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# AGRICULTURAL PROBLEMS OF JAPAN

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I would like, first, to sketch the Japanese agricultural situation and, second, to review Japan's farm problems and the government's policies and programs to meet them.

## PRESENT SITUATION

Japan, as you well know, has a huge population in a very small area. Ninety million people—a little over half the United States population—live upon 143,100 square miles of land, an expanse about the same as that of the State of Montana. According to the most recent survey in 1955, approximately 41 percent of the total population is in farm families. The number of farm workers, after increasing sharply immediately after the war, has recently remained stable at about 16.5 million, which is about 3 million, or 20 percent, above the prewar level. Even today, this is 42 percent of the total Japanese working population. The number of farm households has also recently remained at about 6 million, or 38 percent of the total households of Japan. This recent standstill in the number of farm workers and farm households is caused both by the lack of opportunity for farm people to obtain employment in nonagricultural occupations and by the nature of Japanese farming, which requires intensive human labor to maintain present high yields.

Agricultural land resources are extremely limited, particularly in view of the dense population. Arable land has been reclaimed to the greatest possible extent, of course. Farmers terrace the hillsides and cultivate the river beds. Despite their most intensive efforts, however, only 16 million acres or about 17 percent of the total land area, is usable for agricultural purposes. Approximately 46 percent of this agricultural land is in paddy fields for rice culture and about 37 percent in upland fields for barley, wheat, and vegetables.

Gross agricultural production may be valued at about 4 billion U. S. dollars at current prices (1954-56 average). The major crop, of course, is rice, representing 49.3 percent of the value of total production. Next come livestock products (10.7 percent), wheat and barley (9.7 percent), vegetables (6.9 percent), industrial crops (5.7 percent), potatoes (5.5 percent), fruits (4.3 percent), beans (3.6 percent), and cocoons (3.2 percent), followed by other miscellaneous products. The net agricultural income of Japanese farmers is approxi-

mately 3 billion U. S. dollars at current prices (1954-56 average). This represents a mere 17 percent of total national income.

### AGRICULTURAL DEVELOPMENT

In the prewar period, great progress had been made in agricultural techniques for getting the greatest production from the given farmland. An extensive irrigation system of rice paddies had been developed. Emphasis was laid upon seed improvement to obtain high yielding varieties as well as on heavy application of chemical fertilizers.

Furthermore, land was and is cultivated twice a year in most districts and even three times in some areas, insofar as climate and other conditions permit. For example, after the harvest of wheat or barley, rice is frequently planted on the same land. Or, after wheat or barley is cut, sweet potatoes come up between the rows of stubble. Vegetables are always grown in the ground beneath grape trellises. As a result, in 1955, the planted area exceeded the cultivated area by 49 percent.

After World War II, together with further progress in the agricultural techniques introduced in the prewar years, a new line of technical innovations has been developed. Above all, a large number of farmers are adopting labor-saving techniques. In 1935 only 5 percent of Japanese farm households possessed either an electric or a kerosene motor, but the percentage rose to 40 percent in 1955. Mechanization has also extended to the process of plowing and harvesting, whereas in the past mechanization generally was seen only in the process of threshing and hulling and pumping water. Extensive use of newly developed chemicals to control weeds has also contributed much toward reducing manual labor and increasing yield, particularly in rice paddies.

Another example of postwar developments is the rapid progress of livestock farming. We have now (1956) twice as many cows, 23 times as many sheep, and more than twice as many goats as in the prewar period (1933-35). In a comparatively short period after the war (from 1949 to 1956), pigs increased by 240 percent, chickens by 260 percent and milk cows by 250 percent.

Techniques have been remarkably improved for stabilizing agricultural production. I refer to such techniques as crop breeding, and insect and disease control. Practices to conserve soil fertility are also being widely applied.

These developments have been caused by a number of factors, three of which are most noteworthy. First, the famous land reform has played a very important role in raising the economic and social status of Japanese farmers. Cultivated land under tenancy was reduced from

about 46 percent to 10 percent by the reform. The number of owner-operators farming only on their own land, has risen from 1.7 million before the reform, to about 3.8 million, which is about 62 percent of total farm households. On the remaining tenant land, the rent has been reduced to a very low level and is payable in cash instead of in kind. Before the reform the rent in kind on paddy fields was generally as high as 42 percent of the harvested rice (according to the 1943 official survey).

