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Unctad, Geneva, ISS, the Hague

February 1996

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MPRA Paper No. 38822, posted 21 Jun 2013 16:45 UTC

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

**EAST ASIAN DEVELOPMENT:
LESSONS FOR A NEW GLOBAL ENVIRONMENT**

Project sponsored by the Government of Japan

Study No. 5

*The Role of Agriculture in the Early Phase of Industrialization:
Policy Implications of Japan's Experience*

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United Nations, Geneva

**THE ROLE OF AGRICULTURE IN THE EARLY
PHASE OF INDUSTRIALIZATION: POLICY
IMPLICATIONS OF JAPAN'S EXPERIENCE**

Shigehisa Kasahara

February 1996

**Project on
East Asian Development:
Lessons for a New Global Environment**

The project on "East Asian Development: Lessons for a New Global Environment" is part of UNCTAD's ongoing research on East Asia begun in *Trade and Development Report 1994*. At its 41st session, held in Geneva in September 1994, the Trade and Development Board agreed that there should be a follow-up to the research published in that report and to the Board's deliberations on the subject. There was broad agreement that the process of rapid outward-oriented industrialization which underpinned the region's achievements included a well defined role for government policy. However, elements in understanding were still missing. Moreover, it was recognized that any policy lessons needed to be tailored to changes in the external environment both at the global level, with the new challenges, opportunities and constraints upon national governments arising from the agreement to establish the World Trade Organization, as well as at the regional level, where a second and a third wave of regional industrialization had already begun.

A number of studies were prepared in the context of this project, including a *Secretariat Report* drawing on the research undertaken (see list on p. iii). These provided the background for a conference held in Kuala Lumpur (Malaysia), from 29 February to 1 March 1996, as part of the activities leading to the Ninth Session of the United Nations Conference on Trade and Development (Midrand, Republic of South Africa, 27 April to 11 May 1996). The Kuala Lumpur conference was organized by the Global Interdependence Division (GID) of UNCTAD, in collaboration with the Institute for Strategic International Studies and the Government of Japan.

The project was directed by Yılmaz Akyüz, Chief, Macroeconomic Unit, GID, and the research was coordinated by Ha-Joon Chang of the University of Cambridge, United Kingdom. Funding for both the research project and the Kuala Lumpur conference was made available from the Japan Trust Fund for International Cooperation for Development.

List of studies *

- No. 1 *New trends in Japanese trade and FDI: Post-industrial transformation and policy challenges*
Yılmaz Akyüz (Global Interdependence Division, UNCTAD, Geneva)
- No. 2 *Institutions, economic policy and growth in the Republic of Korea and Taiwan Province of China*
Tun-jen Cheng, Stephan Haggard and David Kang (University of California, San Diego, United States of America)
- No. 3 *The economic impact of regional integration with special reference to APEC*
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- No. 4 *Lessons from growth and structural change in the second-tier South-East Asian newly industrializing countries*
K.S. Jomo (University of Malaya, Kuala Lumpur, Malaysia)
- No. 5 *The role of agriculture in the early phase of industrialization: Policy implications of Japan's experience*
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- No. 6 *Whatever happened to Latin America's savings? Comparing Latin American and East Asian savings performances*
Gabriel Palma (University of Cambridge, United Kingdom)
- No. 7 *WTO and industrial policies*
V.R. Panchamukhi (Research and Information System for the Non-Aligned and Other Developing Countries, RISNODEC, New Delhi, India)
- No. 8 *East Asian development: The flying geese paradigm reconsidered*
Robert Rowthorn (University of Cambridge, United Kingdom)
- No. 9 *Savings, investment and the corporation in the East Asian Miracle*
Ajit Singh (University of Cambridge, United Kingdom)
- No. 10 *UNCTAD Secretariat Report to the Conference on East Asian Development: Lessons for a New Global Environment, held in Kuala Lumpur (Malaysia), 29 February to 1 March 1996.*

* The opinions expressed in these studies are those of the authors and do not necessarily reflect the views of UNCTAD or of the organizations or institutions with which the authors may be connected. The designations and terminology employed and the presentation of material in these publications do not imply the expression of any opinion whatsoever on the part of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or of its frontiers or boundaries.

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THE ROLE OF AGRICULTURE IN THE EARLY PHASE OF INDUSTRIALIZATION: POLICY IMPLICATIONS OF JAPAN'S EXPERIENCE

Shigehisa Kasahara

(United Nations Conference on Trade and Development)

INTRODUCTION

There have been numerous studies published on the economic development of Japan, many of which with an explicit objective of drawing lessons that may be relevant to policy formulation in developing countries. By and large, these studies tend to focus attention on relatively recent experiences of the country. They typically analyze: how Japan "rebuilt" its economy from ruins after the Second World War; how it created such a rapid growth period of the 1960s; how it adjusted its economy to the post-Bretton Woods, post-oil shock, low-growth era of the 1970s; and now how it attempts to cope with the industrial restructuring resulting from, among others, the yen appreciation of the 1980s, etc. While these studies certainly hold merits, the question still remains as to how effectively they are in providing relevant lessons to those presently commodity-producing countries that are barely at the stage of getting out the agrarian state. In this regard, perhaps it is more helpful if we go back further in Japan's history, say, to the 19th century, i.e. the historical period in which the country began its concerted efforts of modernization. It was the period when the country began to make a transition from the state of traditional agriculture which was characterized by small-scale subsistence farming and dominated by pre-modern social relationships.

This paper reviews the process of the Japanese economy in transforming itself from a stagnant agrarian state to a modern industrial one, covering the period from the Meiji Restoration (1868)¹ onward up to the Second World War. The major emphasis, however, lies in the analysis of the role of agriculture in the early stage of development in the last three decades of the 19th century, when the Meiji Government began to carry a determined political campaign to strengthen the country and to catch up with the West. It is interesting to note that due to the so-called Unequal Treaties,² Japan was obliged to keep tariffs minimal, preventing the building of infant industries behind tariff barriers. (Of course, Japan utilized various non-tariff measures to make up for the low tariff rate.) By the time of the First World War I, however, the country had managed to be recognized as a significant industrial power, the only non-Western case. The conventional

¹ Broadly, it also signifies the series of political, social and economic changes in the latter part of the 19th century that resulted in dismemberment of the feudal system of the Shogunate and domains and Japan's rapid development into a unified modern state. The term restoration came into use to signify a return to direct imperial rule after many centuries of warriors' control. In April 1968, the young Emperor Meiji promulgated the Charter Oath, calling up the people to eschew old-fashioned ways and insisting the "knowledge shall be sought throughout the world".

² They were trade agreements signed in 1853 between the Tokugawa Shogunate and the United States, the Netherlands, the United Kingdom, and France. The US treaty served as a model for the treaties with the others. These treaties opened several Japanese cities to trade, provided for the exchange of diplomatic representations, and assigned living and recreational areas for foreign residents. They also set tariff rates and sanctioned extraterritoriality. Amendment of the treaties remained an important diplomatic issue through the Meiji period (1968-1912).

view of the early industrialization process of Japan may be summarized as follows. At first, fairly large amounts of financial resources were allocated to the agricultural sector, which resulted in a rapid growth there. (Some observers, however, argue that the allocation of public fund to the agricultural sector was rather meagre at first, and increased only later.) Much of the increased output or income was then transferred - through the application of a land tax by the Government and as a result of the savings and investment patterns of landlords - to the manufacturing sector in order to finance the rapid expansion of the sector.

This paper consists of four chapters. Chapter I presents theoretical discussions on the two-sector model of development, first by providing a brief explanation of well-known examples, and second by analysing two contending theories regarding the "timing" of the agricultural development in the context of the overall national economy, or more concretely, the sequence between agricultural development and manufacturing development. Chapter II presents a historical sketch of major experiences of Japanese agriculture, by focusing on the changing role of the sector in the national economy. Chapter III discusses the role of the government in dealing with the agricultural sector at the early phase of industrialization. And finally chapter IV draws from the Japanese experiences relevant lessons for those commodity-producing developing countries. In the last chapter, it is attempted, by way of conclusion, to highlight various elements of particularity that the Japanese Government had to face at the initial stage of industrialization, and to contrast them with the present situations of typical commodity-producing developing countries. This exercise, it is hoped, will help to distinguish what in Japan's experience could be applicable to these countries.

