AGRICULTURAL FUNDAMENTALISM
MAN AND NATIONAL DEVELOPMENT

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An Inaugural Lecture delivered at the University of Ghana, Legon on Thursday 25th November, 1971
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1. INTRODUCTION

I HAD planned initially to follow the theme of an earlier inaugural lecture by addressing you on the subject “Agriculture—Is it Needed?” I came to the immediate conclusion that Agriculture was, it is, and it will be forever. The question of the need for it does not arise. Agriculture is essential to life and it behoves us forever to strive to gain a better understanding of its organisation and operation.

Agricultural education and agricultural research help us to understand and to develop the agricultural industry. That is why the University Faculties of Agriculture have such an important role in the agricultural development of our nation. It would be tragic to remove them from the university environment or to disturb their individual independent development within the universities.

Despite the contribution of the universities to agricultural knowledge, there still persists in our community a serious lack of appreciation and understanding of the complex nature of the agricultural industry and of the proper role of scientific knowledge of agriculture in the nation’s economic development.

Agriculture’s role in national economic development must be seen not as a static and detached function, but as a dynamic process and part of the whole. As the old traditional methods of husbandry, the attitudes to farming and the poor quality of farm worker change and give way to improved standards, both agriculture and industry will flourish together at the same high level.

A lively debate raged in the 1960s about whether first priority should be given to Agriculture or Industry in the process of economic development of the underdeveloped nations. One school of thought, sometimes referred to in the United States of America as Agricultural Firsters, advocated the fundamental role of agriculture in national development. Agriculture was regarded as the foundation of manufacture; the greatest and fundamentally the most important of all national industries. Many of the followers of this school held the view that agriculture is a way of life and that the prior development of the rural sector was an essential and necessary condition for the development of the rest of the national economy. Their view was based not only on economic considerations but also on the fact
that the good life was to be found in tilling the soil and in developing the basic resources of nature, which are essentially associated with the growing of crops and raising of livestock.

The other side of the debate was upheld by those who extol the virtues of Industrial fundamentalism. They argue that industry is the sole means of raising the productivity of an economy and that agriculture cannot provide the engine of growth for a developing nation because of the low income elasticity of demand for agricultural products.

A clear consensus has now emerged out of this debate which falsifies the hypotheses advanced by both the agricultural and industrial fundamentalists. It establishes that the interdependence between agriculture and industry is so pervasive that neither sector can develop successfully without the effective growth of the other sector. Instead of emphasising the contribution of agriculture to industrial and overall economic development or the contribution of industry to national economic growth, greater attention should be focussed on the mutual interdependence of agriculture and industry.

2. AGRICULTURAL FUNDAMENTALISM

Agricultural fundamentalism had gained firm roots in ancient time. The towns, cities and industry developed as subsequent branches of the tree of national life, the roots of which go deeply into the land and farming. Man and his societies have developed, flourished and declined with the farmer. Agriculture has from time immemorial been par excellence the fundamental industry and farmers have been, in a peculiar sense and degree, of basic importance in society.

Agriculture is very old. Before it was invented, Man subsisted on the fruits, leaves and roots of wild-growing plants and by hunting. As game became scarce through their destruction by other wild animals, man developed a symbiotic existence with some of the herbivorous animals, such as cattle, sheep, goats and also poultry. He lived with herds of these animals and protected them against their enemies, the wild beasts. In return the herd provided man with meat, milk, eggs and other livestock products whenever he needed them. The dog and the horse were introduced later to assist man in his management of the herds.

Crop production came into existence after man's association with livestock. It was observed that when seed from the wild-growing
plants, especially the grains—wheat, maize, sorghum, rice, etc.—dropped on land not previously growing other plants, it germinated readily and grew with exuberance. Man began, therefore, to grow crops in the vegetation—free areas and along the banks of rivers flowing through deserts. The earliest forms of intensive cultivation were thus practised on the alluvial banks of rivers such as the Nile and others around the Mediterranean Sea.

Whilst it is uncertain whether the invention of agriculture and herding took place only once or several times in man’s history, there is little doubt that it must have emerged in the Mediterranean area, particularly between northern Persia and Egypt, where settled village communities based on stockbreeding and primitive agriculture first emerged (1). This area has long been regarded as the cradle of civilisation. Peasant farming was the soil out of which civilisation was subsequently to grow.

I have explained that food production developed as a result of the domestication of animals and the realisation that food plants could be deliberately grown. Although animal domestication was the first to be introduced, it was not as important as crop production in bringing about the change of settled life and the replacement of the hunting type of economy. The hunting economies could hardly attain a proper balance between man and his environment. Examples are to be found in the meagre populations of Paleolithic times and the primitive hunting societies of today. No surplus accrues in the hunting economy for the maintenance of non-producers, and the growth of population is limited by the poverty of resources, by disease and the hazards of life.

