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Tasks for Agricultural Progress

by Henri Entringer, Brussels, and Professor John B. Jaeger, Addis Ababa

Every country must find its own approach to economic development, for none is exempt from the fact that it is impossible to implant at home the economic structure of a more developed nation. Economic growth is a very complex phenomenon, requiring changes and adaptations which are a function of a given socio-economic situation.

Economic Structure in Developing Countries

The large majority of the population of less developed countries is engaged in agricultural activities of low productivity, industry occupies but a minor economic position, and the service sector is of reduced importance. The export pattern is dominated by agricultural and other raw materials. The illiteracy rate in these countries is high; besides a low standard of living, they generally have a slow rate of economic growth, while increases in population more than offset the gains made in agricultural productivity. The result is undernourishment or malnutrition. Indeed, the low productivity in the agricultural sector of a generally sluggish economy coupled with a population explosion brought about by a high birth rate and reduced mortality creates a problem of enormous magnitude.

Ethiopia is a case in point. Approximately 90 per cent of its people constitute the agricultural population. Agriculture, oriented primarily toward subsistence and not toward the markets, makes up almost 70 per cent of the national income. Manufacturing, composed to a considerable extent of handicraft and cottage industries, is of relatively small magnitude, and the service sector is but little developed. Per capita gross national product is in the vicinity of Ethiopian \$ 120 (US \$ 48) a year, which indicates a low standard of living, even in comparison with other African countries. It is estimated that during the last several years economic growth per annum was of the order of between 3 and 4 per cent. Agricultural production grew by less than 2 per cent, while the population increased yearly by approximately 1.6 per cent.¹

The exports of Ethiopia are almost exclusively composed of agricultural products. For example, in 1964 foodstuffs (mostly coffee, fruits, and vegetables) made up approximately 70 per cent of total exports, and agricultural raw materials (oilseeds, skins and hides, medicinal plants, etc.) 22 per cent. Coffee alone

constituted over one-half the value of all export.² Until recently, agricultural production, although increasing steadily in absolute value, tended to actually decrease on a per capita basis.

Even though the economic structure of the developed countries differs fundamentally from that of the developing ones, the process of growth is the same for both categories. Economic progress means, for all countries, an increase in outputs (production) relative to inputs (land, labour, capital), that is to say, an increase in productivity. This growth in productivity may be the result of varying approaches, depending on the economic configuration of the country in which they are implemented. However, one can generalise by saying that it is achieved primarily through improved production processes and a modification of the proportion of manpower active in the various economic sectors.

The struggle for economic and social improvement in less developed countries is a difficult and long-term process. Obviously, the decisive effort guaranteeing success will have to be furnished by the developing countries themselves, within the framework of assistance provided by the international organisations and the industrialised nations.

The Role of Agriculture in Economic Growth

In every country which at present enjoys a high standard of living, agriculture has played a determinant role in its economic development. It would appear that progress in agriculture is of even more crucial importance to developing countries: indeed, it is the primary condition required for their economic growth. The major reasons for this are as follows:

□ Need for improved diet. First, most of the developing nations must increase their production of food to guarantee an adequate diet to their people. Frequently, the most pressing task is to overcome undernourishment (famine) and malnutrition (qualitatively inadequate diet) of the general population, for without a substantial diet, both the physical and intellectual efforts required for economic development cannot be produced. Furthermore, more and more food must be provided to feed an ever-increasing urban population.

□ Contribution to National Income. The economies of developing countries are essentially based on

¹ Figures based on Statistical Abstract, 1965, Central Statistical Office, Addis Ababa.

² Figures based on Statistical Abstract, 1965, Central Statistical Office, Addis Ababa.

agriculture, thus the population has some knowledge of and experience in agricultural production, which are usually lacking in regard to the industrial sector. Therefore, development in agriculture generally would be more effective than that which could be achieved in industry, although less spectacular in terms of relative rate of growth because of the low base level of industrial output.

□ Earning foreign exchange through agricultural exports and freeing for other uses foreign exchange spent on the importation of food. The export of specialised agricultural commodities earns many developing countries a large portion of the foreign exchange needed to import internally unavailable capital equipment and some products which are absolutely essential to economic development. Additionally, increased agricultural output would effect a saving in foreign exchange by reducing the need for food purchases abroad.

□ Freeing labour resources in agriculture to shift to industrial production. Improved productivity in agriculture results in higher production with less labour input, permitting the redundant labour to be channelled into industrial production.

□ Creation of an agro-industrial complex. Increased output of agricultural commodities would encourage the development of industries processing these raw materials or transforming them into final consumer products. Thus interdependence between agriculture and industry would be fostered, favouring the harmonious development of the whole economy.

□ Development of markets for manufactured goods and industrial products. The increased income earned by the farmers would provide the necessary purchasing power to acquire consumer goods as well as some producer goods, such as fertiliser or farm implements.

