

AGRICULTURE AND HUMAN SETTLEMENT: A SYMBIOTIC RELATIONSHIP

BY

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Human activities in the Paleolithic and Mesolithic ages consisted mainly of hunting and gathering, followed by pastoral nomadism. Man was then basically nomadic and always on the move in search of food. At the end of the Mesolithic period came the period of agricultural revolution when man became a settled cultivator. That coincided with the Neolithic age. At that period, man invented sharper and better farm tools and also learnt to cultivate land and produce his own food. When he discovered that he could settle in a place and produce food, he ceased to be a wanderer and learnt to live a sedentary life.

The earliest settlements were very tiny hamlets, each being, to some extent, a small self-sufficient community. The village later developed out of the agricultural revolution of the Neolithic age between 6000 – 4000 BC. Agriculture and human settlement therefore have a symbiotic relationship which dates back to antiquity and the relationship persists till today, although the pattern and content are dynamic. A village therefore represents a deliberate act of settling down. It involves ability to wrest a living from land and it developed from human mastery of the following six techniques:

- i. domestication of certain plants;
- ii. domestication of animals;
- iii. manufacture of tools;
- iv. manufacture of containers and storage facilities;
- v. construction of shelters and houses; and
- vi. pooling together socially of accumulated observation and experience.

A village therefore represents a significant expression of human control over nature. The control centres largely on the procurement of food and shelter, at least in their rudimentary forms, in the early period.

The Neolithic revolution which gave rise to agriculture and the village also started a chain of events which led to the rise of cities. Once agriculture was accepted, the increasing surplus from agriculture encouraged non-agricultural population to congregate in towns. Later inventions facilitated more intensive and productive use of land. Such inventions were the ox-drawn plough, the

wheeled cart, metallurgy and irrigation. All those inventions induced surplus food production in some broad river valleys with the following characteristics: (i) alluvial soils, (ii) relatively dry climates which minimise soil leaching, (iii) plenty of sunshine, and (iv) adequate water supply for irrigation. The surplus in food production generated by these inventions made possible the *sine-qua-non* of urban existence; the concentration in one place of people who did not grow their own food (Davies, 1955).

In fact, at the early stage, surplus from agriculture was small as a result of low level of technological development and this brought about a low level of urbanization. Agriculture was cumbersome, static and labour intensive. About ninety cultivators were required on the farm to support one non-agricultural man in the city. This gave about between 1 and 2% level of urbanization. However, as technological advances are made, the proportion of total population engaged in agriculture in a country has been declining. Indeed, one index of measuring level of development is the proportion of total population engaged in agriculture in a country; the less this proportion, the more developed a country is. For instance, agriculture in Nigeria employs about 67.5% of the total labour force and contributed until recent years well over 50% of the country's Gross Domestic Product (GDP). A figure of 67.5% is, however, very high when compared with figures from the economically developed countries where the percentage of the total workforce engaged in agriculture ranges between 25% and 10% and occasionally lower (Barter, 1966). In the course of economic development, the percentage of the workforce in the primary sector gradually declines while those of the secondary and tertiary sectors tend to rise (Clark, 1975). Consonant with this hypothesis is the steady decline in the percentage of the GDP of Nigeria attributable to agriculture from 1962/3 when it was 61.8% to 1973/4 when it was 34.1%. This reflects the increasing share of mineral products most especially petroleum in the GDP which is traceable to this period.

Vice Chancellor sir, attention in this paper has been focused on two broad types of settlement: rural and urban and how they relate to farmlands. It must be borne in mind, however, that each type of settlement still has its gradations and each country has set up its criteria for distinguishing between rural and urban settlement. In Nigeria, for instance, a settlement of about 20,000 and above is regarded as an urban centre, while a settlement below 20,000 is regarded as rural. While agricultural and primary activities dominate rural areas,

secondary and tertiary activities usually characterise urban settlements, although agricultural activities and workers also feature in parts of many urban centres in the third world. As Mabogunje (1968) had rightly observed; the absence of agricultural workers in cities represent only a very late development in the history of urbanisation and it can as such, be used as a criterion not of urbanisation in general but of a particular stage of it. As pointed out above, all settlements across the world started as agricultural settlements; but as specialisation, transportation and technology advance; the tendency arises for most urban centres to concentrate more and more on secondary and tertiary activities and farmers find out that greater efficiency requires that they should live on their farms.