The deadlock in the Paleolithic and Mesolithic way of life was broken by the invention of agriculture. Technology advanced, communities began to work together in larger and more complicated groups, and food production became more dependable and predictable, allowing a surplus for others not engaged in farming. Farming became dependent on elaborate systems of irrigation, equipment and management techniques.

So it happened that almost as soon as agriculture was discovered it was gradually transformed by sheer necessity into needful work which made it economic, in the broadest sense. The earliest producers for whom labour was not an important production factor were soon followed by the commercial producer and professional farmer who grew crops because he needed food as a source of income as well as
that the good life was to be found in tilling the soil and in developing the basic resources of nature, which are essentially associated with the growing of crops and raising of livestock.

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for subsistence, and he used every ounce of labour to this end. The Bible tells us that the Lord God took Adam and put him into the garden of Eden “to dress it and to keep it”. Adam gave place to his sons Cain and Abel, who were respectively “a tiller of the ground” and “a keeper of sheep”. The implied difference in the duties performed by Adam on the one hand and his sons on the other hand is significant. Labour became progressively important as a factor in agricultural production and made it economic. The economic aspects of farming have now become quite important. Even among communities which practised subsistence farming, there was always a latent force which impelled the farmer to strive to obtain better crops more quickly without a corresponding increase in effort. As farming communities settled to peaceful lives later in history, agricultural products formed important items of barter and trade and did not only provide for subsistence but also wealth which was used for raising the standard of living.

The ancient world rested on a system of caste. The city state was founded on slavery. Manual work became the mark of the slave, incompatible with the “life of virtue”. To the Greek mind nearly all the activities of modern society would have appeared to be menial and debasing. Agriculture almost alone escaped this contempt meted out to the other occupations by the Greek and Roman writers. Agriculture was fundamental. It was the foundation of wealth and the general well-being of society. Aristotle’s discussion of the relationship between finance and the domestic economy, which marked the beginnings of the modern analytical approach to economic problems, rested to a large extent upon a Physiocratic view of the superior place of Agriculture or Nature in the production of true wealth—that is, in the ethical sense. Xenophon, another Greek writer with an agricultural interest, actually furnished many centuries later the motto to Quesnay and the Physiocratic school. “His praise of agriculture was indeed of Physiocratic excess”. He wrote: “... When husbandry flourishes, all the other arts are in good settle; but whenever the land is compelled to waste, the other arts of landsmen and mariners alike wellnigh perish.” In his view “Agriculture for an honourable and high-minded man, is the best of all occupations or arts by which men procure the means of living.”

There was an almost dithyrambic praise of agriculture among the Roman writers also. Columella refers to agriculture or husbandry as being “next to and akin to wisdom”. One of the most illuminating
passages in Cicero’s *De Officiis* (Bk 1, xlii) was that in praise of agriculture. He states to this effect: "... But of all the occupations by which gain is secured, none is better than agriculture, none more profitable, none more delightful, none more becoming to a freeman." This statement is, incidentally, also a dispraise of all other occupations. It is noteworthy, however, that this group of writers condemned slave-labour as inefficient (4).

Even though the power of Rome was extended by wars and conquests, it is significant that the Roman Empire itself had its beginnings in small agricultural communities with little trade.

The most extreme view of the fundamental role of agriculture in the economic development of a nation was postulated by the Physiocrats on the initiative of François Quesnay. Quesnay distinguished three social classes: (1) a productive class consisting entirely of agriculturists, (2) a proprietary class made up of property owners, especially landed proprietors, and government officials, and (3) a sterile class consisting of merchants, manufacturers, domestic servants and members of the liberal professions. Every productive undertaking of necessity involved a certain loss. Some amount of wealth was destroyed in the production of new wealth. The difference was the Net product. The Physiocrats believed that this net product was confined to one class of production only, which was Agriculture. This analysis of distribution or circulation of wealth was presented in Quesnay’s *Tableau Economique* (1758), towards which the attitude of the Physiocrats was one of extravagant adoration. In the eyes of Mirabeau, one of them, there had been, since the world began, three great discoveries—the invention of writing, the invention of money, and the Tableau Economique.

Agriculture had all along been the chief activity of man; it had been the industry which was fundamental to most other human concerns. Before the late 1700s and the Physiocratic era, there was probably no settled community in which at least 90 per cent of the population was not directly engaged in tillage. Reformed agriculture in the late 17th and 18th centuries provided the basis for the so-called Industrial Revolution. The enclosures, the engrossing of farms and the provision of surplus food, resulted in placing at the disposal of industry resources in labour which made it possible for the factory system to develop. Many of the small farmers, reduced to the condition of wage-earners, shared the fate of the labourers who had migrated to the towns in search of employment. These were to form
the working population, "the anonymous multitude" in the factories, the army of the so-called industrial revolution. The growth of great industrial centres would have been impossible if agricultural production had not been so organised as to provide for the needs of a large industrial population.

