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GLEANINGS

AGRICULTURAL POLICY IN WEST GERMANY*

Recent agricultural policies in many industrialised countries have been mainly concerned with closing the gap between incomes and social conditions in certain parts of agriculture, particularly the family farm sector, and those in other branches of the economy. Various schemes of price regulations, import restrictions and producers' subsidies designed to keep agricultural prices "at parity" with those of other commodities have been tried to achieve this objective. Experience has shown that this approach alone cannot solve the problem and that price and trade policies must be supplemented by specific programmes for improving general conditions of production in agriculture. The Agricultural Act of 1955 in the Federal Republic of Germany provides an approach to solve this problem.

Background of the Agricultural Act

By the end of World War II agricultural output in Western Germany had dropped to about 60 per cent of its average pre-war level. The total population at the same time suddenly increased from about 40 millions to almost 50 millions, due to the influx of refugees from East Germany. As a result, West German farms then produced only half of the country's food requirements.

Agricultural policies in the following years had only one major objective: to raise food production as rapidly and extensively as possible. This was to be achieved by various schemes of producers' subsidies, marketing regulations, statutory price-fixing and, when world trade once again became normal, by import restrictions and protective tariffs. All these measures aimed at stabilising and maintaining agricultural prices and incomes above a minimum level in order to provide strong economic incentives to farmers and to give them the necessary time to prepare themselves for international competition.

Since 1950-51 agriculture has been able to meet about three-quarters of the annual food requirements of the Federal Republic. These achievements were mainly due to more intensive farming and higher inputs. Rapid mechanisation, rationalisation and a continuous decline in agricultural manpower improved labour productivity and farm income and agricultural wages rose accordingly. However, total farm income—which increased from 9.9 billion marks in 1950-51 to almost 13 billion in 1954-55—kept pace neither with the increase in national income, nor with production costs. As a result the agricultural net product was not sufficient to raise average farm incomes and wages to a level corresponding to that of other occupations. On the contrary income and wage rates in the other sectors of the economy rose much faster than those in agriculture and the spread between the two sectors widened rather than diminished.

It was in this situation that farmers called upon the Government to guarantee them "parity" with the rest of the economy by means of stiffer tariff protection and higher statutory prices. Though the Government recognised that State

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support was necessary in order to bring agriculture in line with general economic development, for various reasons, it decided not to raise prices. The Government left previous protective policies virtually unchanged but supplemented them by a special programme aimed at reducing production costs. The outcome of this revision in policy approach was the Agricultural Act of 1955.

Main Provisions of the Act

The purpose of the Act as well as the long-term objectives of West German agricultural policy are: (*a*) to ensure that agriculture takes part in the progressive development of the national economy; (*b*) to maintain the best possible supply of food to the total population; (*c*) to compensate agriculture for economic disadvantages caused by natural handicaps, through measures related to trade, taxation, credit and prices; (*d*) to increase agricultural productivity; and (*e*) to raise the social position of the population engaged in agriculture to the same level as that prevailing in other comparable occupations.

The overall responsibility for the implementation of the Act vested with the Federal Government. The Government is obliged to submit to Parliament an annual report on the situation of agriculture (the Green Report). This report is based on a thorough analysis of relevant economic and agricultural statistics and of detailed book-keeping accounts from 6,000 to 8,000 agricultural holdings classified according to regions, farming systems and size-groups. Only those farms are selected for the survey which operate under average conditions of production and which are large enough, if properly managed, to provide full support for the farmer and his family. In the preparation and presentation of the analysis the Government is assisted by an Advisory Council composed of experts in agricultural economics and farm management.

Besides, the Government is also required to state in the Green Report whether it considers that adequate returns have accrued to the farm operator for his management, to the labour of fully employed agricultural workers, and to capital investment. The Government, in consultation with the Advisory Council, is to determine what should be regarded as an adequate return to these three factors. In the Green Report of 1957, the three items were fixed as follows: (1) Adequate management income for farm operators: 40 marks per hectare per year. (2) Comparable wage rates for farm workers: 4,572 marks per year for male workers, and 2,596 marks per year for female workers. (3) Adequate interest rates for capital invested in the farm: 3.5 per cent.

