

REZENSIONEN

Japan's Agricultural Development: A "Model" for Developing Countries?

A Review Article *

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This symposium is very valuable and highly recommendable for all economists and all others interested in the process of economic and social development. Its various chapters comprise the final versions of a set of papers that were examined at an international conference held in Tokyo. The conference's objective was a comprehensive reappraisal of Japan's agricultural development and its relevance to overall economic growth in the hundred year period following the Meiji Restoration in 1868. The text deals with savings and capital formation, consumer behaviour, land reform, the population transition, the labour market, exports and other related items. In treating the topics, both economic theory and empirical analysis have been combined to advantage.

The volume is arranged into four parts. Part I presents overall analyses of Japan's experience and will certainly be most stimulating for those concerned with the question, of whether or not Japan can be considered as a "model" for present-day developing countries, especially those in Asia. Special mention must be made of the paper by Kazushi **Ohkawa** — the "Kuznets of Japan" — and its long-term view, covering virtually a century, the purpose of which is to present a summary discussion of the volume. As Theodore W. **Schultz** rightly says in his foreword, there is no such excellent and comparable analysis of agriculture for the United States. One may add that this applies equally well for the European countries. **Ohkawa** analyzes changes in inputs and productivity over time and finds that Japan's experience can be systematically interpreted by demarcating three growth phases, each with distinctive characteristics. In each phase the agricultural growth pattern appears to be broadly associated with the pattern of non-agricultural growth. While the first phase (ending 1919) is characterised by a high rate of output growth despite a low rate of input increase, the second phase (the interwar period, the war, and the immediate postwar period) shows a low rate of output growth despite a higher rate of input increase. The postwar phase is marked by a combination of the highest rates of both output and input growth.

Altogether, despite a rapid growth in the non-agricultural sectors, Japan's agriculture took almost a century to arrive at the "turning point" in the sense of W. A. **Lewis**.

* Kazushi Ohkawa / Bruce F. Johnston / Hiromitsu Kaneda (Eds.), *Agriculture and Economic Growth: Japan's Experience*. (With a Foreword by Theodore W. Schultz.) Princeton University Press, University of Tokyo Press, Princeton and Tokyo 1970, XXII, 433 p.

During the first and the second phases "B-C-Technologies" (bacteriological and chemical) were of great importance in developing Japan's labour-intensive type of farming, with the size of the agricultural labour force remaining almost unchanged. Mechanization, on the other hand, is in historical perspective a recent phenomenon and began to take place to a remarkable degree only during the third phase.

The relevance of the Japanese "model" of agricultural development for today's developing countries is the special subject of the paper by Bruce F. Johnston. He thinks that a considerable consensus has emerged concerning the strategic role of agriculture in the overall economic growth of Japan: (1) Agricultural output has been increased with remarkably small demands on the critically scarce resources of capital and foreign exchange because of increases in productivity of the existing on-farm resources of land and labour, carried out within the traditional framework of small-scale agriculture; (2) Agricultural and industrial growth occurred in a process of "concurrent growth", although industry developed a good deal more rapidly; (3) The gains in agricultural productivity were of strategic importance in making possible the necessary savings and investments for industrial expansion.

Johnston's fundamental point is that there are cogent reasons which suggest that the Japanese type of approach (by which he presumably means the early periods of modernization) is feasible and advantageous and therefore justifies the effort required to create the conditions that are needed to expand farm output, i.e. by raising the productivity of the farm-supplied resources of labour and land. He predicts that when the population and labour force are growing at 2% or even 3% annually and agriculture still accounts for 70 to 80% of the total labour force (as is the case in most developing countries of Asia), the transformation of the economic structure is bound to be slow. Consequently, the prospect is that the farm labour force in the developing countries will double or triple over the next fifty years and much more than half a century will elapse before the "turning point" is reached and the farm population begins to decline in absolute numbers.

Thus he comes to the conclusion that the long-term goal of economic growth in the developing countries as well as the welfare of the bulk of the population, who will unavoidably remain in agriculture for some decades at least, will be best served if the agricultural development strategy is directed towards raising the productivity of the existing small-scale, labour-intensive agriculture. The potential that exists for increasing productivity through yield-increasing innovations with fairly small investments in fertilizers and other complementary inputs, means that labour-substituting investment can be deferred until the non-farm population becomes fairly large relative to the farm labour force. This also means that a higher proportion of the scarce resources of capital and foreign exchange can be allocated to the expansion of output and employment in the non-farm sectors of the economy. This type of strategy for agricultural development appears to have a further advantage because it may encourage the growth of a decentralized, labour-using, capital-saving industrial subsector, which in turn may be capable of increasing incomes and productivity in agriculture.

Part II of the volume consists of three papers which deal with the state of productivity at the beginning of industrialization, the technological changes and the economics of mechanization in small-scale agriculture in the postwar period. Part III includes a paper that characterizes the demographic transition and classifies the

pattern and changes of the sectoral distribution of the labour force. Another one deals with differences in the pattern of labour movements between the pre- and the postwar periods and analyzes the causes of the remarkable increase of part-time farming. The last paper deals with Japan's "turning point" itself, placing it in the early 1950's.

Part IV includes papers on different aspects of economic development such as exports (esp. silk exports), the provision of credits, and saving and food consumption patterns. The latter shows that the income elasticity of food demand remained low throughout the prewar period but increased substantially in the postwar years. One regrettably short paper deals with the effects of the (second) land reform after World War II. The author believes that the reform stimulated a marked rise in the propensity to consume, but that its effects on productivity via an increase of agricultural investments were rather weak. The control of farm land transfer had negative effects on land use so that rational allocation was hampered and income distribution turned against agriculture. The government is now trying to prevent a further deterioration of income distribution by various subsidies to the agricultural sector. However, the author fails to draw what seems to be the obvious conclusion: the need for a "third" land reform in Japan.