The fact that agricultural development should be accorded priority and that the major efforts in this regard must come from the developing countries themselves does not mean that industrial development should be neglected, nor does it imply that there is no need for increased economic assistance by the developed countries. In fact, for agricultural development to lead to overall economic progress, it is necessary for that portion of the labour pool which has been released from the agricultural sector to find employment elsewhere, thus making expansion of the non-agricultural sectors a prerequisite condition for success.

Agriculture in Ethiopia

Although the prevalent techniques used in agricultural production in Ethiopia are rudimentary, the population nevertheless has accumulated a long experience in this endeavour, so that it would be easier over the short term at least to improve skills in this area as opposed to training an industrial work force.

More than 60 per cent of the value of Ethiopian exports is made up of coffee. Although there is a large

world market for this crop—especially in view of the fact that the highest coffee consuming countries are not producers—there are also the dangers generally inherent in such a heavy reliance on one-commodity exports. Some of these dangers are being alleviated by world coffee agreements between the participating nations which affect both the supply and the demand. Ethiopian coffee, all of the Arabica type, is considered to be of high potential quality. Great strides forward in the application of both qualitative and quantitative standards have been made since the establishment of the Ethiopian Coffee Board in 1959.

Vast improvements appear possible in the production of cereals, oilseeds, cotton, hides, meat, sugar, sisal, citrus, and other fruit. In turn, these developments would pave the way for the creation or expansion of various agro-industries. For instance, the meat-canning industry presently centered in Asmara, is held back in its expansion by the quantitatively and qualitatively unreliable supply of beef cattle.

Potential Technological Advances in Agriculture

In the less developed countries, opportunities abound for increasing agricultural output and the productivity of those engaged in agriculture. However, a multitude of obstacles militates against the success of these attempts. The means of causing agricultural activity to become more productive are well established. They are, in broad categories, improvement of soil fertility, livestock yield, and labour efficiency.

An increase of the fertility of the soil is based upon better work treatment of the soil, judicious use of organic and chemical fertilisers, suppression of parasites, scientific selection of seed grains, irrigation and drainage, anti-erosion measures, the prevention of over-grazing and, where appropriate, the cultivation of virgin lands. Improvement of livestock yield is brought about by better selection of livestock, appropriate feeding, veterinary precautions against diseases and improved sanitary conditions. Improvement of labour efficiency requires replacing human muscle power at first by animal draft, then by motorised mechanisation, and by creating conditions permitting large-scale farming.

All of these various means for increasing agricultural output are inter-related: the implementation of one affects the effectiveness of another, and vice-versa. Nevertheless, depending on the particular conditions of each country, the early implementation of some measures is more important than that of others. Therefore, an order of priority must be established. To be able to do this rationally requires full knowledge of the topographic and climatological conditions, the production techniques in usage, the existing market channels for agricultural products, the behaviour patterns of the population, and the general economic and social structure of the country in question.

Compared to numerous other African countries, the pedological conditions affecting agriculture in Ethiopia are in several respects rather favourable. In many parts of the empire the composition of the topsoil and the climate permit the cultivation of a large variety of crops as well as the raising of livestock. The main factor limiting agricultural output in these regions is insufficient rainfall, unevenly spaced throughout the year. However, this obstacle can be overcome wherever irrigation is possible. Ethiopia is not experiencing any strong demographic pressures: average population density is estimated to be a low of 19 square km (approximately 23 million people occupying some 1,221,900 km²). In spite of the fact that a substantial part of the country is desert or open brush and scrub, there exist large reserves of arable land. Only about 8 per cent of the agricultural land is actually cropped each year.

Agriculture in Ethiopia, as is the case in most underdeveloped countries, is still essentially oriented towards home consumption, rather than the markets. Almost immediate results in substantially increasing crop production could be obtained by wider usage of organic and chemical fertilisers (especially nitrogen), by better protection of plants and stored harvests, and by the proper selection of more productive seeds. Further gains could be made by the introduction of more efficient tools and farm implements, adapted, of course, to local conditions. Potential improvements in the livestock situation loom even larger. They are, to a great extent, linked to the advances realised in the production of crops, as these would permit better feeding of the cattle. On the other hand, improved selection of breeding stock and more effective sanitary protection would also contribute to increasing the output of animal products.

Government's Tasks for Agricultural Progress

The complex process of agricultural development is best achieved in progressive stages. In the short run, it would be a mistake to try introducing the most modern technological advances, because their practicality is conditioned by the existence of a highly skilled labour pool, large-scale operations, and well-developed markets.

In the developing countries, the problems regarding agriculture cannot be considered in isolation; rather

their solution must be conceived within the overall scheme of economic and social progress. In view of the fact that in these countries the state constitutes the only base structure, government intervention is indispensable to bring about favourable conditions. This means that the government must plan development strategies to cover the long and intermediate terms and devise and implement tactics designed to solve development problems over the short run.