AGRICULTURAL LOCATION IN RELATION TO HUMAN SETTLEMENT

Movements between human settlements and agricultural farmlands involve making locational decisions in order to minimise the frictional effects of distance. The minimisation of the frictional effects of distance is closely related to the concept of minimum effort (Losch, 1954) or the principle of least effort (Zipf, 1949). An isolated farmstead at the centre of agricultural land minimises the distance men have to walk to their fields and to meet one another later in the day in the farmstead for social interaction. Fig. 1 shows an artist impression of



Fig. 1: An Artist Impression of a Farmstead in the Midst of Farmlands

a farmstead in the midst of farmlands. A village also at the centre of farmlands provides easy accessibility for the surrounding farmers. Towns also grew up later as an extension of the same principle of minimizing distance. By agglomerating human dwellings and services at the central point, the distances to be travelled by the spatially diffused farmers are minimised.

However, settlements consist of separate dwellings built in groups of varying degrees of compactness. Some of the earliest towns grew out of villages, as is demonstrated by the fact that they developed in the heart of fertile agricultural areas. Once founded, or grown out of villages, towns rarely change their locations. Apart from access to food supply, without which a town cannot come into existence, the sites of early settlements, villages or towns were determined by such factors as: (i) availability of water, (ii) availability of building materials and (iii) availability of suitable building land.

The overwhelming importance of food for these nucleated settlements is reflected in large agricultural land surrounding each of them and underscores the importance of agriculture to human settlement. Human settlements in most parts of Nigeria are found nucleated or dispersed within cultivated areas and most big towns in Nigeria form part of the rural system because the proportion of their population engaged in farming is high (Oyeleye, 1982). These facts demonstrate the prominent place occupied by agriculture and its relationship to human settlements in Nigeria. Many empirical studies have observed some aspects of these relationships. For instance, *Mabogunje (1959)* examined the evolution of rural settlements in Egba division; while *Morgan (1957)* researched on grassland towns of Eastern Nigeria, discussing the layout of settlements and villages and their typical relationships to farmlands. *Oyeleye (1973)* also examined the zonation of agricultural land use around nucleated settlements in the Oyo Division of Oyo State, viewed against the background of *Von Thunen's theory* of land utilisation. It is hypothesised that the form of land use which provides the greatest rent will make the highest bid for the land near the settlement and hence will displace all other uses. The following formula therefore, expresses, as a function of distance, the location rent derived from the cultivation of a single commodity.

$$R = E(p - a) - Efk$$

Where R , the dependent variable is rent or net revenue per unit of land, E is yield per unit of land, p is market price per unit of commodity, a is production cost per unit of commodity, f is transport cost per unit of distance for each commodity and k is the distance. The formula as shown in Fig. 2A describes

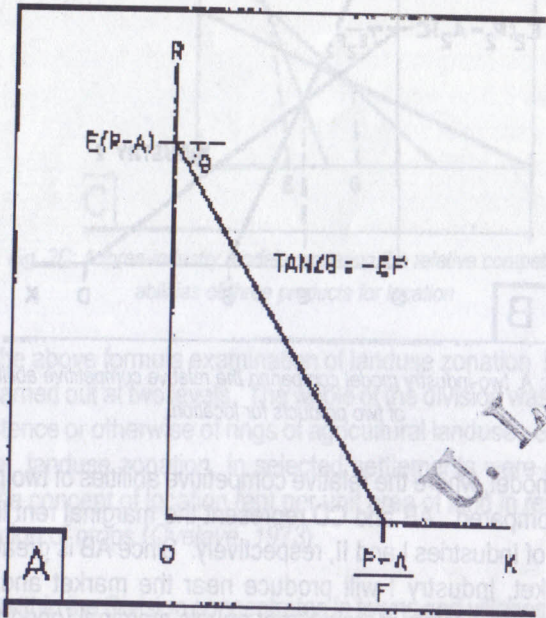


Fig. 2A A linear functional relationship between distance and rent.

