

The Role of Agriculture in the Economic Development of Ceylon

I. Agriculture and Economic Development

ECONOMIC Development is generally understood to mean a sustained increase of real output per head of the population. It implies the transformation of an economy where agriculture is predominant to one where industry assumes importance. Economically under-developed countries are characterised by low levels of agricultural productivity necessitating the employment of a substantial proportion of the population in agriculture to produce the requirements of food. Development brings about a transformation in the structure of the economy leading to a progressive decline in the share of agriculture in the national income and in the labour force. The vast possibilities that exist for increasing labour productivity within agriculture and the relative income inelasticity of demand for food account for this structural change.¹ Such a transformation involves the creation of those conditions that would enable the transition from a subsistence type of economy to one where growth assumes a self sustained character. The relative role of agriculture in this process of development is no longer a subject for controversy. While it has been the European experience for agricultural expansion to precede industrial development, economists today are generally agreed on the need for balanced development to prevent the occurrence of any critical bottlenecks that would retard the process of development.²

Agriculture, in fact, has a crucial role to play in the transformation from a stagnant, subsistence type of economy, characterised by primitive methods of production and low levels of productivity, to one with high levels of living and self sustained growth.³ Agriculture, in the first place, must supply more food. Under-developed countries are today faced with rapidly increasing populations. The widespread extension of medical facilities that are a characteristic feature of most countries in the

1. T. W. Schultz. *The Economic Organization of Agriculture*, (New York, 1955).

2. W. A. Lewis. "The Shifting Fortunes of Agriculture," *Proceedings of the International Conference of Agricultural Economists*, 1958, pp. 27-34.

3. W. Rostow. *The Stages of Economic Growth* (Cambridge, 1960), pp. 21-24.

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early stages of development has helped to push down death rates. Death rates have declined from about forty per thousand to about twenty or even ten per thousand, as in the case of Ceylon. Birth rates, on the other hand, have remained more or less stable around thirty five to forty per thousand. This has led to increases in population of anywhere between twenty to twenty five per thousand. In addition, urbanisation, which is a concomitant of industrialization, leads to rapid increases in the non-farm population. Thus the natural increase in population together with industrialization will combine to exert pressure on the existing food supply. If agricultural productivity does not increase, existing levels of food consumption can be maintained only by cutting down on exports of food, in the case of those countries exporting food, or increasing food imports, in the case of those countries importing food. In either case, it would result in valuable foreign exchange being diverted for consumption purposes, thus hindering the process of development. Agriculture can, therefore, make a significant contribution towards economic development by meeting the increased demand for food. As Professor W. A. Lewis puts it, "Economic growth requires that the produce of farmers per head must increase, to provide a surplus per head from which to feed non-farmers."⁴

Secondly, since the bulk of the population in the under-developed countries is engaged in agricultural production, products of industrial origin will have to find their major markets within the agricultural sector. Rising incomes in agriculture associated with increasing levels of agricultural productivity could, therefore, provide the much needed stimulus for industrial production and form the basis for self-sustained growth.

Thirdly, agriculture, as the largest sector of the economy, will have to provide a large part of the capital for development. While countries may look forward to foreign investment, it has become abundantly clear that they will have to fall back on their resources and finance the bulk of the development costs from internal sources. Attention must then, of necessity, be focussed on the agricultural sector.

Capital is required not only for initiating growth in the industrial and agricultural sectors of the economy, but also for investment on social overheads such as transport, power, education, housing and other governmental services. Agriculture will thus compete with other sectors of the economy

4. W. A. Lewis. *The Theory of Economic Growth* (London, 1955), p. 230.

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for the use of capital. Capital is, however, the scarce resource in under-developed countries. The possibilities of increasing agricultural productivity with the minimum of capital investment should, therefore, be explored. Attention should be directed towards the use of resources with low opportunity costs in increasing agricultural production. The experience of Japan in this connection should be of interest to under-developed countries. The conditions prevailing in Japan before industrialization were the same as those obtaining in most Asian countries today. Yet, Japan emerged as an industrial power at "break-neck" speed within a span of thirty to forty years. This rapid rate of development was accompanied by phenomenal increases in the productivity of agriculture. The productivity of land increased by about 80 per cent and labour productivity increased at the rate of 2.6 per cent per annum during the period 1879-1917. The doubling of labour productivity over a period of about forty years represents a major achievement on the part of Japanese agriculture. All these increases were brought about within the existing framework of agriculture in Japan. The rural organisation remained almost unaffected. The number and size of farmholdings and tenancy showed no changes. Innovations such as the use of better seeds, increased use of fertilizers and improved techniques of production were all land saving and could be applied on small farms. Such improvements made only small demands on capital, since capital was required mainly for working capital purposes rather than for lumpy investment of fixed capital.⁵