These so-called "items of comparison" are to be added to other costs of production, and the total compared with the actual farm earnings of the farms surveyed. The results of this comparison give an indication of the relative economic situation of the different farm groups and systems of farming. If the calculation reveals that agriculture, or parts of it, has not been able to cover total costs of production calculated in the above manner, the Government is required to suggest appropriate measures for improving the situation and to provide the necessary funds for their implementation.

Findings of the Green Report of 1957

The Green Report of 1957 (the second after the promulgation of the Act) was submitted to and discussed by the German Parliament in February 1957.

The following is a summary of the socio-economic highlights of this interesting document :

(1) Permanent family manpower in agriculture decreased by 9 per cent from 3.95 million in 1954 to 3.59 million in 1956. The number of non-family workers declined by 3.5 per cent from 806,000 to 778,000 during the same period. The total loss of family manpower amounted to about 360,000. Nearly 35 per cent of those who left agriculture were, however, available for seasonal or casual farm work. Though they changed their vocation, they lived in the country.

The decline in family manpower only occurred on small farms below 10 hectares. For the first time since 1950 migration from the land of family members of medium and large farms completely ceased, whereas on small farms the reduction of surplus family manpower continued. The strong pull of the industrial labour market persisted, but it no longer attracted family workers from farms which were already experiencing some difficulties in securing the necessary labour supply. These tendencies seem to indicate a gradual improvement of the agricultural employment structure.

(2) The continuous decrease in the number of wage earners also affected the composition of the wage-earning labour force in agriculture. While in 1949 some 66 per cent of all agricultural wage-earners were unmarried farm helpers, provided with board and lodging by their employers, the corresponding figure for 1955-56 was only 50 per cent. For the first time, and in contrast with the still widespread preference of agricultural employers to employ unmarried farm workers, the Government considered this trend as "a healthy reorganisation of the agricultural wage-earning employment structure." The report conceded, however, that in the period of transition there might be some bottlenecks in the supply of labour, particularly on medium-sized and larger family farms.

(3) The difference between average agricultural wages and wages paid in other comparable occupations amounted to 0.61 marks per hour of work. This discrepancy narrowed to 0.41 marks after allowance was made for the time industrial workers have to spend in travelling to and from work (80 minutes on the average). In comparison with the previous year, however, the wage difference rose from 29 to 33 per cent, although agricultural wages were raised by as much as 11.5 per cent early in 1956. Wages paid in comparable non-agricultural occupations rose faster than in agriculture.

On the other hand, in areas where there was a shortage of agricultural labour, employers often paid higher wages than those stipulated by collective agreements. According to a special investigation made in 1953 the relevant difference was roughly 8 per cent in North Rhine-Westphalia and Baden-Wurttemberg.

(4) One of the most striking aspects of the report concerns the considerable differences in land and labour productivity that were found to exist between farms of different size-groups and farming systems. Land productivity on small farms was higher than on larger farms, but in labour productivity the bigger farms excelled. For example, average labour productivity of all farms below 10 hectares

varied between 5,000 and 7,000 marks per worker and that of all farms above 50 hectares between 8,000 to 14,000 marks. Differences in labour income per worker were also considerable between various farm sizes within the same farming system and between various systems of farming within the same size-group. On root-crop farms below 10 hectares in size labour income amounted to 2,655 marks per worker and on those above 50 hectares to 3,670 marks. Within the same size-group (20 to 50 hectares) the difference in labour income between root-crop farms and forage farms was about 1,300 marks (3,473 in the former and 2,174 in the latter).

(5) Actual farm income covered the sum of the "items of comparison" (adequate returns to management, labour and capital) only on sugar-beet farms of all sizes above 10 hectares in North Rhine-Westphalia and on potato farms above 50 hectares in Lower Saxony. On forage farms in south and north Germany, on south German grain and forage farms, and grain and root-crop farms, actual farm income did not cover much more than 60 per cent of the total of these "items of comparison."

