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STRATEGIES FOR INCREASING AGRICULTURAL EMPLOYMENT

BY

EMANUEL A. OKWUOSA

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Economic development models indicate that, as the economy develops, both the contribution of Agriculture to total GDP and the percentage of the population engaged in Agriculture will decrease. Considering that Agriculture is the primary industry of a community, its relative importance in the economy will inevitably decrease as the economy develops, but this decrease is not a cause but rather a result of economic development. That is, low percentages of Agriculture's contribution to the GDP and share in total economically active population by themselves do not indicate economic development or progress.

To take a few examples, Agriculture's contribution to total GDP in 1964-66 (average) was less than 35% in Gabon, Liberia, Libya, Sierra Leone and Zambia and greater than 50% in Ethiopia, Gambia, Nigeria, Sudan, Tanzania and Uganda. More detailed information about these countries shows that the standard of living, or the general level of economic development, is not greater in the former than in the latter group of countries. Indeed the main reason for the difference is the higher percentage of the mining industry in the former group of countries than in the latter group and, regrettably, mining in the developing African countries does not add very much to the income of the nationals and to general economic development. The contribution of Agriculture to total GDP in Zambia in 1964-66 was less than that in Italy, Japan, Denmark, France, Norway and even Western Germany in 1951-53 period after post-was reconstruction. This surely gives a false picture.

The relative importance of Agriculture in the economy and the extent to which it can provide gainful employment should depend on agricultural resource endowment. In most countries of Africa, the ratio between population and cultivable land is high. The possibilities for expanding agricultural production are indeed great if fertilizers are applied and fallow period consequently lowered. Also, if the right policy is adopted,

the problem raised by effective demand will be solved. Besides the increase in the demand for food if the peasants are enabled to increase their purchasing power, there are great prospects for expanding the production of the raw materials for local industry such as fibres, there are possibilities for substituting much of the agricultural imports which constitute 6-10% of the GDP in most African countries, there are now great prospects for expanding the production of cereals both for livestock food and for helping ease the world cereal shortage, and there are also great prospects for expanding livestock production to help ease the world meat shortage.

An annual increase of 4.0% in agricultural production in Africa has been proposed by the United Nations for the current Development Decade. This compares with the rate of 2.2% per annum in real terms achieved in 1960-70. The United Nations' proposal was made before world shortages in cereals and meat manifested themselves. This, combined with appropriate policy for exploiting the "latent demand" by the agricultural population, can make possible a 5%, or greater, rate of increase in agricultural production in Africa.

The effect which this can have on employment in Agriculture is very great. Considering that all the peasants cannot achieve the overall rate of increase, those who can adopt improved technology can achieve very high rates of increase in production. For example, if half the peasants are able to do so (and this is even a wide assumption), they can achieve an annual rate of increase of about 10%. On the other hand, if one-quarter are able to do so and another one-quarter are resettled on land they can also achieve the same rate of increase in production. It is thus possible to reverse the tendency of Agriculture's share in total economically active population to decrease, at least for the next few years. The major constraints are those of effective demand and technology. In both of these areas the government has a crucial role to play.

Economic development models for a closed economy show that the demand for agricultural products comes solely from the industrial sector. Thus, increased urbanisation and the consequent reduction in farm population are expected to result in increased farm productivity. Looked at from another point of view, increased "agricultural surplus" results in the growth of the industrial sector. This concept had much influence on economic development policies in Africa during the last decade. Since the industrial sector has not been growing very fast in spite of higher growth rate in urbanisation, effective demand has been relatively low and this has been generally regarded as the major constraint to the expansion of agricultural production and increase in agricultural income.

The problem of effective demand and the planning methodology adopted to obviate it actually result in a vicious circle: the low income, which is the general characteristic of the African countries, results in low effective demand which results in low production which results in low capital formation which results in low income. This has a stagnating effect on the economy. The desire to solve the problem through the production of export crops has resulted in near neglect of food crops. The export products, on the other hand, have been experiencing uncertain markets and decreasing prices and, consequently, have not been very effective in solving the problem. Foreign investment in order to break the vicious circle has not been available in sufficient amount. Also foreign investment results later in a heavy burden on the economy in the form of repatriation of profits, interest payment and loan repayment.

