, Form 13.

MANIFEST.

STATEMENT OF TIMBER CUT BY LICENSE.

(GUÍA.)

Relación de las maderas cortadas en los montes públicos del pueblo de Iba, provincia de Zambales, en virtud de la licencia núm. 86 concedida por the Forestry Bureau en 15 de February de 1901, a D. Pedro Pilar, vecino de Iba, provincia de Zambales, y que se hallan depositadas en — para trasportarlas en steamer *Salvadora* con destino á Manila.

Número de piezas.	Clase de maderas.	Dimensiones.				Bojeo.	Cubicación.		Tasación.	
		Longitud.		Ancho.	Grueso.					
		<i>Pies.</i>	<i>Puntos.</i>	<i>Puntos.</i>	<i>Puntos.</i>	<i>Puntos.</i>	<i>Pies.</i>	<i>Milési- mas.</i>	<i>Pesos.</i>	<i>Cént.</i>
1	Ipil	20	5	18	16	.....	.....	.....	.....	.....
1	Ipil	22	6	16	16	.....	.....	.....	.....	.....
1	Ipil	14	3	16	14	.....	.....	.....	.....	.....
1	Yacal	18	5	16	12	.....	.....	.....	.....	.....

[Each log measured, classified, and appraised and placed on this manifest. Signed by owner of timber or his agent, and also signed by the forestry official. Note of payment also made at end of this statement.]

Forestry Bureau, Form 14.

STATEMENT OF FIREWOOD CUT BY LICENSE.

Relación de las leñas cortadas en los montes públicos del pueblo de Morong, provincia de Morong, en virtud de la licencia concedida por el Forestry Bureau en 1 de January de 1901, á D. Juan Martín, vecino de Morong, las cuales se transportan á Manila, en steamer *Cavite*.

LEÑAS DEL PRIMER GRUPO.

Número de rajás.	Tasación.	
	Pesos.	Cént.
6,000, at \$1 per M	6	00

LEÑAS DEL SEGUNDO GRUPO.

Volumen en metros cúbicos.	Tasación.	
	Pesos.	Cént.
150, at 20 cents per cu. M.	30	00

RESUMEN.

	Pesos.	Cént.
Importe de tasación de las del 1. ^{er} grupo	6	00
id. de id. de las del 2. ^o id.	30	00
Total	36	00

[Signed by owner and by forestry official.]

Forestry Bureau, Form 15.

No. 78.

FORESTRY BUREAU, MANILA, P. I.

Habiendo conducido á esta capital D. Francisco Sanz, las timber que al margen se expresan y que han sido extraídas en los terrenos que en el pueblo de San Fernando (Romblón), provincia de Romblón, posee D. Fr. Sanz, según relación firmada por el — y autoridad local del mismo pueblo, de fecha 3 de February, 1901, las cuales han sido transportadas en steamer *Gloria*; los carabineros de custodia y dependientes de esta inspección permitirán el libre tránsito de las mismas, previa la oportuna intervención de la que darán cuenta á esta dependencia con la devolución de la presente orden.

Manila, 10 de February de 1901.

[Signed.]

[Permit for free transit of forest products taken from private woodlands.]

[Stub.]

FORESTRY BUREAU.

No. 78.

Pueblo de San Fernando. Provincia de Romblón. Hacienda de Francisco Sanz, Sibuyan. Aprovechamiento de timber. Embarcación, —. Conductor, steamer *Gloria*. Fecha de la orden de descarga, February 15, 1901. Fecha de la intervención, February 15, 1901.

Forestry Bureau, Form 16.

FORESTRY BUREAU, MANILA, P. I.

No. 78.

Satisfecho por D. Juan Martín el valor de las timber que ha aprovechado en el pueblo de Iba, provincia de Zambales, las cuales ha conducido á esta capital en el steamer *Salvadora*; los carabineros de custodia y dependientes de esta inspección permitirán descargar en el Río Pasig las timber que al dorso se expresan, previa la oportuna intervención de la que darán cuenta á esta dependencia con la devolución de la presente orden.

Manila, 15 de February de 1901.

[Signed.]

[Order to unload forest products in Manila paid for at another place.]

[Stub.]

No. —.

Embarcación, —. Procedencias, —. Núm. de piezas, —. Pies cúbicos, —. Tasación, —. Fecha de la relación, —. Número de la carta de pago, —. Fecha de la misma, —. Id. de la orden de descarga, —.

Manila, — de — de 190—.

El Ayudante,

Forestry Bureau, Form 17.—Form used by forestry officials in charge of stations in making semimonthly reports.

Mes de (month of) ———

Año de ———.

Nombre del interesado (name of interested party).	Procedencia de los productos (place of origin of products).	Clase de aprovechamiento (class utilized).	Número de piezas (number of pieces).	Cubicación (cubic volume).	
				<i>Pies.</i>	<i>Milésimas.</i>

Nombre del interesado (name of interested party).	Leñas (firewood).	Productos varios (various products other than timber or firewood).	Tasación (governmental charge).	
	<i>1.º grupo.</i>	<i>2.º grupo.</i>	<i>Pesos.</i>	<i>Ctmos.</i>

Nombre del interesado (name of interested party).	Diferencias (differences second inspection).		Multas (fines).		Destino de los productos (destination of products).
	<i>Pesos.</i>	<i>Ctmos.</i>	<i>Pesos.</i>	<i>Ctmos.</i>	

Nombre del interesado (name of interested party).	Fecha de la relación (date of manifest).	Fecha de la orden de ingreso (date of order of payment).	Fecha del ingreso (date of payment).	Internal Revenue en que se ingresó (Int. Rev. office where payment was made).
		<i>Expedida.</i>	<i>Recibida.</i>	

Nombre del interesado (name of interested party).	Intervención de la relación (second inspection).	Fecha de remisión de la relación y recibo al Forestry Bureau (date of transmission to and receipt of manifest at Forestry Bureau).	Observaciones.

24 REPORT OF FORESTRY BUREAU, PHILIPPINE ISLANDS.

Statement of licenses granted by forestry bureau, Manila, P. I., from July 1, 1900, to July 15, 1901.

[Date of last license granted by forestry bureau.]

TIMBER LICENSES (FOR PERIOD OF ONE YEAR).

Number granted—

July, 1900 (terms have expired)	33
August, 1900 (terms have expired)	32
September, 1900 (terms expire September 30, 1901)	30
October, 1900	40
November, 1900	28
December, 1900	33
January, 1901	72
February, 1901	20
March, 1901	8
Total number granted to date of Spooner amendment	296
April, 1901	26
May, 1901	49
June, 1901	53
	128
July, 1901	53
Total	477

FIREWOOD LICENSES (FOR PERIOD OF ONE YEAR).

Number granted—

July 1, 1900, to June 30, 1901	192
July, 1901	17
	209

DYEWOOD LICENSES (FOR PERIOD OF ONE YEAR).

Number granted—

July 1, 1900, to June 30, 1901	12
July, 1901	2
	14

RUBBER, GUMS, AND GUTTA-PERCHA LICENSES (FOR PERIOD OF ONE YEAR).

Number granted—

July 1, 1900, to June 30, 1901	38
July, 1901	1
	39

GRATUITOUS LICENSES (FOR PERIOD OF SIX MONTHS).

Number granted, July 1, 1900, to June 30, 1901	30
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Licenses granted by the forestry bureau, Manila, P. I.

TIMBER LICENSES.

No.	Licensee.	Date.	Location.	Province.
		1900.		
1	Leoncio B. Araullo	July 1	Bataan	Luzon.
2	J. R. Redfern (agent)	July 9	Tayabas	Do.
3	Justino Sevilla	do	Pampanga	Do.
4	Severo Sanchez	July 10	Tarlac	Do.
5	Hermogenos Tan-Tiango	do	Hermoso, Bataan	Do.
6	Francisco Garcia Vergara	do	Tayabas	Do.
7	Luis Esteban	July 12	Zambales	Do.
8	do	do	Bataan	Do.
9	Ramon Lagdamco	do	Camarines, Norte	Do.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

TIMBER LICENSES—Continued.

No.	Licensee.	Date.	Location.	Province.
		1900.		
10	Ramon Lagdameo.....	July 12	Camarines, Sur.....	Luzon.
11	do.....	do	Tayabas.....	Do.
12	Lino Livoro.....	do	Luban Island.....	Do.
13	Santo de los Reyes.....	July 13	Arayat, Pampanga.....	Do.
14	do.....	do	Tarlac.....	Do.
15	do.....	do	Nueva Ecija.....	Do.
16	Luis Esteban.....	July 16	Pampanga.....	Do.
17	Bernardo Buluran.....	July 18	Bataan.....	Do.
18	Florentino de Perio.....	do	Zambales.....	Do.
19	Mariano Gil.....	do	Bataan.....	Do.
20	John Orr.....	July 21	Tayabas.....	Do.
21	do.....	do	Camarines, Sur.....	Do.
22	Mariana Noble Jose.....	July 25	Pangasinan.....	Do.
23	do.....	do	Zambales.....	Do.
24	Celestino Correa.....	July 26	Bulacan.....	Do.
25	Juan Palmer Pages.....	July 27	Bataan.....	Do.
26	do.....	do	Zambales.....	Do.
27	Jose Izquierdo.....	do	Bataan.....	Do.
28	do.....	do	Tarlac.....	Do.
29	Salvador Linao.....	do	Bataan.....	Do.
30	Francisco Paguio.....	do	do.....	Do.
31	Catalino Enriquez.....	July 28	do.....	Do.
32	Antonio Vidanes.....	July 30	Morong.....	Do.
33	do.....	do	Laguna.....	Do.
34	Philippine Lumber and Development Co.....	Aug. 1	Camarines, Norte.....	Do.
35	do.....	do	Camarines, Sur.....	Do.
36	Bruno de Borja.....	do	Bulacan.....	Do.
37	Luis Esteban.....	do	Tarlac.....	Do.
38	Romulo Mercado.....	Aug. 2	Pampanga.....	Do.
39	Anacleto Mendoza.....	do	Bataan.....	Do.
40	Herbert R. Spincoe.....	Aug. 3	do.....	Do.
41	Isidoro Tuzon.....	do	Pampanga.....	Do.
42	do.....	do	Nueva Ecija.....	Do.
43	Guillermo Caldez.....	Aug. 4	Sibuyan Island.....	Romblon.
44	Santiago Mallary.....	Aug. 6	Tarlac.....	Luzon.
45	Jacobo F. Arcuschek.....	Aug. 8	do.....	Do.
46	Domingo Apolinario.....	do	do.....	Do.
47	Ramon Sanz.....	Aug. 9	Masbate Island.....	Do.
48	Epifanio Salta.....	Aug. 13	Nueva Ecija.....	Luzon.
49	Geronimo Paquin.....	do	Tarlac.....	Do.
50	Ramon Constantino.....	do	Zambales.....	Do.
51	Jose Izquierdo.....	do	Pampanga.....	Do.
52	Mariano Vega.....	Aug. 17	Tarlac.....	Do.
53	Enrique C. de Castelv.....	Aug. 21	do.....	Do.
54	Francisco Roque.....	do	Pampanga.....	Do.
55	Chino Jose Chung Sunmuy.....	do	Tarlac.....	Do.
56	Marcelo Tiglao.....	do	Pampanga.....	Do.
57	Tap Guan.....	Aug. 22	Tarlac.....	Do.
58	N. F. Hashim & Co.....	do	Zambales.....	Do.
59	Feliza Javier Martinez.....	Aug. 23	Luban Island.....	Do.
60	Manuel Nieto.....	do	Albay.....	Do.
61	Gregorio Dizon.....	Aug. 28	Tarlac.....	Do.
62	do.....	do	Pampanga.....	Do.
63	Luis Esteban.....	do	Nueva Ecija.....	Do.
64	Meliton Infantado.....	Aug. 28	Bulacan.....	Do.
65	Oscar F. Campbell.....	Aug. 29	Zambales.....	Do.
66	Sixto San Agustin.....	Sept. 5	Bataan.....	Do.
67	Juan Alili.....	do	Tarlac.....	Do.
68	Carlos Serrano.....	do	Masbate.....	Do.
69	do.....	do	Ticao.....	Masbate Island.
70	do.....	do	Burcias Island.....	Do.
71	Saturnino Cumington.....	Sept. 10	Bataan.....	Luzon.
72	Chino José Sun-Muy.....	do	Cagayan.....	Do.
73	Pedro Navarro.....	Sept. 15	Bataan.....	Do.
74	Antonio Correa y Pomar (agent).....	do	Cagayan.....	Do.
75	Marcelino Tangeo.....	do	Bataan.....	Do.
76	Francisco Dominguez.....	do	Pampanga.....	Do.
77	Pedro Caulas.....	do	Tarlac.....	Do.
78	Claro Lagdameo Evangelista.....	Sept. 19	Tayabas.....	Do.
79	do.....	do	Camarines Norte.....	Do.
80	do.....	do	Camarines Sur.....	Do.
81	Tranquillino Cesar.....	Sept. 21	Mount of Bolinao.....	Zambales.
82	Pastor Macamaya.....	Sept. 22	Cagayan.....	Luzon.
83	Astigarraga Hermanos.....	do	do.....	Do.
84	Bonifacio Acez.....	do	do.....	Do.
85	Juan de Molina Martell.....	do	do.....	Do.
86	Melquiades Flores.....	do	Bulacan.....	Do.
87	Carsila Flores.....	do	do.....	Do.
88	Martin Gonzalez.....	Sept. 24	Pampanga.....	Do.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

TIMBER LICENSES—Continued.

No.	Licensee.	Date.	Location.	Province.
		1900.		
89	Tan Pucco.....	Sept. 24	Pampanga.....	Luzon.
90	Gregorio de la Cruz.....	do	Bulacan.....	Do.
91	Pedro Cuevas.....	Sept. 25	Basilan Island.....	Do.
92	Tomas Ganara.....	do	Tarlac.....	Do.
93	Pedro Duyapa.....	Sept. 27	Cagayan.....	Do.
94	Mutute Hermanos.....	do	Davao.....	Fourth district Mindanao.
95	Lucio Isidro.....	do	Morong.....	Luzon.
96	Pedro Rodriguez.....	Oct. 1	Pampanga.....	Do.
97	José Rojas Tan Conges (Chino).....	do	do	Do.
98	do.....	do	Tarlac.....	Do.
99	Forbes Anderson.....	do	Tayabas.....	Do.
100	Luis Arnalot.....	do	do	Do.
101	Urbano Benito.....	do	Manila.....	Do.
102	Gregorio de Jesus.....	do	Sorsogon.....	Do.
103	Carlos Lagman.....	Oct. 3	Pampanga.....	Do.
104	Ignacio Naval.....	do	Bataan.....	Do.
105	Buenaventura Carsolin.....	Oct. 5	Bulacan.....	Do.
106	Niculaos Pica y Planas.....	do	Tayabas.....	Do.
107	Cesarea Bompua.....	do	Manila.....	Do.
108	Rafael Venero.....	Oct. 10	Cagayan.....	Do.
109	Esteban Romillo.....	do	do	Do.
110	Roman Simbol.....	Oct. 11	Tarlac.....	Do.
111	Bonifacio Simbol.....	do	Nueva Ecija.....	Do.
112	Brigido Achico.....	do	Pampanga.....	Do.
113	Mariano Santiago.....	Oct. 16	Manila.....	Do.
114	Pedro Edaño.....	do	Zambales.....	Do.
115	Pascual de Perio.....	do	do	Do.
116	Mariano V. Henson.....	Oct. 22	Pampanga.....	Do.
117	Martina Sicut.....	do	do	Do.
118	Felipe Angeles.....	do	Bulacan.....	Do.
119	Ladislao Donato.....	do	Abra.....	Do.
120	do.....	do	Ilocos Sur.....	Do.
121	Johan Theodore Lund.....	Oct. 23	Bataan.....	Do.
122	Ceunon Rodriguez.....	Oct. 27	Manila.....	Do.
123	Juan Canoy.....	do	Bataan.....	Do.
124	Rufino Lun-Culloce.....	do	Pampanga.....	Do.
125	Francisco Resurrection.....	do	do	Do.
126	Monico Espino.....	do	do	Do.
127	Pantaleon Gabriel.....	do	do	Do.
128	Leoncio Martin.....	do	Tarlac.....	Do.
129	Fabian de Guzman.....	do	do	Do.
130	Fermin Mendoza.....	do	do	Do.
131	Mariano Cutaran.....	do	Cagayan.....	Do.
132	Ignacio Alvarado.....	do	do	Do.
133	Fermin Macanaya.....	do	do	Do.
134	Gaudencio Anastacio.....	do	do	Do.
135	Severino Donato.....	do	do	Do.
136	Mariano Caetaquin.....	Nov. 6	Pangasinan.....	Do.
137	Francisco Garcia.....	do	Tayabas.....	Do.
138	Tomas Garcia.....	do	Nueva Ecija.....	Do.
139	Valentin Espiritu.....	Nov. 8	Zambales.....	Do.
140	Leon Trinidad.....	do	Pampanga.....	Do.
141	Otto Scheerer.....	Nov. 9	Benguet.....	Do.
142	Victor Lorenzo.....	Nov. 14	Manila.....	Do.
143	Crisanto Santos.....	do	do	Do.
144	Teodoro A. Raymundo.....	do	Zambales.....	Do.
145	Mamerto Roque.....	do	Pampanga.....	Do.
146	Servillano Vitug.....	do	do	Do.
147	Emilio A. Lallave.....	do	Ilocos Norte.....	Do.
148	Ivon Pineda.....	Nov. 16	Tarlac.....	Do.
149	do.....	do	Pangasinan.....	Do.
150	Antonino de Guzman.....	Nov. 19	Bataan.....	Do.
151	Jeronimo Zabala.....	do	Tayabas.....	Do.
152	Benito Tang Cuaco.....	do	Pampangas.....	Do.
153	Paulino Santiano.....	do	do	Do.
154	Francisco Pilapil.....	Nov. 26	Morong.....	Do.
155	Gregorio Hernandez.....	do	do	Do.
156	Victoriano L. Evangelista.....	do	Tayabas.....	Do.
157	Antonino Maximo.....	do	do	Do.
158	Vicente Triviño.....	do	Masbate Island.....	Do.
159	Mariano Montejo.....	do	Marinduque Island.....	Do.
160	Emilio Peni.....	Nov. 28	Masbate Island.....	Do.
161	Hipolito de la Rosa.....	Nov. 30	Zambales.....	Do.
162	José Corpus.....	do	do	Do.
163	Carlos Planes.....	do	Masbate.....	Do.
164	Juan Feliciano.....	Dec. 1	Pampanga.....	Do.
165	Vicente Camara.....	do	Zambales.....	Do.
166	José Caballero.....	do	Romblon Island.....	Do.
167	Protasio Cuaderno.....	Dec. 3	Bulacan.....	Do.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

TIMBER LICENSES—Continued.

No.	Licensee.	Date.	Location.	Province.
		1900.		
168	Simcon Blas.....	Dec. 3	Tarlac.....	Luzon.
169	Teodoro de Mesa.....	do	Pampanga.....	Do.
170	Juan Macedo.....	do	Zambales.....	Do.
171	A. W. Holmes.....	do	Benguet.....	Do.
172	E. L. Probascio.....	do	do.....	Do.
173	Miguel del Castillo.....	Dec. 10	Cagayan.....	Do.
174	Mariano de Leon.....	do	do.....	Do.
175	Manuel Kelos.....	do	do.....	Do.
176	Tomas Calagui.....	do	do.....	Do.
177	Mariano de Leon.....	do	Isabela.....	Do.
178	Mauro Prieto.....	do	Tayabas.....	Do.
179	Juan Atayde.....	do	Tarlac.....	Do.
180	Ciraca del Raldo.....	Dec. 11	Bataan.....	Do.
181	Venancio Lugto.....	do	Tarlac.....	Do.
182	Pedro Calantas.....	do	Cagayan.....	Do.
183	Gabriel Formoso.....	do	do.....	Do.
184	Leocadio Tan Puanco.....	Dec. 14	Bulacan.....	Do.
185	Pedro Jeronimo.....	do	Pampanga.....	Do.
186	Ly Agen.....	do	Iloilo.....	Panay.
187	Santiago Gimeno.....	do	Cavite.....	Luzon.
188	Macario Marco.....	do	Laguna.....	Do.
189	do.....	do	Batangas.....	Do.
190	Chua Tong (Chinese).....	do	do.....	Do.
191	Nicolas Pangan.....	do	Bataan.....	Do.
192	Juan Taldon.....	do	Zamboanga.....	Mindanao.
193	Kanuto Engelskjon.....	Dec. 15	Surigao Island, etc.....	Do.
194	Manuel Murciano.....	do	Tarlac.....	Luzon.
195	Pantaleon Villegas.....	do	Pampanga.....	Do.
196	Dolores Rivera.....	do	Tarlac.....	Do.
		1901.		
197	A. W. Prautch.....	Jan. 6	Pampanga.....	Do.
198	Nuctas Santos.....	Jan. 7	Bataan.....	Do.
199	Roman Tongco.....	do	do.....	Do.
200	Antonio Font.....	do	Zambales.....	Do.
201	Lun Ing Chiat (Chinese).....	do	Bataan.....	Do.
202	Miguel Pascual.....	do	do.....	Do.
203	Julian Balte.....	do	Bulacan.....	Do.
204	Gabriel Cord.....	do	Tayabas.....	Do.
205	Gregorio Marquez.....	do	do.....	Do.
206	Joaquin Bayot.....	do	Masbate Island.....	
207	Antonio Gomez.....	do	Manila.....	Do.
208	Victoriano Hilario.....	do	do.....	Do.
209	Jose Burriero.....	do	Morong.....	Do.
210	Tomas Asuncion.....	do	do.....	Do.
211	Domingo Villarama.....	do	Bulacan.....	Do.
212	Francisco Tiangeo.....	do	do.....	Do.
213	Isidoro Noriega.....	do	Pampanga.....	Do.
214	Martini Suat.....	do	Tarlac.....	Do.
215	José M. Almada.....	do	do.....	Do.
216	Tomas Garcia.....	do	Pampanga.....	Do.
217	Clemencia Navarro.....	do	Tarlac.....	Do.
218	Francisco Sison.....	do	Nueva Ecija.....	Do.
219	Zacarias Asuncion.....	do	Sorsogon.....	Do.
220	Nicolas Pilapil.....	do	Morong.....	Do.
221	Fon Leng.....	do	Bulacan.....	Do.
222	Mariano Dedacal.....	do	Pangasinan.....	Do.
223	Cipriano Candelario.....	do	Bataan.....	Do.
224	Torobio de Leon.....	do	Bulacan.....	Do.
225	Antonio Correa y Pomar.....	do	Iloilo.....	Panay Island.
226	Fruta de la Paz.....	do	do.....	Do.
227	Jose Elipio.....	Jan. 9	do.....	Do.
228	Jose Zulenata.....	do	do.....	Do.
229	Pedro Vasquez.....	do	do.....	Do.
230	James Porter.....	do	do.....	Do.
231	Brigido Cutaran.....	do	Cayagan.....	Luzon.
232	Manuel Oleaga.....	do	do.....	Do.
233	Bonifacio Cortez.....	do	do.....	Do.
234	Agustin Cabrera.....	do	do.....	Do.
235	Lorenzo Castillo.....	do	do.....	Do.
236	Alejo Berades.....	do	do.....	Do.
237	Bonifacio Comillas.....	do	do.....	Do.
238	Faustino Comillas.....	do	do.....	Do.
239	Leoneio Duyapa.....	do	do.....	Do.
240	Francisco Agconila.....	do	do.....	Do.
241	Aurelio Duyapa.....	do	do.....	Do.
242	Marcos Duyapa.....	do	do.....	Do.
243	Gabriel Cabal.....	do	do.....	Do.
244	Vicente Pascual.....	do	do.....	Do.
245	Fruta de la Paz.....	do	Concepcion.....	Panay.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

TIMBER LICENSES—Continued.