I. THEORETICAL DISCUSSIONS

A. *A historical review of well-known two-sector development models*

One of the most dominant framework by which to conceptualize the development process is what is termed a two-sector or dualistic model. Its analytical framework is always based on distinguishing the traditional sector and the modern sector. The early model of Lewis (1954) began with the assumption of the existence of an unlimited (or totally elastic) supply of labour originating from the traditional sector. It was assumed that the traditional sector was not rational in the sense of profit-maximizing, and that the emigration of labour out of the sector would not lead to the reduction of its output because of zero marginal product of its labour. The modern sector of Lewis, which consists of manufacturing and some agricultural production, uses modern technology. The sector is capital intensive, and is rational in the sense of seeking to maximize profit by hiring labour up to the point where the marginal product of the last unit of labour transferred to the modern sector is equal to the wage. Savings were assumed to be made only out of profits. As these profits were invested, the demand for labour would increase. This would continue until labour in the traditional sector became no longer unlimited. At the point labour became scarce in the traditional sector, it began to be commercialized and subsequently labour would be hired up to the point where the marginal product is equal to the wage.

An alteration on Lewis's unlimited labour supply was made by Ranis and Fei (1961), where the marginal product of labour in the traditional sector was assumed to be positive rather than zero. As labour was drawn out of the sector, the terms of trade would turn against the modern sector and the wage there must be raised, as the traditional sector produces food were assumed to be consumed by the modern sector.

Consequently, profits in the modern sector tended to go down, and investment would also slow down. It is likely, therefore, that growth will stop prior to the commercialization of the traditional sector.

Jorgenson (1961) extended the two-sector model by altogether dropping the assumption of an unlimited supply of labour. His argument was that a necessary condition for the creation and growth of an industrial sector would be that an agricultural surplus must emerge and this can occur only if the rate of technological change in agriculture was high relative to the rate of population growth. Otherwise, the economy is likely to be caught in a low-level equilibrium.

These models commonly tended to concentrate on the role of the traditional/agricultural sector as the provider of labour, food and savings for the modern/manufacturing sector. Their common emphasis was on the "supply side" role of the traditional sector in the factor market where it contributes factors of production to the modern sector. On this regard, it should be noted that the assumption of "irrationality", i.e. non-maximizing behaviour, on the part of the traditional sector, makes impossible to extract surplus from the sector for the purpose overall development without harming production incentives in it (Grabowski, 1991, p. 5). They also commonly made light of the role of the traditional sector as a source of demand, a market for the outlet of the products from the modern sector.

It seems that the dualist theorists generally view development basically as the process of displacement of the traditional sector by the modern sector. To them the traditional sector is inferior, as it uses backward technology, harbours surplus and unproductive labour, and allocates resources in a non-economic manner. And owing to the opposite reason the modern sector is viewed to be superior. Development means therefore the process of eliminating the traditional sector and transferring factors of production, most of all, labour to the modern sector.

B. The role of agriculture in development

In the transactions in market, the agricultural sector participates in the factor market as well as in the product market. In the factor market, as the previously discussed two-sector models postulate, the agricultural sector plays a supply-side role providing surplus labour to the manufacturing sector. Another supply-side role of the agricultural sector is that it may provides financial resources needed for the manufacturing sector. In the product market the agricultural sector play a demand-side role by which it purchases manufacture goods (consumer as well as capital goods). Let us look into these roles of agriculture more carefully.

As it is postulated in two-sector models, first, *it plays the role to supply labour to manufacturing sector*. Since, at the outset of industrialization the bulk of the population is rural, there must be a release of population from rural (presumably agricultural) to urban (industrial and commercial) areas. Japan was not an exception: there was a significant magnitude of this type of migration. One well documented, peculiar aspect of the internal migration in the whole period of industrialization up to the Second World War was that such a demographic shift did not entail the contraction of rural workforce by means of radical reorganization of agriculture. More specifically, from about 1870 to 1940, the agricultural population in Japan remained about 14 million, and the number of farm households remained nearly unchanged at about 5.5 million (Misawa, 1974). Reportedly, the labour absorption capacity in the industrial and commercial sectors were met by the shedding of the excess labour (young sons and daughters) of the farm households. Thus, the growth of the non-agricultural labour force was realized largely by population growth alone. In fact, the

number of farm households remained virtually unchanged and only the excess labour moved to the cities. This trend lasted until as late as the 1960s.

Second, as for the role of the provider of investment resources for the other sectors, it should be noted that economic development requires capital goods and raw materials which cannot be initially provided by the developing country itself and which need to be imported. The foreign exchange resources needed for financing these imports have either to be earned through exports or to be secured through inflows of capital from abroad. Rather than heavily relying on foreign borrowing or inviting foreign investment, Japan took the option of developing agricultural exports.³ Through the 19th century, the proceeds of exports of silk and tea were a major means of financing Japan's external payments. Later, as the manufacturing industry developed, domestic raw materials diminished in relative importance, but they still furnished much of net embodied in exports, notably of silk related products, and of certain foodstuffs and miscellaneous manufactures. In a more general term, agriculture used to be the largest provider of savings or of financial resources for the overall process of capital formation. The Government facilitated the mechanism channelling a substantial part of the increment to agricultural output through the land tax,⁴ so did an emerging class of landlords through property rental and marketing and credit operations. What enabled the agricultural sector to fulfil this role include, most of all, the improvement in its productivity, the institutional development of financial intermediaries (i.e. the viable banking system and the propagation of currency transactions), and the effective taxation and public spending.

The third role of agriculture is as the principal source, particularly so at the early stage of growth, of demand for manufactured products. At the outset the emergent manufacturing sector of the national economy is too small to generate an adequate demand for its own products, and it has to be supported by the rising demand of the agricultural sector. In other words, there is the reciprocity between the agricultural and manufacturing sectors with respect to demand, where the expansion of the former sector results in a rising demand for the consumer products of the latter sector. The role of agriculture in the demand for the other sectors, however, would naturally be smaller in the later stage of industrialization as the relative weight of agriculture itself in the economy as a whole declines.

The fourth role, which is related to the previous one, is the demand of the agricultural sector to rely on the outside to develop itself, which in turn creates the spill-over effect on the outside. A case in point is the demand for producer goods, although it may be of less importance at the initial stage of development. As mentioned earlier, as the economy grows, the role of agriculture in the demand would

³ Other options that were then not available to Japan but are now available to developing countries include sizeable overseas remittances and foreign assistance. A significant feature of the Japanese case is not that the earning of foreign exchange was made through agriculture, but that they consciously applied these capital towards the import of capital goods and raw material rather than commercial goods. Many countries with well developed agricultural exports have often utilized significant portion of foreign exchange earnings for importation of consumer goods at the critical phase of development (Lockwood, 1954, p. 381).

It is pointed out that the foreign exchange constraints is one of the most critical factors for development in developing countries as their import requirements consist largely of intermediate and capital goods destined for use in the manufacturing sector. In this connection, according to Ghose, the performance of manufacturing exports has allegedly no direct bearing on manufacturing growth, while that of agricultural export does. This is because typically the agricultural export of developing countries are "domestically non-competitive" (i.e. domestic demand is insufficient), while manufacturing exports are domestically competitive in the sense that declining exports could conceivably be neutralized by growing domestic demand (Ghose, 1993, p. 97). The degree of "domestic competitiveness" of the agricultural exports of a country depends, among others, on the indigenous development of the local forward linkage utilizing agricultural products, i.e. the further processing of the agricultural product, say, in the manufacturing sector.