Provisions of the Green Plans

On the basis of these findings the Government decided to continue the measures of special support to agriculture initiated by the Green Plan of 1955-56 and to grant additional assistance. It suggested that a total of 1,212 million marks(1,008 millions in the form of grants-in-aid and 204 millions in the form of credits)should be appropriated for this purpose as compared with 615.5 millions in the preceding year. These funds were to be provided out of the Federal Treasury and distributed among the following items in 1956 and 1957 respectively: (1) Improvement of the agrarian structure and of working and living conditions in rural areas: 239.5 million marks and 400 million marks; (2) Rationalisation of agricultural production: 245 million marks and 291 million marks; (3) Improvement of quality and marketing of agricultural products: 59 million marks and 480 million marks; (4) Relief for indebted farmers and other measures of support: 62 million marks and 26 million marks; and (5) Promotion of education and vocational training: 10 million marks and 15 million marks.

Distribution of these funds among the various Lander was to be arranged in such a way as to take account of their share in the total of those size-groups and farming systems which, according to the findings of the Green Report, were in greatest need of support. Governments of the Lander were requested to ensure that the overall plan was adapted to local conditions, and to make additional contributions. Within the framework of these measures, particular attention was to be given to new settlements which are to a large extent operated by refugee farmers. It was also indicated that special investigations were being carried out in order to obtain more detailed information on the particular problems faced by newly-settled refugee farmers so that appropriate long-term measures could be taken accordingly.

Agricultural Act and Public Opinion

The Agricultural Act is a compromise between the more radical views of the adherents of *laissez-faire* and of the followers of protectionism. It was only

in this form that the law could be expected to command a large majority in Parliament. Thus, three major demands of the more conservative wing of the farm group remained unsatisfied, namely: (*a*) the law did not provide for "emergency measures," *i.e.*, immediate relief for easing abnormal natural (and economic) conditions; (*b*) it did not contain a clearly formulated obligation towards agriculture; and (*c*) since the comparison between earnings and costs was made the basis of the law, no automatic connections existed between the level of agricultural and non-agricultural prices.

However. the promulgation of the law was considered a success by the more moderate groups of farmers, who succeeded in persuading the Government and Parliament to deal continuously with the problems of agriculture and to eliminate defects in its earning capacity. The necessity for and the extent of the various measures proposed were well recognised by a large majority. The main criticisms therefore concentrated on the proposed way the funds were to be distributed among the different items of the plan. A great deal of criticism and comment has been levelled against the so-called "items of comparison" and the "comparative calculation" as well as against the underlying premises and assumptions.

In a special section of the report the Government commented upon the purpose and the limitations of the various premises and assumptions in order to make it clear what can or what cannot be expected from their application. Particular attention is drawn to the fact that discrepancies between earnings and costs within the different farm groups, as revealed by the "comparative calculation," do not establish a right for absolute claims to be levied on the national economy. The main purpose of the calculation based on these controversial assumptions is rather to give an indication of where measures of support can be successfully applied in order to improve the situation in agriculture and what results these measures have achieved in the different types of farming and groups of farms.

Rural sociologists who, in recent years, have gained more influence in matters of agricultural policy, welcomed the greater attention to social problems which the second Green Plan has paid in comparison to the first. From their point of view one of the most important aspects of the plan is the Government's intention to follow a "constructive policy for agricultural workers," *i.e.*, one whose aim is to favour the gradual replacement of relatively unstable, less-skilled and unmarried farm hands by comparatively few, stable, highly-skilled and married workers. The report takes the view that such a reorganisation, which can only take place gradually, might lead to undesirable shortages of labour in the period of transition and suggests that, in order to overcome these contingent difficulties, the introduction of foreign agricultural workers might be continued.

Against this proposal, sociologists and farm workers' representatives voiced strong concern. They argued that the introduction of foreign workers in greater numbers might jeopardise the desirable shift in the wage-earners' employment structure as well as the consolidation of family manpower in agriculture.