Production or supply cannot exceed demand without either a fall in prices or the wastage of the surplus quantity. Nevertheless, the objective of development should be to find ways of increasing the effective demand as production increases and thereby make it a dynamic factor in, rather than a constraint to, economic development. The "marketing problem" which egg production in Southern Nigeria experienced was due to the policy of promoting increased production through a "product approach".

There are similar experiences in some other countries where emphasis is given to the expansion of the production of a single product. If the programme for increased production were to include several products in the same area, the supply of each of the products would not increase very greatly. At the same time, the income of the farmers would increase sufficiently to make it possible for them to exert a high level of effective demand and thereby help to clear the supply of all the commodities produced under the programme.

The poverty of African countries indicates that "latent demand" is very high. For example, from FAO's estimates, calorie consumption in African countries was estimated at 2,154 per person per day in 1965. This constituted 72% of the per caput consumption in Western Europe and 68% of that of North America. It is projected to increase at the rate of 0,4% per annum to 1980 and to constitute 73% and 69% of the consumption in Western Europe and North America respectively. Similarly, protein consumption in Africa in 1965 was estimated at 58.2 grams per person per day constituting 67% and 62% of the per caput consumption in Western Europe and North America respectively. The projections to 1980 leave the percentages virtually the same. There is no reason why the percentages should not be higher by 1980 if economic development can be speeded up more than is indicated under the FAO assumptions. What is required, therefore, is not to keep the level of production to the level effective demand but rather to find out ways of increasing both production and effective demand simultaneously and thereby exploit the high level of "latent demand".

The way in which this could be done can be illustrated as follows: Consider two rural communities X and Y both of which produce and consume rice, maize, cassava, vegetables and yams. Suppose that the output of most of these products increases either because of specially favourable weather or because of the application of improved technology by

some of the members of the two communities. This increase will normally not be equal for all the crops in the two communities as a result, among other factors, of differences in the ecological conditions. Suppose that community X has proportionately higher output of maize and rice while community Y has proportionately higher output of cassava and vegetables. Assuming that the average per caput food consumption of the two communities is below requirement (as is the case in most rural communities), both communities would like to increase their consumption of all the food products but they would also like to sell part of their increased output.

If there were no price stabilization or "floor price" policy and no efficient marketing system, the two communities may not be able to dispose of more than a very small proportion of the increased output and what is sold will be at a very low price. However, their consumption for that year will increase. If there is poor harvest the following year or even a year or two later, since the communities have realised only a very small increase in income from the previous years' good harvests, the two communities will find it difficult to purchase food from outside in order to supplement their poor harvest. They will be in shortage and the government may ask for food aid. Little progress, if any, is made: a good harvest results mainly only in increased consumption for that particular year and the small increase in income is spent in any subsequent year of bad harvest. This has been the general situation in most of Africa's rural peasant communities.

Suppose there is a good marketing system but no price stabilization or "floor price" policy, the increased harvest will result in lower prices for the product. However, more of the increased harvest will be purchased at better prices than if the marketing system were inefficient. The income of the two communities will increase more. If, however, the good harvest is later followed by a bad harvest, much

of the increased income will be spent on food import even though the purchases will be at a lower price than if the marketing system were inefficient. The net effect will be small increase in the income of the two communities over the years. This is the situation in most of the peasant communities near urban areas or along the lines of transportation system.

If there were a price stabilization or "floor price" policy in addition to a sufficiently efficient marketing system, the income which the communities will realise from the increased harvest will depend on the level of the floor price. This will generally be higher than what would have been the normal market price. During bad harvest, the products held in reserve will be brought into the market to supplement any importation. The prices will, therefore, be lower than what would have been the normal market price. The net effect will be that the communities will realise higher income from the increased harvest and spend less during poor harvest than would have been the case if there were only an efficient marketing system. They will, therefore, have higher income and be able to purchase and consume more food over the years.

The situation can be improved still further if the communities were assured of not only a floor price but a reliable market for the disposal of their produce and for the purchase, at a good price, of other farm products throughout the year, that is, not only a policy of purchasing farm produce at a fixed minimum price but also of supplying farm produce at a fixed maximum price throughout the year. This will remove the need for the communities to keep for themselves enough produce to last for them throughout the year. They will instead depend more on the market. In other words, their security motive necessistated by their limited money income will be broken.