a linear functional relationship between two variables, distance and rent in respect of one product around a settlement, and shows clearly that net revenue or rent decreases with distance from the settlement. It is, however, improbable that only one crop dominates the farmscape in concentric forms over the whole distance. A more realistic approach is to consider more than one crop in order to establish clearly the conditions that make for ring formation and to note further that any one ring or zone of agricultural production may be devoted to either a crop or a combination of crops. Fig. 2B, therefore, shows a simple

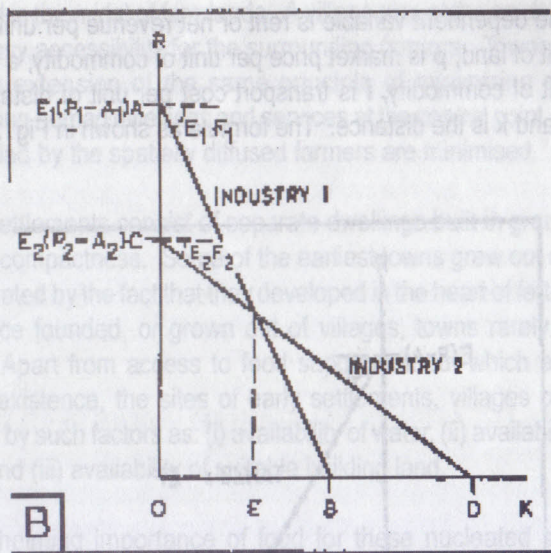


Fig. 2B: A two-industry model comparing the relative competitive abilities of two products for location.

two-industry model, where the relative competitive abilities of two products for location are compared. AB and CD represent the marginal rent lines or net-revenue lines of Industries I and II, respectively. Since AB is greater than CD near the market, Industry I will produce near the market and extend its production spatially until its marginal rent equals marginal (opportunity) cost, both expressed as a function of distance. This will determine the spatial limit of Industry I at E; but point 'E' is also the inner limit of Industry II where its marginal rent function intersects the highest marginal rent function of an alternative industry which cuts it from above. The outer boundary of Industry II is established where the marginal rent CD equals marginal cost i.e. the baseline OK. In order for ring formation to develop two conditions must obtain. First, the marginal rent functions must cross Fig. 2B or alternatively one industry must have a steeper negative slope, $-E_1F_1 < -E_2F_2$ at the same time that its R intercepts must be larger for Industry I but its K intercept must be smaller, i.e. $K/R_1 = O < K/R_2 = O$ (Dunn, 1954). This principle can be extended to a three crop or more model (Fig. 2C).

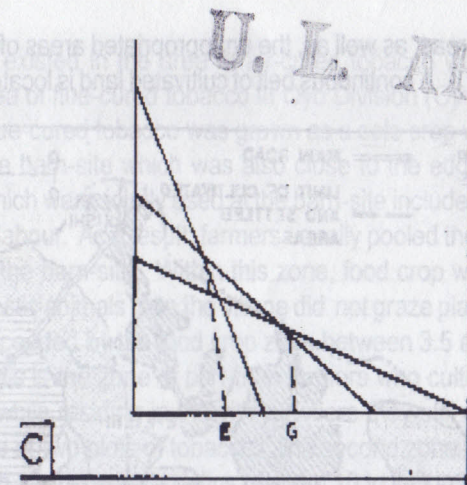


Fig. 2C: A three-industry model comparing the relative competitive abilities of three products for location

Based on the above formula examination of landuse zonation in Oyo Division has been carried out at two levels. The whole of the division was first examined for the existence or otherwise of rings of agricultural landuse. Secondly, at the village level, landuse zonation in selected settlements were also examined based on the concept of location rent per unit area of land in respect of a crop or combination of crops (Oyeleye, 1973).