All those concerned with improving the lot of farm workers particularly welcomed the provision for the promotion of housing for married agricultural

wage-earners. The first Green Plan only provided assistance for the transfer to other dwellings of families who lived in agricultural wage earners' houses and dwellings, though they no longer worked in agriculture. The second plan included funds for the construction and improvement of houses to be occupied by agricultural wage-earners. In addition, further help in the building of dwellings for farm workers was to be made available as in previous years through the national housing and agricultural settlement programmes.

Part of the funds for the promotion of vocational training was earmarked for a scheme to enable agricultural wage-earners to attend special courses and to obtain a certificate stating the skills they acquired. It was hoped that this arrangement would improve not only their professional qualification but their social status as well. Both the proposals—the promotion of housing and vocational training of agricultural wage-earners—were regarded as a great step forward towards providing agriculture with a smaller but more stable and better-qualified labour force which would derive satisfaction and contentment from its profession.

Conclusion

It is too early to appraise the effects of the Agricultural Act which has not been in force for long. However, some important achievements are already clearly discernible. By making regularly available a detailed and objective documentation on the position of German agriculture, the Agricultural Act has had the effect that differences of opinion and controversies about the course of agricultural policy have been conducted along more objective and less emotional lines. The Green Reports are also making the general public aware of the concerns and needs of agriculture in a progressive industrial society and are thus helping to improve general interest in the various measures designed to enable the handicapped sections of agriculture to keep pace with general economic development.

These changes coincide with the recently increased activities of Parliament in favour of agriculture, reflected in the promulgation of a law concerning old-age insurance for farmers, the submission to Parliament of a Bill concerning the protection of children and young workers (which is to include agriculture) and the beginning of preparatory work for reforming agricultural accident insurance.

Another stimulating effect of the Green Plan may be seen in recent activities for improving the general status of agricultural workers, jointly undertaken by agricultural employers' and workers' organisations. In July 1957 representatives of both organisations and experts in agricultural vocational training held a meeting at which they discussed ways and means of strengthening the measures of the Green Plan and of extending their scope. They decided to set up an "Association for the Promotion of the Landworker's Profession" with the following objectives: (1) to establish and maintain institutions for the training of skilled agricultural workers (schools for agricultural workers); (2) to formulate standards relating to teaching and examination procedures for the training of skilled agricultural workers and to promote their application; (3) to promote extension of agricultural advisory services to agricultural workers; and (4) to ensure that agricultural workers are included in government programmes of assistance, such as the housing and agricultural settlement programmes.

The major emphasis of present agricultural policy in the Federal Republic of Germany is on granting to agriculture temporary subsidies designed to lead to improvements in production. The ultimate goal is to make agriculture more efficient and competitive, to raise the working and living conditions of its labour force to a level comparable to that prevailing in other occupations and eventually to enable agriculture "to hold its place beside an ever-expanding industry and against the competition of foreign food production without outside help."

PLANTATION SYSTEM IN THE TROPICAL ECONOMIES*

The story of the quest for the most suitable form of organization for tropical crop production under changing conditions, and the relative merits of the plantation system in future development plans are briefly reviewed here. With the small-holder, practising peasant-type farming, favoured in many areas, mostly fo- non-economic reasons, where does the plantation of today fit into the development of tropical economies?

Form of Organization

The plantation system was generallv accepted as the most appropriate and efficient method of producing tropical export crops until the opening of the twentieth century. Then some doubts began to appear, and advocates of peasant-type farming became more numerous. Willis[1] probably expressed the attitude of the experts half a century ago when he conceded that there was room for both peasant-type production and plantations, but felt that if any one form of agricultural enterprise was to be encouraged more than another, it should be the capitalist or planting industry because two or three large planting enterprises could do more to open up and enrich the country than thousands of villagers.

A shift from this line of thought resulted from experiences of World War I which emphasised the importance of rapid expansion of output, especially of some field food crops. Thus, in 1920, Sir Hugh Clifford in an address to the Legislative Council of Nigeria made a strong case for peasant agriculture.