The essence of this policy is simultaneous purchase and sale of farm produce in the same community - as opposed to a mere price stabilization policy in which sales are effected only when and where there is shortage. Under this latter policy, communities continue to keep their own reserves and sell only what they consider is the surplus or what they are constrained to sell in order to meet their cash requirements.

With a simultaneous purchase and sale policy, and the resulting assurance of reliable market for the disposal and purchase of produce, the communities can sell a much higher proportion of their produce and relieve themselves of the burden of storage. Their cash income will be increased considerably. They will then be able to purchase the produce of each other up to the amount determined by their cash sales and their income elasticity of demand. Their total consumption thereby increases, but this may not be as high as the total consumption when there is only a price stabilization policy. This may partly be due to their need for non-food products, that is, relative low income elasticity of demand for food. When this is the case, the communities will provide greater demand for manufactured products as a result of their increased cash income and thereby help to promote industrial development. On the other hand it should be noted that part of the greater number of units for consumption under a price stabilization policy alone may be wasted in storage so that the communities may actually not consume more than under the purchase and sale policy.

There will be an increase in the net cash income of the communities. This will be greater than the net cash income which they would have received under a price stabilization policy alone, both because of greater commercialisation and consequent transfer of funds to the communities and because of greater production. There will, therefore, be greater increase in consumption over the years under the purchase and sale policy as a result of greater and more steady increase in

production and more purchasing power. The sum of the net cash incomes is equal to the sum of the value of output. This confirms the general understanding that farm income can be increased as a result of demand from the urban centres or from foreign sources.

The purchase and sale policy also provides the desired opportunity for specialisation. It means that external market or market in the urban centres does not have to be found for all the commodities whose output has increased. The increased output of some of the commodities will be consumed by the communities and only the output of the others needs to be disposed of outside the community. This gives the opportunity for specialization in export products or in products that have specially high demand outside the communites.

It should be noted that this opportunity is not provided by the price stabilization policy alone since, under this policy, the communities continue to store all that they need for the crop year. Also all the amount of each commodity which they sell has to be disposed of outside the two communities. No opportunity is provided for the communities to depend on each other for the supply of some of their food requirements and, at the same time, be able to specialise in the production of the commodities that have high demand either in the urban centres or in the foreign market. The price stabilization policy alone thus has the effect of only helping to increase the income of the peasants but not the effect of promoting specialisation and still greater increase in production and income.

The surplus output is for urban consumption or for export. It could also be industrial raw materials or products for livestock feed, or it could be utilized for special employment or similar development programme. It constitutes "agricultural surplus" which provides the opportunity for development of the other sectors and sub-sectors. It

should be noted, however, that this "agricultural surplus" has been made effective by a price and market policy and can be increased if urban or export demand exists for it or if there is the possibility of its being used for other purposes. In other words, it is increased and made effective by economic development or development in the other sectors and does not by itself promote the development in the other sectors.

This policy also has the special importance of transferring money to the agricultural population thereby increasing their purchasing power. Moreover, it commercialises food production, and agricultural production in general, through providing an assurance of a reliable market for both the sale and purchase of farm products. It thus redresses the dichotomy between production for local consumption and production for export and transforms the "subsistence production" into "commercial production". If the market policy is limited to the price stabilization scheme, it will take a much longer time to effect these types of changes.

Besides developing the market in such a way as to exploit the "latent demand" of the farming population, the government has a crucial responsibility for ensuring that the peasants adopt improved farm technology. This raises the fundamental question of how this could most effectively be done.

So far the dissemination of technological knowledge in Agriculture has been undertaken by what could be called the "non-involvement method". The peasants are either "animated" to accept to adopt improved technology or they are given one to two weeks' courses and virtually left alone to implement as best they can has been imparted to them, or demonstration plots are established so that the peasants can look at them and do likewise, or a combination of these. Considering the low level of literacy of the peasants and the fact that acquisition of new

technological knowledge is not easy even for the highly literate, these methods are rather crude and have, therefore, been hardly effective.