⁴ The land tax was generally fixed in absolute terms, where it was nominally a percentage of the value of the land, but as only one valuation was undertaken it was in effect a fixed tax base. It is a general view that the tax did not badly damage the incentive on the part of farmers to raise their output. In periods of inflation and high food prices, the burden of the land tax was substantially reduced. A similar reasoning may apply to rent, as well (Ogura, 1963, p. 635).

become smaller. Nevertheless, to some specific industries, such as the chemical and engineering industries, the importance of agriculture still remains.

A fully developed argument on the agriculture-industry interaction in the development process must take into consideration all of these points. In the case of the late-industrializers, such as Japan, one of the controversial aspects in the development literature has been to what extent agriculture has actually provided investment resources for industrialization. The natural extension from this is the question of the desirability and possibility of policy interventions to accelerate the rate of industrialization by means of manipulating the direction and magnitude of the contribution of the agricultural sector flow. Interestingly enough, there is clearly a conflict between the emphasis on agriculture's essential contribution to capital requirement for overall development and the emphasis on increased purchasing power of the agricultural sector as a stimulus to industrialization. Nor is there any easy reconciliation of the conflict.

On this regard, the Keynesian argument for the increased demand for consumer and capital goods becomes particularly pertinent, when investment decisions in the manufacturing sector are characterized by economies of scale such a way that a fairly high volume of demand is needed to justify, for instance, the construction of modern factory. (Here, an inevitable question is whether this augmented demand ought to be from the agricultural sector alone or supplemented by the Government.) On the other hand, substitution of domestic output for imported manufactured goods may provide a significant addition to demand that does not depend on an increase in demand as such. Furthermore, if capital requirement for developing infrastructure and capital-goods or export-oriented industries are large relative to the amount of capital that can be mobilized, insufficient consumer demand may not limit the rate of investment. And this appeared to be the situation of Japan that prevailed during the decades prior about 1920s (Johnston and Mellor, 1961, p. 581).

C. *The prerequisite thesis vs. the concurrence thesis*

It is recognized in the economic development literature, particularly what is known as the "growth-stage literature" that agriculture plays a strategically important role to play in economic development in general, and at the early stage of industrialization in particular. It is because the agricultural development tends to entail much less capital investment than industrial development. By and large, growth in agrarian economies is needed for inducing a net "surplus" transfer from the agricultural to the manufacturing sector, thereby helping to remove the major scarcities confronting the typical industrialization process, most notably the scarce supply of domestic savings that could be used in industrial investment.⁵ Of course, agricultural growth would also ease the difficulties of other scarce goods and services such as capital goods, food, raw materials and intermediate products, and the scarce supply of human resources that could also be hired in the manufacturing sector.⁶ It is also generally the case that the need of agricultural growth for overall economic development paradoxically tends to lead to a "relative" decline in the agricultural sector of output and the labour force.

⁵ The term "surplus" refers to any output in excess of the amount which is required in agriculture for continued production and the feeding of farm households. Exceptions to this generality are a few in number: combination of sluggish agriculture together with high economic growth at the early stage of industrialization is a feature of some of oil-based or mineral-based economies.

⁶ The importance of agricultural growth for development is also seen in Lewis's (1954) two-sector model, where the growth in food supply is needed to keep the terms of trade from turning against the industrial sector. Otherwise, the situation would raise wages and reduce the share of profit in income, thus reducing capital formation and the rate of growth of output (Lewis, 1967, p. 460).

In this regard, there are two schools of thought: the *prerequisite thesis* and the *concurrence thesis*. The former thesis argues that an agricultural revolution and a subsequent rise in agricultural productivity are prerequisite for the initial spur of industrialization, whereas the latter thesis denies the condition of prerequisite and asserts instead that rapid growth in agricultural productivity could occur simultaneously with industrialization. Marx, one of the early growth-stage theorists, presented his stage classification on change in production technology and associated changes in the system of property rights and ideology.⁷ Rostow also presented his classification of stages in the transition from a primitive to a modern economy, and offered basically an equivalent reasoning of Marx regarding the agricultural development as the "pre-condition for take-off" (Hayami and Ruttan, 1971, pp. 13-15).

As mentioned earlier, one reason for supporting the *prerequisite thesis* lies in the fact that it is the output of the primary sector, rather than of others, that could be increased without costing much of the critically scarce resources of financial capital and foreign exchange. But most of all, overwhelming data of the industrial development in the West tend to place agricultural development prior to industrial development in the historical sequence. Thus, it is only when agriculture is already growing rapidly that it could and should be squeezed on behalf of the more dynamic sectors of the economy. If, on the other hand, the agricultural sector operating at the "immature" stage, i.e. the quasi-subsistence level, squeezing agriculture would create economic stagnation, not growth.

In contrast, the *concurrence thesis* argues that the agricultural development and the industrial counterpart could proceed simultaneously. In addition to the effect of agriculture on industrialization put forward by the *prerequisite thesis*, the industrial development for its part tends to offer a widening market for rural surpluses. It may also contribute to fuller exploitation of the agricultural sector by facilitating improvements in transport, credit, and production technique. Furthermore, the increasing productivity in the primary sector may create a growing market for manufactured products, especially as incomes rose beyond the level which afford the minimum essentials.

The majority of observers familiar with the modernization of Japan process would admit the role that its agriculture played at the early stage of industrialization. And one principal contribution that the analyses on the Japanese industrialization may present is that much of empirical data of the 19th century and early 20th century agriculture data of the country - no matter how inaccurate they might be - overwhelmingly support the position of the *concurrence thesis*. This pattern of a late industrializer, as opposed to the European early industrializers, present a promising blueprint for many commodity-producing developing countries.

⁷ His stages include primitive communism, ancient slavery, medieval feudalism, industrial capitalism and socialism. He concluded that the economy would evolve through these stages, driven by the forces generated by struggle between two classes: one controlling the means of production and the other not possessing.

II. EXPERIENCE OF JAPANESE AGRICULTURE: A HISTORICAL SURVEY

While Japanese agriculture has experienced a great deal of transformation in modern times, many of its historical characteristics have remained relatively intact.⁸ The sector's position in the national economy has greatly changed over the years. In the simplest terms, the agricultural sector has changed its status in the national economy from the leading to the lagging sector. The sector has changed from a provider to a recipient of public subsidies. There is a general rule: when a country is less developed and agriculture plays a large part in the national economy, the Government taxes agriculture; when the country becomes developed and agriculture plays a relatively small part, the Government now subsidizes it. At any rate, the relative importance of agriculture has steadily declined throughout the modern period, measured in terms of the share of income out of national income, the share of the agricultural labour in the total labour force as well as in the national population. Needless to say, the share of the agricultural land in the total area of the country has also been declining. Meanwhile, the importation of foodstuffs has steadily increased, which has been reflected in its dwindling food sufficiency. In this chapter, the changing role of agriculture in the national economy is examined. The division of modern history as done in the following sub-periods is for the expositional purpose, and obviously this does not reflect the clear shift of the role of agriculture as such.

A. *Pre-Restoration feudal period (1603-1868)*

During the Tokugawa Shogunate period prior to the Restoration, the foundation of the economy and chief source of wealth had been the cultivation of rice. It had been carried out by labour-intensive methods which had scarcely changed over the centuries. Farmers, as much as 80 per cent of the population, and subject to the strong constraints of a hierarchically structured social system, were bound to their land and were in general not allowed to leave their village. Neither were they free to choose what crops to plant nor to choose what varieties of seeds to sow. These labour-intensive methods were developed as a result of the limited area allotted to each household. This agrarian base supported an aristocratic ruling hierarchy of some 270 territorial lords (*Daimyo*). And barrier which divided the nation into feudal estates prohibited the export of improved seeds or cultural methods from their territories. Under such conditions diffusion of superior seeds and husbandry techniques from one region to another were severely limited.