Population within the Division concentrates in towns and villages, each of which is surrounded by extensive agricultural land beyond which are large areas of unappropriated land belonging to the whole town or village or representing no man's land between the settlements. This nucleated pattern of settlement in Yoruba land takes into account the landuse needs of the inhabitants. This confirms Coppock's observation that the zonation of landuse around Nigerian towns deserve investigation since these towns are far apart and physical conditions around them are generally sufficiently uniform to throw light on this question (Coppock 1964). The farmers in the division are town or village dwellers who move to their farms surrounding the settlement to work. According to Bascom (1955), the Yorubas of western Nigeria have large, dense permanent settlements based upon farming rather than upon industrialization, the pattern of which is traditional rather than an outgrowth of acculturation. The settled

and cultivated areas, as well as, the unappropriated areas of Oyo Division are as shown in Fig. 3. A continuous belt of cultivated land is located in the southern

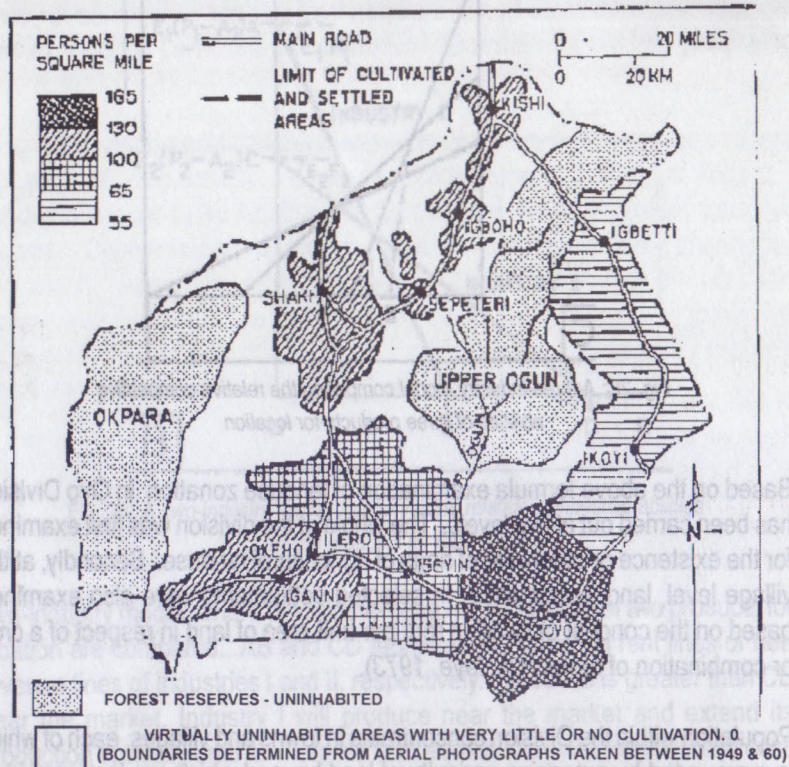


Fig 3: The density of population and the cultivated areas in Oyo Division.

part within which large settlements such as Oyo, Iseyin, Okeho, Iganna and Ilero are found spaced out along transport routes. In the northern part of the division where fewer settlements exist, rings of cultivated land are found surrounding each of the major settlements such as Igboho, Shaki and Kishi. Although the various zones surrounding each settlement cannot be noted on the map because of the small scale of the map, it is obvious that cultivation takes place around every settlement in concentric forms.