While agriculture can contribute indirectly towards economic development by making minimum demands on the scarce factor, capital, for its own growth, it can also make a direct contribution by providing the capital for industrialization. An increase in the productivity of agriculture could provide a source of capital for utilization in the other sectors of the economy. Japan, again, provides a very good example of a country where the benefits of an increase in the productivity of agriculture have been channelled into other sectors of the economy. The levels of living of the farmers increased but slightly compared to the large increases in productivity. This was due to the heavy taxation imposed on agriculturists. The land tax itself amounted to 13 per cent of the value of a normal crop and remained fixed irrespective of variations in yields or prices.⁶ However, as W. A. Lewis puts it, "Levy on agriculture is in turn politically very difficult to do,

5. K. Ohkawa and H. Rosovsky, "The Role of Agriculture in Modern Japanese Economic Development," *Economic Development and Cultural Change*, Vol. IX, No. 1. Part II, October 1960.

6. Bruce F. Johnston. "Agricultural productivity and Economic Development in Japan," *Journal of Political Economy*, Vol. LIX, No. 6. December 1951.

as the U.S.S.R. discovered, unless the productivity is rising rapidly so that the levy can be effected without reducing the standard of living of peasants the moral is that any programme for industrialization and heavy capital formation should have as its counterpart measures for increasing agricultural productivity rapidly.”⁷

Agriculture is thus called upon to play a positive role in economic development. An increase in agricultural productivity is of crucial importance in providing food for a growing population, the markets for industrial products, and at least a part of the capital for industrialization.

II. The Ceylonese Experience

(a) *The Plantation Sector*

Ceylon, in line with other under-developed countries, is today faced with the task of accelerating economic development. An attempt is therefore made in the subsequent sections of this article to evaluate the role of agriculture in fostering economic growth in Ceylon.

The shift from a subsistence type of economy to commercial production in Ceylon began with the advent of the plantation industry. The introduction of coffee on a commercial scale around 1835 marks the beginning of the “modern” period in Ceylon’s economic history.⁸ Before 1835, Coffee was but a minor crop finding a place only in village garden lands. Within forty years, however, more than 250,000 acres had been brought under coffee and it became the major source of revenue. Coffee itself succumbed to a fungus disease soon after, but it was quickly replaced by tea. From about 1,000 acres in 1875, the area under tea rose to more than 400,000 acres by the turn of the century. Rubber made its appearance in Ceylon around 1900 and was also marked by a rapid expansion in acreage. By 1925 more than 400,000 acres were under rubber. Coconut, the other major export crop, was of much longer standing but mainly in the hands of smallholders. It was, however, making itself felt increasingly in the export trade of the country around this time.⁹

The subsequent history of plantation agriculture in Ceylon is one of continued expansion despite unstable prices. The twenties and thirties of the present century saw various attempts at international stabilisation,

7. W. A. Lewis, *ibid.*, p. 231.

8. I. H. Vanden Driesen. “Some trends in the Economic History of Ceylon in the ‘Modern’ Period,”—*The Ceylon Journal of Historical and Social Studies*, Vol. III, No. 1. January—June, 1960.

9. S. Rajaratnam. “The Growth of Plantation Agriculture in Ceylon, 1886-1931” *Ceylon Journal of Historical and Social Studies*, Vol. IV, No. 1. January—June 1961.