The inextricable reliance of industry on agriculture is depicted on the great seal of the United States Department of Agriculture, which reads, "Agriculture is the foundation of manufacture and commerce." Despite the remarkable transformation of American agriculture, "much of the traditional ideology, the agricultural fundamentalism, the old institutions, and the political attitudes remain" (10, p. 665). There is an inherent realisation, even in the advanced countries, that agriculture furnishes the basis and the substance of a nation's prosperity.

In Ghana, almost all official statements on the development of the economy emphasise the fundamental role of agriculture in the process.

3. AGRICULTURE AND DEVELOPMENT

Agriculture plays a distinct role in national economic development. It is expected to supply the food and agricultural raw materials needed to keep pace with increasing population and increasing per capita demand as incomes increase, both in the agricultural and industrial sectors. As efficiency in the agricultural industry improves, agriculture is expected to release workers for industrial and other non-farm employment. Agriculture should also supply substantial amounts of foreign exchange and domestic revenue or capital for financing governmental activities, servicing of foreign debt and actual non-farm investment. Finally, agriculture is expected to supply a growing market or base for the manufacturing and service industries, both in terms of rising demand for production requisites, such as, machinery, fertiliser, transport, processing and merchandising services, and in terms of increased per capita purchases of consumer goods among farm people.

In the face of these overwhelming contributions, we are confronted with a pattern of economic growth which portrays the inevitable trend towards a smaller place of agriculture in the national economy. Agricultural development is viewed as a part of a broader process of modernisation, the achievement of which requires the structural transformation whereby a greater proportion of the total working
population becomes actively involved in the production of goods and services provided by the non-agricultural sector of the economy.

In a well-known article on agricultural fundamentalism by J. S. Davis, he claimed that “one may even venture to state as a law of economic history that economic progress, broadly viewed, tends to be accompanied by a decline in the relative importance of agriculture” (3, p. 27). This is clearly demonstrated by the most advanced countries of North America and Europe where less than 10 per cent of the total labour force is found in agriculture. With about 5 per cent of the economically active population in farming, the United States of America provides food for all its people—enough to spare and to share. It is conceded that the United States also imports a good deal of food, some, such as cocoa, from Ghana. However, the American consumers now enjoy a greater supply and variety of better food at lower real cost than any other people in history. In addition, billions of dollars worth of agricultural products are exported from the country every year. This amazing increase in productivity is only at the lower levels of a rising curve of acceleration.

Ghana maintains about 60 per cent of its economically active population in agriculture. It is well known that this relatively large labour force has not been successful in producing enough food to feed the people of this country adequately and to supply the raw materials for industry. Ghana, a basically agricultural country, relies heavily on food imports to satisfy its domestic demand. This country imports about N$62 million worth of agricultural products, which constitutes about 15 per cent of total imports and about three per cent of Gross Domestic Product.

In contrast to the American and European experience on the one hand and the Ghanaian pattern on the other hand, is the Japanese experience which is worthy of mention. In the Japanese experience the framework of existing small-scale agriculture with a relatively large labour force (26 per cent of the total population) has been maintained, and only relatively small but concentrated capital inputs spread over a long period of time, such as occurred in irrigation works in earlier periods, were necessary for the tremendous agricultural output which has been attained. The Japanese economy has been transformed from a semi-developed to a developed state in recent time, and this process has stimulated Japanese agriculture to a marked extent since World War II. Agricultural development may
however, once again come to a standstill if the unfavourable man-land ratio and the resulting small-scale of cultivation is not changed. Too many people farming too little land remains the problem in Japan.

The Japanese experience has much greater relevance to the over-populated situations in the Far East. Nevertheless, two lessons have general application. Firstly, the Meiji government’s foresight paved the way for the success of Japan’s agricultural development. The long-term decisions taken in the Meiji period resulted in the establishment of agricultural colleges and research institutes needed to enhance agricultural productivity and farm output. Secondly, the Western methods of large-scale farming, which were considered a necessary precondition for development, had proved a failure in Japan by 1870. After that date, the efforts of the Japanese government were concentrated on increasing the efficiency of the existing system of farming through better technology and husbandry practices. It has always been proven that it is better to modify progressively the existing farming systems rather than impose alien institutions or attempt the wholesale substitution of the so-called modern for traditional agriculture.

The revolution that is needed in Ghanaian agriculture is one that requires a fundamental reconstruction and upgrading of institutions and farm practices which have become outmoded and therefore retard progress. It is conceded that farms will become considerably larger in size and operate more intensively as agricultural productivity improves with the change. Along the path to this goal is strewn a formidable array of obstacles, which are not only of an economic nature; problems associated with the environment, husbandry practices, social and institutional arrangements are also equally difficult to resolve.

4. PROBLEMS OF AGRICULTURAL DEVELOPMENT

The basic natural resources—climate, soil and vegetation—which form the environment for agricultural production, present special problems to the producer. Water, for example, plays an important role in farming. In Ghana, water may be found in abundance where and when it cannot be used or in poor supply where it is most needed. Desiccated conditions persist in the northern and southern savanna belts, whilst in the heavy rainfall areas in the central and western parts of the country soil erosion may be the problem, and
where natural drainage is absent, swamps and floods may form.