World War II and its aftermath again brought to the fore the question of "systems." In an able review of the respective contributions made by native peasants and by foreign enterprises to colonial agricultural production, Sir Alan Pim concluded: "A lesson to be learned from the history of commercial and industrial agriculture . . . . . seems to be that no definite or permanent line can be drawn between agricultural products as regards suitability for plantation or peasant methods of production." But views as to "suitability" of a particular crop vary widely, and are not explained by anything so simple as location, as can be illustrated by a consideration of cocoa prospects in different parts of the British-influenced world. In Ghana, though official policy has favoured the small-holder from the beginning of the century, in 1955 the Agricultural Development Corporation announced plans to establish the "first cocoa estate farm." This was indeed a radical and perhaps significant shift in policy.

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* *With the kind permission from : Journal of Farm Economics*, Vol. XL, No. 1, February 1958: V. D. Wickizer: "The Plantation System in the Development of Tropical Economies."

1. J. C. Willis: Agriculture in the Tropics (2nd Ed., rev., Cambridge University Press, 1914), p. 203.

So-called "group farming" has also been advocated in recent years as the answer to the search for an ideal organization of tropical farmers on both social and economic grounds. The goal of group farming is to secure the advantages of both large- and small-scale production. Although mechanization favours the plantation over the small-holder—and runs the risk of being over-emphasised in development programmes when non-farm job opportunities do not exist for displaced workers—it is only one of a number of technical improvements in tropical agriculture now in process of development. Others such as improved controls over diseases and pests, may be as appropriate for peasant farmers as for the large-scale grower. What the peasant lacks in capacity for mechanization, he may compensate for by intensity of application of other techniques.

With very few exceptions, these theoretical advantages of combining the strong features of small- and large-scale farming have admittedly not been realized in practice to any great extent. There seems to be a degree of incompatibility in the methods used to accomplish desired objectives in group farming. In mixed systems, *e.g.*, large-scale production of crops and small-scale production of livestock, the group farming idea may find successful application.

With the passage of time the appropriateness of plantation or of native production of export crops has come to be judged by other than purely economic considerations. A striking example is provided by British policy in Africa. In British East Africa, which is less advanced politically and socially than British West Africa, colonial policy implies that the merits of the plantation system outweigh whatever disadvantages it may possess at present. Just the opposite view is generally taken toward West African development. There the plantation never secured a foothold and peasant production has long been encouraged. Political and social factors have accounted for these differences in the extent and occurrence of plantation development in Africa.

In other parts of the world, the typical problem has been described as on one side an impoverished peasantry, groping for the security which they feel only land can give them and, on the other, an estate group fighting to retain the efficiency so important to the survival of a decadent plantation agriculture and to the commercial economy of the area. It is held that this problem is not only significant in the West Indies but is an indicator of the forces at work wherever plantation agriculture exists in the tropics.

The forces tending to modify both policy and practice in plantation agriculture are relatively recent. Half a century ago the peasant farmer practising shifting cultivation in a sparsely populated area was considered by Europeans, at least, a far worse "exploiter" than almost any plantation enterprise. Europeans hoped at that time that agricultural development would proceed along lines of greater diversification of crops and types of agriculture (organization, methous, size). There is little evidence that this pattern of development, advocated several decades ago, has been adopted on any significant scale. Instead, the changes now being forced arise not from enlightened plantation management but from social and political forces within the tropical areas where the plantation system has a foothold.

In considering agricultural development at present, it has become increasingly popular to think in terms of alternatives to both the plantation system and typical peasant-type farming. The attempt is to combine the best features of both and to overcome their weaknesses.