The modernisation of agriculture requires the creation of three essential conditions by the responsible government agency:

- ☐ Change in the mentality of the peasants and up-grading of their skills.
- ☐ Improvement in the structure of agricultural enterprises.
- ☐ Amelioration of the material infra-structure and adaptation to current needs of other economic and social parameters.

One of the most fundamental steps to be taken is the creation of a psychological climate favourable to economic progress, by promoting policies designed to stimulate and train people. The human resource must be mobilised, the will of the people to work toward progress strengthened. Demonstrating to the peasants the benefits to be derived from agricultural development should furnish the motivation necessary for the effort they must put forth. The voluntary and effective participation of the rural population is a primary condition, in fact the foundation, of all successful agricultural development. Yet it is also the most difficult problem to overcome. Its solution requires imagination and tremendous effort.

The transition from subsistence to market oriented agriculture requires improvements in the structure of agricultural enterprises and especially an increase in their average size. In developing countries it is usual to find the vast majority of farmers producing only enough for the consumption of their extended family unit; most farms are too small to permit commercialisation. As modernisation of agriculture makes inroads, the optimal size of the farm unit keeps increasing. In the principle, the size of the agricultural enterprise and the orientation of its production activity should be such as to insure that the farmers are productively occupied all year around.



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Moreover, the land tenure system must be such as to favour agricultural development, not hinder it. Farmers cultivating land they do not own must be given leases of sufficient length to reap the benefits of their improvement efforts. On the other hand, it might be appropriate to establish ceilings on rent to be collected by the landowners, especially where these resources are not channeled into productive investment, and to create institutions which help farmers acquire ownership of the lands they are farming. Basic to this is the existence of a viable land registration system in which parcels of land are adequately defined as to shape, size, location, and ownership. As far as farm tools and equipment are concerned, preference should be given in the short run to the introduction of simple tools and the modification of existing ones, rather than to the procurement of sophisticated mechanical implements, which are expensive to acquire and can be operated and repaired only by a highly trained work force.

Marketing the Agricultural Products

The orientation of modern agriculture is toward commercialisation. To bring about the latter satisfactorily requires, beside expanding urban markets, the existence of a material infra-structure geared to the needs of agriculture. All too often the quality of fruit and other agricultural products deteriorates because of slow traffic movement. Moreover, the

development of agriculture requires the building of storage facilities, the organisation of an agricultural credit system, and the formation of cooperatives. The existence of storage facilities, coupled with an effective communications network, might prevent, or would at least alleviate, temporary local food shortages. Besides, the creation of storage centers would greatly facilitate the commercial distribution of agricultural products by permitting the marketing of commodities in larger quantities and of greater homogeneity. Thus, the market position of agricultural producers would be strengthened.

The modernisation of agriculture calls for sizable investments which are beyond the financial resources of the average farmer unless he has access to a credit source. For this reason, agricultural credit institutions are a vital element in economic development. However, in order to avoid wastage of scarce resources and a too heavy indebtedness of the farmers, credit should be extended only for operations which can reasonably be expected to be profitable. This makes close cooperation between credit institutions and the agricultural advisory agencies a necessity. Cooperation among the various producers is also needed. Whether the concern is with production equipment, hydraulic projects, animal husbandry, marketing, or credit, the organisation of cooperatives and other associations can be of tremendous benefit to the participating peasants.

INDUSTRIALISATION

Investment Climate and Private Investments

by Dr Wolf Dieter Lindner, Cologne

OECD statistics about the Western industrial nations' long-term contributions in favour of developing countries subdivide the sum total of \$ 9 to 10 billion yearly also by public and private contributions. The corresponding ratio was consistently about 60 to 40 per cent during the last years. Private contributions to development aid show the following composition:

Direct Investments	approx. 60 per cent
Portfolio investments	approx. 20 per cent
Export credits	approx. 20 per cent

Thus more than three quarters of private funds do not flow to developing countries in the shape of commercial credits but in a form that might be called an investment commitment. This high share of investments is so very important because it is known by experience that private investments make the promptest and most enduring contribution to the developing countries' economic rehabilitation.

Expressed in absolute figures direct investments amounted to \$ 2.4 billion in 1965. In the past years, too, private investors from all over the world in-

vested directly about the same amount in developing countries—i.e. with the intention to exercise direct influence on the operations of enterprises receiving capital. As against this the investors' interest in so-called portfolio investments is not an entrepreneurial one. It concentrates exclusively on returns and security. This should, however, not lead to the conclusion that the private entrepreneurs' considerations regarding security and returns recede into the background in the case of direct investments. These aspects are rather on an equality with the interests that are being pursued with an entrepreneurial direct investment.

German Investments Abroad

The German share in the total of about \$ 2.5 billion that at present are annually invested directly in developing countries by all Western enterprises is quite moderate. Although it has a rising trend, in 1966 German direct investments did not amount to more than \$ 106 million or \$ 155 million, respectively, including the reinvestment of profits. All told, compared with the foreign investments (not only in de-