The soils in Ghana tend to be relatively poor, and the value of the better soils may even be destroyed by leaching and poor husbandry practices. If fertilisers were available in abundant supply, not enough would be known about how to use them to remedy the specific deficiencies in the soils.

At the other extreme, the climate permits of rapid vegetative reproduction and growth. Even the fence posts and seeds dropped around the compound in various ways take root and grow. The ease with which plants grow explains the admixture of a myriad of species in dense growth in any one place. The competition for survival is intense, and this has important economic implications. In timber production, for example, the lumberman has to roam over many miles of forest area to harvest only a few logs. There may be only one or two trees of a particular species to the acre. Even more difficult is the problem of the large assortment of weeds, accompanied by an equally varied range of pests and diseases. The control of weeds constitutes the major constraint in the expansion of crop production in Ghana. Diseases and pests are not only found in crops, but they also occur among livestock and humans and retard agricultural development by reducing productivity.

Weeds, pests and diseases are husbandry problems. Systems of farming have been developed to minimise the destruction that could result from these and other natural forces. Shifting cultivation is one such system of farming. It served a useful purpose in the past when it represented a sensible reaction of the farmer to the environmental circumstances of the time. The practice can no longer be justified in present conditions.

The other farming systems are traditional small-scale farming and large-scale plantation agriculture. It has been advocated that plantation production is more efficient than the existing methods adopted by peasant producers, and that large-scale plantations should therefore replace peasant production. The important consideration in this debate is whether the limited capital available to the country can be utilised more efficiently in developing the existing farms or for establishing new large units. The organisation which has the minimum cost of production per unit of output should obviously be preferred. Past performances of these systems have convinced many to cast their vote for the development and up-grading of existing farms.
Associated with the systems of farming in Ghana, is the programme for the diversification of agricultural production. The problem is to decide into what to diversify. The vegetable oils and rubber are the crops to be encouraged in addition to cocoa, a third of the world’s supply of which is produced by Ghana. These crops are the same as those grown by other developing tropical countries in response to their own diversification programmes. If markets do not exist to absorb the increased supplies, then the advantages of diversification would be minimal.

The social problems of agricultural development include inefficient land tenure arrangements and the indifference to farming and farm people. The specific features of the land tenure system which retard progress are the fragmentation of holdings through the system of inheritance, the difficulty involved in acquiring new land, the inability of a farmer to make permanent improvements or plant permanent crops on land which is commonly owned, and the absence of land registration.

The other difficulty stems from the attitudes to farming and farm people. The agricultural profession perches upon the lowest rung of the social ladder in Ghana, largely because of the poverty and the stress under which farm people labour. Edwin Markham’s picture of “The Man with the Hoe” still vividly portrays the plight of the Ghanaian farmer—“Bowed by the weight of the centuries he leans upon his hoe and gazes on the ground. The emptiness of ages on his face, and on his back the burden of the world.” This poses the problem of how to attract educated young men and women into the ranks of the profession rather than leave them to seek urban positions which offer more glamour and command better prestige. The Japanese found the appropriate solution to this problem. Their government did not only build up independent entrepreneurship in agriculture, but it also ensured that government officials at all levels genuinely accorded agriculture the highest priority, recognising that the country’s economic growth depended on this sector of the economy.

The organisation of agricultural credit and the development of agricultural education, research and extension present institutional problems, which have also social and economic implications.

The absence of adequate credit facilities has limited the farmer’s ability to acquire capital for developing an industry that has become more complex than before. Agriculture is often thought of as a
single homogenous industry presenting a uniform set of problems. This may be true up to a point. There is, however, a development towards a more industrial complex organisation with different types of production and marketing, even within the same country. The complexity of the modern structure demands greater flexibility in the financial arrangements for supplying credit to farmers.

The current peasant farm enterprise is more of a social and economic unity and less of a business. As the economy develops an increasing proportion of production is sold on the market, with inevitable changes in the social and economic character of the peasant enterprise. Agricultural credit must be so organised as to meet this change. It should also be recognised that the majority of farm people who require credit are poor. This state of poverty is of direct relevance because technological improvements must often be embodied in more capital and because when incomes are low, risks appear to be greater.

The success of an agricultural credit system in any country largely depends on a positive attitude of the government toward agricultural development and a sound agricultural credit policy.

Upon the shoulders of government also rests the responsibility for providing leadership in agricultural education, research and extension. It has been demonstrated that the government research and extension programmes have always been more successful when applied to an educated community. The traditional framework with its preponderance of aged illiterate farmers has offered little scope for effective extension work.

Finally, the economic problems, including marketing, prices and labour, have proved to be very difficult to resolve. A high priority attaches to agricultural marketing.