No.	Licensee.	Date.	Location.	Province.
		1901.		
246	Mariana Alcaeid	Jan. 12	Zambales	Luzon.
247	José C. Zapirum	do	Masbate Island	
248	Timoteo Sevilla	Jan. 17	Bataan	Do.
249	Simplino Estrada	do	Pangasinan	Do.
250	José Fernandez	do	Bulacan	Do.
251	Tomos Angeles	do	Pampanga	Do.
252	Anacleto Vicente	do	do	Do.
253	Taptee (Chinese)	do	Romblon	Do.
254	Ong Tingeo (Chinese)	do	Tayabas	Do.
255	Manuel Perez de Tagle	do	Iloilo	Panay.
256	Tin Suri Leong	do	do	Do.
257	Frank S. Bourns (agent)	do	Benguet	Luzon.
258	do	do	Zamboanga	Do.
259	M. A. Clarke	Jan. 21	Benguet	Do.
260	Pablo Garcia Mostratis	Jan. 22	Pampanga	Do.
261	Isidro Protusada y de Loyole	do	Masbate Island	
262	John F. Macleod	Jan. 24	Matti	Mindanao.
263	Francisco Sainz	do	Zamboanga	Do.
264	John F. Macleod	do	Matti	Do.
265	José Fernandez	do	Leyte Island	
266	Luis Hidalgo	Jan. 25	Cagayan	Luzon.
267	Adriano Tolentino	do	Pangasinan	Do.
268	Gemiliano Zurbito	do	Masbate Island	
269	W. N. Swarthout	Feb. 14	Bataan	Do.
270	W. F. Lowney & Co.	Feb. 15	Basilan Island	
271	Mercer, Nugent & Co.	do	Zambales	Do.
272	Joaquin Campomanos	Feb. 18	Leyte Island	
273	do	do	Comandag Island	Leyte.
274	Isidoro del Castillo	do	Batangas	Luzon.
275	Pascasio de Mendezoma	Feb. 19	Leyte Island	
276	do	do	Samar Island	
277	Chicote y Sanchez y Co.	do	Davos, Mindanao	
278	O. Orchard	do	Morong	Do.
279	Dani & Coryell	Feb. 21	Ticao, Masbate	
280	F. Emerson Hoar	Feb. 23	Laguna	Do.
281	Bonifacio Seronino	Feb. 25	Morong	Do.
282	Valeriano Cando	do	Nueva Ecija	Do.
283	Pastor del Castillo	do	Capiz	Panay.
284	Tomas Revilla	do	Morong	Luzon.
285	Pedro de la Vina	Feb. 26	Leyte Island	
286	Sixto del Rosario	do	Tablas, Romblon	
287	Marianno Yerro	Feb. 27	Leyte	
288	do	do	do	
289	Pedro C. Rodriguez	Mar. 1	Laguna	Do.
290	Mariano Moreno	Mar. 5	Masbate Island	
291	Augustin Asensio	Mar. 6	do	
292	Juan Rodriguez	do	do	
293	Cosmo Reyes	Mar. 6	Tayabas	Do.
294	E. Francisco Asis	do	Laguna	Do.
295	Pedro S. Magdangal	do	Nueva Ecija	Do.
296	Nicasio Manalo	do	Laguna	Do.
297	Honorio Lazam	Apr. 9	Isabela	Do.
298	G. L. M. Saxton	do	Masbate Island	
299	Carl F. Miller	Apr. 10	Basilan Island	
300	Tomas Ortiz	do	Nueva Ecija	Do.
301	Phelps Whitmarsh	Apr. 12	Benguet	Do.
302	Francisco de Guzman	do	Union	Do.
303	Florentino Milanes	do	do	Do.
304	José Llobrera	do	do	Do.
305	Guillermo Fortes	do	do	Do.
306	Charles Muller	do	Nueva Ecija	Do.
307	Potenciano Lesaca	do	Zambales	Do.
308	Santiago Calixto	do	Tayabas	Do.
309	Gregorio Bonilla	do	do	Do.
310	Charles Muller	do	Monong	Do.
311	Teodoro de Castro	do	Sorsogon	Do.
312	Severo Madrid	Apr. 12	do	Do.
313	Francisco Enaje de Jesus	do	Bilivan Islands	Leyte.
314	Lucio Lising	do	Tarlac	Luzon.
315	José Muñoz	do	Principe	Do.
316	do	do	do	Do.
317	Rufino Quimson	do	Nueva Ecija	Do.
318	Francisco Ruiz Camacho	do	do	Do.
319	Fausto Ormaechea	Apr. 19	Albay	Do.
320	Mercer, Nugent & Co.	do	Zambales	Do.
321	Cirilo de Perio	Apr. 22	do	Do.
322	Alberto T. Gomez	do	do	Do.
323	Feliciano Farrales	May 3	do	Do.
324	Francisco Urisar	May 14	Cagayan	Do.
325	Blas Pantaleon	do	North Ilocos	Do.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

TIMBER LICENSES—Continued.

No.	Licensee.	Date.	Location.	Province.
		1901.		
326	Juan Ortega	May 14	Nueva Ecija	Luzon.
327	Julian A. Yargea	do	do	Do.
328	Cirilo Estella	do	Zambales	Do.
329	Timoteo Manzano	do	do	Do.
330	Serviliana Veleses	do	Bulacan	Do.
331	Wilbur J. McKee	do	Morong	Do.
332	Rafael Calvo	do	Tayabas.	Do.
333	Florencio Dequito	do	do	Do.
334	Luis N. Baza	do	do	Do.
335	Manuel Ayala	do	Camarines Norte	Do.
336	Rafael Calvo	do	Camarines Sur	Do.
337	Mariano Onandia	do	Albay	Do.
338	Paciano Rizal Mercado	do	do	Do.
339	Silvestre Siping	do	do	Do.
340	Alejandro Quisumbing	do	Romblon	Island of Sibuyan.
341	José A. Zaparain	do	Leyte	Luzon.
342	Domingo Lavin	do	Samar	
343	Perfecto Tomas Garces	do	Camote Island	Cebu.
344	Felix Robles de la Rama	do	Guimaras Island	Iloilo.
345	José Diaz Aguilar	do	Leyte	Luzon.
346	Ramon Lagdameo	do	Samar	
347	José V. Castellano	do	Zambales	Do.
348	Feliza Viejo	do	Tayabas.	Do.
349	T. C. Manurl	May 15	Nueva Ecija	Do.
350	Martin Sansianco	do	Romblon	
351	John H. Carter	do	Zambales	Do.
352	Patricio Bailon	May 16	Sorsogon	Do.
353	do	do	Albay	Do.
354	Federico Ignacio y Pana (Chino)	May 17	Tayabas.	Do.
355	Celestino Mercader	do	Sorsogon	Do.
356	Harry M. Luresett	May 21	Surigao	
357	A. Iturri & R. Mañereu & Co.	May 22	Camarines Norte	Do.
358	Lorenzo C. Afable	do	Leyte	Do.
359	Saturnino Sta. Quana	do	do	Do.
360	Eugenio Diaz	do	do	Do.
361	Benito V. Cervera	do	Surigao	Mindanao.
362	Mariano Novales	do	do	Do.
363	J. W. Winkelbach	do	Tayabas.	Luzon.
364	Francisco Bayan	May 28	Bulacan	Do.
365	Melchor Castejon	do	Romblon	
366	Miguel Logarta	do	Leyte	Do.
367	Teodoro Sandico	May 29	Nueva Ecija	Do.
368	Antonio Saez	do	Concepcion	Iloilo.
369	M. Peypoeh & Co	do	Tayabas.	Luzon.
370	Buenaventura Ochangeo	May 31	Bulacan	Do.
371	Albert D'Arcy	do	Principe	Do.
372	Pedro Constantino	June 1	Tayabas.	Do.
373	Gervasio Unson	do	do	Do.
374	Cipriano P. Cruz	do	Nueva Ecija	Do.
375	Benigno Diaz	do	Manila	
376	Wm. Neill	June 3	Nueva Ecija	Luzon.
377	Jose Barricero	do	Laguna	Do.
378	Natalio Rullado	do	Union	Do.
379	Gabriel Tabora	do	do	Do.
380	Vicente Puzon	do	do	Do.
381	Francisco Sanz	do	Sibuyan	Romblon.
382	Mariano Suarez	do	Bulacan	Luzon.
383	Manuel Palafox	do	North Ilocos	Do.
384	Eusebio Ong Tuaco	June 10	Laguna	Do.
385	Andres Barea	do	do	Do.
386	Marcelo Barba	June 11	North Ilocos	Do.
387	Pedro L. Valdez	do	do	Do.
388	Taciano Delgado	do	Laguna	Do.
389	Melecio Lexon	June 13	do	Do.
390	Melquiades Limpico	do	do	Do.
391	M. Jap Sioco (Chinese)	do	Romblon	
392	Cayetano de Chinchilla	June 17	Nueva Ecija	Do.
393	do	do	Pangasinan	Do.
394	Domingo Ferrer	do	do	Do.
395	Isidro Sareno	do	do	Do.
396	Cecilio Gonzalez	do	do	Do.
397	Cosme de Churrua, agent	do	Leyte	Do.
398	Felisa Viejo	June 19	Bataan	Do.
399	Taciano Delgado	do	Rizal	Do.
400	Tomas Blanco	June 21	Masbate	
401	Teodoro Jatco	do	do	Do.
402	Felipe Caharion	do	Laguna	Do.
403	Joaquin Castro	June 24	Misamis	Mindanao.
404	Tomas Gomez	do	Leyte	
405	Manuel Arbona	do	Bataan	Luzon.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

TIMBER LICENSES—Continued.

No.	Licensee.	Date.	Location.	Province.
		1901.		
406	Antonio Muñoz	June 24	Bataan	Luzon.
407	Antonio Raimundo	June 26	Manila	
408	Jose Mijares	do	Leyte	
409	Balbino Limpico	do	Nueva Ecija	Do.
410	Meliton Ruiz	June 28	Sorsogon	Do.
411	Inchausti Co	do	do	Do.
412	Ignacio Ureta	do	Nueva Ecija	Do.
413	W. M. Taylor	June 29	Misamis	Mindanao.
414	Quentin Matanaran	do	Cavite	Luzon.
415	Angel Banaaz	do	Rizal	Do.
416	Cipriano P. Cruz	do	Bataan	Do.
417	Nicolas Galvin	do	Pangasinan	Do.
418	Martin Vinluan	do	do	Do.
419	George I. Tanis	do	Leyte	Do.
420	do	do	do	Do.
421	Harry F. Kendall	do	Bataan	Do.
422	G. W. Langford	do	North Ilocos	Do.
423	Enrique Kar	do	Bataan	Do.
424	Fernando Jansiang	do	Nueva Ecija	Do.
1	Francisco Garcia Vergara	July 1	Tayabas	Do.
2	Severo Sanchez	do	Tarlac	Do.
3	J. H. Grefkens	July 3	Bataan	Do.
4	Braulio Eloriano	do	do	Do.
5	Quirino Timoteo	do	Laguna	Do.
6	Lucas Prado	do	Capiz	Panay.
7	Gregorio Bangalan	July 6	Cagayan	Luzon.
8	Clemente Maquiraya	do	do	Do.
9	Tranquilono Taquinod	do	do	Do.
10	Hermogenes Tantiango	do	Bataan	Do.
11	Gregorio Talavera	do	do	Do.
12	Buenaventura Banzon	do	do	Do.
13	Protasio Cuaderno	do	do	Do.
14	Francisco Codina	do	do	Do.
15	Mariano Moreno	do	Camarines Norte	Do.
16	A. L. Bimloss (agent)	do	Leyte	
17	do	do	do	
18	Vicente Mijares	July 8	Bataan	Do.
19	Ramon Lagdameo	do	Tayabas	
20	Verisimo Vasquez	do	Marinduque	
21	Henry Strauss	do	Bataan	Do.
22	Arend Van Wissnigen	July 9	Principe	
23	H. A. Sanger	do	Rizal	Do.
24	do	do	Infanta	
25	Frank L. Bourns	July 10	Paragua	
26	Benite Legarda	do	do	
27	Demetrio Tuason	do	do	
28	Balbino Limpico	do	Bulacan	Do.
29	Juan Palmer	do	Bataan	Do.
30	do	do	Zambales	Do.
31	do	do	Pampanga	Do.
32	José Izquierdo	do	Tarlac	Do.
33	Juan Palmer	do	do	Do.
34	Andres Diaz Rodriguez	do	Nueva Ecija	Do.
35	Leoncio J. Araullo	July 12	Bataan	Do.
36	Francisco Rodriguez	do	Camarines Norte	
37	Manuel Paves Guana	do	Bataan	Do.
38	Domingo Gutierrez	do	Romblon	
39	Luis Asunción	do	Laguna	Do.
40	Simon Ramos	do	Bulacan	Do.
41	Manuel Miguez	do	Paragua	
42	Julian A. Jargca	do	Bulacan	Do.
43	Pantaleon Garcia	do	do	Do.
44	John Bordman, jr	July 13	Iloilo	Panay.
45	do	do	do	Do.
46	A. M. Eaton, jr	do	Calamianes Islands	
47	do	do	Iloilo	Do.
48	do	do	do	Do.
49	Vicente Gay	do	Occidental Negros	
50	Igidio Llanes	do	Zambales	
51	Francisco Brillante	July 15	Bataan	Luzon.
52	Remigio Banico Bernardo	do	Luban	
53	Marcial Estella	do	Zambales	

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

FIREWOOD LICENSES.

No.	Licensee.	Date.	Province.
		1900.	
1	Francisco Garcia y Vergara	July 8	Tayabas.
2	Hermogenes Tan Tiangeo	July 10	Bataan.
3	Ramon Lagdameo	July 12	Tayabas.
4	John Orr	July 21	Do.
5	.....do .....	.....do	Camarines Sur.
6	Philippine Lumber and Development Co	Aug. 1	Camarines Norte.
7	.....do .....	.....do	Camarines Sur.
8	Herbert R. Spencer	Aug. 3	Bataan.
9	Ramon Sanz	Aug. 9	Masbate.
10	José Izquierdo	Aug. 13	Pampanga.
11	Mariano Vega	Aug. 17	Tarlac.
12	.....do .....	.....do	Pangasinan.
13	Marcelo Tigla	Aug. 21	Pampanga.
14	Jap Quian	Aug. 22	Tarlac.
15	Manuel Nieto	Aug. 23	Albay.
16	Felix Bautista	Aug. 28	Bataan.
17	Sixto San Agustin	Sept. 5	Do.
18	Carlos Serrano .....	.....do	Masbate.
19	.....do .....	.....do	Ticao Island.
20	.....do .....	.....do	Burias Island.
21	Antonio Correa y Pomar (agent)	Sept. 15	Cagayan.
22	Marcelino Tongco .....	.....do	Bataan.
23	Claro Lagdameo Evangelisto	Sept. 19	Tayabas.
24	Victoriano Guiamboa	Oct. 1	Bataan.
25	Forbes Anderson .....	.....do	Tayabas.
26	Urbano Benito .....	.....do	Manila.
27	Gregorio de Jesus .....	.....do	Sorsogon.
28	José Izquierdo	Oct. 3	Tarlac.
29	Antonio Dominguez .....	.....do	Pampanga.
30	.....do .....	.....do	Tarlac.
31	Ignacio Naval .....	.....do	Bataan.
32	José Almada	Oct. 12	Tarlac.
33	Miguel Antiporda	Oct. 20	Morong (Binongonan).
34	Johan Thodter Lund	Oct. 23	Bataan.
35	Conon Rodriguez	Oct. 27	Manila.
36	Mariano Tactaquin	Nov. 6	Pangasinan.
37	Francisco Garcia .....	.....do	Tayabas.
38	Leon Trinidad	Nov. 8	Pampanga.
39	Antonio de Guzman	Nov. 19	Bataan.
40	Victoriano L. Evangelista	Nov. 26	Tayabas.
41	Antonio Maximo .....	.....do	Do.
42	Vicente Triviño .....	.....do	Masbate Island.
43	Felipe G. Calderon	Nov. 28	Manila.
44	.....do .....	.....do	Morong.
45	Emelio Peni .....	.....do	Masbate Island.
46	José Corpus	Nov. 30	Zambales.
47	Alberto F. Gomez .....	.....do	Do.
48	Carlos Planes .....	.....do	Masbate Island.
49	Ramon Asuncion	Dec. 1	Bataan.
50	Donato Quico .....	.....do	Do.
51	Vicente Camara .....	.....do	Zambales.
52	José Caballero .....	.....do	Romblon Island.
53	Pablo Arcusa	Dec. 3	Cavite.
54	Juan Macedo .....	.....do	Zambales.
55	Per August Pearson	Dec. 8	Manila.
56	Ignacio Alvarado	Dec. 10	Cagayan.
57	Mariano de Leon .....	.....do	Do.
58	Mauro Prieto .....	.....do	Tayabas.
59	Victoriano Jimenez	Dec. 15	Pampanga.
60	Dimas Colmenar .....	.....do	Cavite.
61	Dimas Colemanar	Dec. 15	Bataan.
62	Manuel Murelano .....	.....do	Tarlac.
63	Sio Chiengle (Chinese) .....	.....do	Pampanga.
		1901.	
64	A. W. Prantch	Jan. 6	Do.
65	Gregorio R. Santos (agent)	Jan. 7	Morong.
66	.....do .....	.....do	Bataan.
67	.....do .....	.....do	Bulacan.
68	Mariano Zapico .....	.....do	Bataan.
69	Carlos Tria Tirona .....	.....do	Do.
70	Zacarias Asuncion .....	.....do	Sorsogon.
71	Joaquin Bayot .....	.....do	Masbate Island.
72	Gregorio Marquez .....	.....do	Tayabas.
73	Bartolome Tablante .....	.....do	Pampanga.
74	Martina Sicut	Jan. 8	Do.
75	Mariano Velasco	Jan. 9	Manila.
76	.....do .....	.....do	Morong.
77	Francisco Martinez .....	.....do	Romblon Island.
78	Flaviano Agoncillo .....	.....do	Tayabas.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

FIREWOOD LICENSES—Continued.