Paradoxically, almost every aspect of the postwar land reform has turned into a disadvantage and liability. The excessive absorption of labour in agriculture has become highly uneconomic, the average farm still having only about 2.47 acres and the legal maximum limit varying regionally between $1\frac{1}{2}$ and $4\frac{1}{2}$ hectares. At the same time, there are only a few cooperatives in Japan (about 400 full cooperatives in 1968). Japanese agriculture was given the highest protection from imports and was assisted in various ways. Today, about 70% of Japan's agricultural production is directly or indirectly supported by the Government¹. However, these policies did little to increase the output per man employed. The institution of part-time farm households and part-time farmers is becoming typical, and women and old man already account for nearly three quarter of the agricultural labour force. This development will further undermine the growth of productivity and make agriculture an even bigger burden for the taxpayers and the consumers. With every passing year the consequences of such structures and policies become more and more clear: Japan's agriculture is failing to catch up with the growth in productivity of the other sectors and this has led to rapidly rising prices for agricultural products. At the same time, it is no longer able to compete efficiently with several products from foreign countries, which fail to gain further ground only because of the high tariffs and restrictions on imports (from July, 1971, Japan's tariffs on imports of processed agricultural products from developing nations will be reduced by 20% to 100%)². Artificially backed prices for foodstuffs have led to overproduction which is being paid for by both the Japanese consumers and the producers in the developing countries (the stockpile held by the Government totalling 7.2 million tons in 1970)³. But even these high prices are not sufficient to support the excessive farm labour force (8.6 million), with the

¹ See Ken Bieda, *The Structure and Operation of the Japanese Economy*, Sydney, New York, etc., p. 270.

² *Nihon Keizai Shimbun*, 2. 4. 1971.

³ *Mainichi Shimbun*, 3. 4. 1971.

consequence of growing part-time farming (82% of the increase of income in agriculture in 1970 was due to income obtained from sources other than agriculture)⁴ and, simultaneously, labour shortage in other sectors of the economy. These problems are due largely to the Government's excessively protective attitude towards agriculture (being partly a result of the policy principle of "maximizing votes") and the "make-shift policies" lacking long-run perspectives — as the 1970 White Paper on Agriculture clearly admits⁵.

Therefore, the biggest task faced by Japan's agriculture today is the reorganisation of its production systems. It is also necessary to establish effective management in agriculture and to improve the real living standard of people engaged in farming and to fill the gap between the sectors of the economy which widened during the period of rapid economic growth in the 1960's. Alongside the high rate of growth of the economy, Japan's agriculture was heavily stricken by environmental disruption. The pollution from chemicals (partly a late consequence of excessive use of "B-C-technology") and other harmful aspects of industrialization have extended to rice, vegetables, fish, meat, drinking water and air, making the study of the means to harmonize nature with agricultural and industrial activities one of Japan's most urgent tasks. Japan has the highest use of chemical fertilizers and insecticides per hectare of cultivated land in the world. It has now the highest use of mechanical power per hectare, and it has the highest yields per hectare in the world. However, high output per hectare without considering the private and social costs is not necessarily a good thing economically.

In spite of the historical records, then, the Japanese agriculture — a "model" for developing countries, especially the Asian countries — is a sick part of the Japanese economy. Technologically it is remarkably efficient, yet with its present size, structure, and income yields it is uneconomic for the Japan of today. The actual overall situation is further deteriorating, as has been the case in the United States and Europe. To restore it to a really self-supporting basis, the size of the farming sector must be reduced, the composition of its output changed and, at the same time, developing countries must be given a fair chance to enter the Japanese market, in order to let comparative advantage play its role.

Here, then, lies the weakness of the volume in question. In putting heavy emphasis on the early periods of agricultural development, the consequences of the growth process for the economy in a stage of highly developed capitalism are not dealt with sufficiently to satisfy the expectations of the inquisitive reader. Though developments in later periods may not invalidate the early experiences and their developmental significance, it is a good thing to make clear what will happen if structures and policies — especially those with regard to the scale of production and institutional arrangements — are not changed in time. A conference and a volume with a better structure regarding the different phases of development (as is shown by the Ohkawa paper) would have made it easier to predict and avoid these short-comings in the coverage of the subject matter.

The ways and means by which development requirements are to be met and

⁴ Ibid.

⁵ The Annual Report Concerning Movements of Agriculture in Fiscal 1970 (White Paper on Agriculture), Ministry of Agriculture and Forestry, Tokyo 1971 (in Japanese).

obstacles overcome will, no doubt, have important "unique factors" in every country and particular situation. So the real problem for development advisors these days may be to determine to what extent a special "model" is relevant as an historical path to be followed or individual stage to be adopted ("Weggenossenschaft"), or whether it is relevant only contemporaneously ("Zeitgenossenschaft").

An aspect of the volume non-Japanese scholars will wonder about, is the repeated complaint concerning the available data. Data limitations will certainly tend to persist for some time. But, there seems to be no country where economic data is as good and plentiful as in Japan. On the contrary, there are many developing countries which, for lack of data, find it necessary to engage in "planning without facts".

Of course, many objections mentioned here may have been raised during the conference itself. Unfortunately, however, as with other economic and social conferences in Japan, the criticisms from the floor and the written comments to the papers in this volume ". . . could not be included" (p. VI). Why not?