The urban development and relative tranquillity in the 17th and 18th centuries fostered some development of manufacturing, mining, and interregional trade. The home industry of farm households came to be supplemented by workshop production organized under clan monopolies of craft guilds. However,

⁸ The special importance of rice has been one of the principal characteristics in the agricultural practice in Japan for centuries. It is mainly in harvested rice that farmers, the majority of the population, paid their tax until the 19th century. While rice has gradually lost its popularity among the younger generations, the crop still remains to be the country's food staple and the main source of income for many farmers, and its cultivation still occupies more than a half of the agricultural land. Rice, however, has never been important as an export item, in fact by the end of the 19th century Japan had become a rice importer, and the status of a rice-importer continued until the 1960s. Another notable characteristic of Japanese agriculture is the small-scale family farming method - as opposed to communal or corporate farming - as the dominant operating unit. An average size of about one hectare per farm has been constant for more than a hundred years. The initial attempt to introduce "Western methods" of large-scale farming in the 1870s largely failed, except in the northern island of Hokkaido. Thereafter efforts have been concentrated on increasing the efficiency of the prevailing system of small-scale farming by improving the quality of crops and utilizing increasing amounts of fertilizer. Well developed irrigation is another key characteristic of Japanese agriculture, as rice must grow in wet paddies which are inundated during the growing season from May to September.

manufactures, essentially handcraft in character, were dispersed through rural villages or concentrated in castle towns and centres where they served the wants of the aristocrat. The artisans and tradesmen continued to be an inferior class without political rights or social status. Trade was predominantly a movement of rice from country to city, mostly in payment of feudal dues.

The population during the feudal period was stagnant as a result of natural calamities, social practices such as infanticide and abortion, and disease. The introduction of sanitation and hygiene and improved living standards during the Meiji period was bound to result in a rapid rise in the net increase in population. Although it had risen less than 10 per cent in the decade of from 1880-1890, any increase, no matter how small, put a strain on the food supply. In the 1890s there was an abrupt change from a surplus to a deficiency in the national crop, and as a result, production at home could not keep up with demand so that rice imports steadily increased. Furthermore, as the standard of living for all classes of society improved, per-capita consumption of rice increased.

B. From the Meiji Restoration to World War I (1868-1914)

Agriculture continued to occupy by far the largest part of the national economy of Japan at the start of the Meiji period (1868-1912). Naturally, in the policy to promote productivity, the Government placed basic emphasis on measures for increasing agricultural production. Having freed the peasants from feudal restraints, the Government helped to facilitate the development of nation-wide communication with the introduction of modern postal service and railways in order to reduce the cost of information diffusion concerning new technology. As shall be elaborated later, the Land Tax Reform, which granted a simple title to the farmers and transformed a feudal share crop tax to a fixed cash tax, increased the farmers' incentives to innovate. The Government also began to transplant western agricultural techniques to Japan through using new technologies, seeds, and biochemical developments.⁹ However, many of these attempts, being too removed from the actual conditions and needs of the prevailing conditions, turned out to be extremely marginal in effectiveness. The Government also sent experts abroad to study foreign agricultural systems, established agricultural schools and colleges, and provided instructors who travelled round the country giving guidance and information to the farmers. (Entirely at the cost of the Government, several thousand foreigners, many of them being agricultural experts, were also hired.)

Yet, in essence, agricultural life changed little. As mentioned earlier, the small size of the agricultural unit is usually attributed to the concentration of Japanese agriculture on rice crops, which are grown in irrigated fields and required a vast amount of tedious manual labour, especially in the transplanting of seedlings. The topographical and demographic conditions of the country, i.e. the scarcity of arable land with the abundance of labour, have also made much of rice grown in small terraced fields in an intensive system of cultivation.

⁹ The Government initially attempted to guide farmers to increase productivity for the most part in the following ways: (i) implementing extensive dry-field farming methods, i.e. guided encouragement both in introducing cultivation methods using horse-drawn equipment common to extensive farming in the West (e.g. plows, harrows, etc.) and in teaching extensive farm management; (ii) encouragement of animal husbandry by introducing horses, pigs and sheep from the West and teaching pasture management; and (iii) introducing superior seeds and seedlings new to Japan, such as wheat varieties, corn, peas, various other cereals, cabbages and other leafy vegetables, onions, potatoes, tomatoes, cotton, flax, pasture grasses, apples and other fruits. And of these measures, the third offered some contribution to Japan's agricultural development at that time. Of course, the modernization of the general infrastructure and communication network helped the agricultural marketing system to develop in the long run. See Takahashi (1969, pp. 126-128).

While rice had always remained the most dominant commodity in the total value of agricultural production in Japan, the farmer's income was also supplemented by the sale of raw silk and the products of home industries. As exports of silk and silk-related goods grew, the growing of mulberry became an important component of farming. Silk also furnished a precious margin of money income for great numbers of peasant families, two-fifths of them having been engaged by 1929 in this occupation as a secondary employment.¹⁰ Raw silk alone brought in more than one third of her entire commodity export earnings in foreign markets through most of the years from 1870 to 1930.¹¹ During the last quarter of the 19th century, silk and related products increased their importance in total agricultural production in Japan from 5.5 to 10.1 per cent, while their share in total merchandise export declined from 61.0 to 36.6 per cent (Hemmi, 1971, p. 311). At any rate, the development of the Japanese silk industry presents a strong case for those who advocate industrialization through primary product exports.

Special mentions may be made here of two important developments concerning silk. One was the development in 1906 of an improved hybrid of silkworm and making arrangement for its distribution throughout the country. The second was the discovery of a process of raising summer-autumn silkworm through artificial incubation. (Formally summer-autumn silkworms were considered unprofitable because of a high mortality rate.) The Government for its part participated in modernizing the silk industry by establishing the Tomioka Reeling Factory, a demonstration factory, as a training centre where numerous women were sent by each prefecture for training, and subsequently many mechanized reeling factories were establish throughout the country. Furthermore, in order to strengthen competitiveness of Japan's silk industry, local and state banks in each region which financed the industry received loans from the Bank of Japan.¹²

Tea also ranked as a principal export product in the early Meiji period. Unlike silk, however, it did not subsequently achieve the same spectacular growth; it instead maintained a fairly constant level of around 20,000 tons a year. Tea contributed almost one quarter of the export earnings until 1882, but its share declined down to 10 per cent by 1892, and by 1912 it was only 3 per cent (Sinha, 1969, p. 129). Tea maintained its place in the farm economy mainly because the Japanese themselves were a tea-drinking people

¹⁰ Sericulture was well adapted to Japan as mulberry trees could be grown on land ill suited to food production and the rearing of silkworms required chiefly skilled family labour but little capital or material resources, or most of all no imported materials. It should be noted that almost all primary products, including silk, are really semi-manufactured, and that it is almost impossible to develop a country's primary product without efficient processing or manufacturing capacity. Thus, the increase in primary product exports means the development of processing raw materials.

¹¹ Until about 1880 Japanese silk was exported mainly to Europe. Afterwards, the growing demand, mainly from the United States, led to an eightfold increase in cocoon output from 1880 to 1930. The major exporters of raw silk to the United States at that time were Japan, China, Italy and France, among which the keenest competition existed between China and Japan. During World War I prices rose very sharply, and in 1920 the average export price per 100 kin was 1,191 yen. Although there was a sharp fall when the post-war slump came, recovery was rapid, and in 1923 it stood at 2,150 yen. Despite the rise in the exchange value of the yen in 1925, and the subsequent collapse of the yen-denominated prices of silk, it still contributed 17 per cent of gross agricultural output from 1929 to 1933. The raw silk trade reportedly financed no less than 40 per cent of Japan's entire imports of foreign machinery and raw materials utilized domestically over this period (Allen, 1946, p. 110-111; Lockwood, 1954, p. 94). It only yielded its supremacy as synthetic fibres made progressive inroads in the American market after the 1930s.

