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PHILIPPINE AGRICULTURE AND ITS ECONOMIC PROBLEMS

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IT is impossible to discuss in any degree of detail the problems of agriculture of a country with which you are not very familiar, in 30 minutes. If you have only a limited time at your disposal in a new place or city you probably would prefer to wander around to have a glimpse of some of its interesting features, rather than stay in one place or building to make a more thorough examination of it. So in discussing Philippine agriculture I shall try to take you to its many points of economic interest, even if you don't have more than a passing glimpse of them, rather than use the whole time in examining just a single point. Such a general discussion will probably be of more interest to you inasmuch as tropical and oriental agriculture is quite different from the agriculture of temperate countries in many respects.

THE PHILIPPINES AN AGRICULTURAL COUNTRY

The Philippines, which are as large as Italy in area, and with a population of 13,000,000 people, are essentially agricultural. And, like other oriental countries, agriculture is today the main industry. On the solution of its problems depends the welfare and happiness of its people.

Of the portion of the population engaged in gainful occupations, about half are in agricultural pursuits.

Up to the present time the amount of land in the Philippines under cultivation is only about 13 per cent of the entire area, or 21 per cent of the 44,000,000 acres (18,000,000 hectares) available for agriculture. From the standpoint of national economy, therefore, the development of these vast resources is the biggest problem that faces the Philippines today. To depict to you the extent of these resources, I might mention that one of the 48 provinces, if put under rubber cultivation, would be able to supply all the rubber demands of the United States. Various proposals are being made for the development of these resources. There is a proposal for the construction of a network of roads and railroads and other transportation facilities; for making land surveys

to make disposal of land easy; the placement of migrants from the thickly populated sections to these areas; and for attracting foreign capital. One of the great hindrances toward the carrying out of such a program as has been mentioned is the limited financial resources of the government. I shall not go into this matter any further, except to mention certain precautions which should be kept in mind in carrying out such a program of development, namely, the necessity of a study of various physical and biological conditions and their relation to agricultural possibilities. It is only in this way that such an investment may become safe and profitable, from the standpoint of the country and the individuals who are to settle on this land. Through such a study, it should be possible to map out areas suited to agriculture and thus avoid future abandonment, and to determine the farming types and organization best suited to different areas.

TYPES OF FARMING

What will probably interest you most are the types of farming in the Philippines, which represent in certain ways the state of tropical and oriental agriculture.

At the present time the Philippines grow nine of what may be called standard crops, in addition to a few thousand acres of many others. Of these nine, six crops occupy 99 per cent of the cultivated area. These crops are rice, corn, sugar cane, tobacco, abaca or Manila hemp, and coconuts. Rice, being the principal food of the people, the entire crop raised is used at home. Corn is also consumed locally. The other crop products—sugar from sugar cane, coconut oil and copra from coconuts, Manila hemp, and tobacco are used locally to some extent, with a large portion exported to the United States, Europe, China, Japan, and other eastern countries. It might be surprising to know that the Philippines have trade relations with almost all the countries of Europe.

The six leading crops I have just mentioned are grown in highly specialized regions. The rice regions specialize in rice, the sugar cane regions in sugar cane, and so on. The highest degree of specialization is found in the rice and tobacco regions. For example, the percentages of cultivated area planted in rice in some of the rice provinces are as follows: Nueva Ecija, 95 per cent; Mountain, 94 per cent; Nueva Vizcaya, 90 per cent; Zambales 90 per cent; Rizal, 90 per cent; Bulacan, 90 per cent; and so forth. Specializa-

tion is not only found in the agriculture of the region but a highly specialized farming is followed by farmers in the region. A region may be diversified and yet farming on individual farms may be highly specialized. Results of surveys of 830 farms in 8 different provinces show that in 5 provinces, farmers grow nothing but rice, while in the other three, a secondary crop is planted following rice to the extent of 6.4 per cent of the crop area.