No.	Licensee.	Date.	Province.
		1901.	
79	James Porter	Jan. 9	Iloilo.
80	Clemente Zarate	do	Do.
81	Pedro Vasquez	do	Do.
82	José Zulueta	do	Do.
83	Paulino Guillermo	do	Cagayan.
84	Antonio Correa y Pomar (agent)	do	Iloilo.
85	Esteban L. Manzano	Jan. 12	Zambales.
86	Sucesores de S. Valensuela	do	Morong.
87	Jeronimo de Jesus	do	Tayabas.
88	Timoteo Sevilla	Jan. 17	Bataan.
89	Agripina de Guzman	Jan. 24	Morong.
90	Frank S. Bourns (agent)	Jan. 17	Zamboanga.
91	do	do	Benguet.
92	M. A. Clarke	Jan. 21	Do.
93	John Corrigan	Jan. 24	Laguna.
94	John F. Macleod	do	Matti, Mindanao.
95	Francisco Salnz	do	Zamboanga.
96	John J. Macleod	do	Matti.
97	Luis Hidalgo	Jan. 25	Cagayan.
98	José Almaria	do	Tayabas.
99	W. N. Swarthout	Feb. 14	Bataan.
100	Juan Doblas	Feb. 15	Cagayan.
101	Mariano Alienzo	do	Bataan.
102	Juan Covas	do	Tayabas.
103	José Barriero	do	Morong.
104	Felix Estella	do	Zambales.
105	Isaac Mosquera	do	Iloilo, Panay.
106	Ong Joe	do	Do.
107	Catalino Garingalas	do	Do.
108	Mercer, Nugent & Co.	do	Zambales.
109	Severino Ruato	Feb. 18	Pampanga.
110	O. Orchard	Feb. 21	Morong.
111	Daniel Coryell	do	Ticao, Mindanao.
112	Macario Marco	Feb. 25	Laguna.
113	Jap Siang (Chinese)	do	Pampanga.
114	Mariano Noble José	do	Pangasinan.
115	Valeriano Cando	do	Nueva Ecija.
116	Juan de la Paz	do	Iloilo, Panay.
117	Isidoro del Castillo	Feb. 26	Batangas.
118	Adriana Dolores	do	Manila.
119	Telesforo Concepcion	do	Bulacan.
120	Severino del Castillo	do	Morong.
121	Feliciano Tecson	Mar. 1	Bataan.
122	Julio Bautista	Mar. 7	Zambales.
123	Marcial Estella	do	Do.
124	Eulalio Misa	do	Do.
125	Lim-Ing-Chiat	do	Bataan.
126	Juan Rodriguez	do	Masbate.
127	Mariano Mendoza	do	Batangas.
128	Cristino Javier	Apr. 12	Pangasinan.
129	Tomas Amansee	do	Do.
130	Luciano Bermudes	do	Do.
131	Valerio Rua	do	Cavite.
132	Potenciano Jurnul	do	Bataan.
133	Claro Pascual	do	Do.
134	Crispina Gulambas	do	Do.
135	Ciriaco Bautista	do	Do.
136	Marcelino Aguirro	do	Do.
137	Inocencio Ramos	do	Capiz.
138	Santiago Calixto	do	Tayabas.
139	Severo Madrid	do	Sorsogon.
140	P. Lawton Wightman	do	Laguna.
141	Bartolomeo Tablante	Apr. 13	Tarlac.
142	Protasio Cuaderno	Apr. 19	Laguna.
143	Federico Kauffman (agent)	Apr. 22	Panay Island.
144	Mannel Arbona	do	Bataan.
145	Francisco Urizar	May 14	Cagayan.
146	Wilbur J. McLee	do	Morong.
147	Fidel P. Sias	do	Pangasinan.
148	Cesarío Oganiza	do	Do.
149	Rafael Calvo	do	Tayabas.
150	Mariano Onandia	do	Albay.
152	Severino Valeses	do	Bulacan.
153	Cornelio Malibiran	do	Bataan.
154	Luis Samson	do	Do.
155	Tomas Rodriguez	do	Do.
156	Crescencio Rebullada	do	Do.
157	Camuto del Castillo	do	Do.
158	José V. Castellano	do	Zambales

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

FIREWOOD LICENSES—Continued.

No.	Licensee.	Date.	Province.
159	José Diaz Aguilar	1901. May 14	Leyte.
160	Antonio Lopez	do ..	Morong.
161	Felisa Viejo	do ..	Tayabas.
162	Justo Garcia	do ..	Tarlac.
163	Ong-Tingco	do ..	Tayabas.
164	Florencio Dequito	do ..	Do.
165	M. M. Figueras	do ..	Iloilo, Panay.
166	Rafael Calvo	do ..	Camarines Sur.
167	Felix Robles de la Rama	do ..	Iloilo, Panay.
168	Ramon Lagdañeco	do ..	Samar.
169	Juan Jaldon	do ..	Zamboanga.
170	Patricio Baylon	May 16	Sorsogon.
171	do	do ..	Albay.
172	Celestino Mercader	May 17	Sorsogon.
173	Ant. Iturri & Ramon Manueri	May 22	Camarines Norte.
174	Tomas Blanco	May 28	Masbate.
175	Francisco Bayan	do ..	Bulacan.
176	Antonio Saiz	May 29	Concepcion, Iloilo.
177	M. Peypoch & Co	do ..	Tayabas.
178	Esteban Cervantes	May 31	Bulacan.
179	Pedro Magcasi	June 1	Do.
180	Cirilo Manalota	do ..	Pampanga.
181	Gabriel Cord de Cruz	do ..	Tayabas.
182	Luis Sorriano	do ..	Bataan.
183	José Barriero	June 5	Laguna.
184	Evaristo Ortiz	do ..	Pampanga.
185	Elena Brodeth	do ..	Iloilo, Panay.
186	Flaviana Cuninan	do ..	Bataan.
187	Mariano Mangonan	June 17	Pangasinan.
188	Evarista Ortiz	do ..	Tarlac.
189	Cosme de Churruca (agent)	do ..	Leyte.
190	Joaquin Buenviaje	June 19	Morong, Rizal Prov.
191	Florencio Melicoton	June 24	Capiz, Panay.
192	Florentina Fria	June 28	Bataan.
1	Angel Banaag	July 3	Morong, Rizal Prov.
2	Engracio Santiago	do ..	Pampanga.
3	Thomas F. Page	do ..	Laguna.
4	Francisco Garcia Vergara	July 6	Tayabas.
5	Protasio Cuaderno	do ..	Bataan.
6	Buenaventura Banzon	do ..	Do.
7	Ramon Lagdañeco	July 8	Tayabas.
8	Frank S. Bourns	July 10	Paragua.
9	Benito Legarda	do ..	Do.
10	Demetrio Juason	do ..	Do.
11	José Grialte	July 12	Morong, Rizal Prov.
12	A. M. Eaton, jr.	July 13	Iloilo.
13	do	do ..	Do.
14	Francisco Brillante	do ..	Bataan.
15	Agapito Dionisio	July 15	Pampanga.
16	Apolonio Banuelos	do ..	Do.
17	Dominga Salandanan	do ..	Bataan.

DYEWOOD LICENSES.

No.	Licenses.	Date.	Location.	Province.
1	Siponzo	1901. Jan. 1	Panay	Iloilo.
2	Frias y Ca	Jan. 24	do ..	Do.
3	John T. Macleod	do ..	Mindanao	Matti.
4	do	do ..	do ..	Do.
5	Francisco Sainz	do ..	do ..	Zamboanga.
6	Jose Tulucta	Feb. 15	Panay	Iloilo.
7	Clemente Tarate	do ..	do ..	Do.
8	Dan'l Coryell	Feb. 21	Ticao Island	Masbate.
9	Po-Guiao	Feb. 25	Panay	Iloilo.
10	Manuel Perez de Eagle	Mar. 7	do ..	Do.
11	John H. Carter	May 15	Luzon	Zambales.
12	Tusto Porcuria	June 26	do ..	Tayabas.
1	A. M. Eaton, jr.	July 13	Panay	Iloilo.
2	do	do ..	do ..	Do.

Licenses granted by the forestry bureau, Manila, P. I.—Continued.

LICENSES FOR RUBBER, GUMS, GUTTA-PERCHA, ETC.

No.	License.	Date.	Location.	Province.
		1900.		
1	Guillermo Caldes	Aug. 1	Sibuyan Island	Romblon.
2	Ramon Sanz	Aug. 9	Masbate Island	Masbate.
3	Ramon Lacdamso	Aug. 21	Tayabas	Luzon.
4	Carlos Serrano	Sept. 5	Masbate	Masbate.
5	do	do	Cicao Island	Do.
6	do	do	Burias Island	Do.
7	Antonio Correa y Pamar, as representative of the "Campania Gral de Tabacos de Filipinas."	Sept. 15	Cagayan	Luzon.
8	Claro Lacdames Evangelista ..	Sept. 19	Tayabas	Do.
9	Matute Hermanos	Sept. 27	Davao	Mindanao.
10	Estanislao Corral	do	do	Do.
11	Luis Arnalot	Oct. 1	Tayabas	Luzon.
12	Francisco Garcia	Nov. 6	do	Do.
13	Victoriano L. Evangelista	Nov. 26	do	Do.
14	Antonio Maximo	do	do	Do.
15	Vicente Crivino	do	Masbate Island	Masbate.
16	Vicente Camara	Dec. 1	Zambales	Luzon.
17	Jose Caballero	do	Romblon	Romblon.
		1901.		
18	Antonio Correa y Pamar (agent)	Jan. 9	Tayabas	Luzon.
19	Tan Ico	Jan. 17	do	Do.
20	Frank S. Bourns (agent)	do	Zamboanga	
21	John Macleod	Jan. 24	Multi	Mindanao.
22	John Macleod	do	do	Do.
23	Francisco Salnz	do	Zamboanga	Do.
24	Luis Hidalgo	Jan. 25	Cagayan	Luzon.
25	Chicote y Sanchez y Ca	Feb. 19	Davao	Mindanao.
26	Eclesforo Bayani	Apr. 12	Zambales	Luzon.
27	Gregorio Banilla	do	Tayabas	Do.
28	Francisco Urizar	May 14	Calayan Island	Do.
29	Rafael Calvo	do	Tayabas	Do.
30	do	do	South Camarines	Do.
31	Mariano Onandia	do	Albay	Do.
32	Juan Jaldon	do	Zamboanga	Mindanao.
33	J. W. Winkelbaek	May 22	Davao	Do.
34	Melchor Castejon	May 28	Tablas	Romblon.
35	Francisco Sanz	June 5	Sibuyan	Do.
36	M. Peypoch y Ca	June 11	Tayabas	Luzon.
37	Cosme de Chirruca (agent) ..	June 17	Leyte	Leyte.
38	Justo Porcuna	June 26	Tayabas	Luzon.
1	Tomas Blanco	July 13	Masbate Island	Masbate.

GRATUITOUS LICENSE.

		1900.		
1	Tomas Ganara	Oct. 12	Luzon	Tarlac.
2	Silvino Isla	Oct. 27	do	Do.
3	Leoncio Paras	Nov. 3	do	Do.
4	Cosme Lasnarias	Nov. 21	do	Union.
5	Leoncio Paras	Nov. 23	do	Tarlac.
6	Alcalde municipal	Dec. 28	do	Do.
		1901.		
7	Lieut. L. H. Rand	Jan. 9	do	Zambales.
8	Captain Tianza	do	do	Benguet.
9	Peter Buckley	do	do	Do.
10	John F. Reaves	do	do	Do.
11	Sergeant Miller, Signal Corps ..	Jan. 22	do	Cagayan.
12	Lieut. Basil O. Lenoir	Feb. 1	do	
13	Padre Patricio Calderon	Feb. 27	do	Manila.
14	Lieut. W. H. H. Chapman	Apr. 8	do	Ilocos Norte.
15	Lieut. Robert E. Brooks	Apr. 19	do	Zambales.
16	Maj. W. N. Wotherspoon	Apr. 23	Pan de Azucar	Iloilo.
17	Lieutenant Stickie	May 14	Luzon	Nueva Ecija.
18	Capt. I. P. O'Neil	do	do	Zambales.
19	Presidente municipal of Camalanigan ..	June 6	do	Cagayan.
20	Nicolas Marzal	June 10	do	Zambales.
21	Bonifacia Reyes	do	do	Do.
22	Colonel McCaskey	June 18	do	Ilocos Norte.
23	Leandro Coronel	June 19	do	Pampanga.
24	Gregorio P. Antonio	do	do	Do.
25	Phelps Whitmarsh	June 20	do	Benguet.
26	Presidente municipal of Mondadna ..	June 21	do	Tarlac.
27	Capt. H. L. Draper	June 27	do	Bataan.
28	do	do	do	Zambales.
29	Presidente municipal of Pamplona ..	June 29	Pamplona	Cagayan.
30	Alcalde municipal of Dagupan	do	Luzon	Pangasinan.

GENERAL ORDERS, } OFFICE U. S. MILITARY GOVERNOR, PHILIPPINE ISLANDS,
No. 92. } Manila, P. I., June 27, 1900.

The following provisions based on existing law, and amendatory thereto, prescribing the tariff on State timber, and regulations for the utilization of forest products in the public forests of the Philippine Islands, shall have the force and effect of law on and after July 1, 1900; but existing law on the same subjects shall remain valid, except in so far as herein modified or repealed, expressly, or by necessary implication.

CHAPTER I.—*Tariff on State timber and instructions for its application.*

ARTICLE 1. Timber shall be classified into six groups as indicated in the tables below.

ART. 2. The unit of measure shall be, for the present, the cubic foot. It is recommended that lumber dealers accustom their employees to the use of the metric system.

ART. 3. The price per cubic foot for the valuation of State timber shall be as indicated in the following table. The price shall be the same in all parts of these islands:

[Cents per cubic foot.]

Superior group	14
First group	10
Second group	8
Third group	3
Fourth group	2
Fifth group	1

ART. 4. The State sells its trees standing, excluding the bark in measuring the tree.

ART. 5. Inasmuch as the measurement of standing timber can not always be made, for lack of available forestry employees, the concessioners may stack the timber hewn or cut up, subject to the additional charges hereinafter provided.

ART. 6. In round timber the length of the piece and the circumference in the middle section shall be measured.

ART. 7. When the logs are presented rough hewn—i. e., where a section is approximately octagonal (four sides being hewn and the other four with the bark on)—the dimensions shall be taken by measuring the length and average transverse section, but said section shall be a quadrilateral, formed by prolonging the four larger sides—i. e., the four hewn sides.

ART. 8. If the logs be hewn square, the contents shall be ascertained by measuring the length and an average transverse section, but in such cases the valuation shall be increased 25 per cent for the wood lost in hewing the tree square.

ART. 9. The cubic contents of sawed timber shall be ascertained as in the preceding article, carrying out the figures to tenths of a cubic "point;" but the increase in valuation (to make up for loss in the sawing) shall be limited to 15 per cent.

ART. 10. Wood of the Camagon tree, when presented stripped of its inner bark or surplusage, using only the heart wood, as is the custom of the trade, shall be measured according to the cubic contents actually presented, but the valuation shall be increased 100 per cent.

ART. 11. Logs of ebony trimmed down in like manner to the black hard wood shall be measured according to the cubic contents actually presented, as in the preceding case, but the valuation shall be increased 200 per cent.

ART. 12. The woods of groups 3, 4, and 5 only may be cut for fuel.

ART. 13. Classification of woods as per first article:

I. SUPERIOR GROUP.

No.	Popular names.	Scientific names.
1	Calantas	Cedrela Toona Roxb.
2	Camagon	Diospyros discolor Willd.
3	Dugon	Heritiera sylvatica Vidal.
4	Ebano	Naba buxifolia Pers.
5	Ipil	Alzelia bijuga A. Gray.
6	Mancono	Xanthostemon Verdugonianus, Naves.
7	Molave	Vitex altissima Lf.
8	Narra	Pterocarpus indicus Willd.
9	Teca	Tectona grandis Lf.
10	Tindalo	Alzelia rhomboidea Vidal.
11	Yacal	Hopea plagata Vidal.
12	Urung	Fragraea fragans Roxb.

II. FIRST GROUP.

No.	Popular names.	Scientific names.
1	Acle	Pithecolobium acle, Vidal.
2	Alahan	Diospiros.
3	Camphor	Cinnamomum camphoratum, Bl.
4	Alintatao	Diospiros.
5	Anubing	Artocarpus odorata, Blanco.
6	Bansalaguin	Minusop parvifolia, Br.
7	Baticuling	Litsea Perrottetii, B. et H.
8	Batitinan	Lagerstrœmia Batitinan, Willd.
9	Bayuco	Artocarpus lanceolata, Trec.
10	Betis	Azola betis, Blanco.
11	Camuning	Murraya exotica, Li.
12	Cubi	Artocarpus Cumingiana, Trecul.
13	Jara	Garcinia.
14	Laneta	Wrightia ovata, A. D. C.
15	Malatapay	Alanguium octopetalum, Blanco.
16	Calamansanay	Terminalia Calamansanay, Rolfe.
17	Camayuan or Tamaayan	Ginosporia.

III. SECOND GROUP.

1	Agoho	Casuarina æquisetifolia, Li.
2	Alalangat	Adenanthera pavonina, Li.
3	Alpay	Nephelium glabrum, Noronch.
4	Alupac-amo	Nephelium longana, Cam.
5	Amuguis 1st	Odina speciosa, Bl.
6	Aranga	Homalium, Barandæ, Vidal.
7	Banaba	Lagerstrœmia, Flos Reginae, Ret.
8	Banitan	Xylopia Blancoi, Xal.
9	Batino	Alstonia macrophylla, Willd.
10	Bayuco 2d	Artocarpus.
11	Banuyo	Albizzia.
12	Bilolo	Sizygium.
13	Bolong eta	Diospyros pilosanthera, Bl.
14	Calimantao	Evodia.
15	Calingag	Cinnamomum Mercadoi, Vidal.
16	Caña fistula	Cassia fistula, Li.
17	Catmon	Dillenia philippinensi, Li.
18	Dolitán	Palaquium.
19	Dungon-late	Heritiera littoralis, Drians.
20	Guijo	Dipterocarpus Guiso, Bl.
21	Guipato	?
22	Guisihan	Ratonia montana, Bt. et Hook.
23	Lanutan	Thespesia Campylocophon, Rolfe.
24	Macaasin	Eugenia.
25	Madre cacao	Ghrisidia maculata, B. A. H.
26	Malacadios	Myristica.
27	Malacapon	?
28	Malacatmon	Dillenia Reifferscheidia, Fer. V.
29	Malaruhát	Eugenia.
30	Mangachapuy	Shorea Mangachapuy, Bl.
31	Mangasinoro	Shorea.
32	Mangasirique	Quercus.
33	Marang	Artocarpus.
34	Mulauin aso	Premna nauseosa, Blanco.
35	Nangca	Artocarpus integrifolia, Li.
36	Nato	Sterculia.
37	Oayan	Quercus Blancoi, A. D. C.
38	Paitan	Eugenia.
39	Palayan	Quercus.
40	Palo Maria	Calophyllum inophyllum, Li.
41	Pasac	Pygeum arboreum, Endl.
42	Pusopuso	Litsea chinensis, Lam.
43	Romero	Podocarpus costalis, Presl.
44	Sirique	Quercus.
45	Supa	Sindora Wallichii, Benth.
46	Tanguile	Shorea Talura, Roxb.
47	Toob or Tua	Biscotia Javanica, Bl.
48	Tucan-calao	Stereulia.

IV. THIRD GROUP.

1	Abilo	Garuga Floribunda, Dene.
2	Alagao	Premna vestita, Schauer.
3	Alamag	Aporosa.
4	Acien parang	Albizzia.
5	Anagap	Pithecolobium labatum, Benth.
6	Aninapla	Albizzia procera, B.
7	Anobling	Talauma Angatensis, Vidal.

IV. THIRD GROUP—Continued.

No.	Popular names.	Scientific names.
8	Anonang.....	<i>Cordia mixa</i> , Li.
9	Anatan.....	<i>Ochna fascicularis</i> , Bl.
10	Apitong.....	<i>Dipterocarpus grandiflorus</i> , Bl.
11	Bagarilao.....	<i>Nauclea</i> .
12	Bagarilao na itim.....	<i>Terminalia</i> .
13	Baguilmboy.....	<i>Sisylum</i> .
14	Bahay.....	<i>Ormosia calavensis</i> , Bl.
15	Balinhasay.....	<i>Buchanania florida</i> , Schaner.
16	Balobo.....	<i>Diplodiscus paniculatus</i> , Turcz.
17	Balucanat.....	<i>Aleurites trisperma</i> , Bl.
18	Banitan.....	<i>Xilopia blancoi</i> , Xal.
19	Batete.....	<i>Wrightia</i> .
20	Batobato.....	<i>Litsea</i> .
21	Bayabas.....	<i>Psidium guyabas</i> , Li.
22	Bayoc.....	<i>Pterospermum acerifolium</i> , Willd.
23	Bitoc.....	<i>Callophillum</i> .
24	Bunglas.....	<i>Zizygium</i> .
25	Calumpit.....	<i>Terminalia edulis</i> , Bl.
26	Camanchiles.....	<i>Pithecolobium dulce</i> , Benth.
27	Cansuyot.....	<i>Antidesma</i> .
28	Cunalong.....	<i>Diospiros</i> .
29	Cupang.....	<i>Parkia Roxburghii</i> , G. Don.
30	Dalindigan.....	<i>Shorea</i> .
31	Dalinsi.....	<i>Terminalia</i> .
32	Danglin.....	<i>Grewia multiflora</i> , Fuss.
33	Dao.....	<i>Dracontomelum</i> .
34	Dinglas.....	<i>Eugenia</i> .
35	Ditaa.....	<i>Alstonia scholaris</i> , Li.
36	Duclap.....	<i>Zizyphus</i> .
37	Duguan.....	<i>Myristica Fatua</i> , Houtt.
38	Galagala.....	<i>Agathis lorantifolia</i> , Sabist.
39	Gatasan.....	<i>Garcinia</i> .
40	Guyonguyon.....	<i>Cratogeomys floribundum</i> , F. Will.
41	Hagadhad.....	<i>Dipterocarpus pilosus</i> , Roxb.
42	Lauan.....	<i>Anisoptera Thurifera</i> , Bl.
43	Libato.....	<i>Cumingia philippinensis</i> , Vidal.
44	Lucban gubat.....	<i>Citrus</i> .
45	Lunbang.....	<i>Aleurites Trisperma</i> , Bl.
46	Magarapale.....	<i>Terminalia</i> .
47	Magarilao.....	<i>Terminalia</i> .
48	Maluanonang.....	<i>Dipterocarpus</i> .
49	Malabayabas.....	<i>Gardenia pseudopsidium</i> , F. Villar.
50	Malacadios.....	<i>Myristica</i> .
51	Malacmalac.....	<i>Palaquin</i> .
52	Malasaguin puti.....	<i>Eugenia</i> .
53	Mamalis.....	<i>Pittosporum Fernandezii</i> , Vidal.
54	Manbog.....	<i>Stephegyne diversifolia</i> , Hook.
55	Manga.....	<i>Mangifera indica</i> , Gaertn.
56	Manungal.....	<i>Samadera indica</i> , Gaertn.
57	Matabao.....	?
58	Mayapis.....	<i>Dipterocarpus</i> .
59	Pagatpat.....	<i>Sonneratia acida</i> , Li.
60	Pagsalinguin.....	<i>Canarium Cumingii</i> , Engl.
61	Palosapis.....	<i>Shorea</i> .
62	Paho.....	<i>Mangifera altissima</i> , Blanco.
63	Pili.....	<i>Canarium ovatum</i> , Engl.
64	Panao (Balao).....	<i>Dipterocarpus hispidus</i> , F. Villar.
65	Pipi.....	<i>Litsea Garciae</i> , Vidal.
66	Pulanbalat.....	<i>Sisylum</i> .
67	Quitay-Quinay.....	<i>Bridelia</i> .
68	Sacat.....	<i>Terminalia sumatrana</i> , Mig.
69	Saleng.....	<i>Pinus insularis</i> , Endl.
70	Sampoloc.....	<i>Tamarindus indicus</i> , Li.
71	Tabigui.....	<i>Carapa moluccensis</i> , Lam.
72	Talisay.....	<i>Terminalia Catappa</i> , Li.
73	Tapulao.....	<i>Pinus Mercusii</i> , Jungh.
74	Tacuitaqui.....	?
75	Tunbon aso.....	<i>Morinda umbellata</i> , Li.