¹² Some observers have argued that there is some evidence to indicate that agricultural production did not increase at the phenomenal rate so as to make the agricultural sector a net source of investment resource capital for other sectors. The controversy lies in the credibility of statistical data of the agricultural output during the early Meiji period, as reportedly many landowners, for the purpose of evading the new land taxes understated their holdings. Domestic production of foodstuff not being sufficient to meet the demand of a growing population, Japanese industry would have to manufacture goods for export to provide the foreign exchange to purchase vital food imports. If this balance could not be maintained, the national economy would be in jeopardy. This issue had not yet become acute but the trends indicated that it soon would be. The 1918 "rice riots" throughout the country were the ultimate result of this trend. See Nakamura (1965).

and because it did not compete heavily for scarce resources. Like mulberry trees, tea plants could be grown on hillsides and upland area that are not suitable for rice cultivation (Lockwood, 1954, p. 357).

Another feature of the agrarian economy during this early period, which came to be permanent, was a marked increase in tenancy. This movement was greatly increased by the effects of the Restoration. After the feudal holdings were transferred into private property, the Meiji Government was obliged to establish a monetized taxation. In addition, in order to meet the requirements of a centralized state, the tax was to be paid in money and paid regularly. According to Lockwood (1954, p. 293), the whole fiscal policy of the Meiji Government, beginning with the Land Tax Reform¹³ of 1873, might be characterized as designed "to extract the maximum amount of revenue from agriculture to defray the expense of the State and to forward the industrial and military ambitions of its ruling groups". These common features of a modern national economy became insurmountable obstacles for many of the farmers. The abolition of the fiefs and their replacement by rents had made the landlord-peasant relationship an impersonal one. The position of the small landowners was extremely vulnerable and many of them were forced to give up their holdings. For example, in 1873 the proportion of tenants to proprietors was 1.5, but by 1887 it double to 2.5. For the seven years from 1883 to 1890, about 7 per cent of the total farm households were forced to sell their land. The most tragic aspect of this development was the fact that three-fourths of the dispossession resulted from nonpayment of taxes while the value of the land confiscated by the government and auctioned for sale was twenty-seven times the value of the total taxes in arrears (Borton, 1970, p. 175).

This tendency toward concentration of landownership in the hands of fewer landlords and the decrease in the number of cultivator-owners had additional weaknesses and permitted widespread abuses. The owner, by exaction of a heavy rent from the tenant, could pass on to the cultivator any new taxes which the government might require. On the other hand, the tenant was in the weak bargaining position because he had little labour and a heavy demand for dwellings. Hence, the tenant held on to the job and the house which he had and accepted a heavier burden of rent. On balance, in 1890 the agrarian economy showed more signs of weakness than of strength, but these weaknesses were not yet significant enough to cause any serious embarrassment to the government (Borton, 1970, p. 175).

The economic policy of the Government from the beginning was directed primarily at promoting the modern manufacturing and commercial sectors rather than the traditional agricultural sector, by means of utilizing financial resources extracted from the latter sector. With Japan's colonization of Taiwan (1895) and annexation of Korea (1910), the farmers' difficulties were intensified by the importation of cheap rice from the colonies, as it forced down the price of rice grown in Japan and decreased their income. As a result, many persons on the farms were underemployed and thus willing to accept employment in industry for extremely low wages. If the village was perennially starved for capital, this was partly the reason. Only after 1920 was this shortage relieved in some degree by tax reforms, agricultural subsidy, and the organization of a nationwide network of rural cooperatives. Meanwhile, the composition of Government revenue had undergone some changes. In relative terms, the role of the land tax had declined, as it was being replaced by excise tax on consumption, income and business tax, and import tariffs.

¹³ Indeed, heavy farm taxation provided the chief means through which the Meiji Government financed their military outlays and development programmes through the early decades. It was the farmers also who ultimately footed most of the bill for the huge loans through which the State commuted the feudal pensions of 400,000 samurai families in the 1870s and staked many of them to a fresh start as bankers and businessmen. The new land tax was fixed at 3 per cent on land value assessed at 8.5 times the crop yield as determined at the time. This tax is said to have appropriated 33 per cent of the total crop at the outset - nearly as much as the share appropriated by the feudal lord under the Tokugawa. It provided 94 per cent of the Government's tax revenue at this time, and over half until almost the turn of the century. This helped to cause a decrease in the number of farmers who owned their land, an increase in tenancy and rural indebtedness, and a greater demographic concentration in the urban areas (Lockwood, 1954, p. 98).

C. *Inter-war period (1914-1940)*

A new factor introduced into the rice-growing industry during the first decade of the inter-war period was the extension of Japanese-style rice production in Korea and Taiwan.¹⁴ At the time of the Korean annexation of 1910, the country's imports of rice were negligible, but the inflows of large quantity of the grain began. The Japanese Government became keenly aware of the need, as the "rice revolt" of 1918 broke out. The year 1918 was indeed a significant turning-point of Japan's food import. Net import of rice during the period of 1915 to 1917 averaged less than 300,000 tons per year. In 1918 imports jumped to over 900,000 tons and in 1919 to 1,400,000 tons (Grabowski, 1985, p. 245). The rice import to Japan continued to grow during World War I and afterwards during the 1920s. Toward the end of the 1920s, these colonies exported a quantity equivalent to between 12 and 14 per cent of Japan's domestic production. This colonial import enabled Japan to meet the demands of the increasing population, and the per capita consumption was maintained throughout the 1920s (Allen, 1946, pp. 109-110).

At prices prevailing in 1930/31, a large section of the Japanese farming class was insolvent, burdened as it was with heavy taxes, high rents and huge debt. Agricultural output increased comparatively little in the years which followed. And it was 1935 before farm prices climbed back to their pre-depression parity with the prices of industrial goods purchased by the peasant. The Government did appropriate considerable sums in the effort to stabilize rice and silk prices. It also experimented with the readjustment of farm debts, the relief of tenancy, the control of fertiliser prices, and even the encouragement of emigration to Manchukuo. But these were all makeshifts which hardly touched the fundamentals of the problem (Lockwood, 1954, p. 73).

III. THE ROLE OF THE GOVERNMENT IN THE EARLY PHASE OF INDUSTRIALIZATION

The Government has changed its role in the historical context to promote economic development in general, and to facilitate the inter-sectoral factor flows in particular. In this chapter, we examine effects of the Government's policy as observed in the early phase of industrialization following the Meiji Restoration.¹⁵ The principal thrust of these policies was to enrich the country so that it could support a strong military so as to cope effectively with the Western advancement in East Asia. In this regard, the Japanese Government, aware of China's fate after the Opium War in the mid-19th century, was careful in dealing with Westerners.

¹⁴ Some critical observers have argued that the surplus from agriculture in Japan did not rapidly because, unlike in the conventional view, the government failed to emphasize sufficiently the importance of the development of the sector. The sluggish growth in agriculture resulted in significant shortages of foodstuff and rising food prices. In an attempt to deal with these problems, the government began to invest heavily in food production in its colonies, particularly Korea and Taiwan. As a result, food surplus were transferred from the colonies to Japan as they ran balance-of-payments surplus with Japan. In the case of Korea, which had a slower agricultural growth than Taiwan, the food surplus could be generated only by reducing the consumption levels of the Korean population. Thus, rapid Japanese growth was maintained by reducing the level of a segment of the Japanese empire's population. While it questions the historical accuracy, this argument does not challenge the usefulness or effectiveness of the development strategy implied by the conventional view of Japanese development (Grabowski, 1985).

¹⁵ The early phase of industrialization coincides with a transitional period depicting extensive transformations of social institutions, many of which were initiated by the government. As mentioned earlier, the sign of the initial impetus of the Meiji Government toward modernization began with the Imperial promulgation of the Charter Oath of 1868 to promote and disseminate Western thoughts in order to raise the national strength and heighten the national wealth. In 1872, the government also instituted the Education Order, which implemented compulsory elementary education to all children. The Conscription Ordinance of 1873 required a three-year military service for all males who had reached 20 years of age.