PROBLEMS OF SPECIALIZATION IN AGRICULTURE

From such a state of affairs as I have described arise two very important problems for the Philippines to solve. The first concerns the specialization of its agriculture, and the second, specialization in farming.

The first question that needs to be answered is: Should the Philippines raise only six crops four of which are mainly for export, and then import large quantities of foodstuffs such as rice, meat, milk, eggs, vegetables, and fruits, which may be easily raised at home? After weighing pros and cons, which I do not have time to discuss, it seems that attempts should be made to raise at home the food necessities of the people which may be grown locally, and not to depend upon other countries for the necessities of life. Past experience has shown that when unfavorable conditions occur in those countries, such as poor crops or political troubles, that the people of the Philippines are likely to have to pay exorbitant prices for their products.

PROBLEMS OF SPECIALIZATION IN FARMING

The next question concerns specialization in farming. Is a high degree of specialization in farming the most desirable for Philippine farmers? To diversify, or not to diversify, that is the question. No doubt a certain degree of specialization is desirable because of more desirable conditions of climate, soil, topography, market, and labor for one crop in certain regions than in others. But advantages should be weighted with accompanying disadvantages. Some undesirable results of specialization are: small areas farmed (4 to 10 acres); small hours of labor (700 hours a year); risk in putting all the eggs in one basket; poor utilization of land, labor, and capital; reckless expenditures of incomes when obtained; too much dependence upon the future crop for credit;

purchase of food products which may easily be grown under a less specialized system. It seems that there is yet a wide margin for the Philippine farmer to go toward diversification without reaching the undesirable limit. He should increase the volume of business by increased area, and by adding crop and animal enterprises, and he should raise more of the food products that he needs. In other words, he should keep his labor profitably employed.

In connection with such a diversification program, what is needed is a study of soil, climate, and other physical and biological, as well as economic conditions to determine the adaptability of the region to other crops, and thus arrive at an understanding of the nature and extent of such diversification. All the different factors should be balanced in such a way as will result in the greatest returns to the farmer.

SIZE OF PHILIPPINE FARMS

You have heard much about the small size of farms in the Orient and consequent low income. The average size of Philippine farms is about 8 acres, but 75 per cent of the farms are below 5 acres. Rice farms, which constitute 50 per cent of the cultivated area, average 4 acres, as is also the case with tobacco and corn farms. Abaca and coconut farms are about twice this size, or 10 acres. In sugar cane farming the area is much larger.

An average rice farm, which represents the small-sized Philippine farm, has an investment of about 1,000 pesos or \$500. Of this amount, 80 to 85 per cent represents the value of the land. Other items of investment are one or two water buffaloes which act as horse, cow, and steer. The water buffalo is a three-in-one creature. It is the sole source of animal power on farms, it is a source of meat, and it also supplies the milk. Each animal is worth about 140 pesos or \$70, or 15 per cent of the farm investment. The remaining 1 to 2 per cent are in equipment consisting of a plow, a harrow, a cart or sled, and some sickles for harvesting. On each farm may also be found 1 or 2 pigs and a few chickens. On coconut and sugar cane farms, the size of business is much larger but still very far from what you usually call a farm in this country where farm capitalization amounts to 10 to 20 thousand dollars, employing in full the whole labor of the family in addition to few months of hired labor.

FARMER'S INCOME

Since the farmer's income measures his economic strength and standard of living, and determines what he can buy and spend for goods, health, education, leisure, and for the improvement of his business, it should be of interest. Again I shall draw my illustrations from rice farming which has probably the lowest income compared with other types of farming. On the average, a rice farmer gets a gross income of about 320 pesos or \$160. Subtracting taxes and depreciation, he gets 240 to 300 pesos or \$150 for his labor and interest on his investment. His labor returns per hour when computed, are much higher than the wage of agricultural laborers—twice as much in many cases.