V. FOURTH GROUP.

1	Agos-os.....	<i>Ficus pungens</i> , Reinw.
2	Agupanga.....	<i>Chisocheton</i> sp.
3	Alauibao.....	<i>Dracontomelum</i> .
4	Alasas.....	<i>Ficus asparata</i> , Bl.
5	Amugan.....	<i>Pigeum Maingayi</i> , Hook.
6	Amuyon.....	<i>Melodorum fulgens</i> , H. A. T.
7	Anam.....	<i>Buchanania nitida</i> , Engl.
8	Anilao.....	<i>Columbia anilao</i> , Bl.
9	Aroma.....	<i>Acacia farnesiana</i> L.
10	Asactalong.....	<i>Phyllanthus</i> sp.

V. FOURTH GROUP—Continued.

No.	Popular names.	Scientific names.
11	Asis	<i>Ficus heterophylla</i> , L.
12	Ata-ata	
13	Bacan	
14	Bacodong	<i>Melia duvia</i> , Cav. <i>Cupania</i> sp.
15	Bagaluga	
16	Bagonito	
17	Bagontao	Canarium. <i>Zizyphus</i> sp. <i>Cupania regularis</i> , Blume. <i>Pterospermum diversifolium</i> , Bl.
18	Bago-santol	
19	Bait	
20	Balacat	<i>Hibiscus tiliaceus</i> , L.
21	Balasabis	
22	Balay-bayan	
23	Balay-ohot	<i>Capura</i> sp. <i>Sapindus</i> sp. <i>Pongamia glabra</i> , Vent. <i>Macaranga</i> , sp. <i>Anacardium</i> sp. <i>Garcinia Cowa</i> , Roxb. <i>Leea</i> sp.
24	Balibago	
25	Baligamban	
26	Balinaonao	<i>Cordia subcordata</i> , Lam. <i>Mullotus philippinensis</i> , Muller. <i>Terminalia</i> sp. <i>Morinda bracteata</i> , L.
27	Baloc	
28	Baloc baloc	
29	Baluan	<i>Pemphis</i> sp.
30	Balubat	
31	Balucot	
32	Ballan-ballan	<i>Dracontomelum</i> sp.
33	Banaguling	
34	Banalo	
35	Banato	<i>Dracontomelum</i> .
36	Bancalauan	
37	Bancudo or Nino	
38	Bangate	<i>Orchipea</i> sp. <i>Jambosa</i> sp. <i>Zizyphus</i> sp.
39	Bang-got	
40	Bani	
41	Batingui	<i>Antidesma bunius</i> L. <i>Antidesma chaesembilla</i> , Goertn. <i>Macaranga mappa</i> , Mueller. <i>Garcinia</i> sp. <i>Antidesma cumingii</i> , Mull. <i>Micromelum</i> sp. <i>Macaranga tanarius</i> , Mull. <i>Streblus</i> sp. <i>Garuga</i> sp.
42	Barinconcoron	
43	Barusa	
44	Batang-hisan	<i>Barringtonia speciosa</i> , L. <i>Eriodendron anfractuosum</i> , D. C.
45	Batican	
46	Bating	
47	Batsan	<i>Citrus hirtia</i> , D. C. <i>Talauma</i> . <i>Pygeum parvifolium</i> , Taip. <i>Xylopia</i> . <i>Leea Sambucina</i> , Willd. <i>Vidalia</i> sp. <i>Esterculia faetida</i> , L.
48	Bausio	
49	Bayac-usa	
50	Bayit	<i>Diospyros</i> . <i>Acacia</i> sp. <i>Linociera luzonica</i> , Bl.
51	Biga	
52	Bigas	
53	Bignay	<i>Sesbania grandiflora</i> , Pers.
54	Bignay-calabao	
55	Bilaun	
56	Bilucan	<i>Canthium Mite</i> , Benth. <i>Memecylon edule</i> , Roxb. <i>Pometia</i> sp.
57	Binayuyo	
58	Binting-dalaga	
59	Binunga	<i>Aglaiia argentea</i> , Bl.
60	Boc-boc	
61	Bogo	
62	Boto-buti	<i>Euphorbia</i> sp. <i>Grewia</i> sp.
63	Botong	
64	Bubuy	
65	Cabong-cabong	<i>Erythrina indica</i> , Lam.
66	Cabuyao	
67	Cacao-cacauan	
68	Cagatungan	<i>Dittelasma</i> sp.
69	Culay	
70	Caliang-tang	
71	Caloc-catmo	
72	Calumpang	
73	Cami-oi	
74	Canomay	
75	Caraol	
76	Caropsan	
77	Carumanpat	
78	Caturay	
79	Cugao	
80	Culin-manog	
81	Culis	
82	Cuyaquia	
83	Cuyas-cuyas	
84	Daluroy	
85	Dangle	
86	Daniri	
87	Danloy	
88	Danyay	
89	Dapdap	
90	Dila-dila	
91	Dilang butiqui	
92	Dondonay	
93	Duca	

V. FOURTH GROUP—Continued.

No.	Popular names.	Scientific names.
94	Dumpilan.....	
95	Himbabao.....	Excoecaria agallocha, Mull.
96	Hongo.....	Eleocarpus sp.
97	Hopong-Hopong.....	
98	Hugud.....	
99	Kugao.....	
100	Lagasa.....	
101	Lagnig.....	Clausena sp.
102	Lamio.....	Dracontomelum mangiferum, Bl.
103	Leptasao.....	
104	Libas.....	Eugenia sp.
105	Ligaa.....	
106	Ligas.....	Semecarpus anacardium, Li.
107	Lipote.....	Eugenia sp.
108	Lubtob.....	Ficus laurifolia, Bl.
109	Lunas.....	Lunasia amara, Bl.
110	Lunas-na-itim.....	Gonocarum tariacense, Vid.
111	Llapa.....	
112	Maata.....	
113	Macaturay.....	Stereospermum sp.
114	Maga.....	
115	Magabagaba.....	Aritera rufescens, Radlk.
116	Magarambulo.....	Cyclostemon sp.
117	Maguilic.....	Litsea sp.
118	Malaaduas.....	
119	Malabago.....	Hibiscus sp.
120	Malabonga.....	Iteadaphne confusa, Bl.
121	Malabulac.....	Bombax malabaricum, D. C.
122	Malacacao.....	Talauma.
123	Malacacote.....	Beddomea luzoniensis, Vid.
124	Malacauayan.....	Hemegyrosa deficiens, Bed.
125	Malacna.....	Cletra canescens, Rauiro.
126	Malaga-api.....	
127	Malaga-itiman.....	
128	Malaiba.....	Phyllanthus sp.
129	Malaiemo.....	Celtis philippinensis, Bl.
130	Malanbang.....	Mallotus sp.
131	Malang-dalaga.....	
132	Malapalitpit.....	Sapindus Turczadinowii, Vid.
133	Malapapaya.....	Polyscia Cumingiana, Pers.
134	Malasamat.....	
135	Malasambong.....	Vernonia arborea, Ham.
136	Malasanqui.....	Cinnamomum sp.
137	Malasantol.....	Sandoricum borneense, Mig.
138	Malatagon.....	Canarium sp.
139	Malatigui.....	Albizzia sp.
140	Malatubie.....	Sizygium sp.
141	Malauban.....	Barringtonia sp.
142	Manay.....	
143	Matan-cuao.....	
144	Malibog.....	
145	Matobato.....	
146	Matungoc.....	
147	Mauayan.....	
148	Nanagdong.....	
149	Oonog.....	Albizzia julibrisin, Durog.
150	Orihnon.....	
151	Paihot.....	Mangifera.
152	Palang.....	Acalypha sp.
153	Pamalatanguen.....	Canthium.
154	Pandacaqui.....	Tabernaemontana coronaria, Br.
155	Pangilino.....	Wornia sp.
156	Payaquitan.....	
157	Pingol.....	Engelhardtia sp.
158	Postalagon.....	Gomphia angustifolia, Vabl.
159	Pototan.....	Cerlops candollanea, Arm.
160	Pugauy.....	Nelistris sp.
161	Puray.....	
162	Putad.....	
163	Quiniang.....	Barringtonia racemosa, Bl.
164	Quio.....	
165	Rubian.....	Ardisia sp.
166	Sagum-sagum.....	
167	Salab.....	Cupania sp.
168	Salamungay.....	Aglala sp.
169	Salasie.....	
170	Salingogon.....	
171	Sipit-cait.....	
172	Subian-daga.....	Plectronia sp.
173	Subo-subo.....	
174	Sulipa.....	Gardenia pseudopsidium, F. Will.
175	Supi.....	
176	Surug.....	

V. FOURTH GROUP—Continued.

No.	Popular names.	Scientific names.
177	Susuguin.....	Gardenia pseudopsidium, F. Will.
178	Tabaldo.....	
179	Tabao.....	
180	Tabayos.....	
181	Taboc.....	Aegle decandra, Nav.
182	Tadcan.....	
183	Taligauan.....	Pterospermum sp.
184	Talio.....	
185	Tambis.....	Eugenia.
186	Tanag.....	Kleinhovia hospita, L.
187	Tanglon.....	Amoora sp.
188	Taquit-asim.....	Mallotus moluccanus, Mull.
189	Tayocan.....	
190	Tical.....	Aglaia sp.
191	Tinaan.....	Phyllantus sp.
192	Tinaan-pantay.....	
193	Tingan.....	Rubiacea.
194	Tinga-tinga.....	Pterospermum obliquum, Bl.
195	Tingcal.....	Aglaia sp.
196	Tive-tive.....	
197	Toquian.....	Terstroemia Llanosii, Vid.
198	Tua.....	Delichandrone Rheedii, L.
199	Tulang-manog.....	
200	Uban.....	Premna sp.

VI. FIFTH GROUP.

1	Bacao.....	Rhizophora conjugata, L.
2	Bacauan.....	Bruguiera Caryophylloides, Bl.
3	Biuas.....	Kandelia Rheedii, W. et A.
4	Bungalon.....	Avicennia officinalis, L.
5	Calibayoan.....	Bruguiera eriopetala, Wilz.
6	Culasi.....	Lumnitzera racemosa, Willd.
7	Langaray.....	Bruguiera parviflora, Wetk.
8	Libato-pula.....	Lumnitzera Coccinea, W. et A.
9	Libato-puti.....	Cumingii philippinensis, Vid.
10	Nilad.....	Seypluphora hydrophylla, Goertn.
11	Tagasa.....	Ceriosp Roxburghiana, A.
12	Tangal.....	Rhizophora mucronata, Lam.
13	Tingan-baquis.....	Ægiceras majus, Goertn.
PALMAS.		
14	Anahao.....	Livingstonia rotundifolia, Mart.
15	Anibong.....	Areca Nibung, Mart.
16	Balatbat.....	Licuala sp.
17	Balon-luyon.....	Corypha sp.
18	Banga.....	Wallichia.
19	Barangoy.....	Orania.
20	Bonga.....	Areca catechu, L.
21	Caon.....	Arenga saccharifera, Lab.
22	Dayuca.....	Wallichia sp.
23	Dumayaca.....	Caryota sp.
24	Lum iac.....	Iguanura.
25	Luyos.....	Areca sp.
26	Macasilad.....	Licuala elegans, Mart.
27	Palindan.....	Bentinchia sp.
28	Pinag.....	Areca alba Rumph. var. genocarpa, Kumph.
29	Pugahan.....	Caryota urens, L.
30	Saguisi.....	
31	Tamis-san.....	Cocos sp.
32	Taquipan.....	Caryota Rumphiana, Mart.
33	Tibanglang.....	

New species added to above list as investigation continues. A total of 665 species now on list.

CHAPTER II.—The utilization of timber in the State forests.

ART. 14. One year from the date of license shall be allowed for the felling and removal of timber. When the time allowed is not sufficient to admit of this, an application for a new license must be made within such time as will admit the issuing of the same before the expiration of the legal limit of the old license.

ART. 15. Felled timber shall be piled in cleared places in such a manner that measurements may be readily ascertained.

ART. 16. The concessioner shall advise the chief of the forest section of the time

the cutting will commence, shall state in what jurisdiction it will be effected, the places where the timber will be piled, and the names and residences of his representatives.

ART. 17. No concessioner holding a license for the ordinary cutting of wood shall be allowed to act at the same time for a concessioner holding a gratuitous license.

ART. 18. The concessioner having cut the wood, shall be held responsible by the State for its value as per official tariff. If, at the expiration of the time of his license, he has not taken the timber out of the forest, in addition to its value he will be held responsible for any damages which may have resulted to be estimated and approved by the forestry official of the district.

ART. 19. The carrier of sawed lumber, transporting same from lumber yards or private warehouses, must be provided with a receipt, signed by the owner of the establishment from which it came, showing in detail the number and classes of the pieces. These receipts will be shown to the forestry officials when asked for, in order to show where the lumber came from and avoid confusing same with products which are carried direct from the public forests.

ART. 20. Constructors of vessels shall procure licenses and pay the value of the timber used, and must furnish the local forest official with a statement of the timber cut, which statement said official verifies.

ART. 21. After inspection and valuation of timber is made, the order of payment is given, and after said payment is made and receipt shown the concessioner is free to use the timber.

ART. 22. No vessel, whatever its size, built of timber from the public forests can put to sea without having paid for the timber used, except as provided in the regulations governing the gratuitous use of timber.

ART. 23. 1. Owners of mining concessions must pay an annual rent or tax for the ground so occupied, which tax shall be regulated by the greater or less adaptability of the ground to the purposes of forest or agricultural cultivation. A bond of sufficient amount shall also be required to cover any damage which may happen to the trees or forest products from said mining operations, the conditions to be fixed by this office, after due notice.

2. Owners of mining concessions, or their legal representatives, shall procure from this office a license before utilizing state timber in their mining operations.

3. Applications for said licenses shall be forwarded through the mining bureau, in which application shall be described the mining concessions they possess or represent, the forest or forests in which the timber is to be cut, the kinds of woods desired, and the approximate quantity; also the uses to which the timber is to be put.

ART. 24. 1. Those who may desire to engage in the business of burning charcoal in the public forests shall comply with the forestry regulations in everything which relates to the utilization of the forest products, and must provide themselves with the necessary licenses.

2. After felling trees, and before commencing the process of burning for charcoal, the party interested shall present to the local forestry official an itemized statement of the timber felled, which will be verified and valued by that official, who will give the order of payment. After payment the party is at liberty to proceed with the burning, exercising care to do so at a sufficient distance from standing timber so as not to cause damage, and he shall be held responsible for any damage so caused.

ART. 25. Concessioners shall notify the local forestry official, or in his absence the president of the respective town, where the wood is being piled. Upon failure to do as prescribed a penalty will be incurred of 25 per cent of the value of the wood.

ART. 26. Constructors of vessels and charcoal burners who fraudulently report to the forestry official the number of pieces of wood cut will pay, in addition to the value of the excess, a fine of 25 per cent of its value.

CHAPTER III.—*The gratuitous use of state timber.*

ART. 27. 1. Licenses for the free use of timber shall be issued without charge by this office.

2. Said licenses shall be issued to needy residents of towns upon application, to which application shall be attached a certificate, signed by the president or alcalde of the town, stating the circumstances and actual need in each particular case. No charge shall be made for this certificate.

3. Said timber must be used exclusively in the construction of houses in which the parties making application are going to live or have place of business or for repair of same, for the manufacture of their implements of industry, in the construction of one or two bancas for the purpose of fishing or for the transportation of their agricultural products.

4. The amount of timber thus conceded to needy residents by gratuitous license shall not exceed 1,000 cubic feet.

ART. 28. Tree species of the superior and first groups, as laid down in the official tariff on state timber, are not to be cut under a gratuitous license.

ART. 29. Timber for the construction of bridges, government buildings, and other works of a public character undertaken by the government may be obtained by gratuitous license issued by this office, application being made by the proper official.

ART. 30. Needy residents, and those persons in charge of the construction of public works, desiring licenses for the gratuitous use of State timber, shall send their applications, with other documents, to the chief forestry official of the district or section, and in case there is no such official available, to the district commander, who will forward same with the necessary indorsements to this office.

ART. 31. When the work referred to in article 29 is done by contract the contractor must procure an ordinary license and comply with all the requirements of same.

ART. 32. Six months from date of license shall be allowed needy residents in which to fell and remove said timber. One year from date of license for such purpose shall be allowed persons engaged in the construction of public works. When there is not sufficient time in which to finish said work, a new license should be solicited, in time so that it may be issued before the expiration of the old license.

ART. 33. There shall be attached to applications for gratuitous licenses to cut timber for public works a statement of the number of pieces, classes, and dimensions of the wood required.

ART. 34. A concessioner shall notify the chief forestry official of the respective section, of the time and place of cutting, and where the timber is to be stacked, and the location of the public works for which the timber was granted.

ART. 35. A gratuitous license shall not be issued to timber dealers nor to those holding an ordinary license.

ART. 36. The concessioner, after cutting is finished, shall notify in writing the chief of the forest section, inclosing a statement of the timber cut.

ART. 37. Timber can not be taken out of the jurisdiction of the town where cut unless accompanied by a manifest authenticated by the local forestry official, or in his absence by the president of the town (no charge shall be made for this authentication). The concessioner shall, as per foregoing article, remit this manifest to the forestry official of the section after said timber has arrived at the location of above-mentioned public works. Said timber shall be detained in case of failure to show a proper manifest, and, in addition, a fine of from 1 to 5 per cent of the value of the wood so detained shall be imposed.

ART. 38. The chief forestry official of the forest section or the ranger of the precinct shall see that the cutting is carried on in conformity with these regulations and terms of license. He shall compare the statements received from the concessioner and inspect and measure the wood piled or used in said public works.

ART. 39. The concessioner shall be considered, as per article 30 of these regulations, as an appointee of the district commander or other competent authority, and also as his representative in the execution of said public work, and shall be held personally responsible for any violation of these regulations.

ART. 40. The concessioner is prohibited from giving away or selling a single piece of wood cut under this form of license, not even under the pretext that it is surplus wood. The wood must be used for the purpose for which it was granted, and should there be any surplus said surplus shall be deposited in the presidencia of the town at the order of the chief of the forest section, who will immediately arrange for its sale at public auction. In such a case the concessioner shall have no right to indemnity of any character, not even for expense of felling, hewing, or transportation, etc.

ART. 41. Should any person with a proper license for cutting timber for his personal and exclusive use or for public work cut a greater quantity than is allowed in said license, or takes different classes from those specified, or applies them to a different object than that stated by the concessioner, or speculates in them, shall pay the value of the timber and, in addition, a fine of three times its value.

ART. 42. Presidents or alcaldes of towns shall carefully attend to all who desire certificates referred to in the twenty-seventh article and shall exercise care not to make any false statements as to the needs of the applicants, under a penalty of \$20 fine for the first offense and an indictment before the courts in case of repetition.

ART. 43. Concessioners of gratuitous licenses shall notify the local forest official, or in his absence the president or alcalde of the town of the different places where the wood is being piled. Failure to do so shall render concessioner liable to a fine equal to 25 per cent of the value (as per official tariff) of the wood so piled.

CHAPTER IV.—*Firewood for the market.*

ART. 44. 1. Licenses to cut firewood for the market, to be cut in the State forests, shall be issued from this office.

2. Applications for said licenses shall be delivered to the chief of the forest district or section, who will forward same to this office with the necessary remarks.

3. District commanders may issue such licenses, after having received the proper information concerning the circumstances of each particular case from the chief of the forest section of the locality where the wood is to be cut.

4. District commanders shall notify this office, and also the chief forestry official of the province, of the number of licenses issued by their order.

5. One year from date of license shall be allowed for the cutting, splitting, and removal of firewood.

6. When said period is not sufficient, a new license shall be solicited, in time to allow of its issue before the expiration of the old license.

ART. 45. The tree species of the third, fourth, and fifth groups only can be used for firewood, and those cutting other species shall render themselves liable to a fine of four times the value of the wood, which shall be measured and valued as timber, as per official tariff.

ART. 46. When there is a great amount of firewood cut, the concessioner shall localize his cutting and pile the wood beyond the forest, to avoid danger of fire when wood becomes dry.

ART. 47. When the forest consists of dead and dry timber as a result of fire, all may be cut down, but if the forest is composed of live trees, those to be cut must be selected and cut down close to the ground. In falling, care must be taken that the adjacent standing trees are not injured.

ART. 48. When it is not convenient for the concessioner to pay the value of the products utilized in the office of the internal revenue of the province, on account of its distance from the place of cutting, payment may be made to the president or alcalde of the nearest town, who shall receive the amount, give a receipt to the concessioner, and send a copy of this receipt to the nearest forestry official.

The sums thus collected by presidents or alcaldes shall be turned into the office of internal revenue.