Several thousands experts were hired on very lucrative terms, but they were not given real policy-making authority. Their function was basically to implement policy decisions that had already been made and to train Japanese to take over their function. Thus they were not encouraged to stay in Japan for long, not to mention to own land or to operate mines. They were not barred from participating in Japanese companies, but such investments were not too secure under Japanese law.¹⁶

Special emphasis was also laid during the early period on the development on the agricultural sector which had to help the Government meet the domestic needs for, among others, investment capital to facilitate the overall development. For the convenience of presentation, the roles of the government were characterized as: (i) the ultimate guarantor of domestic stability and the repellant of foreign encroachment, (ii) the principal initiator for industrial and infrastructure development; (iii) a catalytic entrepreneur; (iv) the reformer for currency and banking arrangements; (v) a principal financial intermediary; (vi) a principal trade policy-maker; (vii) an principal agricultural policy-maker; and finally (viii) the main agricultural administrator/controller.

A. *As the ultimate guarantor of domestic stability and the repellant of Western encroachment*

In order to smoothen the restoration process, the Meiji Government adopted measures to pay stipends to the nobility and the members of the Samurai class, which initially constituted about 30 per cent of total Government expenses. Due to financial restrains, i.e. the need to divert some of the public budget for other crucial tasks, such as the military build-up, the Government began to tax the stipends in 1873. It announced in 1876 that all stipends be converted into Government bonds that would not be redeemable for five years. The resulting samurai revolts were forcefully pacified. By 1880 more than a half of the stipends recipients had sold off their bonds. In other words, the Government pacified many of former enemies by means of first, financial compensation (stipends and bonds), and then the military build-up.

B. *As the principal initiator for industrial and infrastructure development*

Tremendous amounts of public capital (about 40 to 50 per cent or arguably more¹⁷ of total investment from 1868-1919) were invested, with leadership centred in the Ministry of Public Works and the Home Ministry. The two ministries were responsible for introducing modern technology from abroad, constructing railways, and supervising government enterprises. They also founded model factories for cotton-spinning and silk-reeling. Of importance were the military industries, the transportation and communication industries, the mines and others. The policy produced positive results. In the field of agriculture, the Government rapidly established during the 1870s and 1880s a number of agricultural schools and experiment stations. By the end of the 19th century it had also established many national research institutions as well as a network of experiment stations at the prefectural level.

¹⁶ After the turn of the century, the suspicion of foreign business enterprises was relaxed. In fact, the new gold standard was adopted partly to attract foreign capital by selling national and local bond issues in Western money markets, and secondarily the debentures of semi-official companies and electric utilities (Lockwood, 1954, p. 322).

¹⁷ The percentage varied from period to period. Reportedly, official data contained an upward bias, or overstatement, by reason of under-reporting of private investment by small farms and businessmen, in their own establishments, but it is clearly higher than similar estimates for the leading Western economies at roughly parallel stage of development (Bronfenbrenner, 1961, p. 18).

Many Government-operated enterprises, however, encountered financial difficulties, and as part of the government retrenchment programme, there occurred in the early 1880s a major shift in Government economic policy from direct state involvement in the economy to promotion of private industry. The immediate objective was to improve government finance, so that enterprises scheduled for sale were initially restricted largely to those running deficits. As the government improved its financial condition, it began to add profitably operating entities such as mining to the list of enterprises for sale.¹⁸

C. *As a principal catalytic entrepreneur*

The Meiji Government established and operated numerous enterprises at the early period. Given top priority were those industries related to military, transportation, communication and other public utilities (e.g. mining, cotton spinning, silk manufacturing and cotton manufacturing) which could serve both military and industrial purposes (Ogura, 1963, p. 109). One apparent advantage of the Government sponsoring of pioneering enterprises was that the initial risk of experimentation and failures were not borne by private enterprises.¹⁹ As merchants gradually acquired wealth and managerial skills, the Government sold many of these enterprises off at discount. The Government was not interested in establishing permanently nationalized industries. Many of these enterprises have survived and prospered. The Government took the initiative in developing much of forward linkage for agricultural products in order to raise the value-added in export products and to promote the manufacturing sector at the same time.

D. *As the reformer for currency and banking arrangements*

Attempts were initiated as early as 1869 to improve the currency system and in 1871 a New Currency Act was passed which virtually provided for a dual gold and silver standard. For a short while, the economy was stable. However, for meeting the greatly increased demands for public expenditure, the government began in 1876 to issue inconvertible notes thus adding to inflationary pressures. Meanwhile, the state banks were established in about 1878 in an effort to encourage Japanese industrialization, and these banks were expected to mobilize potential savings in the traditional sector of the economy for the development of the modern sector. This was the beginning of "Meiji over-loan". Only in 1882, a programme for currency reform embracing increased revenue collection and reduction of public expenditure got underway.²⁰

In 1882 an ordinance for establishing the central bank, the Bank of Japan was issued. The central bank began its functioning in 1885. Faced with the shortage of total domestic mobilizable savings, and with very rapid economic development, the state banks, after ten years of operation, began to depend on loans from the central bank for a part of their operation. Needless to say, these loans encouraged not only the

¹⁸ The government sold off many of its enterprises, except military and communication works, to such concern as Mutsui, Mitsubishi and Furukawa. The sale helped them to develop into the giant combines to be known as *zaibatsu*.

¹⁹ It is pointed out that in the matter of training for local people in managerial and higher technical jobs, this system provided a more expeditious, systematic and well organized growth of the Japanese personnel, as against the system of relying on private foreign enterprises to develop such trained local personnel (Islam, 1960, p. 197).

²⁰ The comprehensive fiscal reform implemented from 1881 to 1885 is also called the Matsukawa fiscal reform, named after the finance minister. The government cut administrative expenditure and increased indirect taxes. As mentioned in the previous footnote, it began to sell off government enterprises. While generating a budget surplus, the reform severely depressed the economy. Many farmers were dispossessed for failure to pay tax. In retrospect, the Matsukawa policies demonstrated exemplary fiscal discipline, which placed the government on a sound financial basis under a unified convertible currency system, thereby providing the stability necessary for sustained industrial development.

development of the silk related industry but also that of many other industries. As a result, the sericultural production increased its importance in total agricultural production, while the silk industry exports decreased in importance in the total merchandise exports.

E. As a principal financial intermediary

As mentioned at the outset, under the Unequal Treaties which Japan was forced to sign with the Western powers, Japan's import tariffs were limited to 5 per cent until 1899, thus not a viable option for financing the government spending. An increase in internal revenues, including excise taxes and stamp taxes, however, depended on the growing prosperity of domestic commerce and industry, and signs were not encouraging. The early Meiji Government, which had to finance its developing civil and military administration and continued to pay hereditary stipends to many in the former feudal class, relied initially on paper money and domestic and foreign loans to supplement ordinary land tax revenues, but it found that such short-term measures were sufficient.

The only solution seemed to lie in a nation-wide standardization of the land tax system based on land values and an equalization of its burden.²¹ The revision of the land tax system carried out from 1873 to 1881 has been considered as one of the most important reforms for Japan's modernization. Many farmers were not able to pay their taxes, and land was confiscated in lieu of tax payments. Together with an increase in debt and mortgage foreclosure, this resulted in a noticeable rise in tenancy, a trend that continued until the early 1920s.

General land tax - of which the agricultural land tax occupied about 80 or 90 per cent - formed more than 80 per cent of total central government revenue during the last two decades of the 19th century. And though gradually declining from the turn of the century, on the eve of World War I they still constituted about 40 per cent.²² Furthermore, in terms of percentage of direct tax collected out of income, the agricultural sector carried a greater burden than the non-agricultural sector: the respective figures in percentage for these sectors were 15.5 per cent for the former and 3.3 per cent for the latter in 1890; 11.2 per cent and 5.4 per cent in 1910; 9.2 per cent and 5.4 per cent in 1920; and 9.7 per cent and 4.3 per cent in 1930 (Karshenas, 1995, p. 142). In short, a very high tax rate was imposed on the agricultural sector during the early years of development, while a low rate prevailed outside. It is true, however, that the weight of burden declined somewhat with time.