Second, public investment, particularly that by the Central Government, has expedited the recent development of agriculture. In each year since the war, about 30 percent of the total government expenditure for public works has been devoted to agriculture and forestry. For the period 1934-36, the figure was only 22 percent.

Third, the increasing demand for farm products and the changing consumption pattern are important underlying forces. Increase of population and per capita income are contributing factors also. A comparison of the recent 1954-56 average daily consumption of food per capita with the prewar (1934-38) level shows a 20 percent decrease in rice as against a 100 percent increase in wheat and barley, almost four times as much milk and other dairy products, and increases of 30 percent in meat, nearly 50 percent in eggs, and almost 30 percent in fruits. Remarkable progress in such agricultural products as livestock, fruits, and high-grade vegetables has largely corresponded to these changes in demand.

### **AGRICULTURAL PROBLEMS AND POLICIES**

In spite of these untiring efforts both before and after the war, the labor productivity of Japanese agriculture as a whole is still comparatively low. The level of agricultural production overtook the prewar level in 1955. However, labor productivity exceeded the prewar level only by 8 percent in 1955 and 5 percent in 1956, and then, mainly because of favorable weather conditions. In manufacturing, labor productivity surpassed the prewar level by 1954, and in 1956 was almost 40 percent above the prewar figure.

According to FAO statistics for 1954-55, labor productivity of Japanese agriculture was only one-seventieth of United States' agriculture, one-sixtieth of the United Kingdom's, one-eighth of West Germany's, and nearly one-third of Italy's. Here lies the primary difficulty confronting Japanese agriculture and the basic reason for: (1) the low food supplying capacity of Japan; (2) the weak international competitive capacity of Japanese agriculture; and (3) the low level of income and living standards of Japanese farm people.

Japanese agriculture is unable to produce sufficient food to feed the nation's population. Approximately 20 percent of Japan's annual food requirement must be imported. Even with these imports, the Japanese people are not as well fed as the Western peoples.

The general trend of Japanese farm prices, unaffected by declining world prices, continued to rise until about 1953 and then stabilized at about that level. Under these circumstances, it is feared that the international competitive capacity of Japanese agriculture will be further weakened despite the present government food control system, designed to maintain producer prices of major indigenous farm products to some extent in accordance with a parity formula, independent of the import prices of like commodities.

Attention must be directed to the fact that even the present level of consumption of farm households cannot be maintained without non-farm income, particularly wages and salaries earned in nonagricultural jobs. According to the 1956 official survey, more than 30 percent of the total farm household income was derived from nonfarm sources.

Japanese agricultural policies must, therefore, be designed to cope with the increasingly difficult situation facing Japan's farmers. I will briefly outline the main policies of the Japanese Government to be carried out by the Ministry of Agriculture and Forestry, the executive branch of the national government principally responsible for agricultural programs. The appropriation for the Ministry for the fiscal year ending March 31, 1959, is estimated at about 231 million dollars, or 6.3 percent of the total national budget.

The first policy is to increase, improve, and consolidate agricultural land. Implementation programs by the Ministry will include: maintenance and consolidation of owner farmers, land reclamation, land improvement, consolidation of small farm parcels, and similar projects intended to improve land utilization.

The second policy is to develop agricultural techniques and farm management in the interest of increasing productivity and decreasing costs. To implement this policy, the Ministry will stress technical and managerial programs in: upland farming, livestock farming, and farm mechanization.

The third policy is to improve the marketing of farm products and to stabilize farm prices. Here the Ministry will undertake the following programs: improvement of government direct controls over rice and indirect controls over wheat and barley; rationalization of marketing of vegetables and fresh produce; expansion of the domestic and foreign markets for specific products, such as raw silk; and further refinement of the present price stabilization system.

Local facilities to help expedite the implementing programs include the agricultural cooperatives system and the agricultural credit system. Each rural village or town in Japan has one or more general-purpose cooperatives together with such specialized cooperative associations as may locally be required. Local funds collected through the cooperatives are generally used to meet the farmer's need for short-term credit. Their long-term credit needs are met with funds from the Treasury furnished through a system of governmental agencies.