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culminating in the International Tea Agreement of 1932 and the International Rubber Regulation Agreement of 1934. Both these schemes sought to stabilise prices by restricting the area under tea and rubber.¹⁰ The outbreak of World War II, however, changed the situation. From then onwards the plantation industry seems to have entered on a new phase in its history. While the area under tea and rubber increased but slightly, there was a marked increase in productivity. During the period 1938-58, the output per acre rose by over 70 per cent in the case of tea and by about 50 per cent in the case of rubber. This is a remarkable achievement by any standards. Japan, as already seen, achieved an 80 per cent increase in land productivity over a forty year period and Japanese agriculture is noted for its fast rate of growth. Comparable data is not available as regards labour productivity. It should however be noted that the total labour employed on estates rose by only 5 per cent during the period 1942/44 to 1956/58.¹¹

TABLE I
TEA—AREA, PRODUCTION AND YIELD

Year	Acreage	Production ('000 lbs.)	Yield per acre (lbs.)
1936—38	557,446	234,132	420
1948—52	562,197	309,337	550
1952—56	571,682	356,441	624
1957	570,573	397,775	697
1958	572,706	413,155	721
1959	579,652	413,130	713

RUBBER—AREA, PRODUCTION AND YIELD

Year	Acreage	Production ('000 lbs.)	Yield per acre (lbs.)
1937—38	604,089	137,200	227
1948—52	655,678	226,520	346
1952—56	658,749	214,259	325
1957	660,725	219,887	333
1958	664,836	224,434	337
1959	668,178	205,399	307

Source: Statistical Abstracts of Ceylon.

The growth of the plantation sector has been accompanied by the development of roads and railways, the construction of the port of Colombo and the provision of banking and commercial facilities. Roads were of prime importance in carrying the produce of plantations to the ports for export. Planters were ever clamouring for more and better roads and

10. Economic and Social Development of Ceylon (a Survey) 1926-1954, (Ministry of Finance, Ceylon), pp. 2-5.

11. Statistical Abstract of Ceylon, 1959.

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successive governments were induced to spend large sums on the development of roads. However the mode of conveyance by road, the bullock cart, was found to be too slow and the construction of a railway became an absolute necessity. The railway to Kandy was completed in 1867. With the roads and railway came the postal and telegraph facilities. The next requirement was the provision of a satisfactory harbour to ship the produce and the construction of the port of Colombo was completed in 1882.¹² The build-up of overhead capital thus became a necessary adjunct to the development of the plantation industry.

The Ceylonese themselves played a small part in this rapid development. It was foreign capital and foreign labour that brought about the transformation of the economy. The early planters were drawn mainly from the British officials stationed in the Island. When, however, the coffee mania did get under way, the necessary capital was furnished to a large extent by the agency houses that operated from London.¹³ Towards the end of the 19th century the company owned estate became more important and very soon displaced the proprietary planter. These companies drew their capital almost entirely from Great Britain. Thus by the 1930s, about 80 per cent of the estates under tea belonged to British companies. In the case of rubber there was greater Ceylonese participation, but even here the majority of the plantations were British-owned.¹⁴ There have, however, been signs of a withdrawal of British capital of late. Thus the Census of Agriculture, 1952, reported that 50 per cent of the acreage under tea on estates and 38 per cent of the acreage under rubber on estates were owned by foreign companies or non-citizens. It should be noted that 80 per cent of the acreage under tea and 50 per cent of the acreage under rubber were under estates, the rest being in smallholdings belonging almost entirely to Ceylonese.

If the capital was mainly British, the labour was almost entirely South Indian. The reluctance of the Sinhalese to work in the plantations led to large scale recruitment of labour from South India very early in the history of the plantation sector. While there has been a progressive increase in the proportion of the indigenous population working on estates, these are still largely dependent on Indian labour.¹⁵ The Census of 1931 estimated that

12. Vide I. H. Vanden Driesen, *ibid*, and G. C. Mendis, *Ceylon Under the British* (Colombo 1944).

13. I. H. Vanden Driesen, *ibid*, p. 13.

14. Lennox A. Mills, *Ceylon Under British Rule, 1795-1932* (Oxford, 1933), p. 253.

15. S. Rajaratnam. "Plantation labour in Ceylon (Part I)" *Young Socialist*, Vol. I, No. 3. October—December 1961.

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85 percent of the workers on estates were of Indian origin. In 1958 Indian labour on estates accounted for about 75 per cent of the total.¹⁶

The plantation sector occupies a predominant position in the economy today. Tea, Rubber and Coconut occupy about 65 per cent of the total cultivated area. About a third of the national income of Ceylon and about 95 per cent of the export earnings are derived from the plantation crops. Ceylon, compared to other Asian countries, has been singularly fortunate in having an export industry of major dimensions in the plantation sector. Thus in recent years the industry has earned for the country a large volume of foreign exchange.