ART. 49. The concessioners shall notify the local forestry official, or in his absence the president of the town, where the wood is being piled. If said notice is not properly given a fine of 25 per cent of the value of the firewood shall be imposed.

ART. 50. 1. Firewood cut in the forests of the State shall be divided into two classes.

The first class, whether pieces are round or split, is known in the market under the name of "rajas," from 75 centimeters to 1½ meters long, and from 20 to 40 centimeters in circumference.

2. All firewood in small sticks not of these dimensions belong to the second class.

ART. 51. All pieces exceeding the maximum dimensions fixed for firewood shall be designated as timber, paid for by cubic feet, as per official tariff.

ART. 52. 1. Firewood of the first class, destined for home consumption, shall be charged for at the rate of \$1 per thousand "rajas," and when intended for export at the rate of \$2 per thousand "rajas."

2. Firewood of small size belonging to the second class, destined for home consumption, shall be charged for at the rate of 20 cents per cubic meter, and when intended for export at the rate of 40 cents per cubic meter.

Proportional charge will be made for fractions of a thousand or cubic meter.

CHAPTER V.—*Caoutchouc, gum elastic, gutta-percha, gum mastic, rosin (black and white), and balao.*

ART. 53. One year from date of license shall be allowed for the harvesting of this class of products. When said period of time is not sufficient, a new license shall be solicited in time to allow its issue before the expiration of the old license.

ART. 54. 1. In extracting these products the concessioner shall make cuttings or incisions into the trunks of the trees at least 25 centimeters above the ground. The felling of said trees without permission is absolutely prohibited.

2. These incisions should be made with a very sharp instrument, penetrating the bark and the first layers of wood.

3. The incisions shall be cut horizontally and 25 centimeters in length.

4. When the flow of the juices is obstructed at the opening, the concessioner will be permitted to recut the outer edges, and to enlarge the incision or cutting by 25 centimeters, prolonging it upward.

5. In those trees which have trunks measuring more than 40 centimeters in diameter (approximately $1\frac{1}{2}$ feet), the concessioner will be permitted to make four incisions or cuttings on opposite sides.

6. The width of the cuttings shall never exceed 8 centimeters.

7. A metal or wooden plate may be placed on the lower part of the incision to facilitate the collection of the juice. A vessel may be placed under the incision at the foot of the tree.

ART. 55. From the flowering of the tree to the ripening of its fruit, trimming of the edges of said incisions or any lengthening of the same shall not be permitted.

ART. 56. Said products may be stored in towns, wards, or other places, at the convenience of the concessioner, having previously notified the chief forestry official of the section, or in his absence the nearest local authority, in order that the proper legal formalities may be followed.

ART. 57. 1. A manifest shall accompany said forest products when transported from one place to another within the same province. Said manifest shall be made out by the chief forestry official of the section or locality; in his absence by the president or alcalde of the town; or if destined for another province, by the nearest local commander. If the manifest is made by a president, there shall be stated in it the class and weight of each class of products to be removed; but if the manifest is made by the chief forestry official of the section, or in his absence by the nearest local commander, there shall also be stated the value of each class of said products.

2. The forest official at point of destination of products has the right to verify the correctness of the manifest or letter of payment which accompanies said products. If any difference should be found between the amounts shown on said documents, and the actual amount of cargo, the concessioner shall pay the amount of excess, and if said excess should be more than the fifth part, shall also incur a fine of twice the value of said excess.

ART. 58. Concessioners utilizing this class of products shall for the present pay 10 per cent of its value, as per market price in Manila at time of inspection and measurement.

CHAPTER VI.—*General provisions.*

ART. 59. 1. Licenses to gather or utilize forest products in the state forests shall be granted by this office.

2. Applications for said licenses must be delivered to the chief forestry official of the forest district or section, or to the district commander, who shall forward same to this office with the necessary indorsements of the forestry official of said district. In the application shall be stated the kinds of forest products desired and the place where said products are to be gathered.

3. The gathering or utilization of forest products can be done only in the forests of the province specified in the license. If the concessioner should cut or gather forest products in the forests of any other province, said products shall be considered as unlawfully cut.

4. No charge shall be made for licenses nor for the authentication or making out of manifests.

5. Reserved forests, and the species of trees the cutting of which is forbidden, will be noted in licenses for the information of the concessioner. The felling of trees of the superior and first groups, excepting ebony, camuning, and lanete, of a less diameter than 40 centimeters is absolutely prohibited.

6. The felling in the state forests of trees, from which caoutchouc, gutta-percha, and gum elastic are extracted, is prohibited.

The following is a partial list of names of the above-mentioned tree species:

Agiotin.	Tanguisan baguio.	Urostigma sp.
Anocep.	Tanguisan Bayaba.	Artocarpus Camansi.
Antipolo.	Tibig.	Palaquium sp.
Palacpalac.	Dysoxylum.	Ficus sp.
Balete.	Palaquium.	Ficus.
Camansi.	Artocarpus incisa Li.	Ficus cuneata Mig.
Malaputad.	Palaquium latifolia Bl.	Ficus heterophylla L.
Tanguisan.		

7. The felling in the state forests of the ylang-ylang tree is prohibited.

8. The utilization of forest products not specifically mentioned in these regulations shall be by license, and said utilization shall be governed by special conditions which may be ascertained upon presentation of application for a license to utilize said products.

ART. 60. Whosoever cuts or removes timber or other forest products prohibited

by official order, or cuts species the utilization of which is prohibited by special mention in the license, shall incur a penalty amounting to four times the value of the products. A copy of these regulations shall accompany each license.

ART. 61. The concessioner must gather said forest product together, and pile it in the district where cut or gathered, and not where the cutting of timber or other utilization of forest products is forbidden. For any violation he shall incur a penalty of four times the value of the product gathered.

ART. 62. 1. The trees to be cut shall be selected and cut down close to the ground, care being taken that no damage be done in falling to the adjacent trees. The concessioner shall compactly pile the branches of all trees felled, and place said branches where the least damage shall be done to the younger growth.

2. Forest products shall be transported as far as possible by routes where there are few trees, avoiding as far as practicable the destruction of the younger growth.

3. Concessioners shall be held responsible for any damage to the forests through failure to comply with the above requirements. They shall also be held responsible for violations of said regulations on the part of their representatives or their employees.

ART. 63. When the cutting or gathering of forest products has been finished, the concessioner shall notify in writing the nearest forestry official of the place where said product is deposited, the classes and amount of the same, and its destination.

He shall also state if he has left any felled timber in the forest; and if so, the number of trees and the classes.

A forestry official shall verify the "statement" of forest products presented by the concessioner, examining and measuring the same. He will make out, in duplicate, the manifest for each shipment, and give one copy of this to the concessioner.

ART. 64. The concessioner shall not load, sell, nor use any forest product which has not been paid for, unless he has had express authority from the chief of the forestry bureau and has given a satisfactory guaranty to that official.

ART. 65. 1. A manifest will not be necessary in case the forest product is not to be removed from the jurisdiction of the town in which the forest is situated.

In this case, after having examined, measured, and valued said product, the forestry official of the district or section gives to the concessioner or his representative an order of payment to the internal-revenue office, stating amount to be paid.

2. This having been done, the concessioner or his representative shall deliver the letter acknowledging payment to the official who made out the order, who shall acknowledge receipt of same, making a note at the bottom of the page of the official statement, which he will deliver to the interested party. Having complied with these conditions, the owner of the forest product can dispose of same as he sees fit.

3. For any violation of these requirements he will be liable to a fine of 25 per cent of the value of said product.

ART. 66. 1. When the forest product is to be transported by land or by river from one town to another, within the same province, the carrier must be provided with a manifest, signed by the concessioner or his representative and authenticated by the forestry official residing in the town where the timber or other forest product was cut or gathered, and in case there should be no such official there, then by the president or alcalde. Upon the arrival of said product at its destination, it can not be disposed of until the forms as provided for in the foregoing conditions are complied with.

2. The concessioner shall not remove said product in case it is to be carried by land or river from one province to another without having first paid its value in the internal-revenue office of the province in which the forest is situated.

3. The concessioner may remove said product after having the manifest indorsed by the forestry official to the effect that it has been paid for, and said manifest must accompany the person in charge of above transportation.

4. Should said product be transported by sea and shipped from one point to another in the archipelago the payment may, at the option of the concessioner, be made in the office of internal revenue at the place of origin or destination.

5. In the first case, where payment has been made at place of origin, the concessioner will be governed by section 3, in that the cargo must be accompanied by the manifest, upon which has been noted the receipt of the letter of payment.

6. In the second instance, he must be provided with the manifest given by the forestry official or by the president or alcalde of the town of departure; the concessioner being held responsible for any difference which may be found at the inspection at port of arrival.

7. The person in charge of forest products transported by sea will, within five days of arrival at port of destination, present the manifest to the nearest forestry official.

8. Failure to carry out the above requirement will render the party so offending liable to a discretionary penalty, which shall not exceed \$100.

ART. 67. 1. The chief forestry official of the district or section shall, after inspection, give the order to unload, after the manifest has been presented showing that said product has been paid for. If this verification of the cargo shows that the figures agree with the manifest, it shall be delivered to the interested party, noting on same the said fact.

2. If an excess of cargo should be found and should not exceed 10 per cent of cargo, payment of full amount of cargo only shall be paid by the concessioner; but if such excess should be found to be more than 10 per cent, a penalty, as indicated in article 72, shall be paid by the concessioner in addition to full payment on cargo as found at inspection.

3. If the product has not been paid for, the order of payment shall be given to the concessioner, made out for the amount as shown on the provisional manifest, and upon payment of which, as shown by the presentation of the letter of payment, the order to unload is given, and subsequent proceedings shall conform with that laid down in the preceding paragraph.

4. If the concessioner should, at the termination of his voyage, dispose of said product without having first obtained the order to discharge he shall incur a penalty of 25 per cent of the value of same, in addition to other penalties to which he may be liable for other violations.

5. In order to move said product after it has been unloaded, the owners or persons in charge must be provided with a manifest indorsed by the official who inspected at the time of loading. In no instance shall the order to unload be used in place of the manifest in order to move the said product.

ART. 68. If payment on said product should be delayed more than one month, counting from the date of the order of payment, a penalty of 50 per cent of its value will be incurred.

ART. 69. In case of accidents or of damage to ships, or where the product is carried in mail vessels which can not be delayed in port, said product may be unloaded at once, having previously given a satisfactory bond or cash deposit, fixed in each case by the chief forestry official of the district.

ART. 70. 1. When a cargo of a forest product is to be exported to China, Australia, or any other point outside of the archipelago, the concessioner before loading shall pay into the internal-revenue office a sum equal to \$2 for each ton of capacity registered by the vessel in which the shipment is to be made, as a guarantee of payment of the value of said product.

2. After the deposit is made loading may begin under a designated forestry official who will make out the official statement of the product loaded.

3. This having been finished, the ship may begin her voyage, and the concessioner should repair to the nearest forestry official in order to obtain the order of payment, and having proven same by presenting the letter of payment an order will be made out which will enable him to withdraw his deposit and be free from all responsibility to this bureau for said cargo.

4. In case the manifest is not shown the forest product shall be detained and a fine of from 1 to 5 per cent of the value of the products imposed.

ART. 71. 1. Presidents or alcaldes of the towns who officially authenticate manifests which contain inaccuracies prejudicial to the state shall incur a fine of not less than \$5.

2. Where a forestry official is unable to act, the president or alcalde of the town who fails, when called upon by a concessioner, to inspect and measure the wood or other forest product, either in person or by sending another official belonging to the municipality, shall incur a fine of not less than \$5.

ART. 72. Violations of these regulations as to time and manner of utilizing the public forest products, where no damage has been caused, will be punished by a discretionary fine which shall not exceed \$100. In case damage has been caused the party so offending shall be held responsible and pay for same, and shall pay in addition a fine of from 10 to 25 per cent of said damage, according to the nature of the case.

In cases of grave violations of these regulations by any concessioner or his representatives or employees the license may be withdrawn after due notice to the party in interest.

ART. 73. 1. All cutting or harvesting of the products of the public forests without license shall be considered fraudulent, and will be punished as follows:

If the products be not timber, and subject to payment, the delinquent will be compelled to pay the value of the same and damages, and also a fine for the first offense of from 25 to 50 per cent of said value, 50 to 75 per cent for the second offense, and 100 per cent for the third offense, with confiscation and loss of products.

2. If the product is timber, and whether subject to payment or not, the delinquent shall pay the value of the same and damage, and also a fine of 1 cent for each 10 cubic decimeters for the first offense, 2 cents per 10 cubic decimeters for the second offense, and for the third offense $2\frac{1}{2}$ cents per cubic decimeter, with confiscation and loss of said timber.

ART. 74. Unauthorized clearing of public lands, especially by fire, is absolutely prohibited. Offenders shall be punished by a fine of \$20 per hectare for the ground so burnt over, and in case of insolvency shall serve a term in prison to correspond to the time required to liquidate said fine at the rate of \$2.50 per day; said term of imprisonment shall not exceed sixty days. The land unlawfully occupied must be immediately abandoned, this for the first offense; for the second offense \$30 per hectare and the immediate abandonment of the property, and in case of insolvency imprisonment as above described for a term not to exceed ninety days. For the third offense, \$50 per hectare and immediate abandonment of the property. In case of insolvency imprisonment as above described not to exceed one hundred and eighty days. This penalty shall not be increased for subsequent offenses, but if it should be proven that the burning was done through malice the offender shall be punished according to the penal code.

ART. 75. 1. Persons owning lands containing trees suitable for lumber, firewood, or other forest products shall immediately present certified copies of their title deeds at this office for registration.

2. Forest products taken from private lands whose owners have not complied with these requirements shall be considered unlawfully taken.

ART. 76. In order that forestry officials may exercise an intelligent supervision over the utilization of forest products, all said products of land owned by towns or by private individuals, and which leave the jurisdiction where said lands are situated, shall be accompanied by a statement, signed by the owner or administrator of the estate and by the president or alcalde of the town, in which statement shall be described the number, class, and amount of forest product and the place where cut or gathered, and shall also show a receipt from the forestry bureau of registration of title to said land.

Failure to present this statement will render the owner of said forest product liable to the penalties incurred by parties fraudulently taking forest products from the forests of the state.

ART. 77. The officer in charge of the forestry bureau is charged with the duty of preparing the blank forms necessary for the enforcement of the foregoing regulations and distributing the same as the necessities of the service may require.

By command of Major-General MacArthur:

E. H. CROWDER,
Lieutenant-Colonel Thirty-ninth Infantry, U. S. V., Secretary.

FORESTS OF THE PHILIPPINE ISLANDS.

The Philippine Islands lie between $4^{\circ} 45'$ and 21° north latitude and between 116° and 127° east longitude, with an area of 119,542 square miles. The islands are all mountainous, some of the high peaks having an altitude close to 9,000 feet above the sea. In many of the islands the steep mountain slopes begin close to the seacoast, and to the casual observer the entire area is woodland. It has been estimated that of the 73,000,000 acres in the islands more than 6,000,000 are under cultivation. (Jordana, 1890.)

We find various estimates for the forest area by former officials.

The official geographic statistics of 1876 fix the forest area at 51,537,243 acres.

Fernando Castro estimated the forest area in 1890 at 48,112,920 acres. This includes all woodland, private as well as public land.

As one travels over the islands he is constantly struck with the large population to the square mile and the scarcity of timber close to the main traveled routes and centers of population. As one leaves the main traveled routes vast virgin forests are met with, rich in valuable hard woods, dyewoods, gums, and other products, waiting for the skill and enterprise of the American capitalist. On the island of Cebu,

where we find a population of 290 to the square mile, not a merchantable stick of timber is evident, with the exception of a small tract of forest left in the northern end of this island, which forest must therefore be carefully looked after.

The island of Panay, with a population of 150 to the square mile, is almost denuded of good timber. In Luzon, where the population averages 78 to the square mile, we find no timber in the vicinity of centers of population. As we travel over the only line of railway in the islands, from Manila to Dagupan, a distance of 120 miles, we fail to see a single merchantable stick within several miles of the road. But there are tracts in various parts of Luzon where much valuable timber remains. In the northern end of the island, in Cagayan and Isabela provinces, there are at least 2,000,000 acres of valuable forest remaining. The entire east coast of Luzon, from the northern end as far south as Atimonan, comprising several million acres, is practically a virgin forest. In northwestern Luzon very little merchantable timber is left, with the exception of the slopes above 3,000 feet, where we find a species of pine (*Pinus insularis*) flourishing, all ages mingled together. The maximum pines seen were close to 4 feet in diameter and more than 100 feet in height. Here the pine obtains a diameter of 12 inches in about twenty years. Almost every acre of these northwestern mountains is burnt over each year by the savages, but the larger pines seem to survive these repeated scorchings. Through central Luzon the timber has been cut away, leaving small tracts of fairly good forest in a few places. In southern Luzon, in Tayabas and the Camarines, we find some large tracts fairly well covered with a variety of valuable tree species.

As we enter the southwestern islands, extending from Mindoro through to Paragua, we leave the more traveled routes, and find a sparsely settled region where the virgin forests have been apparently untouched. In this group you will find upward of 4,000,000 acres of virgin forest extending from the water's edge to the summits of the mountains. Some cutting has been done in this region, but it has amounted to a mere thinning of the edges of the forest. This group of islands is celebrated for the great quantity of narra, or Philippine mahogany, molave, ipil, and calantas (the Philippine cedar). Here we find valuable hard woods 4 or 5 feet in diameter with magnificent clear trunks for 80 feet up to the first limb. As a rule we find all over the islands that the largest trees have not been felled, owing to the lack of facilities for handling heavy timbers. Very little cleared land is found in Mindoro. Its reputation as a death trap for white men will change as a few hundred square miles are cleared of timber and its rich soil devoted to agriculture. A vigorous thinning of at least 50 per cent of the present forest growth of Mindoro and Paragua would make them much more salubrious than at present. The island of Mindanao, with an area of more than 23,000,000 acres, is almost entirely covered by forest. The vast majority of the population of this island is found in coast towns, with the exception of the region in the north surrounding the Laguna de Lanao, where we find a large population of Moros. Very little timber has been cut in this island owing to the scarcity of labor and the distance to market. It would be safe to estimate at least 10,000,000 acres of virgin forest for this island alone. The southern part of this island, in the region southeast of Cotabato, is noted for its gutta-percha, rubber, and other gums. More than \$300,000 was paid at Cotabato for these gums last year,

all of which product was shipped to Singapore. There are a number of rivers in this island sufficiently large for log-driving purposes.

Of the other larger islands we find valuable forests in the islands of Leyte and Samar. The island of Negros has been cut over rather thoroughly for a great many years, and it will not be long before it will be in the same condition as the island of Cebu, if the forests are not protected. This island (Negros), prior to June, 1901, was under a separate government with its own forestry service. The forestry bureau at Manila now has jurisdiction in this island, and will promptly introduce the forestry officials trained at Manila, enforce there the forestry regulations, and protect what is left of their forests. We may safely estimate that there are at least 20,000,000 acres of virgin forest in these islands, with an average of at least 15,000 feet board measure of valuable hardwood to the acre.

Up to the present date the Bureau has listed 665 native tree species, of several hundred of which little more is known than their names. During the past year about 160 different native woods have entered the market, the most valuable of which for construction purposes is molave. Molave, ipil, yacal, and dungon are remarkable for their durability and strength. The qualities of a few of these woods are very well known to the natives, and the specifications for the main timbers in house construction carefully provide that the timbers used shall be some of these mentioned. In addition to their value in ordinary construction they have exceptional qualities when used as paving blocks. Two of the bridges in Manila were paved with molave blocks about six years ago have been subjected to the heaviest traffic in the city, and, apparently, at the present date, not a single block has been splintered. The calantas, or Philippine cedar, is almost entirely used in making cigar boxes. Narra, tindalo, acle, and luan are used principally as furniture woods. Betis, aranga, and dungon are generally used as piles, for which there is a great demand in the Manila market. The other important construction woods are baticulin, batitinan, amuguis, guijo, apitong, panao, sacat, balacat, malabulac, and malasantol.

TIMBER USED IN THE PHILIPPINE ISLANDS FROM JULY 1, 1900, TO APRIL 30, 1901.

There are various sources of supply for the timber market of the Philippines, namely, public lands of the islands, private woodlands, and importations from the United States and other foreign countries. A more detailed statement of the amount of forest products taken from public lands during this period will be found in the appendix.

	Cubic feet.
The total amount of timber taken from public lands for this period is found to be	1, 875, 405
Timber from private woodlands for the same period	97, 808
Importations by private parties	155, 714
Amount shipped to the Philippines by the Quartermaster's Department for the use of the government from July 1, 1900, to April 23, 1901	713, 642
The total amount of firewood used is	1, 629, 635
(None but lower grade woods permitted to be used for this purpose.)	

A very small total, when we consider the vast forests from which they are extracted and the great demand for timber in the islands. Much of this native timber was cut as early as 1896, but not brought

to market on account of the revolution. It was only during the past year that the timber cut since 1896 could be brought to market. Up to the present time it has been impossible to cut enough timber for the actual necessities, forcing the government to send to America for the timber needed for storehouses for the troops, for bridges, and other public works. The amount of timber per capita used in these islands is less than 1 per cent of the corresponding amount used in the United States. The total amount used, including importations, is much less than the annual growth of forest in the province of Cagayan alone, and when we consider that the logging parties are small and are cutting in over 40 different provinces and islands, not much danger is to be apprehended that any loss of our present capital will result.