An effective marketing system will normally induce further production at low cost and assist in the reduction of prices of agricultural products to the consumer.

The more serious problem concerns the internal marketing of foodstuffs produced locally. If the marketing costs of internal foodstuffs could be reduced then consumption will be enhanced through the lowering of retail prices without any comparable reduction in the prices received by the farmer. The problem is not only one of eliminating unnecessary services; but it relates also to the cost of required services. These costs are unduly high because of poor roads, inadequate transport, lack of credit and knowledge of supplies.
These conditions have tended to raise costs to the consumer and lower prices to the farmer, thus discouraging increased production. The question arises whether any lasting improvement can be achieved and whether this can be done more effectively through short-term emergency arrangements by government than by the improvement of the existing organisation. It is my conviction that the latter is the more effective and realistic remedy.

It is not unlikely that the deficiencies of the existing structure could have been exaggerated. Studies carried out in East and West Africa (FRI, Stanford University, 1969) have indicated that in certain areas storage costs and seasonal price movements are moderate and that the farmer receives a good share of the consumer price of foodstuffs. The problems of agricultural marketing that really require scrutiny are not those related to the reduction in the costs of transportation, storage and processing, but rather how best to help the existing marketing system to perform its pre- eminent task of allocating scarce resources. The effort should be focussed on improvement of the marketing system in areas of concentration of production, i.e. areas which derive natural comparative advantage from the production of particular food items, from the division of labour and from external economies of scale in marketing.

Another important economic aspect of agricultural development is the establishment of an adequate infrastructure to facilitate development in the rural areas. Given the present economic state of affairs in the country, in order to foster development, it will be desirable to retain a large proportion of the educated population in the rural areas for both agricultural and non-agricultural production, since structural transformation is particularly difficult because of the high rate of growth of the total labour force. The most realistic way of encouraging rural living among the educated people is to improve the infrastructure in the rural areas. Rural electrification programmes, rural housing schemes, provision of clean water, sanitation and health services, modern facilities for entertainment and recreation, education and a network of improved roads reaching the remotest parts, are all needed for economic growth and modernisation of the national economy.

5. MODERNISATION AND NATIONAL DEVELOPMENT

The process of modernisation produces a society characterised not only by a high level of infrastructural development, but also by high
and rising per capita incomes; facilities for employment generation to a substantial degree not only in the agricultural sector but also and more importantly in the non-agricultural sector; extensive use of capital equipment and inanimate energy; a spontaneous, voluntary and internally-induced change in the attitudes of people about family size; and above all a high sense of citizenship.

For purposes of establishing the relative levels of modernisation in the different countries of the world, national per capita income is used as a standard measure. This measure suggests, for example, that with a per capita income of about N$260 at current prices, Ghana enjoys a higher level of development than many of the so-called developing countries, but that this level is at the same time considerable lower than that enjoyed by the rich advanced countries. The per capita income of the United Kingdom was estimated at about £770 or an equivalent of about N$1,900 in 1970. This was about seven times the per capita income in Ghana. Similarly, the United States of America with a per capita income of about $3,800 in 1970 or fifteen times the value in Ghana ranks at an equally higher level of development.

The size of per capita income alone is not a sufficient measure of the level of national development. The ability of the economy to generate employment is of equal importance. Many development economists have claimed that in a developing country with a predominant agricultural sector, such as Ghana, the ability of industry to generate employment is limited and irrelevant to development, but that this function is best served by agriculture. Hence the call back to the land and the renewed emphasis on the fundamental role of agriculture in national economic development. It cannot be denied that the call to the youth to replace the aging farming community deserves serious support and that agriculture has a very vital part to play in national development. In a developing tropical country agriculture has the appeal of being the one industry with the capacity to generate economic power for development. However, its inevitable diminishing contribution to development cannot but be acknowledged, especially over the long term when as an industry it will have become capital-intensive and more capital will have replaced land and labour. It would be woefully myopic to adopt a policy which seeks to generate employment in agriculture alone. It is more realistic and relevant to strengthen and enlarge that sector beyond
agriculture which forms the link between the present and the future, between agriculture and industry.

The processing industries constitute this intermediate sector. The location of factories in the rural areas to process agricultural raw materials and offer employment within the agricultural environment must be seen as the best strategy for employment generation and modernisation. The economic implications of this strategy are more far-reaching than the generation of employment per se. The economic development of this country will be considerably accelerated when we cease to export agricultural raw materials—cocoa beans, palm kernels and oil, copra, timber logs and so on—but replace this trade with one in processed agricultural goods.

A necessary condition for the modernisation process is the structural transformation whereby an increasing proportion of the total working population is released from agriculture for the production of the wide array of commodities and services in the non-agricultural sector that become important as the society attains higher levels of per capita income. If secondary and tertiary industries are established in the rural areas, then despite the rapid growth of the total labour force in this country, the expansion of employment in these industries will have the effect of slowing the rate of growth of the farm labour force.