Merits and Weaknesses

The question today is whether plantations are the best vehicle for achieving the kind of economic development sought by most under-developed countries. In discussing problems of African development, one authority has faced the matter realistically: ".....the present importance of the plantation question lies not in arguing about what has been done in the past, but in framing future policy. If the system is a bad one under the changed conditions of today, and likely in future to bring more ill effects than good, then presumably further settlement should be avoided. If, on the other hand, plantations do add to African production some possibilities that can be achieved in no other way, it may be desirable to bear their lesser evils for the sake of a greater good." Since it seems probable that the main source of African wealth must continue to be agriculture, the growing and exporting of more valuable kinds of produce (usually requiring greater care and skill in cultivation) will provide greater returns than production of easily-grown peasant crops. World demand is for the best-grown and -prepared products regardless of source. It is much easier to assure high standards in plantation production than to educate thousands of illiterate peasants upto such standards. Size itself makes possible economies of operation by the use of labour-saving machinery. Processing equipment can be employed to best advantage when concentration is on a single crop and volume of output is large.

Size also has other, sometimes unrealized, advantages, even under present conditions. Large contiguous land holdings can be subdivided and still be economic with reference to modern technology and higher labour costs. On the other hand, the absence of size may make a plantation operation vulnerable to land reform schemes and the evils of fragmentation, as has happened in Ceylon. Theoretically, the superior access of plantations to capital and credit should be a powerful deterrent to excessive political manipulations in the interests of nationals; actually as the British and Dutch are well aware, this has not occurred in recent years in South-East Asia.

Although it is obviously desirable to produce high-quality products economically, some contend that it may be in the best interests of Africans to continue production along traditional lines. The argument is that non-African settlements and consequent racial tension would thereby be avoided, and that improvements can still be made in existing methods. This line of thought tends to pass lightly over the element of competition from other producing countries and the fact that the tropical producer must pay for desired foreign manufactured goods by exports of comparable value.

For parts of Africa the competitive threat from countries producing export crops by plantation methods is genuine. For example, before the war the plantations of the Netherlands East Indies were enjoying an increasing share of world export trade in products such as palm oil, which is still largely produced

in West Africa by peasant farmers. However, it has already been demonstrated that for certain tropical crops peasant production can compete successfully.

The economies of the plantation arising from cultivating a single crop on large tracts of land by advanced methods are sometimes offset by the tendency to unbalance the general agricultural system of the area in which it operates. This weakness can be largely overcome, but the task usually involves some measure of state control and is seldom completely within the scope of plantation enterprise. Unbalance is frequently manifest in the production of export crops at the expense and neglect of crops for local consumption. Despite a growing insistence upon adequate (locally-produced) food supplies, management is frequently obliged to subsidize imports in the interests of its own efficient operations.

Dependence upon one or two products also makes the plantation enterprise especially vulnerable to fluctuations in world market prices for single commodities. This was demonstrated during the Depression of the early 1930's, and efforts were made later in the decade to achieve a greater diversity of crops. Yet just before World War II a little more than half of the estates in Java planted only one crop and in the Outer Provinces of the Netherlands Indies the proportion was considerably higher, about 85 per cent of the total. Although they produced more than 30 different tropical crops for export, estates devoted to rubber, tea, coffee, sugar, tobacco, coconuts, cinchona, and oil palms accounted for 94 per cent of the total number. It may be that group ownership of several plantations tends toward diversification through investment in a number of estates producing different products. This procedure, however, may not necessarily contribute toward the solution of existing social problems.

Labour is the problem of plantation operations least satisfactorily solved to date. Not only has large-scale recruitment of labour become much more difficult, but governments have increasingly concerned themselves with wages and the conditions of work. Growing nationalism and political movements closely associated with organization of labour have greatly raised wages and labour costs on plantations and have generally created new problems tending to reduce long-standing plantation advantages over peasant production. It is clear that capitalized agriculture can no longer count on an abundance of cheap labour.

Mechanization to decrease labour requirements is possible for some crops though not for all, as for example, mechanical plucking of tea. But, the harvesting of most tree crops is likely to remain largely a hand operation. Harvesting can be made more efficient; under the plantation system it tends to become so because of orderly planting and availability of facilities for gathering the harvest and transporting it to centrally located processing centres.

But the adaptations of plantations may be encouraged or discouraged by existing government attitudes. Without political stability and wisely conceived, definite, and long-term policies with regard to the development of plantation agriculture, it becomes very difficult to interest venture capital from abroad. There must be a reasonable prospect of profit over an extended period of time in order to attract the new or additional capital necessary to meet the competition of native producers or to maintain existing operations through replanting and continuing investment in equipment.