At least 50 per cent of the timber cut on public lands has been used by the government in the construction of its many barracks, storehouses, bridges, and other public works. Native property owners throughout the islands have been unable to rebuild their homes, finding it impossible to get material. When peace prevails in the islands more men will be employed in the forests, and it will take three or four years for the native and other residents of the islands to cut only such timber as is absolutely necessary for construction. The engineers and builders in Hongkong and other ports of the Orient prefer the Philippine timber to that of the other islands of the East Indies, but have been unable to secure any cargoes lately, owing to the scarcity of supply and great local demand, and in response to an inquiry from them as to when they could secure some of this timber, I replied that it would not be possible to obtain any within three years, unless they paid a price far higher than that they wish to give at the present time. It is also to be noted that no native wood has been exported since the organization of the present bureau. For the next four months a decreased output of timber will be noted, due to the fact that the southwest monsoon and the typhoon season is on and transportation by sea somewhat uncertain. The rains have commenced and will stop loggers in some parts of the islands.

PRIVATE WOODLANDS.

The forestry regulations provide that owners of woodlands may cut and market their timber after registration of titles to these lands in the central office at Manila. A printed form is then issued to the owner of the land stating that this registration has been made; his title is returned, and on it also is noted the fact of registration. He is also informed that this registration is no guaranty of title.

Parties cutting timber on their own woodland without having registered their titles are obliged to pay the government valuation on the timber in addition to a fine. All land is considered public land until a title is shown—a title which has formerly been registered in some register of property as provided by Spanish law. Seventy-four tracts of woodland have been registered up to date, aggregating a total area of about 125,000 acres; more than 120,000 acres of this total are found in the island of Luzon.

In February last the nationalities of owners of 68 woodland tracts were as follows:

Spanish.....	7
German.....	5
English.....	1
Filipino.....	55

After announcement of the passage of what was known as the Spooner amendment, quite a number of titles were presented and six only were found eligible for registration.

Up to the present date titles to woodlands owned by religious orders have not been presented for registration. It is believed that the aggregate of these holdings by the religious orders will not exceed 400,000 acres. It is believed that the total holdings of woodland by private parties will not exceed 1,000,000 acres. These private holders have shown a disposition to retain their properties and utilize them for their own use. The native especially shows a disposition to cling to his land, and is averse to selling, although a high price is occasionally offered to him.

From July 1, 1900, to April 30, 1901, the following utilizations of forest products on private woodland have been noted:

Timber	cubic feet..	97,808
Firewood	cubic meters..	19,034
Charcoal	do.....	4,556

Each shipment of forest products from private woodlands must be accompanied by a certificate of the president of the nearest town that this product was taken from such a party's private land. The regulations referring to private woodlands are as follows:

ART. 75. Persons owning lands containing trees suitable for lumber, firewood, or other forest products, shall immediately present certified copies of their title deeds at this office for registration.

2. Forest products taken from private lands whose owners have not complied with these requirements shall be considered unlawfully taken.

ART. 76. In order that forestry officials may exercise an intelligent supervision over the utilization of forest products, all said products of lands owned by towns or by private individuals, and which leave the jurisdiction where said lands are situated, shall be accompanied by a statement signed by the owner or administrator of the estate and by the president or alcalde of the town, in which statement shall be described the number, class, and amount of forest product and the place where cut or gathered, and shall also show a receipt from the forestry bureau of registration of said title to said land.

Failure to present this statement will render the owner of said forest product liable to the penalties incurred by parties fraudulently taking forest products from the forests of the state.

PRICES OF NATIVE TIMBER.

More than 90 per cent of the native timber is used for construction purposes.

The price of timber in the log at the end of the first haul varies from 30 to 70 cents (Mexican) per cubic foot. Transportation to the Manila market is from 40 to 50 cents (Mexican) per cubic foot where parties do not use their own boats. The prices of the superior or first-group woods is very uncertain, varying from \$1.50 to more than \$2.50 (Mexican) per cubic foot. When special sizes in the higher grade timbers are required, as much as \$5 and \$6 have been paid per cubic foot: this for timbers to be used in house construction.

The finest hard woods for furniture (narra, tindalo, acle, camagon, lauan) can often be purchased at a smaller price than is paid for a few special varieties of native woods that are of particular value (molave, ipil, yacal, betis) in house construction.

Under the Spanish administration the price of timber at the end of the first haul was about 20 cents (Mexican) and much was laid down in Manila for 50 cents (Mexican) per cubic foot, and even less.

The government price on its timber, as per forestry regulations,

must be paid before the timber leaves for the market. This money is paid into the nearest internal-revenue office.

The government valuation of its timber and firewood has been close to 5 per cent of the current market price. The government valuation of other forest products has been uniformly 10 per cent of the current market price.

The demand for timber for house construction is strong and will continue as peace is restored and people return to their homes in the provinces and commence rebuilding.

The China market for Philippine woods is very good, but it will be some years before the people in the ports of the Orient will be willing to pay the prices current in the market in Manila.

The demand for certain of our fine hard woods by furniture and cabinet makers in the United States will arise as soon as these woods become known. We have a number of varieties of fine hard woods which should appeal to these furniture makers.

In the course of a year or two, when American appliances and skill are at work in the forests, we should be able to place cargoes of these varieties on board ship for not more than \$1 (Mexican) per cubic foot. Transportation to the United States costs between \$9 and \$15 gold per 1,000 B. M. Almost any lengths can be obtained and diameters up to 5 and 6 feet. During Spanish times the large trees were left untouched owing to the lack of facilities for handling them. Occasionally a tree 6 or 7 feet in diameter would be felled and one slab taken from it, from which to make a table. Many of these fine table tops can be seen throughout the islands, some of them more than 7 feet in diameter.

Ordinarily the native loggers are paid at a fixed price per cubic foot laid down at tide water or on railroad. There are four sawmills in the city of Manila and hundreds of carpenter shops where the Chinamen rip out boards by hand and make a fair profit. Parties desiring to purchase a few hard-wood boards to make a little rough furniture will often pay from 25 to 50 cents (Mexican) per running foot for the same.

CAN THE FORESTS OF THE PHILIPPINES BE DEVASTATED?

Not if a proper number of trained officials are provided and the present forestry regulations are enforced.

The following safeguards against forest devastation in the Philippines are worthy of consideration:

First. The physical obstacles.

Second. The forest regulations.

Third. Supervision of forestry officials.

Fourth. Local demand for but few of the many hundred native woods.

The physical obstacles will not be appreciated without a few months' observation on the ground. The real difficulties appear only after the work in the field has commenced and apparently all contingencies provided for.

To begin with, there are no roads into the best forest tracts: the rivers are full of snags and impediments to their use as driveways.

Road construction in the jungle is difficult, expensive, and hazardous.

Many of the most valuable woods will not float, thus necessitating

the use of bamboo rafts, or placing alternate logs of light specific gravity between heavy ones.

On the logging road the only animal available for transportation in these islands is the carabao, an animal of but moderate strength who readily succumbs to overwork or disease. A plague of rinderpest has carried off thousands of these animals during the past two years, leaving many communities in a most helpless condition.

There are no appliances in the island suitable for handling large and heavy logs, and if such appliances should be secured, skilled white labor must be employed until the native can be properly trained to their use.

Many of the natives are good workmen, quick and clever, and in time will be able to do much of the skilled work that for the next few years must be done by white men. The great mass of the natives, especially those living near large forest tracts, seem disinclined to constant and heavy labor and can not be depended upon to remain any length of time at their work. Much depends on the kind of treatment received from the employer; the wage paid does not seem of as much importance to the natives as consideration for their whims. The average laborer while in the woods can be counted on to cut and square from 5 to 8 cubic feet a day.

It will take a couple of years to make even a few good roads and improve the driveways, install appliances for handling large logs and teach the natives how to use them, and then if the native is found willing to work, lumber companies might be able to get out what they consider a paying quantity of timber.

Then when they are ready to extract this timber, the regulations throw around them many restrictions which will prevent any wholesale devastation.

The greatest safeguard is found in that article of the regulations which provides that the felling of any tree species of the superior or first group (35 leading woods) of less diameter than 40 centimeters ($15\frac{3}{4}$ inches) is absolutely prohibited. Regulations provide that the timber to be felled be first selected; provide also that only certain of the low-grade woods can be cut by those holding gratuitous licenses and those cutting firewood for the market.

Regulations prohibit the felling of the gutta-percha, rubber, and other trees producing valuable gums. They also provide that when the trees are felled and piled notice must be sent to the nearest forestry official, which official shall measure, appraise, and see that the government valuation is paid on this timber before it is removed.

When this timber reaches the market it is again inspected by an official who carefully revises the classification of the first official, measures each log a second time, and sees that the government is paid its full value for its timber. Each log receives a bureau stamp as soon as it leaves the forest.

The forestry official is strictly charged to supervise the work of the logger to see that only the proper trees are felled and that the timber is so hauled through the forest as to cause the least damage to the younger growth. He reports at once any violation of the forestry regulations.

The regulations provide the forestry officials with the power to fine, and to stop the movement of forest products to the market, if any of its provisions are violated.

RECOMMENDATIONS.

Two great obstacles are encountered in providing for a forestry service of these islands, namely, a lack of properly trained officials and, second, a great variety of unknown tree species.

The United States this year inaugurates the scientific exploitation of 50,000,000 acres of public forest land. The few foresters now in the States will be offered inducements to enter that service.

Fifty trained foresters would find ample work in the Philippine forests at the present time, but it is doubtful if appeals to the forestry service in Germany, India, and Java would result in securing half a dozen men. The great objection offered by these men, as I have stated before, will be that no provision is made for retirement for disability or for age. Life in the Tropics, and especially in a tropical forest, is not without considerable danger, and a foreigner can hardly be expected to leave the forestry service in his own country to go to strange lands where pernicious malaria or dysentery may incapacitate him within a few months after his arrival.

These forests can be properly cared for as soon as trained foresters are provided.

It is believed that a personal visit to Germany, India, and Java by some one interested in this service, and with authority to employ, would result in securing a few men.

The next difficulty will be found in finding a market for the several hundred varieties of native woods found within a comparatively small area in almost any part of these islands.

The first step in this direction is now being made. One hundred varieties of native woods have been selected, polished, and labeled, and shipped to the United States, where they are to be placed on exhibition at the Pan-American Exposition at Buffalo, and later to be permanently placed in the Agricultural Department at Washington. The exhibition of these hard woods will interest our furniture makers, and may tend to divert buyers from Central and South America to the Philippines. A vast amount of hard wood is imported into the United States each year at a high price. There is no reason why many of the Philippine varieties of fine quality should not find a ready market with the furniture makers.

Many fine varieties of native woods are not popular in the Philippines on account of their nonresistance to the white ant and climate, which objections would not be met with in the United States.

The regulations provide for the felling of all trees by selection. Objections will be made by the lumbermen that there is no market for the 400 or 500 varieties of tree species thus selected. The duty of finding a market for such varieties thus devolves upon the forestry bureau. There are at present samples of more than 450 varieties of native tree species in the office at Manila. Each month will find more varieties added to this number, and in time, after investigation of the quality of these woods as to strength and durability, more varieties will become popular in the market.

The forestry school should be inaugurated as soon as possible at Manila for the purpose of training the present forestry officials.

Very respectfully,

GEORGE P. AHERN,

Captain Ninth U. S. Infantry, in Charge of Bureau.

THE SECRETARY OF WAR.

Statement of utilization of forest products from public lands, Philippine Islands, from July 1, 1900, to April 30, 1901.

Month and year.	Timber.		Firewood.				Charcoal.	
			Group first.		Group second.			
1900.	<i>Cubic feet.</i>		<i>M.</i>		<i>Cu. met.</i>		<i>Cu. met.</i>	
July.....	90,793	\$7,808.18	176,500	\$176.50	1,914.00	\$282.80	.....	.....
August.....	82,041	5,323.78	333,880	333.88	1,269.45	253.89	.....	.....
September.....	103,608	7,693.19	277,940	277.94	3,175.15	635.03	186.00	\$74.40
October.....	186,758	10,658.39	447,580	447.58	3,291.80	658.36	361.75	144.70
November.....	180,341	9,970.99	297,600	297.60	3,720.40	744.08	213.50	85.40
December.....	218,345	12,470.99	369,680	369.68	3,644.75	728.95	95.25	38.10
Total.....	861,886	53,925.52	1,903,180	1,903.18	17,015.55	3,403.11	856.50	342.60
1901.								
January.....	231,493	14,706.85	532,430	532.43	2,432.35	486.47	74.25	29.70
February.....	218,100	12,268.20	422,690	422.69	2,427.40	485.48	93.25	37.30
March.....	280,406	21,299.62	586,000	586.00	3,501.60	700.32	143.75	57.50
April.....	283,520	26,753.05	454,120	454.12	3,000.60	600.12	181.25	72.50
Total.....	1,013,519	75,027.72	1,995,240	1,995.24	11,361.95	2,272.39	492.50	197.00
Grand total .	1,875,405	128,953.24	3,898,420	3,898.42	28,377.50	5,675.50	1,349.00	539.60

Month and year.	Gum mas- tic.	Rubber.	Vegetable oil.	Bark.	Dyewood.	Fines.	Total.
1900.							
July.....		\$24.60	.....	.....	.....	\$30.00	188,422.08
August.....		8.10	.....	\$5.15	\$0.50	65.00	5,990.30
September.....	\$87.90	19.16	.....	10.90	20.80	92.57	8,911.89
October.....		29.36	.....	22.10	23.40	208.42	12,192.31
November.....	351.52	35.24	\$0.80	46.20	108.87	113.21	11,753.91
December.....	810.80	31.99	18.00	4.88	214.77	766.87	15,455.03
Total.....	1,250.22	148.45	18.80	89.23	368.34	1,276.07	62,725.52
1901.							
January.....	1.60	63.80	.....	1.06	15.00	482.74	16,319.65
February.....	1,462.53	280.95	23.72	2.50	45.65	181.12	15,210.14
March.....	215.04	311.73	.....	.....	32.77	344.85	23,547.83
April.....	836.15	163.90	.....	.....	72.05	384.41	29,336.80
Total.....	2,515.32	820.38	23.72	3.56	165.47	1,393.12	84,413.92
Grand total.....	3,765.54	968.83	42.52	92.79	533.81	2,669.19	147,139.44
May.....							26,799.06
June.....							25,434.61
Total.....							199,373.11

¹Mexican.

Statistics of sums collected on forest products from public lands, Philippine Islands, July to December, 1900.

Province.	Timber.	Firewood.	Charcoal.	Rubber.	Bark.
Antique.....		\$1.56	.....	.....	.....
Albay.....	\$887.81	.....	.....	.....	.....
Bataan.....	1,009.58	950.81	.....	.....	.....
Butangas.....	764.73	109.64	.....	\$10.00	\$0.75
Bulacan.....	3,439.67	385.72	.....	.....	.....
Cagayan.....	8,008.90	20.30	.....	.....	.....
Camarines North.....	1,187.89	50.70	.....	.....	.....
Camarines South.....	3,408.14	7.47	.....	.....	.....
Capiz.....	.....	112.77	.....	.....	.....
Catanduanes.....	334.40	.....	.....	.....	.....
Cavite.....	35.18	88.21	.....	.....	.90
Cebu.....	40.83	1.00	.....	.....	.....
Cotabato.....	215.35	6.00	.....	.....	.....
Davao.....	.....	.....	.....	24.10	.....
Iloilo.....	1,509.20	301.07	.....	.....	73.00
Isabela de Basilan.....	1,078.93	4.50	.....	.....	.....
Jolo.....	19.32	.....	.....	.....	.....
Laguna.....	29.93	4.72	.....	.....	.....
Leyte.....	407.21	80.45	.....	.....	.....
Manila.....	169.38	31.80	.....	.....	.....

Statistics of sums collected on forest products from public lands, etc.—Continued.

Province.	Timber.	Firewood.	Charcoal.	Rubber.	Bark.
Marinduque.....		\$41.30			
Masbate.....	\$3,162.58	420.40		\$24.07	
Mindoro.....	760.16	62.00		1.60	\$4.40
Morong.....	254.45	208.70			
Nueva Ecija.....	1,154.32	158.49			
Negros.....	2,457.56	.63			1.88
Pampanga.....	7,540.09	1,636.69	\$313.10		8.30
Pangasinan.....	1,113.88	159.10			
Romblon.....	1,798.12	5.50		3.40	
Samar.....	414.00				
Sorsogon.....	1,922.62	181.60			
Surigao.....	128.47	15.80			
Tarlac.....	6,779.17	73.60	11.00		
Tayabas.....	1,900.99	112.92		85.28	
Zambales.....	1,992.66	70.88	18.50		
Zamboanga.....		1.96			
Total.....	53,925.52	5,306.29	342.60	148.45	89.23

Province.	Dyewood.	Gum mastic.	Vegetable oil.	Fines.	Total.
Antique.....					\$1.56
Albay.....					887.81
Bataan.....				\$22.19	1,982.58
Batangas.....	\$44.20			12.90	942.22
Bulacan.....				44.43	3,869.82
Cagayan.....				160.32	8,189.52
Camarines North.....				3.03	1,241.62
Camarines South.....		\$19.60			3,435.21
Capiz.....				16.14	128.91
Catanduanes.....					334.40
Cavite.....				3.92	128.21
Cebu.....	18.75				60.58
Cotabato.....					221.35
Davao.....		1,217.62			1,241.72
Iloilo.....	304.39			5.14	2,192.80
Isabela de Basilan.....					1,083.43
Jolo.....					19.32
Laguna.....				1.18	35.83
Leyte.....	.50			32.56	520.72
Manila.....				129.11	330.29
Marinduque.....					41.30
Masbate.....				24.34	3,631.39
Mindoro.....	.50			1.07	829.73
Morong.....				32.10	495.25
Nueva Ecija.....				26.01	1,338.82
Negros.....			\$18.80	14.82	2,493.69
Pampanga.....				318.58	9,816.76
Pangasinan.....				70.34	1,343.32
Romblon.....		13.00		38.51	1,858.53
Samar.....					414.00
Sorsogon.....				105.83	2,210.05
Surigao.....				5.69	149.96
Tarlac.....				103.72	6,967.49
Tayabas.....				60.11	2,159.30
Zambales.....				44.03	2,126.07
Zamboanga.....					1.96
Total.....	368.34	1,250.22	18.80	1,276.07	62,725.52
Sum paid the government of Negros for timber.....					976.42
Total (Mexican).....					61,749.10

Native woods brought to market in the Philippine Islands from July 1 to December 31, 1900.

Names of timber.	Cubic feet.	Names of timber.	Cubic feet.
Superior group.....	113.479	Superior group—Continued.	
Calantas (28,457 cubic feet).		Teca.....	
Camagon.....		Tindalo.....	
Dungon.....		First group.....	20,427
Ypil.....		Acle.....	
Yacal.....		Anubing.....	
Molave (28,709 cubic feet).		Bansalaguin.....	
Narra (28,149 cubic feet).		Baticuling (5,624 cubic feet).	

Native woods brought to market in the Philippine Islands, etc.—Continued.

Names of timber.	Cubic feet.	Names of timber.	Cubic feet.
First group—Continued.		Third group—Continued.	
Batitanan (4,877 cubic feet).		Laco-laco.	
Bayuco.		Lauan (101,625 cubic feet).	
Betis (4,551 cubic feet).		Lumbang.	
Calamansanay.		Luyusin.	
Cubi.		Magtalisay.	
Lanete amuguis (19,788 cubic feet).		Malaanang.	
Second group	148, 142	Malacbae.	
Aranga.		Malac-malac.	
Banaba.		Maladuron.	
Bancal.		Malagao-gao.	
Banuyo.		Malapalicipic-hito.	
Bildo.		Malasapit.	
Dungonlate.		Malasapsap.	
Guijo (73,641 cubic feet).		Malatalang.	
Lanutan.		Malatumbaga.	
Macaasin.		Mambog.	
Malacadios.		Manienic.	
Malacatmon.		Maobo.	
Malaruhat.		Mayapis.	
Mangachapuy.		Miao.	
Mangasinoro.		Odling.	
Nato.		Pagatpat.	
Pasac.		Palacpalac.	
Supa.		Palosapis.	
Tangile.		Palumbuyen.	
Tucan-calao.		Pamantulin.	
Third group	367, 867	Pamisalen.	
Abilo.		Panao (30,174 cubic feet).	
Aclengparang.		Panalalian.	
Agiotin.		Paraya.	
Ajosajos.		Putian.	
Alintatao.		Sacat (28,333 cubic feet).	
Almaciga.		Salipapa.	
Almon.		Sambulan.	
Alupay.		Tacaran.	
Amugan.		Tagonton.	
Anagap.		Tambabas.	
Anatan.		Tamug.	
Anocep.		Toog.	
Anubiong.		Unip.	
Anubling.		Fourth group	203, 921
Aninapla.		Anam.	
Anunang.		Anilao.	
Antipolo.		Bagosantol.	
Apalang.		Balacat (36,180 cubic feet).	
Apitong (59,333 cubic feet).		Balaybayan.	
Apupuyot.		Balibago.	
Ata-ata.		Balucot.	
Bagaluga.		Baluan.	
Baguilumbuy.		Banalo.	
Balayon.		Bignay.	
Balete.		Biluco.	
Balinhasay.		Binayuyo.	
Balobo.		Bocboc.	
Banate.		Bogo.	
Batete.		Calumpang.	
Bayoc.		Dapdap.	
Bayucan.		Himbabao.	
Binaluan.		Ligaa.	
Binuang.		Malabago.	
Bitoc.		Malabulac (20,574 cubic feet).	
Bitanhol.		Malabunga.	
Bulao.		Malapapaya.	
Bunglas.		Malasamat.	
Bunuan.		Malasantol (64,694 cubic feet).	
Cabaoy.		Malatubig.	
Calumangog.		Pingol.	
Calungatingan.		Putab.	
Calumpit.		Salab.	
Cupang.		Tanag.	
Dalbing.		Uban.	
Dalinsi.		Fifth group	8, 050
Dao.		Bacao (7,751 cubic feet).	
Ditaa.		Bacuan.	
Gatasan.		Libato puti.	
Guyong-guyong.			
Hagad-had.			
Hinalalaong.			
		Total	861, 886

58 REPORT OF FORESTRY BUREAU, PHILIPPINE ISLANDS.

Native woods brought to market in the Philippine Islands, etc.—Continued.