In some cases, the "pamphlet method" is adopted and a case is made for the peasants to be made literate so that they can read and understand the pamphlets. This is a blind copy of the methods adopted in developed countries. It does not require only literacy to understand pamphlets on new technology. The general level of technological knowledge needs also to be high. In other words, one needs to, as it were, grow up in technological environment in order to be able to acquire new technological knowledge through pamphlets. Moreover, this method is a roundabout way of disseminating new knowledge and is, therefore, more costly in spite of the cultural benefits of literacy.

Here is no substitute for the method of "learning by doing" in the dissemination of technological knowledge in African communities. Separation of the classroom from the farm can only benefit a few people - the more educated few. On the other hand, if the farm itself becomes also the classroom, nearly all the peasant will be able to acquire the new knowledge in a sufficiently short time. The government needs to be directly involved in the imparting of technological knowledge.

This method of teaching on the farm has not been popular among agricultural economists on the grounds that it is not financially viable. They hold that any extension service system should yield financial returns. It should be borne in mind, however, that imparting new technological knowledge on the farm is both capital investment and current expenditure; it is indeed largely the former. When the peasant has acquired the knowledge of how to prepare nurseries for improved seeds and how and when to apply fertilizers, this knowledge is retained for the rest of his life and he can also impart it to his children who may succeed him on the farm. The knowledge cannot be

obsolete; it can only be built upon and the additional knowledge will be easier to acquire than the initial package.

On a fairly rough estimate the possible cost of imparting technological knowledge on the farm comes to about US $13 per farming family per annum. This does not include the cost of training the extension agents, but this should rather be placed in the same category as secondary education. It is enough to charge the salaries of the agents to Agriculture. The cost of US $13 per farming family is apparently high, but it is the cost of transforming agricultural production and changing the economy from "developing" to "developed". It yields long-term dividends. The cost to the government will also be spread over a number of years - ten to fifteen years - when the agriculturally important areas could be covered. It should also be combined with a market development programme for maximum effectiveness.

A combined programme of this nature will, besides transforming agricultural production and increasing the peasants' income, also have direct effect on employment. Many peasants have small parcels of land under crops simply because they have to leave the rest under fallow. With increased technological knowledge, there will be intensive cultivation and consequent use of a larger area annually. The programme will thus contribute to solving the under-employment problem. It will also, in the same way, help to arrest or diminish the rural-urban migration both because of the high income and because it provides opportunities for fuller utilisation of labour.

The prospect of sufficiently high income and the availability of personal attention will also be important incentives to the youth. When the rural people are left to do the best they can in the existing situation they naturally look for easiest way out. On the other hand, if there is a programme like commercial agriculture with supervision

and counselling, supply of inputs and purchase of output, there will be a great incentive for the youth to participate in the programme. The fact that he is working for himself with the right to all the profits will remove the element of shame that in some cases is associated with agricultural labour in Africa and, at the same time, provide him with the incentive for hard and careful work.

These indicate that the African governments need to give much greater attention to the development of agriculture than at present. More money and manpower need to be devoted to it and a good plan prepared. The present policy of increasing the output of some selected commodities should be replaced with the strategy of developing the peasants to enable them to increase output. This strategy has a more positive effect on increasing income and employment in the rural area.

Conclusion

Agriculture being the primary industry, its share in total economically active population and its contribution to the GDP have to decrease as the economy develops, but this by itself should not be taken as an indicator of economic development. The importance of Agriculture in the economy should depend on the agricultural resource endowment of the economy and this is high for most African countries.

The demand for agricultural products is not limited to the demand by the urban or industrial sector. It includes the demand from outside the economy (exports) which is over 15% of the GDP for many African countries. It also includes the "latent demand" by the agricultural population for their own produce which can be exploited by a policy that transfers purchasing power to them and, at the same time, assures them of good prices for their produce and the availability

of the other commodities which they need, and thereby encourages them to specialise and further increase production.

In addition, rather than mere dissemination of technological knowledge, emphasis should be given to teaching the peasants on their own farms how to apply improved technology. The cost of such a policy may be high but it yields very high long-term dividend: it increases labour input in Agriculture and the income of the peasants, it provides incentive for the youth to take to agriculture, it provides the cultivators involved with a basis for future development and expansion and it transforms traditional agriculture to modern agriculture.

The combination of policies to lift the twin constraint of effective demand and technology can result in an annual increase in agricultural production of more than 5 percent (and a commensurate increase in employment) rather than of 2 per cent as achieve in the past decade.