Prospects

On the whole it seems highly improbable that the production of tropical crops by plantation methods will be entirely displaced by another system, except perhaps in name: the advantages of the plantation as a basic organizational pattern are too well established and recognised. In some countries, however, plantations may well decline in relative importance. The reasons are many: land reforms break up estates and limit holdings to sizes too small for economic exploitation; discriminatory actions restrict plantation operations in the field and factory, or impede the marketing process. All such moves may create an apparently unenthusiastic or unco-operative attitude on the part of plantation interests, but their reactions are understandable if viewed in the light of a withdrawal of opportunities for private enterprise.

On the other hand, the plantation may find new favour in some countries. Current attitudes towards the system vary from one part of the tropic to another, and official policy is subject to change without notice, as exemplified by the switch from disapproval to approval in Ghana. Also in the West Indies, "there is general agreement that, despite the obvious social and political advantages of small holdings, estate agriculture must be maintained, because this is on the whole more efficient for the type of crops which can best be grown."

It seems unlikely that plantation enterprises will find new favour in countries where they have already come into conflict with government policy—countries where population density is creating problems, or social and political issues are gaining in importance. The shifting cultivator requires much more land than he has under crops at any one time. The encroachment of plantations upon apparently idle land would only lead to problems inconsistent with the land policy of many countries.

Not only is there prospect of a degree of maintenance of plantations where they now exist; there appear to be some regions of the tropics where introduction of plantations may prove the only practicable recourse if there is to be development at all. For example, the agricultural development of the lowland areas of Central America apparently requires outside capital on a plantation "exploitative" scale that is beyond the resources of local governments.

In an appraisal of the problems of agricultural organizations in the tropics, it may be concluded that although many hold that the future of export production lay with the small-holder his natural disabilities were a severe handicap. If the plantation system is maintained, as seems likely, for example, in the major black-tea countries (India, Ceylon, Indonesia), it may well be that local ownership will ultimately replace foreign. In Africa, critics of the peasant system point to the "doleful" experience of the Gold Coast where native agriculture is unable to adapt itself to the requirements pre-requisite to its survival. Some observers believe that "nothing less than an agricultural revolution is needed in Africa" and only the Western world has the technical knowledge and financial resources for the task. They favour the government-owned, public corporation as the most promising approach to a rapid integration of the area into the world economy.

Some authorities feel that a more experienced peasantry will be able to take over new fields of agricultural production, in which co-operatives may play a large part. But the optimism is qualified: "The general tendency would appear to be in favour of the peasant, provided that he receives such training and scientific assistance as will raise his standard of production....and that he has adequate security of tenure and facilities for credit."

Whatever the outcome of the testing and evolutionary period that lies ahead, it seems fairly clear that past patterns of tropical crop development will be subject to numerous modifications. Although much more is known about the important crops themselves than in the past, their culture and processing may be further improved. As new knowledge, techniques, and equipment become available, however, it seems that new problems arise that were either not present or not recognized in earlier times. These range from such matters as the need for soil conservation and disease control to better labour management and appropriate adaptations of machinery.

In the past, peasant growers in backward areas, given an incentive, were able rather quickly to fill a gap in production when world demand was substantially increased. There were labour reserves then that could be tapped, and crops could be produced with fewer complications. Today, the situation, for many reasons, is wholly different. Currently there is perhaps greater need for both foreign capital and management. But capital and management as exemplified in plantations are frequently looked upon narrowly as symbols of outside interference.

At this juncture the plantation system appears to be a whipping boy for many political leaders in tropical areas. Some local politicians seem willing to sacrifice the economic advantages of the plantation system for an autonomy perhaps more apparent than real. Yet the plantation system is inherently an efficient form of organization for production of many tropical crops. If and when these newer political entities grow more prosperous and feel greater security in their autonomy, the plantation system may come to be viewed more favourably than it has been in recent years.