Agriculture must itself play a leading part in encouraging the development of industry in the rural areas. Comparatively little attention has been given to agriculture's contribution to industrial growth through the purchase of capital equipment and intermediate inputs from the industrial sector.

The attitudes of people about the size of family have an important bearing on the modernisation process. In the course of the process, individual family sizes become more closely related to the economic situation of the family. There has been a good deal of muddled thinking and general confusion in recent time about family planning. A distinction has to be made between family planning on the one hand and population control on the other hand. Both have economic implications, but the latter has a strong political bias. National development is fostered, among other things, by the general awareness of the people within the economy of the need to plan for a size of farm family that the individual unit can economically maintain from the total output or total proceeds of the farm enterprise. Modernisation is indicated by the spontaneity of this awareness,
which will have been induced from within the economy in response to a vital need arising from changed circumstances rather than imposed by a foreign nation or agency.

Associated with the attitudes to family size, is the sense of citizenship which becomes inculcated in every individual within the economy or nation. Human beings play a more important role than other resources in the process of national development. The story of economic development is, in the final analysis, a story about Man and how, with the resources available to him, he attains a higher level of living.

6. MAN IN NATIONAL DEVELOPMENT

The story—a true story—is told about a certain leading statesman who was at one time Secretary of State in the United States government. The story goes that for the six hours which had been prescribed for the final examinations for the Masters degree in International Law at Harvard University, he, as a student, was required to write a single essay on the subject of the Fishing rights of the United States of America and the United Kingdom in Newfoundland. This examination took place in the immediate post-World War II period when the question of fishing rights in Newfoundland was in the forefront and had become the most controversial international issue of the day. The subject had been thoroughly debated in Congress in Washington, in the Houses of Parliament in London, in the International Law journals and in all the daily newspapers the world over. Almost every literate person in Britain and in America knew thoroughly the facts of the case. Should this brilliant student reproduce faithfully all these arguments which had become common knowledge? He decided differently. He wrote to this effect—Since all the arguments for and against the United Kingdom on the one hand and the United States on the other, in the matter of fishing rights in Newfoundland are so well-known, I shall not repeat them. I shall, therefore, proceed to analyse the problem from the point of view of the Fish.

I believe that the problem of national development with particular reference to agriculture, can be better understood if it is analysed not overwhelmingly from the point of view of Capital needs, Labour and Land requirements, but equally importantly from the point of view of the people or Man—whose lives the development we
seek will affect and especially upon whose ability the pace of the
development itself can be determined.

Various kinds of unorthodox economic behaviour have in the
past been attributed to African producers and consumers. In the
eyes of many Europeans and Americans, the African behaved in
a way similar to Alfred Marshall's savage:—"Whatever be their
climate and whatever their ancestry, we find savages living under
the dominion of custom and impulse; scarcely ever striking out new
lines for themselves; never forecasting the distant future, and seldom
making provision even for the near future; fitful in spite of their
servitude to custom, governed by the fancy of the moment; ready
at times for the most arduous exertions, but incapable of keeping
themselves long to steady work. Laborious and tedious tasks are
avoided as far as possible; those which are inevitable are done by
the compulsory labour of women" (8, pp. 723-24). It was thought
that Africans reacted differently to economic incentives and were
unable to make economic choices. It was the belief, for example,
that when prices increased less was produced and when wages rose
fewer hours were devoted to work. Similar perverse responses were
associated with savings, investment and innovation.

It has long been conclusively established that man in Africa,
as in any other part of the world, behaves in the normal economic
way. In an excellent discourse on the subject, W. O. Jones of the
Stanford University Food Research Institute states:—"The question
of economic motivation in Africa is of fundamental importance
because no other motivation can be substituted for it without great
loss in effectiveness. If it is present in a significant degree, even
though it may be lacking or muffled by custom in many members
of society, conventional analysis will show how it can be fostered
and used to serve the objectives of society. If the society is one of
economic freedom and economic equality, the efficient producers
and efficient traders will displace the inefficient and total productivity
will increase" (6, p. 133)

Efficiency and productivity of the producer are the pre-requisites
for national development. The whole process of economic develop-
ment revolves round the ability and willingness of the individual
people within the economy to increase their efficiency and produc-
tivity. The problems of economic development may be expressed in
terms of statistics or mathematical models, but they are basically
human problems. They involve not just labour or the bodies of men
and women, but also their souls. "The problems of development are so complex and so obscure that people are apt to concentrate on what is observable or measurable... But the agents of all development are human beings and ultimately it is upon human responses that change depends..." (2, p. 22). Harbison, a leading authority on human resource in development, also explains that "in the final analysis, the wealth and prosperity of nations depend upon the development and effective utilisation of human resources. Capital and natural resources are passive factors of production; human beings are the active agents who accumulate capital, exploit natural resources, build social, economic and political organisations, and carry out national development." (5, p. 1).