On the other hand, through the early period of development, the secondary and tertiary sectors were main recipients of government subsidies. Particularly, manufacturing, shipping, armaments, and social overhead capital received extensive support. Until 1920 practically no subsidies (although plenty of other help) were allotted to the agricultural sectors (Ohkawa and Rosovsky, 1960, pp. 62-63).

²¹ The government decided on a tax rate of 3 per cent of the land value for land tax and 1 per cent of land value for local surtax. Evaluation of land was left to the landowners, who were instructed to follow the 'Examples of Investigation' of the land tax reform law and submit a figure for approval. The farmers' evaluations were accepted if they were less than 10 per cent below official calculation. Towards the end of 1876, rural uprising protesting the tax reform increased, and these, coupled with rebellions by former *samurai* in several regions, persuaded the government to make compromises. On 4 January 1877 the government reduced the 3 per cent tax and 1 per cent surtax to 2.5 per cent and 0.5 per cent, respectively.

²² As income taxes and business taxes, largely financed from the non-agricultural sectors, were increasingly replacing land tax as the main source of government revenue, by the end of the 1930s they formed no more than 10 per cent of total revenue. Given the decline in the tax burden and the sluggish growth of the agricultural sector, the absolute value of the direct tax revenue from agricultural sector fell during the 1930s (Karshenas, 1995, pp. 141-2).

Even though it was small in absolute term, the Government was the main agent in borrowing from abroad. For instance, from 1896 to 1913, of the total foreign capital investment in Japan, 85 per cent was the Government (national and provincial) borrowing, 9.5 per cent was borrowing by the Japanese business corporations and only 5.5 per cent was in direct investment. The share of the Government borrowing gradually declined as private initiatives became stronger (Islam, 1960, p. 66).

F. As a trade-policy-maker

One of the most noteworthy characteristics of Japan's trade during the early Meiji period was the persistent upward climb of both imports and exports. From 1880 to 1913, they on average doubled every decade, which was twice the growth rate of world imports as a whole during the period (Lockwood, 1954, p. 312). The lack of its tariff autonomy made export promotion²³ - including Government sponsored trial sales, financial subsidization for traders, etc. - play an extremely important role in enabling Japan to earn foreign exchange necessary to obtain those imports essential for industrialization. Nonetheless, many countries benefited as much as Japan from the system of relatively free and multilateral trade which prevailed around the world through the last quarter of 19th century. After gaining its tariff autonomy in 1899, Japan embarked on a definite policy of industrial protection. Certain rates continued to be bound by convention until 1923, but gradual upward revisions were affected in 1911 and 1926.²⁴

In promoting the export of those agricultural products, namely silk, silkworm-eggs and tea, the Japanese government placed the major emphasis on regulating their quality standards and prohibiting the export of sub-standard products. The Government took an active hand in the study and development of foreign trade techniques and in the formation of chambers of commerce and commodity guilds and associations for cooperative activity in this field.²⁵ In order to improve the external account, the government also promoted the reduction of imports by the substitution of home-grown products: the case in point was cotton. As the encouragement of the entry of domestic enterprises in the field of foreign trade as well as the emphasis on its own shipbuilding also contributed to the long-term improvement in the external account situation, the reliance on services rendered by foreign shipping/transportation and trading companies gradually declined.²⁶

²³ The government undertook trial sales of Japanese products in Europe and the United States, by sending samples of such products abroad and exhibiting them at expositions. These trial sales continued up to the time when the Japanese trading companies opened overseas branches. While Japanese exporters were still unaccustomed to dealings in foreign exchange, the government also undertook the operation of export financing by buying up products from them in Japan and sending them abroad to be sold by the Japanese trade commissioners or consuls abroad (Islam, 1960, p. 193).

²⁴ Particularly after the First World War, tariff policy became decidedly protectionist, as Japan's major industries, except in the strong export fields of silk and cotton products, were protectionist in sentiment. High protection was extended to industries of strategic importance like iron and steel, and dyestuffs. It was even applied to natural resources industries like lumber, tobacco, and copper.

²⁵ In the 1920s and 1930s these guilds and associations among the merchants dealing with foreign trade were initially encouraged (and subsequently compelled) by the government to undertake not only inspection of export goods but also to distribute export quotas among the producers and to reach agreement about prices and quantities under the regulations laid down by the government to meet the overseas restriction imposed against the Japanese.

²⁶ In 1867, 90 per cent of Japan's trade was handled by foreigners. In 1890, the foreign share was 80 per cent, in 1900, 75 per cent, and in the early years of the 20th century, the predominance of the foreign merchants was lost. By the 1920s the Japanese traders' share in Japan's trade far exceeded that of foreign merchants (Islam, 1960, p. 193).

G. *As an agricultural promoter*

Given the industrial strengthening as its prime goal, the agricultural policy of the Meiji Government was geared to secure sufficient domestic food supplies to prevent both a rise in the cost of living of urban workers and a serious drain on foreign exchange needed for the import of capital goods and technology. Thus the Government policy-makers focused attention on how to increase the marketable surplus of agricultural product, especially rice which was by far the most important wage goods. While agricultural data of the 19th century Japan lack scientific reliability, it is by and large agreed that the agricultural output grew fast so that, even though per capita food consumption increased, a drain of foreign exchange at least from the import of foodstuffs was kept marginal.²⁷ As mentioned earlier, the Government's initiatives of transplanting Western-style, labour-saving farming methods largely failed. Nevertheless, the improved infrastructure (including irrigation and drainage systems) and marketing system, together with newly introduced seeds and intensified use of fertilizers as well as the extensive campaign to disseminate existing stock of technical knowledge at the village level contributed to the improved food situation.

H. *As the agricultural administrator/controller*

Since the initial failure of introducing large-scale farming methods in the 1970s, the agriculture sector, as far as its mode of operation, had remained by and large outside of modernization in the Western sense. This does not mean, however, that the Government discounted the importance of influencing the sector. The sector was too important to ignore, as it continued to be the main provider of public financial resources. Thus the Government strengthened its administrative grip on the sector with promulgating numerous laws and institutions: such as the Hypothec Bank of Japan Law (1896), the Agricultural and Industrial Bank Law with its supplementary laws (1896), the Farmland Agricultural Law (1899), the Law of State Subsidy for Prefectural Agricultural Experimental Stations (1899), the Agricultural Association Law (1891), the Cattle and Horse Breeders' Association Law (1899), the Industrial Cooperative Association Law (1900), the Water Utilization Association Law (1908), etc.

IV. RELEVANCE OF JAPANESE EXPERIENCE TO DEVELOPING COUNTRIES (By way of conclusion)

The role of agriculture in Japan's early development process should be recognized. The sector once assumed the role of an earner of foreign exchange, a provider of investment capital for other sectors, and a supplier of raw materials and labour for the manufacturing industry, as well as meeting for some decades the rapidly growing urban demand for foodstuffs. That Japan's agricultural growth did not entail the adoption of capital-intensive, large-scale methods of production is of natural interest to developing countries which are short of finance resources. It should be noted, however, that in many aspects the Japanese experience was rather particular. The country is indeed different from contemporary developing countries in many aspects

²⁷ Some observers, including Sinha (1969), have seriously challenged the validity of the official growth rate for agriculture in the Meiji period. They have argued that the rate was overestimated because the official data for agricultural production of the early period was underestimated resulting from the attempts by farmers to evade the land tax by reporting smaller-than-reality figures of the land available to them and the yield received from that land.

of the economic, social and traditional background. For effectively guiding their own agricultural sector so as to let it play the principal developmental role, developing countries must expect that the Japanese experience may be transplanted successfully elsewhere only with considerable adaptation. It may be worthwhile, therefore, to highlight, in way of conclusion, these elements of particularity that the Japan Government faced at the initial phase of modernization, and contrast them with the situation of typical commodity-producing developing countries. Some of these elements were assets while others were liabilities, as far as their effects on the modernization process of Japan. Needless to say, different sets of elements confront different countries.