RECAPITULATION.

	Varieties.	Cubic feet.	Value.
Superior group	9	113, 479	\$15, 887. 06
First group	10	20, 427	2, 042. 70
Second group	20	148, 142	11, 851. 36
Third group	91	367, 867	11, 036. 01
Fourth group	30	203, 921	4, 078. 42
Fifth group	3	8, 050	80. 50
Total	163	861, 886	44, 976. 05

Increased charges, result of second inspection	\$8, 949. 47
Amount by timber	53, 925. 52
Firewood	5, 306. 29
Charcoal	342. 60
Rubber	148. 45
Bark	89. 23
Dyewood	368. 34
Gum mastic	1, 250. 22
Vegetable oil	18. 80
Fines	1, 276. 07
General total	62, 725. 52
Sum refunded the government of Negros for timber	976. 42
Total	61, 749. 10

Statement of licenses issued from July 1, 1900, to May 14, 1901.

Station of forestry official.	Province.	Timber.	Fire-wood.	Rubber.	Dye-wood.	Gratui-tous.	Amount.
Aparri	Cagayan and Island Calayan.	36	7	3		1	47
	Abra	1					1
	Isabela	2					2
Laoag	Ilocos, North	2				1	3
	Ilocos, South	1					1
Aringay	Union	4				2	6
Baguio	Benguet	6	2			3	11
Dagupan	Pangasinan	6	8			1	15
Lubig	Zambales	26	12	2		3	43
	Neuva Ecija	15	1			2	18
	Principe	2					2
Tarlac	Tarlac	31	7			6	44
Angeles							
San Fernando	Pampanga	37	11				48
Arayat							
Calumpit	Bulacain	17	3				20
Orani	Bataan	29	31				60
Malabon	Manila	8	6			1	15
Manila	Morong	12	11				23
	Laguna	6	4				10
	Cavite	1	3				4
Batangas	Batangas	3	2				5
Guinajanga	Tayabas	24	19	10			53
	Camarines, North	4	1				5
Pasacao	Camarines, South	5	3	1			9
Legaspi	Albay	5	2	1			8
	Sorsogon	4	3				7
	Lubany and Marinduque (islands).	3					3
	Romblon, Sibuyan, and Tablas (islands).	5	2	2			9
	Burias (islands)	1	1	1			3
	Ticas (island)	2	2	1	1		6
	Masbate (island)	13	7	3			23
Iloilo	Iloilo, Panay, and Guimaras.	10	42		6		28
	Capiz, Panay	1	1				2
	Concepcion, Panay, and Pan de Alucan.	1	1			1	3

Statement of licenses issued from July 1, 1900, to May 14, 1901—Continued.

Station of forestry official.	Province.	Timber.	Fire-wood.	Rubber.	Dye-wood.	Gratuitous.	Amount.
Cebu	Cebu and (islands) Camotes.	1					1
	Leyte, Maripipi, Camanday, and Biliran.	9	1				10
Catbalogan	Samar	4	1				5
	Zamboanga, Mindanao.	3	3	3	1		10
	Surigao, Mindanao, Bucas, and Dinagat.	1					1
	Matti, Mindanao	2	2	2	2		8
	Davao, Mindanao	2		3			5
	Basilan (islands)	3					3
Total amount.		348	169	32	10	21	580

Statement of private woodlands registered in the Philippine Islands as per article 75, forestry regulations, Manila, Philippine Islands, May 14, 1901.

Provinces.	Number of regulation.	Hectares.	Areas.	Centi.
Romblon (Sibuyan, 150 hectares 91 areas 50 centi; Tablas, 499 hectares 1 area)	2	649	92	50
Tarlac	19	14,248	32	45
Pampanga	41	1,908	56	97
Davao (Mindanao)	1	300		
Mindoro	1	916		98
Isabela de Luzon	6	13,150	51	23
Bataan	1	2	79	50
Pangasinan	1	6,104		
Nueva Ecija	1	12,463	80	
Laguna	1	185	71	62
		149,898	65	25

1123,475 acres.

In February the nationalities of owners of 68 woodland tracts registered were as follows: Spanish, 7; German, 5; English, 1; Filipino, 55.

After announcement of passage of Spooner amendment quite a number of titles were presented and 6 were found eligible for registration.

Land of religious orders not yet presented for registration.

NOTES ON GEOGRAPHY AND POPULATION IN THE PHILIPPINES.

Philippine Islands: Magellan landed in Cebu 1521; Manila occupied 1565 by Salcedo. Latitude, 4° 45' north to 21° north; longitude, 116° east to 127° east. Charts show 948 to 1,725 islands. Areas given by Philippine Commission, 119,542 square miles.

	Acres.
1874—Vidal—Area—Map—Coella	71,989,385
Map, Hydrographic Office	73,345,415
Per annual statement	73,009,495

GEOGRAPHIC STATISTICS.

	Acres.
1876—Area	69,756,245
City property	432,625
Cultivated land	5,632,641
Uncultivated land	12,153,746
Forest land	51,537,243
1890—Jordana, area approximated	69,160,000
Area cultivated land	6,175,000
1890—Fernando Castro, forest area	48,112,920
Land occupied by Moros and independent tribes	24,700,000

Geographic statistics—Continued.

	Square miles.	Popula- tion.	Popula- tion per square mile.
Luzon	47,238	3,676,000	78
Mindanao	36,237		
Samar	5,040	200,753	40
Negros	4,854	391,777	80
Panay	4,708	734,889	156
Mindoro	3,972	¹ 172,711	
Paragua	3,937	² 50,000	15
Leyte	2,713	270,491	100
Cebu	1,742	504,000	290
Bohol	1,439	248,000	172
Masbate	1,290	³ 19,517	14
Catanduanes	680	35,633	52

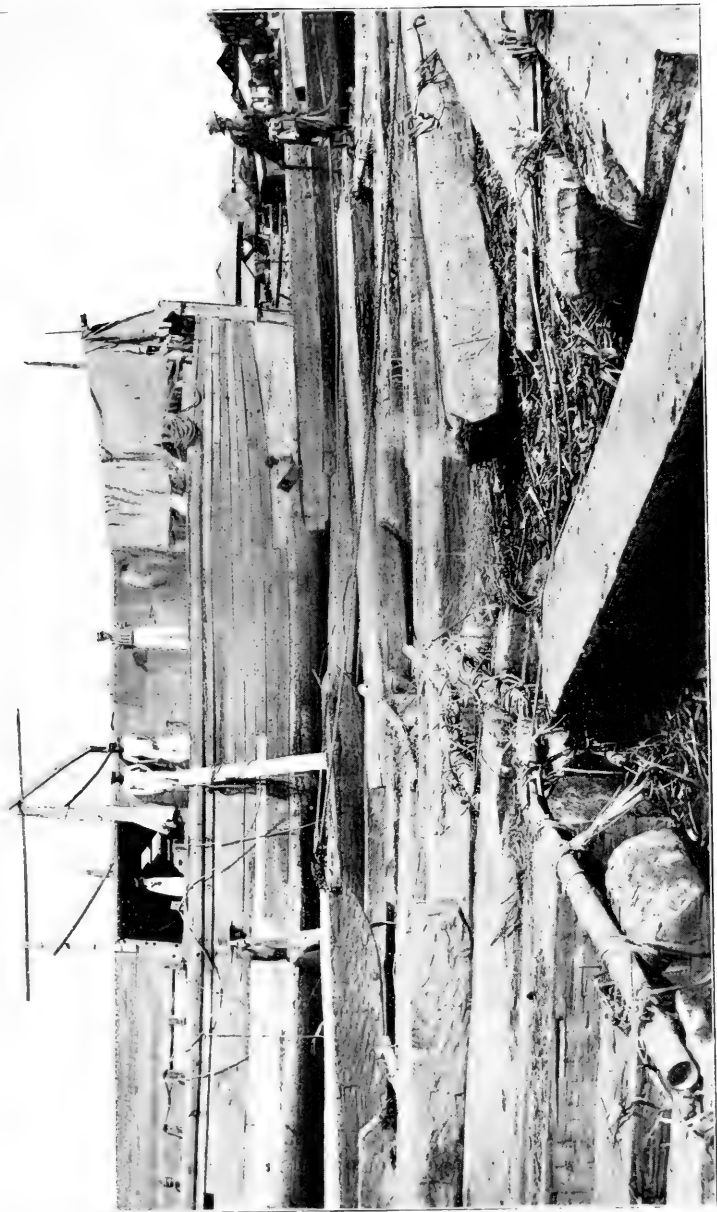
¹Includes Marinduque, Lubang, and Ilin.²Not including north Paragua.³Includes Ticao, 940 square miles.

Islands between 100 and 4,500 square miles	13
Smaller islands mentioned	58
Population as given by commission	8,000,000
Population per square mile	67

State of Montana, rich in agricultural, mining, and timber land, shows by last census population of $1\frac{1}{2}$ per square mile. Philippine Islands have a population per square mile forty-five times greater than that of Montana.



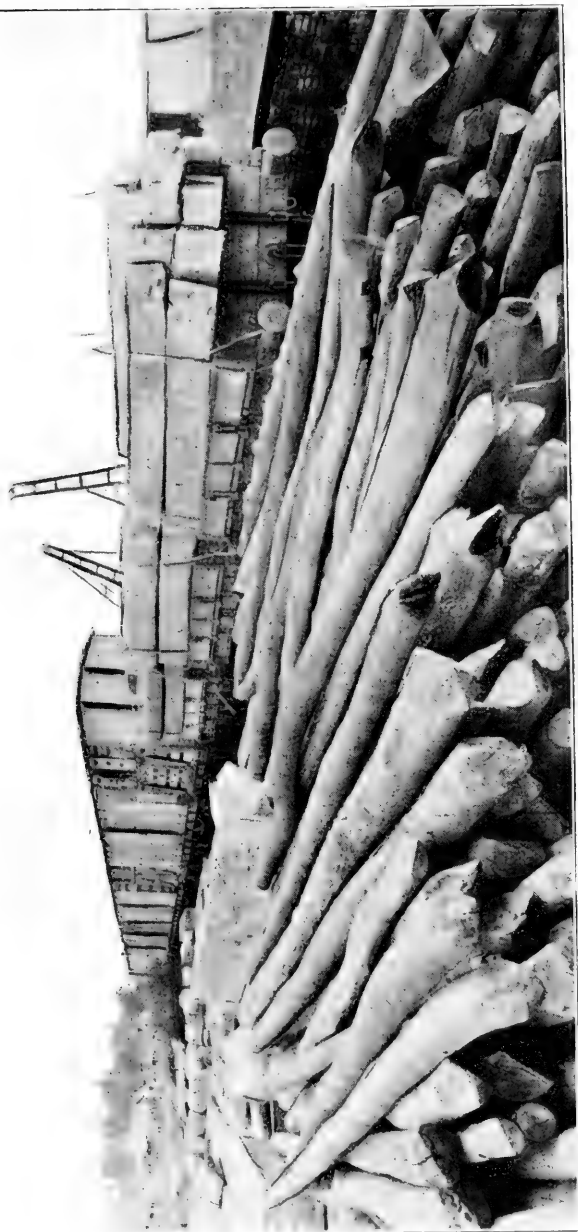
NO. 1. SCALING LARGE RAFT AT MANILA.



NO. 2. HAULING LOGS FROM TONDO BEACH TO MILL, MANILA.



NO. 3. REINA CANAL, MANILA.



NO. 4. RAILROAD STATION, MANILA.



NO. 5. LOADING LOGS ON CARABAO CARTS AT RAILROAD STATION, MANILA.



NO. 6. HAULING LOGS INTO RAILROAD STATION AT TARLAC.



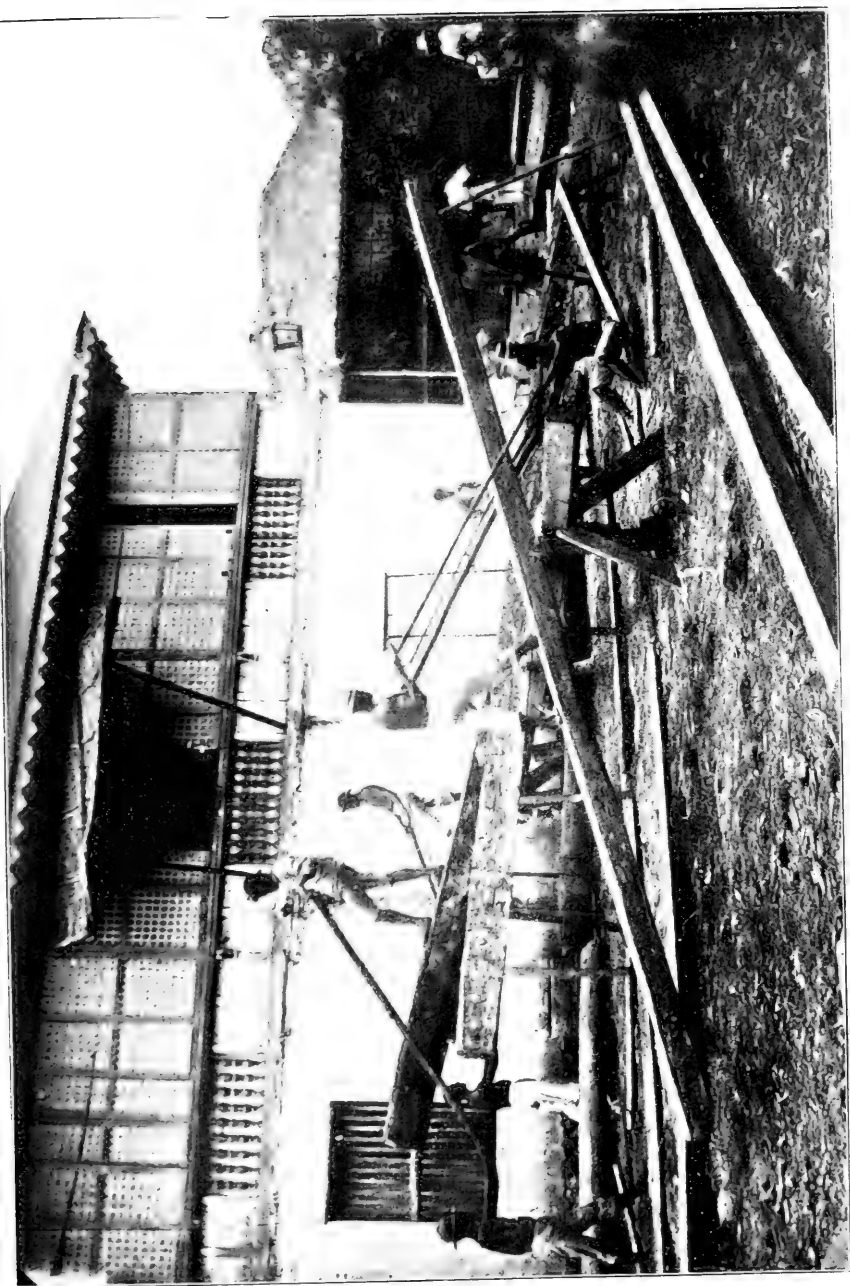
NO. 7. CARABAO HAULING LOGS INTO RAILROAD STATION AT TARLAC.



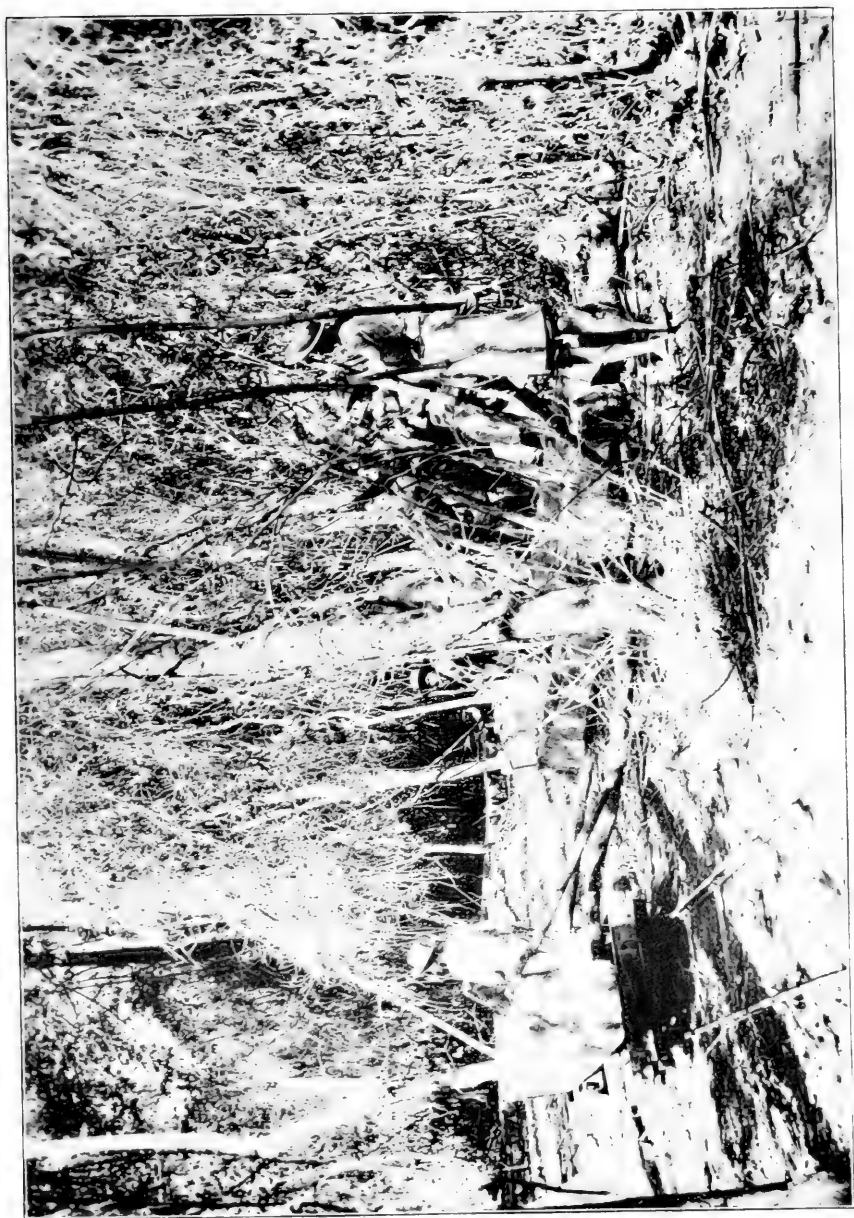
NO. 8. HAULING LOGS IN TARLAC PROVINCE, LUZON.



NO. 9. RIPPING OUT BOARDS IN LUZON.



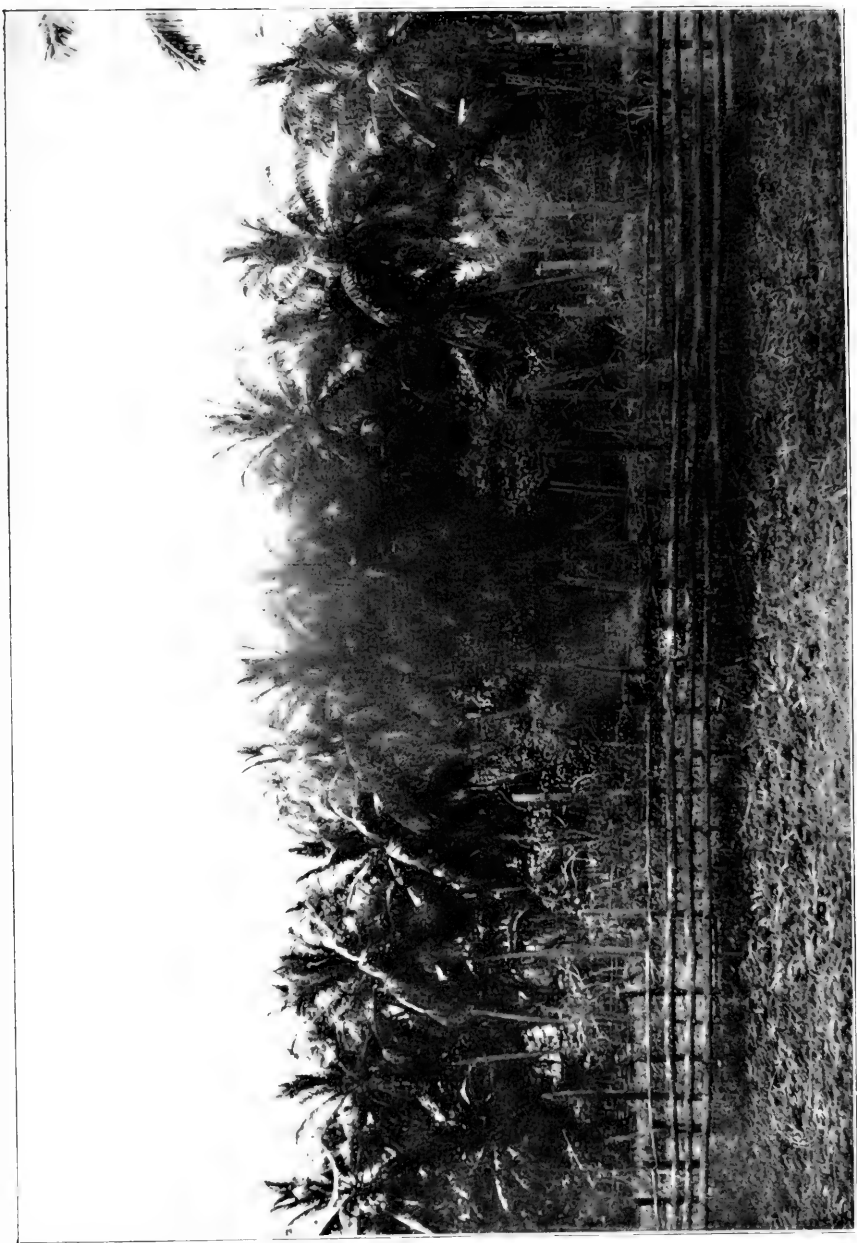
NO. 10. RIPPING OUT BOARDS IN THE CITY OF MANILA.