You may wonder how a family could live on 300 pesos, especially if creditors take a portion of it, or if a part goes to the landlord as in the case of tenant farmers. But there are other sources of income. Because of specialization, the labor peak of the crop has become the limiting factor in determining the area that a farmer can handle. On the average he spends only 700 hours on his farm per annum. The greatest portion of this occurs during two months of the year, the planting month and the harvesting month. In other words, he actually does only 3 to 4 months of actual work on his farm. To support a family for one year on the income of six months is quite a hard job for any man of average ability, whether he be an American, German, Scotchman, Jew, or Filipino.

This low farm income is supplemented by engaging in secondary, household, or non-agricultural occupations. Of his total working hours per year, only about 60 per cent are devoted to agriculture, while the remaining 40 per cent are devoted to other pursuits. Because secondary occupations cannot be had at all times, the greatest problem of the farmer is how to keep profitably employed. This may be done, it seems, by practising a certain degree of diversification, enlarging his business by enlarging his acreage, and by the addition of other crop and animal enterprises.

PROBLEMS OF TENANCY

Other significant economic problems that affect Philippine agriculture are in connection with tenancy, credit, and marketing. I shall not treat the problem of tenancy, except to mention that about 78 per cent of the farms are operated by owners, and 22 per cent

under some form of tenancy. It is surprising that tenancy should increase when there is an abundance of free land. One of the chief reasons seems to be the gregariousness of the people. They would rather stay with their own people and relatives and rent farms which have been decreasing in size because of continuous subdivision than have better economic conditions by going to other places. In time this will probably change, and then they will leave crowded places and go where they will have better opportunities, economically and socially.

PROBLEMS OF FARM CREDIT

Farm credit is another problem that confronts small as well as large farmers, especially the former. Since specialized farming means that there is but one monetary return during the year, credit is therefore very necessary. Money lenders have taken advantage of this, and have grown rich from lending money at high rates of interest. There are banks, but they are not only rare but give credit only to big-scale farmers. The small farmers depend therefore on store and personal credit. Loans and interest are payable in crop products at harvest time, when prices are very low. Credit is a dangerous tool to those who do not know how to use it. Therefore, the farmer soon accumulates debts and finds it hard to extricate himself from the moneylender's tentacles which have slowly coiled around him. Every year he expects a good crop to pay all debts, but his expectations seldom come true. As a result he finds that at harvest only a portion of his crop is left to him. Under such conditions it is hard for a farmer to raise his standard of living and improve his business. The farmer is as much to blame as anybody else, and only through his education can improvement be possible. We have usury laws against high rates of interest, but all usury laws (like prohibition) are useless if people tolerate old practices.

ATTEMPTS AT COOPERATION

The cooperative idea has recently been introduced in Philippine agriculture, influenced by the progress in the use of cooperative organizations to solve common problems in the United States and Europe. The first effort at cooperative organization was in connection with farm credit, and the second, with the marketing of tobacco.

I have already given you a general picture of the credit problems among small farmers. After much talk and popular discussion of the credit problem, the government began to suspect that with so much smoke there must be fire, and began to investigate. The government found that something was really rotten in Denmark. To remedy the situation, the government passed a rural credit law in 1915, encouraging the formation of cooperative credit associations. The purpose was to "accumulate funds, by means of cooperation, and to encourage thrift, activity, and punctuality in meeting obligations among members." Small farmers whose credit needs are small, usually 100 pesos (\$50) or less, are thus given credit facilities. Loans may be made on the personal guaranty of two persons. Loans for productive purposes only are allowed. In 1928 there were 550 cooperative credit associations in the Philippines. The administration is in the hands of members but the government helps in organizing them, supervises their activities, and audits their accounts. These associations have saved members large amounts of money which would have otherwise gone as interest to the many Filipino Shylocks that abound in Philippine rural areas.

