

to bring ideas along and to have them in presentable shape. In this way the men in the field will acquire a closer interest than ever before.

Student work could be extended in many ways. Arrangements might be made for the district engineer to lecture on some phase of his work three or four times during the school year, to inspect at stated times all buildings, grounds, and work in the trade schools; and to supervise all work done by students outside their regular school duties. Students might be required to inspect public works once or twice each year and could be employed during vacation periods by the district engineer. It should be understood, however, that students applying for work during vacation, whether they were to receive a salary or not, would have to work under the same conditions as the regular force of the district engineer, and that no favoritism could be shown.

The work of every individual in each Bureau brings him more or less into contact with the work of individuals of the other Bureau. If the word "coöperation" is properly understood, incompetent work will be eliminated, the work accomplished by one Bureau will be appreciated by the other, and antagonism and criticism will disappear. The coöperation at present existing between the central offices of the two Bureaus leaves little to be desired, and it remains for the division superintendents and the district engineers to bring coöperative conditions in the field up to the same high standard.

BUREAU OF FORESTRY AND THE BUREAU OF EDUCATION.

By ARTHUR F. FISCHER, Acting Director of Forestry.

The Bureau of Forestry has one important function in common with the Bureau of Education, namely, that of educating the people; for, beside the administrative work of the former Bureau, it also does a great deal of work in the way of instructing the people in the care of forests and in the use of forest products. The practices of *cañgin* making and other illegal uses—or rather, abuses—of the forests are due as frequently to ignorance as to other causes. The educative work of the Bureau of Forestry is aimed not only at combating such abuses; it is constructive also, not only endeavoring to teach the people to preserve and improve the existing forests, but also encouraging them to extend the forested areas of the country, in order to improve soil conditions and water supply, and to augment the sources of valuable forest products.

There is every reason why the two Bureaus should coöperate in all possible ways. The work of the Bureau of Education prepares the people better to appreciate the work of the Bureau of Forestry, while the work of the latter tends to improve the material condition of the people and so enables them better to support and appreciate the public schools. Moreover, the revenues derived from the public forests through the instrumentality of the Bureau of Forestry help directly to provide the funds that support the schools.

Coöperation between the two Bureaus in the past has been chiefly along three lines: Identification of woods and other forest products and information regarding their uses; publications; and propaganda work. Along the first line there has been no systematic work; but frequently the Bureau of Forestry has obtained information regarding local names and local uses of woods from trade school and other teachers, in return for which they have been given the official or commercial names, and notes on qualities and uses of the woods in question. Such cases came up frequently during the construction of the Gabaldon barrio schoolhouses, for which generally most of the timber was obtained from local sources.

There have been no separate publications issued by direct coöperation of the two Bureaus. The Bureau of Education has assisted in distributing circulars of the Bureau of Forestry; and *THE PHILIPPINE CRAFTSMAN* published, in Volume I, Nos. 6 and 9, articles on "Methods of Identification of Philippine Woods" and "Felling, Sawing, and Seasoning Timber" by a member of the Bureau of Forestry.

The propaganda work in which the two Bureaus have coöperated consists of Arbor Day planting, the establishment of school nurseries, and the planting of school grounds with economic and ornamental trees. During 1914, forest officers were specially detailed to visit about 60 of the most important schools all over the Islands with instructions to confer with division superintendents, district engineers, supervising teachers, and principals, and to give them all possible advice and aid in establishing school nurseries, plaza and roadside plantations, firewood plantations, etc. Lectures were given at schools about planting those economic trees which experiments at the Forest School have shown to be easy to propagate and of rapid growth. At the same time, the rangers of the Bureau of Forestry were furnished with very detailed directions for planting seeds and transplanting seedlings, and were authorized to spend some days at those schools in their respective districts at which nurseries or other

planting projects were being established. The Bureau of Forestry furnished limited quantities of seeds of teak, molave, lum-bang, ipil-ipil, and tuai, while rangers were instructed to secure large numbers of narra cuttings for the schools in their districts.

In quite a few high schools and normal schools in the United States short courses in forestry are given in connection with the subject of physiography, showing the influences of forests on rainfall, climate, erosion, and soil improvement. In such a course the Bureau of Forestry can coöperate to a great extent. In the course in economics also, this Bureau can contribute much to the study of conservation of natural resources, and the effect of forest products upon the economic independence of a nation.

BUREAU OF LANDS AND THE BUREAU OF EDUCATION.

By WALTER E. JONES, Assistant Director of Lands.

There is not a more important factor for the success of the Bureau of Lands than a complete dissemination of the knowledge of laws and regulations governing the acquisition of public lands.

Recognizing the fact that the Bureau of Education, through its teachers and pupils, is one of the best mediums for the dissemination of knowledge, not only in regard to the manner in which public lands may be acquired, but also in regard to the conversion of imperfect titles or long possession into perfect ownership, the Bureau of Lands furnished the Bureau of Education several hundred primers explanatory of the Public Land Act. This has made it possible for the teachers and students to read the law and understand it and explain its provisions to settlers and prospective settlers on the public domain.

A considerable source of annoyance in former years has been the deception practised by unscrupulous persons upon people who were ignorant of the law and of their rights. This has been eliminated to a great extent through the gradual education of the people and through the aid which has been given by municipal officials, in gratuitously making out such papers as are necessary for homestead and other applications.

In view of the fact that a large part of the forms and other papers are made out in English, the teachers and pupils can be very helpful to people who are desirous of becoming settlers on the public domain—the teachers through explaining to pupils the laws and regulations regarding the disposition of public lands and the pupils in turn explaining them to their relatives and to the friends of their families.