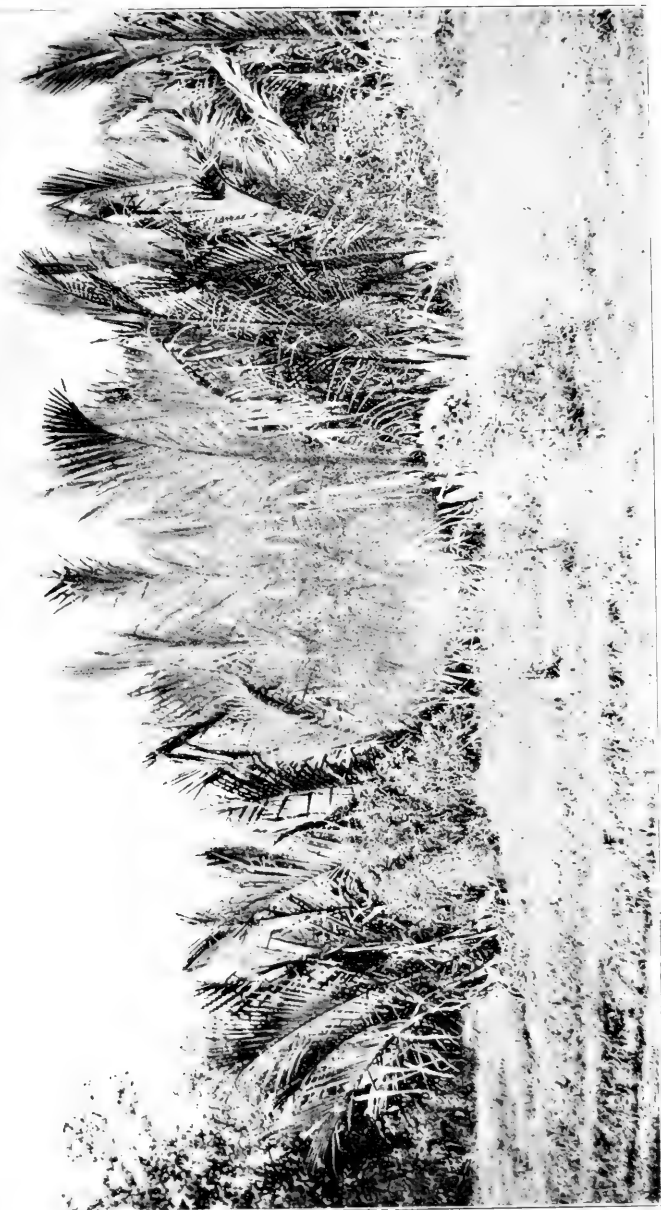
NO. 11. NARROW GAUGE RAILROAD, TARLAC PROVINCE.



NO. 12. SHIPBUILDING AT DAGUPAN.



NO. 13. COCOANUT PALM PLANTATION.



NO. 14. NIPA PALM PLANTATION.





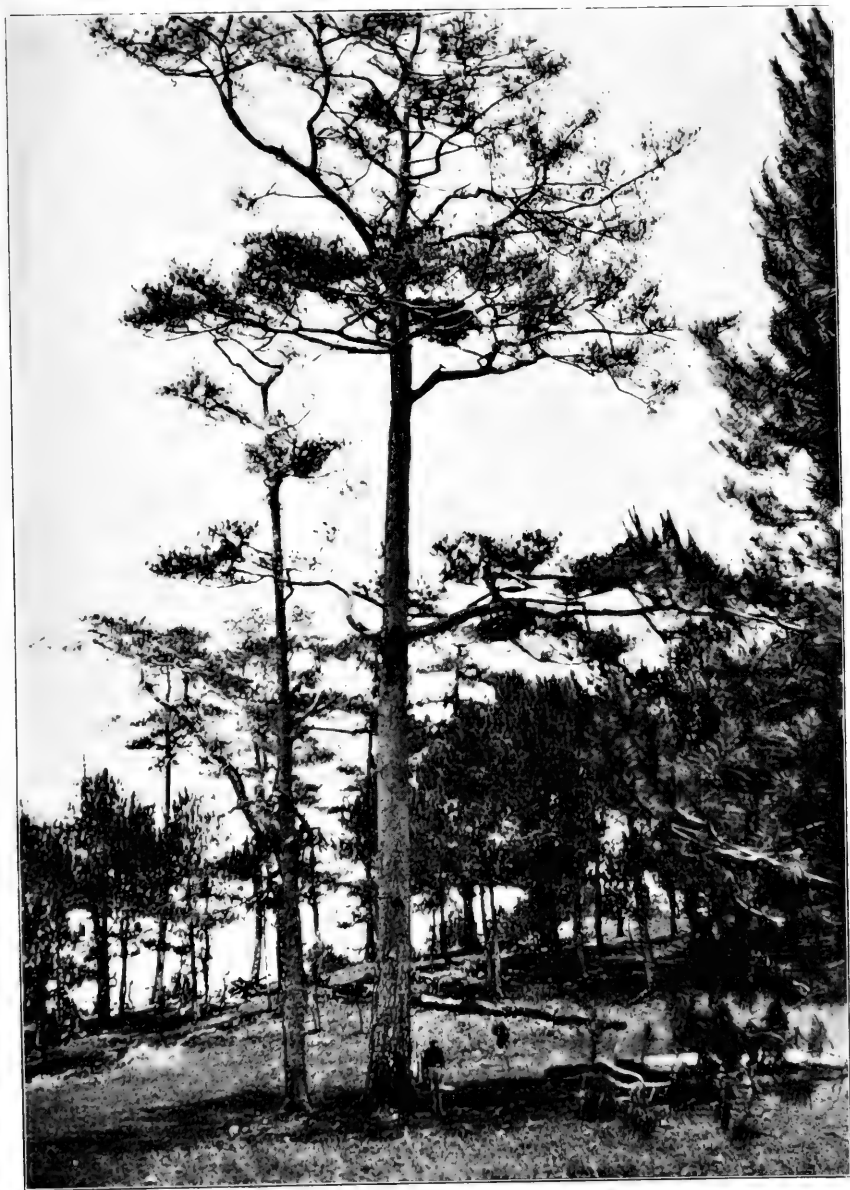
NO. 15. PINUS INSULARIS, BENGUET PROVINCE, LUZON.





NO 16. PINES, PROVINCE OF BENGUET.

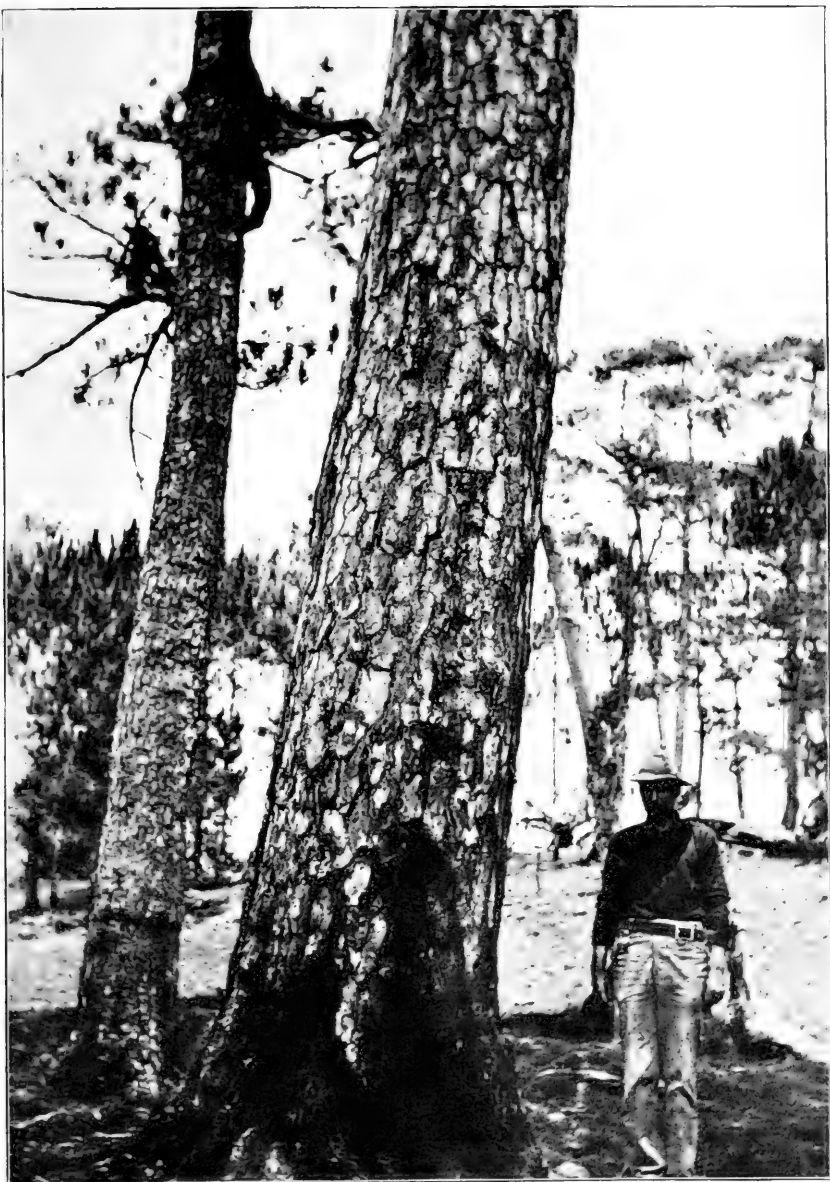




NO. 17. *PINUS INSULARIS*, PROVINCE OF BENGUET.

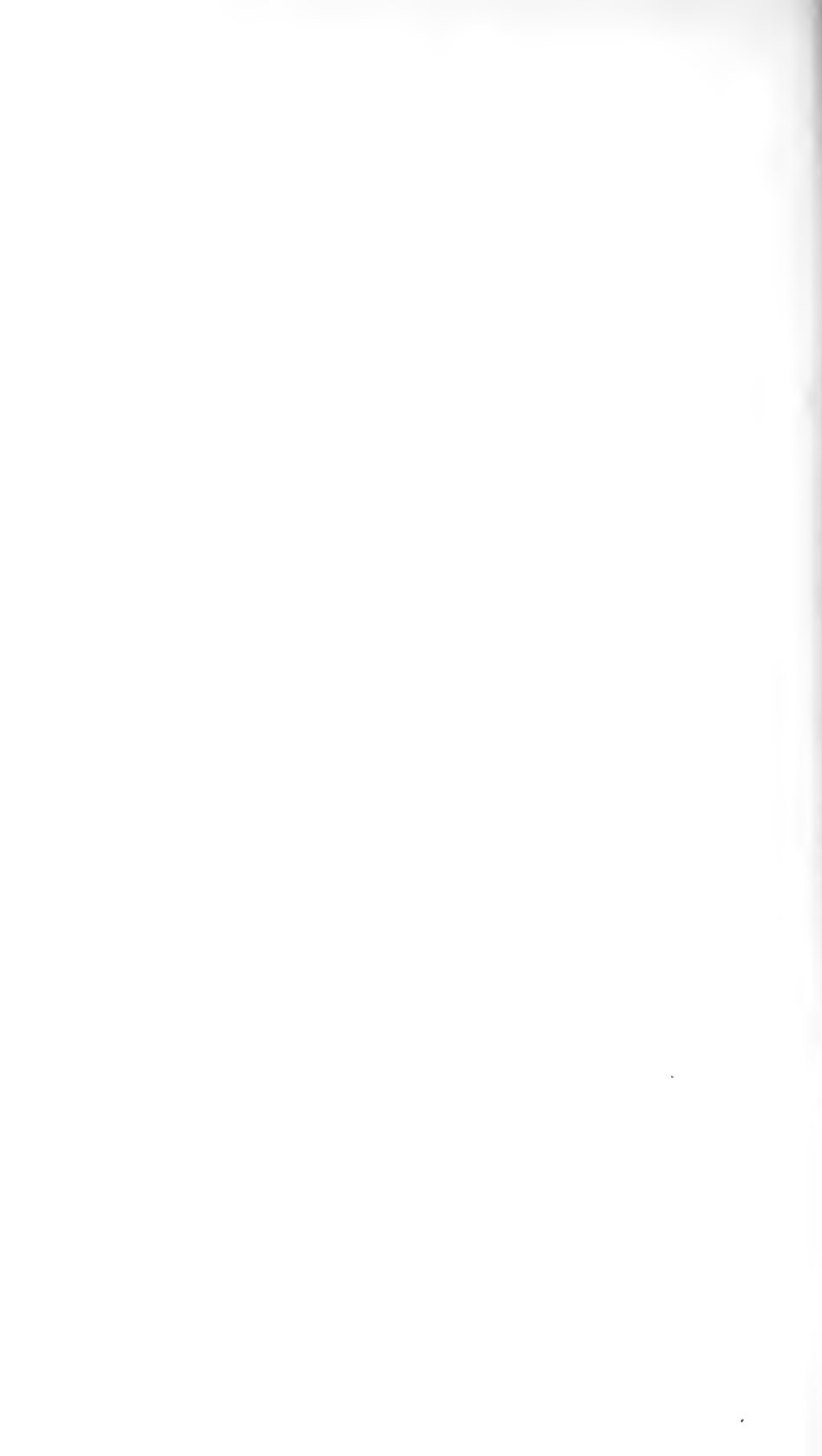
Tree 45 inches in diameter.





NO. 18. *PINUS INSULARIS*, PROVINCE OF BENGUET.

Tree 45 inches in diameter. Near view of No. 17.





NO. 19. TWELVE-YEAR-OLD PINE, 25 FEET HIGH, 6 INCHES IN DIAMETER, PROVINCE OF BENGUET, LUZON.



NO. 20. VIEW OF THE BENGUET PINES, PROVINCE OF BENGUET, LUZON.



NO. 21. BALETE, PROVINCE OF TARLAC.

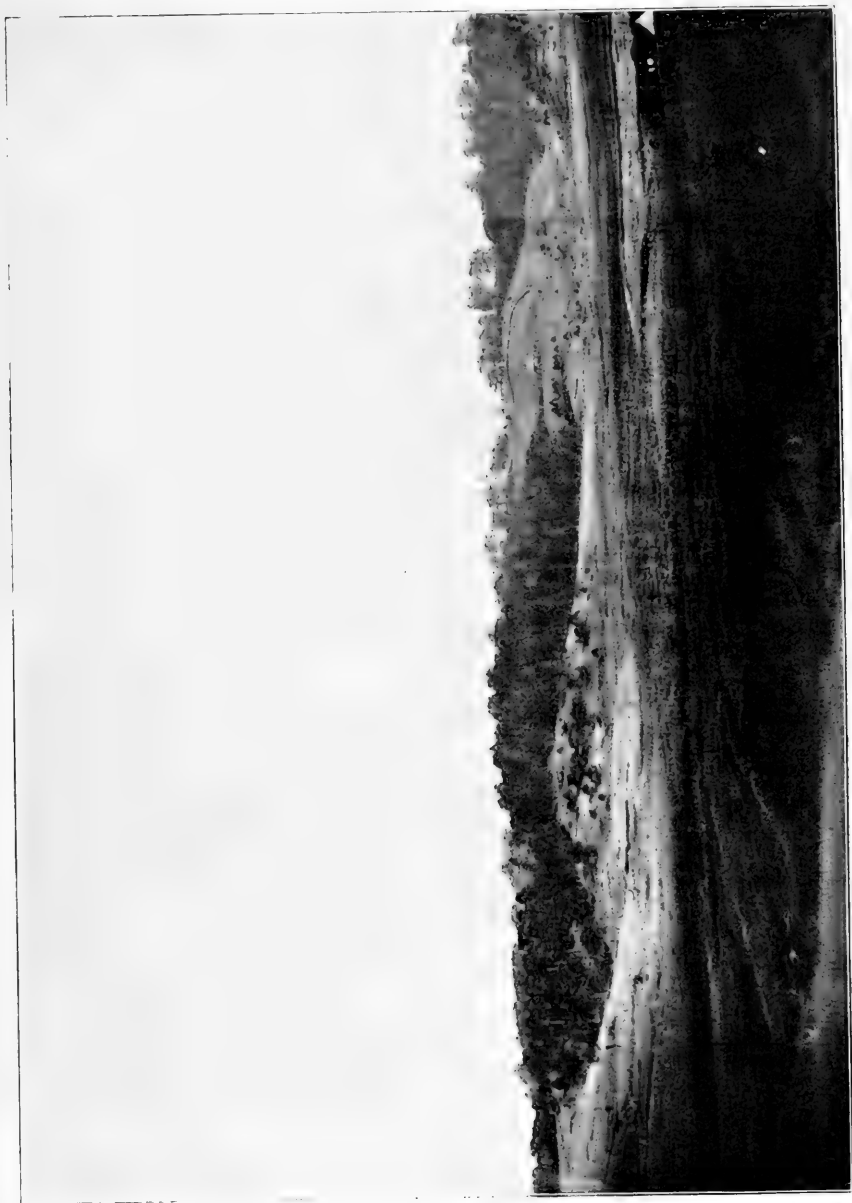


NO. 22. BALETE, PROVINCE OF TARLAC.

Near view of No. 21.



NO. 23. WORKING ON THE ROAD IN THE PINES, PROVINCE OF BENGUET.



NO. 24. BAGUIO, PROVINCE OF BENGUET, LUZON.
Site of proposed sanitary.



NO. 25. PROVINCE OF TARLAC, LUZON.



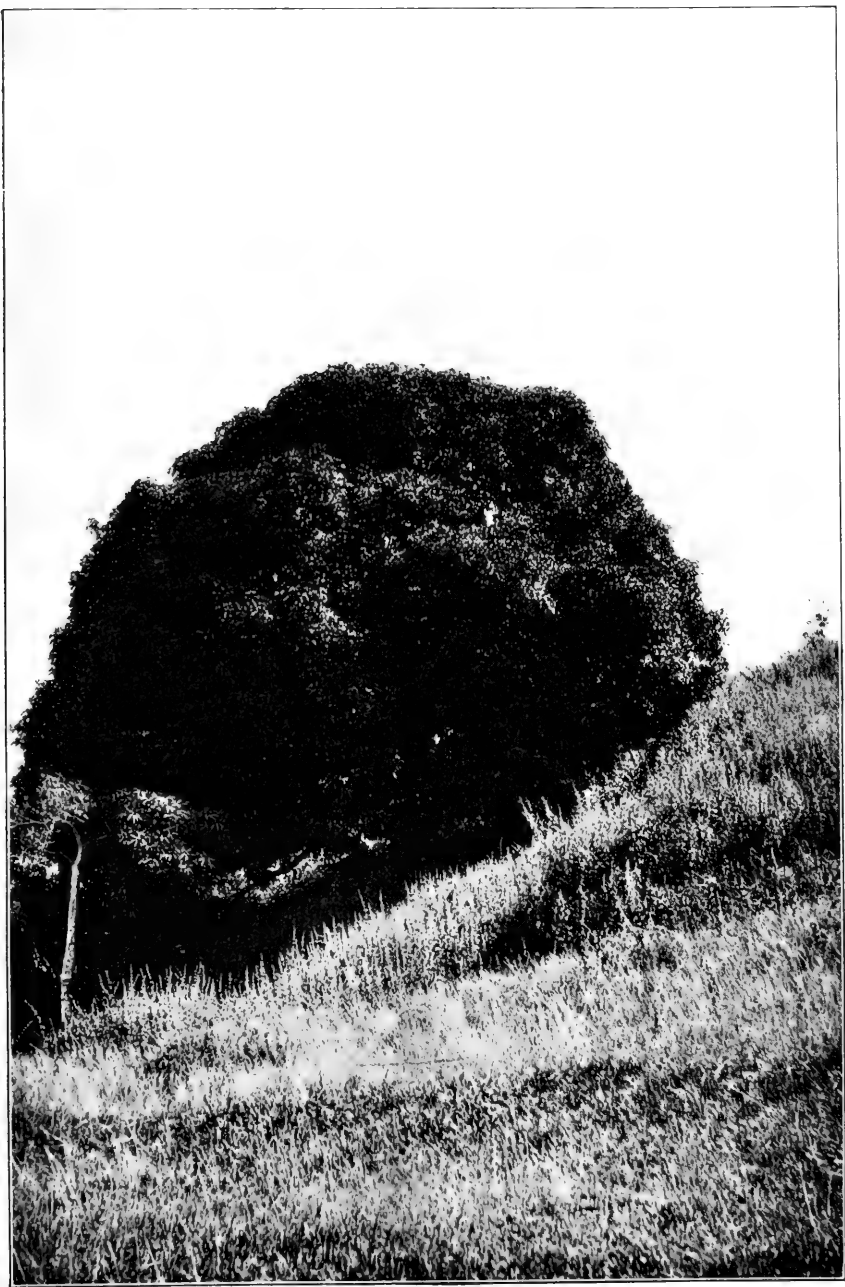
NO. 26. VILLAGE OF NAPINDAN, ON PASIG RIVER, ABOVE MANILA.



NO. 27. VIEW OF PASIG RIVER.



NO. 28. CLUMP OF BAMBOO ON PASIG RIVER.



NO. 29. MANGO TREE, NEAR MANILA.



NO. 30. TREE FERN.



NO. 31. UPPER END OF MALECON DRIVE, MANILA.



NO. 32. LOWER END OF MALECON DRIVE, MANILA.



NO. 33. CALLE GENERAL SOLANO, MANILA.

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