1. *Trade and financial regime of the world*

Japan's initial development efforts were made at a time of rapidly growing agricultural trade under the gold standard regime. Japan adopted the gold standard in 1899. While the balance of trade suffered a major deficit, the country could afford to use its internally accumulated gold. The export promotion was actively carried out (e.g. export expositions), and the import regulations (e.g. a little import of consumer goods) and the import substitution in trade-related service (e.g. promotion of overseas shipping and transport by Japanese traders).²⁸ Arguably, it is more difficult than now to increase earnings from commodity (including agricultural) exports, as there has been a secular trend of terms-of-trade deterioration for commodity-producing countries, as synthetic substitutions have become more prevalent. As for foodstuffs, many products have become "inferior goods" in developed markets, where the increased income of consumer tends to lead to the reduction rather than increase of demand.

Raw silk, the most important export item of the early period, was cultivated throughout Japan. Thus its expansion, involving the entire agricultural sector rather than an export enclave, spurred the dynamic evolution of the traditional sector. On the other hand, export crop of contemporary developing countries often require operations at a large scale with significant amounts of financial capital, which may cause an undesirable side-effect of impoverishing the rest.

Japan in the 19th century could not take advantage of any preferential tariff arrangement, such as the contemporary GSP, but it soon took advantage of neighbouring countries (and colonies) as its markets when manufacturing industries reaches the export stage. Contemporary developing countries, on this regard, have little room in finding "backward" economy market for export.

2. *External demand of Japanese exports (a stroke of luck)*

Japan's success in exporting silk arrived out of the silk famine in western Europe. The country got a foot-hold in Chinese markets because of a disastrous situation created by plague in Bombay. And most importantly, when unstemmed inflation placed Japan at a probable financial crisis in the early 1910s, World War II began in Europe and quickly altered Japan's status from a deflator to a creditor country.

²⁸ Military considerations were also important. Overseas shipping were steadily expanded under the impetus of the wars with China (1894/5) and Russia (1904/5) and the unremitting patronage of the government which felt the need for military transport in quelling internal disorders and embarking foreign excursions. World War I provided a golden opportunity for further expansion, whereby reportedly the Japanese merchant fleet almost doubled in size (Lockwood, 1954, p. 545).

3. *Internal consensus among decision-makers*

The political transition, i.e. the imperial restoration, was relatively smooth, and the majority of decision-makers in the Meiji Government were in agreement on the need of extensive social transformation. The political cohesion, with limited internal rivalries among them was an extremely favourable ingredient for effective development planning. Meanwhile the mass population could be kept fairly insulated.²⁹ And this may be one critical factor which is frequently missing in contemporary developing countries with multiple tribal and ethnic conflicts.

4. *Demographic factors (population growth and education)*

The annual population growth in Japan during the last quarter of the 19th century was about 1 per cent, reportedly lower than the growth rate of agricultural output. Compulsory education also contributed to the improvement of labour productivity. The majority of the developing countries have a higher population growth rate, which obviously makes relatively difficult the task of extracting the surplus from the agricultural sector for economic development.

5. *Domestic market*

As industrialization proceeded, the Japanese manufacturing sector came to produce many consumer goods which were not internationally competitive in terms of quality and/or price. Japan's domestic market, however, was large enough to provide the outlet of goods until they became marketable abroad. While diversification away from traditional export is the ultimate goal for all countries, that goal can be achieved only through export expansion for many contemporary developing countries, because their domestic market is too small to provide the outlet.

6. *Relevant science and appropriate technology*

Being a well watered country located in the temperate zone, Japan probably has enjoyed an advantage over many contemporary developing countries in that the main body of the western agricultural science is related to the temperate climates of the European and the American conditions. In general terms, Japan was able to achieve a high rate of manufacturing productivity by, among others, exploiting the considerable potential available for technological borrowing from abroad.

7. *Overseas remittance and foreign aid*

The long seclusion of Japan had strictly prohibited its citizens to emigrate; consequently there was no possibility of remittance from abroad during the early Meiji period. In the similar vein, there was no sizeable financial assistance as such. Needless to say, there were then no multilateral public financial

²⁹ The mass population did not expose themselves to the "demonstration effect" of consumption pattern or of ideas of the West. Liberal thinking was always kept within border, and "welfare" ideas were hardly known. Although the government spent large sums on education and medical services, or abolishing the feudal privileges, government policy was basically hostile to trade unions and especially strikes. Demand for wage increases, or improvement in working conditions could not easily be made (Sinha, 1969, p. 149).

institutions. Contemporary developing countries face a more favourable condition than Japan did in the last century, even though these financial inflows may still fall far short of their need.

8. *Foreign investment and loans*

As far as the very initial industrialization process of Japan is concerned, the contribution of foreign capital (direct investment, portfolio investment, private loans, etc.) was extremely meagre. Due to the fear of Western encroachment, Japan was reluctant about external borrowing until the outbreak of the war with Russia in 1904, and about accepting foreign enterprises until the 1920s.³⁰ In addition, the role of the Government in pioneering various industrial ventures at the early stage of development, perhaps left little scope for foreign enterprises. Even in the later period when domestic private enterprises assumed greater importance, foreign investment still remained limited by the fact that in many sections of the economy the Government retained control and regulations. It is recalled that as Japan's large-scale industrial concerns were monopolistically structured, with state help, into a few entities, entry of outside enterprises was difficult. Indeed, the expansion of foreign direct investment in the 1920s onward (predominantly in the form of joint venture) reflected the expansion of demand for (thus import of) heavy manufactures resulting from the advancement of industrialization in Japan. In addition, the financial inflows reflected the reaction on the part of major foreign corporations to Japan's gradual increase of import tariffs for protection, after the country restored the tariff autonomy (Yamazaki and Hirato, 1978, p. 52). Theoretically, one possible advantage of few foreign firms in Japan was that the country did not experience any sizeable repatriation of profits, i.e. a loss of foreign exchange.

Contemporary developing countries may rely on foreign direct investment, a packaged transfer of such resource as capital, technology and management. Experiences and existing channels in export marketing of foreign corporations may prove to be useful for export expansion of these countries. Yamazaki and Hirato (1978) argue that the practice of heavily relying on foreign capital has reached to the extent that "foreign-investment-led-growth" is advocated as opposed to Japan's "local-capital-led-growth" (p. 34). It is pointed out here that "foreign-investment-led-growth" would tend to bring forth the "shallow development" where the local subsidiaries operate mainly in assembly and final-stage processing, without creating much linkage effect with the rest of the local economy.

9. *Imperative of military build-up*

Japan's initial awareness of need for rapid modernization was brought about by the impressive demonstration of the Western imperialist powers in Asia. Thus considerable amounts of financial resources extracted from the agricultural sector had to be appropriated for military build-up. (In this regard, its lack of raw materials and of a developed domestic market was not an unqualified liability.) Japan's militarization also reflected the expansionist ambition. At any rate, the growth of its agriculture and overall economy could

³⁰ This is a clear contrast with colonial regions, such as the Philippines or India, or with China, where modern industrial enterprises were so largely concentrated in the foreign settlement and concession under Western and perhaps Japanese (for China) management (Lockwood, 1954, p. 323).

have been more dramatic, if the Government had been able to use the resources less on military purposes and more on productive purposes.³¹ On this point, contemporary developing countries are more fortunate.

³¹ Some observers have argued that the *direct* productivity effect of military spendings is relatively small compared with other expenditures because the end products of such spendings, such as munitions, arms, fortifications, navel vessels, military training and actual combats, do not serve in the main a useful purpose from an economic viewpoint (Oshima, 1965, p. 370). Others argue that the stimulus of military spendings provided a tremendous incentive to domestic producers of some of the basic industries such as the metallurgical, chemical and shipping industries, and that in general the stress of each war hastened the speed of modernization of financial institutions and industrial technology. This contribution was significant particularly as the domestic demand for consumer goods could not have been high as the level of earnings of the majority of the rural population as well as of urban wage earners were not substantially above the subsistent level (Islam, 1960, p. 75; Sinha, 1969, pp. 133-134).

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