Another phase of the agricultural industry in which the cooperative idea has taken hold is in the marketing of tobacco. Before the establishment of these cooperative marketing associations, tobacco farmers were at the mercy of the buyers. The buyers and middlemen fixed prices, for tobacco farmers know nothing of demand or supply, or of market quotations. As these farmers need the money to meet their financial obligations, they are forced to sell at very low prices. Prices were paid without regard to quality. Hence, there was no inducement for the production of a better quality product.

The establishment of cooperative associations in the tobacco regions changed conditions for the better. Better prices were paid according to grade or quality of the product. As a result, farmers now classify their product, and better cultivation has been stimulated. These associations were organized by the Philippine government about six years ago. Government agents assigned to organize them also act as advisers. Being non-stock, non-profit organizations, the working capital comes from commissions which are paid to the association by buying companies which purchase tobacco through the association. Each association elects a mar-

keting committee which locates buyers and arranges prices according to quality. Funds obtained from commissions are used to pay for the services of officers and the surplus is utilized in various ways to help farmers. Some associations use a portion of it for loans to members. Some have established stores where members may buy supplies at cost. It seems that cooperative associations have an important place in various phases of the agricultural industry, and such associations should be encouraged where needs for them exist.

OTHER AGRICULTURAL PROBLEMS

So far, I have called your attention, to some of the more important problems that confront Philippine agriculture. There are many others, but I do not have time to discuss them. But there is one important problem which I should not omit (just one more American minute, Mr. Chairman), and that is the low degree of efficiency of production in Philippine agriculture compared to the other tropical and oriental countries producing similar crops. Our yields per hectare are low. We have yet a long way to go toward improved methods and practices in selecting proper varieties of crops, in the use of improved seed, in the increased use of fertilizer, in giving attention to control of pests and diseases, in better cultivation, in the use of improved breeds of animals, and in the use of better feeding and management practices.

In spite of the handicaps that farmers have to face, agriculture in the Philippines has made tremendous progress. In the last twenty years, the cultivated area has increased 50 per cent; value of production, 200 per cent; and yield per hectare, 30 per cent.

HOPE FOR THE FUTURE: RESEARCH AND EDUCATION

What has been done to remedy the various ills that besiege Philippine agriculture? Not much, compared to the magnitude of the problem. It seems that the hope for the future lies in research, and in the scientific study and investigation of the various problems affecting agriculture, both biologic and economic, and in the discovery of the proper remedies. Then, the dissemination of these facts and remedies to the people. We are beginning to see that "Uncontrolled Nature demands a fearful toll from ignorant farmers," and that only an intelligent and trained farmer can avoid making farming the "greatest gamble on earth."

Whether we want to admit it or not, the fact remains that

in the agricultural industry, competition is growing keener and keener and the Philippines are feeling its effect more and more. This growing rivalry is demanding more and more of the talents of the contending parties. The conflict may be local, or it may be national, as when the Middle West forces New York out of grain farming, or when Wisconsin dairy products, California eggs, and Washington apples, force New York producers to mobilize their forces. The conflict may also be international. It is a conflict in which there is no such a thing as an armistice. Every market is a "no-man's-land," as products are bought on the basis of quality and price and not on the basis of who produced them. It is a conflict with research and education as the important weapons, and tariff as easily-made fortifications. Laboratories and educational institutions are its munition plants and training camps. In this conflict there is also no such thing as armament limitations. The Philippines, for example, cannot have other sugar producing countries stop in their experimentation and education until the Philippines are able to produce sugar with the same degree of efficiency. Countries therefore that provide support for this work forge ahead while those that do not are left by the way side. For the Philippines, therefore, and for any other country for that matter, to keep pace with rapidly advancing countries, greater attention should be given to the development of the sciences of agricultural production and marketing, and to the instruction of farmers in the technique and practices developed by science. Only in this way will the Philippine farmer be able "to overcome the difficulties of his environment so as to compete at least on equal terms of knowledge and skill" with producers in other lands.