TABLE II
EXPORT TRADE OF CEYLON, BY VALUE

Year	Total Exports of Ceylon Produce (Rs. thousand)	Exports of Tea, Rubber and Coconut as a percentage of the Total
1936—38	272,589	95.6
1948—52	1,337,042	95.1
1952—56	1,629,086	94.6
1957	1,588,282	95.5
1958	1,651,374	96.0
1959	1,692,140	96.1

Source: Ceylon Customs Returns.

Other countries placed in a similar position have utilised such earnings to promote industrial development. In the words of Rostow, "Developing economies have created from their natural resources major export industries; and the rapid expansion in exports has been used to finance the import of capital equipment and to service the foreign debt during the take off. United States, Russian and Canadian grain fulfilled this function; Swedish timber and pulp, Japanese silk etc."¹⁷ Ceylon, however, has not been able to utilise such earnings for any large scale industrial development so far.

The fact that the plantation sector is dominated by foreign interests meant that a part of the export earnings was not available for local development. It accrued to the foreigner and was sent out of the country by way of investment income, private remittances and migrants' transfers, and

16. Statistical Abstracts of Ceylon, 1959.

17. W. Rostow, *ibid*, pp. 48-49.

repatriation of capital. The outflow of capital on this account averaged around Rs. 215 millions per annum during the period 1950-59.¹⁸

But of greater significance is the fact that a much larger proportion of the export earnings went towards financing the import of food. It is to the peasant sector that one will have to turn in order to explain the failure to utilise export earnings on any large scale to finance industrial development.

(b) *The Peasant Sector*

The transformation of the economy brought about by plantation agriculture had little or no effect on the subsistence agriculture practised by the peasants. It presents all the features of an economy stagnant at very low levels of living. Small and uneconomic holdings, primitive methods of production, chronic indebtedness and very low levels of productivity characterize peasant agriculture in Ceylon today. Landlessness and uneconomic size of holdings are major problems confronting the peasant. The Survey of Rural Landlessness 1952, estimated that more than 30 per cent of the rural population had no land and that 15 per cent of the cultivators owned extents of less than half an acre. The Report on Paddy Statistics, 1956, which provides data on the size of individual units of production reported that 81 per cent of all paddy parcels were less than $1\frac{1}{2}$ acres in extent. The problem becomes more acute in the face of a rapid increase in population.

Associated with landlessness and uneconomic size of holdings is the problem of indebtedness. Earning an income that barely covers his subsistence needs, the average peasant invariably finds himself in debt. According to the Economic Survey of Rural Ceylon 1950-51, the average family income amounting to Rs. 97 a month exceeded average family expenditure by about Rs. 12 a month. The Survey of Ceylon's Consumer Finances carried out by the Central Bank in 1954 estimated the average monthly income of a spending unit, which approximates to a family, at Rs. 169 and expenditure at Rs. 162. The higher levels of average income and expenditure in the latter survey is due to the fact that it included urban families within its population. The Central Bank Survey also reported that 75 per cent of the population belonged to units receiving less than Rs. 200 a month. Such low levels of income account for the high incidence of indebtedness. The Survey of Rural Indebtedness, 1957 revealed an incidence of indebtedness amounting to 54 per cent as against 30 per cent reported

18. Based on statistics from the Annual Reports of the Central Bank of Ceylon.

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by the 1950-51 survey and the 75 per cent of the pre-war surveys. The sharp drop revealed by the 1950-51 survey was probably due to the prosperity ushered in by World War II which made liquidation of debts possible, and also due to the high level of prices ruling at the time of the Korean War. Thereafter the incidence has risen and is probably much higher today than the 54 per cent reported by the 1957 survey. Weighed down with these problems, it is no cause for surprise that the peasant should show himself disinclined to adopt some of the more modern techniques of production which alone could help raise the productivity of peasant agriculture.