This concept of development is not accorded due recognition. The result has been that in planning for development, the State has tended to reckon solely in terms of the capital and physical resources available. By and large, the underdeveloped nations are not really poor in resources; they are poor in their knowledge of the resources they have and how they may develop or utilise them given the attitudes of the people towards work. The rate at which development can occur is a direct function of the eagerness of the people for work. As in the case of the mule led to the river to drink, the State may plan for national development, but its achievement depends upon the men and women who must be prepared to "imbibe" the rich waters which flow from the river of development. Man is not merely a cog on a wheel turned by the State; individual initiative and effort, invariably stimulated by incentives of personal gain, are of paramount importance.

It is evident, therefore, that individual efficiency and productivity are essential requirements for national development. The most urgent need in Ghana's agriculture is that of increasing the productivity of the worker and the stimulation of entrepreneurship. Several factors have contributed to the low level of productivity in Ghanaian agriculture. In terms of human resources, the migration of labour from the rural to urban centres, the aging of the farming community and the level of education, are the relevant issues.

The problem of labour migration, especially migration of the educated youth from the rural areas to the towns has given cause for some concern. This might be explained in terms of labour movement between the different sectors of the economy. There are, in general, three main sectors in the West African economies, namely (i) the
traditional peasant agricultural sector, (ii) the “bureaucratic-evolues” sector and (iii) the industrial manufacturing sector. There are two types of “surplus” labour. One source produces the migrant labour from outside of the economy as the main supply to the large plantations (and also smaller cashcrop farms, e.g. cocoa in Ghana, groundnut in Senegal), mining and industrial sector. So long as farm land remained in relatively abundant supply and could be cheaply acquired through the traditional kinship group, the local indigenous rural communities have remained agricultural. The land tenure systems have also encouraged this form of inertia. The second type of “surplus” labour is educated or semi-educated labour from the rural areas. This type of labour seeks employment mainly in the clerical, administrative or service sector, i.e. the “bureaucratic-evolues” sector. The drift into industry normally precedes the migration into the bureaucratic or service sector, the former giving way to the latter as Gross Domestic Product per head within the economy increases and the percentage of the agricultural population in the total population decreases. The out-migration of educated labour from the agricultural sector which has gathered substantial momentum with the annual increases in the numbers of educated persons, is not a consequence of surplus labour in that sector, and it is not directly associated with the manufacturing industries. The process of absorption of local rural labour into the bureaucratic sector does not result in the development of the manufacturing sector. It is rather the in-migration of “outside” labour into the plantations and factories, including the processing mills associated with agricultural produce, which has produced any expansion that has resulted in the industrial sector. This three sector model, I submit, also offers an explanation of the structural transformation in the Western African economy.

The second problem relating to the low level of agricultural labour productivity has to do with the age of the farming community. It is estimated that the average age of farmers in this country varies between 50 and 60 years. Output per head is immensely below the level of a much younger farming community, especially one that is reinforced with better nutrition and education.

7. AGRICULTURAL EDUCATION AND NATIONAL DEVELOPMENT

I have emphasised the importance of Man per se in the agricultural development process and in national development. Formal
education improves his ability to contribute to development. To quote Adam Curle "... when all is said and done and all the possible dangers and deficiencies are noted, it is self-evident that no country can reach a high level of development unless many of its people have done so too. The sheer volume of exacting work required to be done in order to keep a modern state moving forward demands active participation by a very high proportion of its population, and much of this work demands a level of education, quantitatively and qualitatively, as yet unknown in the poorer countries" (2, p.10).

Unfortunately not enough is known by the general public about agricultural education and the need for it. I have often been asked the questions—"Exactly what is Agricultural Economics" and "What does the Agricultural Economist do?" My questioners are more puzzled when I explain that the Agricultural Economist is neither a pure Economist nor a pure Agriculturist but one who is qualified to be either. This definition was enough to create a cloud of mystery around the subject when I joined the Ministry of Agriculture as a young agricultural economist twenty years ago. I was left strictly alone to pursue my own mysterious interests.

By 1959, Government had been convinced of the necessity to establish a Division of Agricultural Economics within the Ministry of Agriculture. The justification, which also partly explains what agricultural economics is about, was that, "A comprehensive policy for the development of Ghana's food, agricultural and forestry industries is necessary in order to raise the level of living of Ghana and to maintain financial viability. In order that this policy can be soundly based, all relevant facts must be collected, marshalled and analysed. Where facts, statistical data and information are lacking, arrangements must be made for their systematic recording and collection ... It is not sufficient merely to campaign for increased production, or to ask farmers to grow more of what is technically feasible. Market trends and general outlook must first be analysed. It is also necessary to know what is needed at the farm level to achieve increased production, what material things are required, such as credit, fertilizer, improved seed or stock, equipment and so forth. It is also important to know more about farmer attitudes in order that an efficient extension programme can be implemented"(9).