The production of paddy, the staple food and the most important crop in the peasant economy, has expanded a great deal in recent years. This is due both to an expansion in acreage as well as an increase in per acre yields. Reliable data regarding per acre yields are not available except for recent years. While yields have risen, they are still amongst the lowest for rice producing countries.¹⁹ Accurate data regarding the production of subsidiary foodstuffs are not available. But the performance of the peasant sector as a whole has not been encouraging. Thus the ECAFE report for 1961 estimated that over a five year period between 1952/53—1954/55 to 1957/58—1959/60 agricultural production in Ceylon increased at the rate of 2.5 per cent per annum. Assuming that the population in the agricultural sector would have increased at about the same rates as total population, the productivity per worker in agriculture seems to have fallen.²⁰

TABLE III

PADDY—AREA, PRODUCTION AND YIELD

Year	Acreage	Production (’000 bushels)	Average yield per nett acre harvested (bushels)
1952—56	1,085,011	29,000	30.0
1957	1,207,623	31,280	32.2
1958	1,382,184	36,600	34.0
1959	1,309,140	35,600	35.0

Sources: Statistical Abstracts of Ceylon.

The inability of peasant agriculture to increase the levels of productivity appreciably has resulted in the island being dependent on imports of food on a large scale. Imports of food items account for about 40 per cent of

19. Economic Survey of Asia and the Far East, 1961. p. 14.

20. Ibid, pp. 11-13.

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the total import bill and for about 45 per cent of Ceylon's export earnings. Valuable foreign exchange that could otherwise have been utilised on industrial development is now expended on the import of food.

TABLE IV

IMPORTS OF FOOD, DRINK AND TOBACCO

Year	As % of total imports	As % of total exports of Ceylon Produce
1936—38	44.9	38.0
1948—52	48.3	46.7
1952—56	45.9	43.9
1957	40.8	46.3
1958	41.7	43.3
1959	40.5	47.9

Source: Ceylon Customs Returns.

With a rapidly increasing population, the inability to expand agricultural output relatively can have serious consequences. Ceylon with a rate of increase of over 2.5 per cent per annum has one of the highest rates of population increase in the world. Given a fairly high income elasticity of demand for food in under-developed countries the demand for food could be well over 3 per cent per annum. In fact, the Ten Year Plan estimates the demand for rice to increase by about 4 per cent per annum during the period 1958-68. At the same time, due to the relatively low incomes, food items constitute a significant proportion of total household expenditures. The Central Bank survey on consumer finances estimated that expenditure on food accounted for 60 per cent of total expenditure. The proportion is likely to have been higher in the lower income levels. Since the price elasticity of demand also tends to be very low in the under-developed countries, a lag in the supply of food can lead to marked increases in prices.²¹ Governments will invariably seek a way out by expending more foreign exchange and importing more food rather than risk political discontent and court unpopularity.

Another consequence of the low levels of productivity and depressed state of the peasant economy has been the heavy demands that the peasant sector has made on capital. Large sums of money have been spent on land development and colonization, subsidies, provision of cheap and easy credit facilities and on the improvement of marketing. Peasant settlement has

²¹ B. F. Johnston and J. W. Mellor. "The Nature of Agriculture's Contributions to Economic Development." Food Research Institute Studies, Stanford, Vol. I, No. 3. 1960, p. 340.

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involved the government in heavy capital expenditure. It has been estimated that up to the end of 1959, about 34,130 colonists had been settled on 175,989 acres under the major colonization schemes.²² The Ten Year Plan estimates the cost of settling a colonist, under the scheme of advanced alienation introduced in 1957, to be around Rs. 11,500.²³ On this basis the government would have spent more than Rs. 170 million in settling 14,820 colonists during the period 1956-59 alone.

The producer subsidy on paddy represents another major item of expenditure. Over 55 million bushels of paddy were collected under the guaranteed purchase scheme during the period 1956-59 and the producer subsidy, representing the difference between the cost of a bushel to the government and the price at which paddy is imported, was estimated to be more than Rs. 7 per bushel in 1957.²⁴ Assuming an average price of Rs. 7 per bushel the subsidy on paddy would have cost the government nearly Rs. 390 millions during 1956-59.

The peasant sector has thus failed to contribute in any way towards the economic development of the country. The failure to increase its productivity has resulted in large scale imports of food. Since industrial development depends essentially on the import of capital goods, such diversion of foreign exchange resources can only slow down the rate of expansion of the industrial sector. Attempts at developing the peasant sector have involved the state in heavy expenditure without any noticeable results. At the same time, due to the low levels of living, the peasant sector is unable to provide an expanding market for manufactured goods. An important channel by which agricultural development could have led to cumulative expansion of the industrial sector is thus cut off.

The peasant sector has, thus, not benefited in any way from the expansion of the plantation sector. Ceylon has, in fact, emerged as a typical 'under-developed' country after more than a century of development of the plantation sector. A possible explanation may be sought in the inter-relationships arising between these two sectors of the economy.

III. The Peasant and Plantation Sectors: Some Inter-relationships.

The rapid development and high levels of productivity achieved by the plantation industry have failed to trigger off a parallel development in the peasant sector. A possible explanation may be provided in terms of

22. Administration Reports of the Land Commissioner, 1959.

23. The Ten Year Plan, (National Planning Council, Ceylon), pp. 240-242.

24. *Ibid.*, pp. 130-131.

Professor W. A. Lewis' version of the two sector classical growth model.²⁵ According to Lewis, most countries in the early stages of economic development are characterised by the existence of two economies—a capitalist sector and a subsistence sector. Development may be viewed as a process of cumulative expansion of the capitalist sector resulting in the absorption of surplus labour from the subsistence sector. The cumulative expansion is made possible by the re-investment of capitalist profits which again depend on the level of wages. Since the supply of labour is assumed to be 'unlimited,' the wage level would be determined by the productivity of the subsistence sector. An increase in the productivity of the subsistence sector or an increase in the price of food due to the increased demand resulting from the expansion of the capitalist sector could lead to an increase in the level of wages. In either case it would bring about a reduction in profits. The rise in the level of wages could, however, be checked by large scale immigration of labour and imports of cheap food. This is what seems to have happened in the case of Ceylon. It was to Ceylon's disadvantage that cheap sources of labour and of food were available almost 'next door'. This prevented the subsistence sector from reaping any of the benefits of an expanding plantation sector and condemned it to low levels of productivity.

The situation is however different today. Ever since the attainment of a measure of self government, and subsequently of independence, the problems of the peasant sector have received considerable attention from the state. It has involved heavy expenditure on the part of the government. If, however, economic development is viewed as a process of cumulative expansion of the capitalist sector, in terms of Lewis' two sector model, the necessity to increase agricultural productivity with the minimum use of capital becomes evident.²⁶ The process of transforming an economy from a dependence on agriculture to a dependence on industry necessitates heavy expenditure on the capitalist sector. The rate of expansion will largely depend on the availability of capital. But, as has already been pointed out, an increase in agricultural productivity is of crucial importance in the development process. If agricultural productivity is to be increased with the minimum use of capital, then it is necessary that resources with low opportunity costs be utilised. Land and labour already in agriculture are characterised by low opportunity costs since they are not of much im-

25. W. A. Lewis. "Economic Development with unlimited supplies of Labour," The Manchester School, Vol. XXII, No. 2. May 1954.

26. Vide B. F. Johnston and J. W. Mellor, *ibid*, pp. 335-337.

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portance in industrial expansion. Capital, on the other hand, is a scarce factor and an essential item in industrial development. It is therefore marked by high opportunity costs. Attempts should therefore be made to increase the efficiency of resources already in agriculture and make minimum demands on capital with its high opportunity costs. Improved techniques incorporating the use of better seeds, fertilisers, insecticides and weedicides, and small equipment would enhance the efficiency of land and labour already in agriculture without making heavy demands on capital. Such innovations can be incorporated within the existing framework of agriculture. Thus it has been the experience of countries like Japan that returns on investment that went towards increasing the efficiency of existing resources in agriculture were exceedingly high. Costly programmes entailing the reorganisation of the existing structure of agriculture can therefore be avoided, at least in the early stages of economic development.

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