There were twelve agricultural economists in the Division by January 1962, eight of whom were receiving postgraduate training overseas; the rest were engaged on active research, the results of
which were published in the Division’s quarterly Bulletin of Agricultural Economics—the first journal of its kind in the country. The makings of an agricultural economics research institute was already in evidence.

Strangely, Cabinet showed alarm at the rapid development of the Division. It sought to know why the staff of the Division should travel round the villages to farms merely to assemble statistical data. Agricultural people, it was claimed, are expected to produce food. Failing that, it was directed in March 1962 that “the staff of the Agricultural Economics Division shall go to Kwadaso Agricultural Station to teach”. The Division was dissolved thenceforth. In a memorandum to Cabinet, in a frantic effort to save the Division, I wrote, among other things, “Since the Division of Agricultural Economics is to be dissolved and the work of agricultural economists no longer needed, it is difficult to know for what purpose the staff of the Division should train agricultural economists at Kwadaso.” Thereupon, Cabinet ruled that the staff should be employed instead in the various Agricultural Corporations and Boards. Many of them hold the topmost positions in these organisations today. The rest of the staff looked beyond the Civil Service and public corporations, and some of them found their way to the universities. The Division of Agricultural Economics was re-established in the Ministry of Agriculture in 1966 by a more enlightened State administration.

A considerable amount of mystery still surrounded the work of the agricultural economist even in the university and the pure economists and social scientists continued to invade the field of agricultural economics. This may be understood when it is acknowledged that there was a general shortage of agricultural economists at that time. There was, therefore, the great temptation for the pure economist and social scientist to try and fill the vacuum. In the absence of scientific knowledge and training in agriculture, misleading contributions were made even by the most eminent among them.

From the very modest but firm foundations laid by my predecessors in the Department of Agricultural Economics and Farm Management, some significant progress has been made in recent years in teaching and research in agricultural economics in this University. In the three years in which specialisation in Agricultural Economics has been offered in the B.Sc. (Honours) Agriculture programme, fifteen graduates have been produced; five postgraduate students have also been awarded the M.Sc. degree in Agricultural
Economics. The post-graduate programme has been expanded to admit six students this year. An encouragingly large number of publications and seminar papers have issued from the senior staff and jointly with post-graduate students of the Department.

Education in agricultural economics must continue to grow and arm an increasing number of our future planners and policymakers with the tools for shaping the framework within which the economic development of this country can be advanced. Trained agriculturists and agricultural economists are also required in the field to implement the country's development projects and manage the country's farms efficiently. The type of agricultural education programme that will achieve this objective is one that lays the foundations at the Secondary and Technical Training school level and gives due emphasis to practical training.

Agriculture is not accorded the same high status as the other professions in this country partly because of the low level of formal education of the people who practise agriculture in our society. Many educated people join the farming profession as a last resort. They include retired civil servants, other professionals who have not been successful in their professions or have been barred by State laws from practising in them, ex-convicts and so on. However, Abraham Cowley reminds us that “the first three men in the world were a gardener, a ploughman, and a grazier; and if any object that the second of these was a murderer, I desire him to consider that as soon as he was so, he quitted our profession, and turned builder.” (Abraham Cowley, (1618-67)). Robert Owen also explains in his "Report to the County of Lanark" (1841) that with education, "Agriculture, instead of being, as heretofore, the occupation of the mere peasant and farmer, with minds as defective in their cultivation as their soils, will then become the delightful employment of a race of men, trained in the best habits and dispositions; familiar with the most useful practice in the arts and sciences; and with minds fraught with the most valuable information, and extensive general knowledge—capable of forming and conducting combined arrangements in agriculture, trade, commerce and manufactures, far superior to those which have yet existed in any of these departments, as they have been hitherto disjoined, and separately conducted. It will be readily perceived that this is an advance in civilisation and general improvement, that is to be effected solely through the
science of the influence of circumstances over human nature, and the knowledge of the means by which those circumstances may be easily controlled" (7, p. 237).

8. CONCLUSION

I should like to conclude on an optimistic note. Education and Science have released enormous forces which offer great opportunities for the development of agriculture. The increasing populations of the world will not starve if Man is willing to reform his society—his political, social and economic institutions—and permit mutual co-operation among the nations. The future development of agriculture rests on the ability of the peoples of the world to work together in concert.

In the closing decades of this century, management and planning of agriculture will require the greatest emphasis. Scientific knowledge will enhance agricultural productivity to such and extent that the former importance attached to land and labour will decline as they give way to new capital technologies.

The improvement in agricultural productivity will depend upon the operation of capital inputs on an increasingly intensive scale in increasingly complex combinations. Larger farm units sponsored and subsidised by State or operated by private enterprise will tend to gain in importance over small scale peasant production, and management will become the crucial factor in successful farming. When that time comes, agricultural economists will be in greater demand as farm managers. The role of universities in training agriculturists and agricultural economists will loom large. That role will be even more important in offering the general enlightenment to the future leaders of the nations who will be responsible for forging the international links that can lead to a lasting world peace.

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