At the village level, this symbiotic relationship between human settlement and surrounding landscape was still explored. It was observed that two zones of

agricultural land existed in the area of air-cured tobacco while three zones existed in the area of flue-cured tobacco in Oyo Division (Oyeleye, 1971). In the latter area, flue-cured tobacco was grown as a sole crop within 500m and 2km radius of the barn-site which was also close to the edge of the village. Many facilities which were jointly used at the barn-site included: barns, sheds, stores and hired labour. As a result, farmers usually pooled their tobacco plots together around the barn-site. Within this zone, food crop was not grown to ensure that domestic animals from the village did not graze planted food crops. This zone is succeeded by the food crop zone between 3.5 and 10km radius of the village. This is the zone of part-time farmers who cultivate food crops within this zone while residing in the village where they still engage in some trade or keep one or two plots of tobacco. The second zone is succeeded by a third zone which lies between a radius of about 10 to 24 km. This is the zone of full-time farmers who cultivate distant farms known locally as *oko-egan*. Because of the distance of this zone to the village, farmers are compelled to construct semi-permanent or even permanent dwellings where they live for several months in a year. Farmers in this zone cultivate food crops and some tree crops along stream courses. See Fig. 4 for the three agricultural zones around *Iwere-Ile* in a typical flue-cured area.

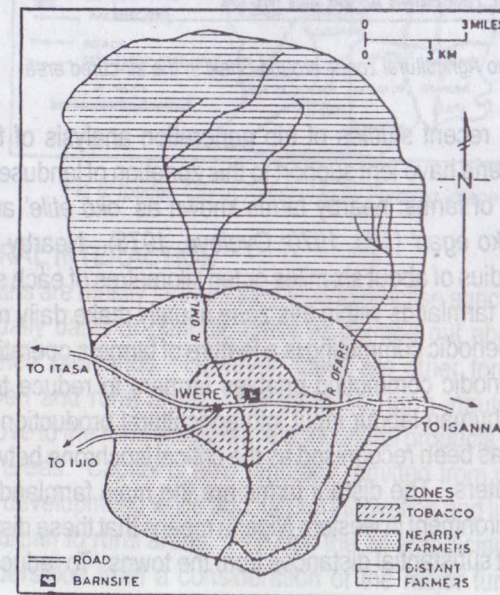


Fig. 4. Three agricultural zones around Iwere-Ile in the flue-cured areas.

By contrast, in the air-cured area, with its absence of capital equipment, only two zones of farming can be recognized around each settlement as against three in the flue-cured area. The inner-zone which is both for tobacco and food crop cultivation, varies within a radius of 2 to 10km. The outer zone where food crops and minor tree crops are cultivated surrounds the inner zone and occupies the area at a radius of about 10 to 24km from each settlement (Fig. 5).

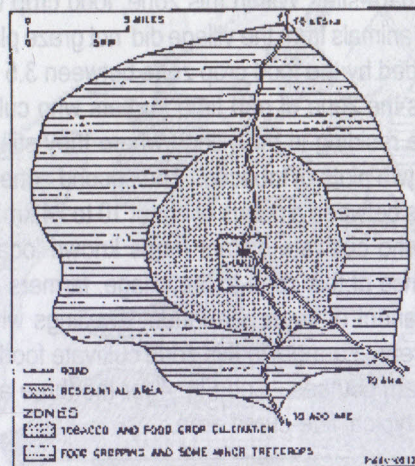


Fig. 5: Two Agricultural zones around Shaki in the air-cured area.

Vice-Chancellor sir, recent studies of trip generation analysis of farmers in parts of western Nigeria have lent support to this zonation of landuse and have identified two types of farms: nearby farms known as 'oko etile' and distant farms known as 'oko egan' (Ojo, 1970; Oyeleye, 1978). Nearby farms are generally within a radius of about six miles or ten kilometres of each settlement and farmers owning farmlands within this zone usually make daily return trips to their farms while periodic commuting is a feature of farmers operating distant farmlands. This periodic commuting enables farmers to reduce travel cost and increase direct human labour input into agricultural production. The ten kilometre distance has been recognised as the critical isochrone between daily and periodic commuters. The distant farms are the main farmlands and the highly urbanised environment in western Nigeria means that these distant farms may only be found at substantial distances from the towns. To reduce the time

and expenses of commuting between the towns and the distant farms, many satellite hamlets and villages have therefore been founded near the latter, and farmers live in them, visiting their main urban settlements during festivals, and by which time they subsist on their small-scale nearby farms. (Fig. 6 shows Ibadan city at the centre of its farming villages).

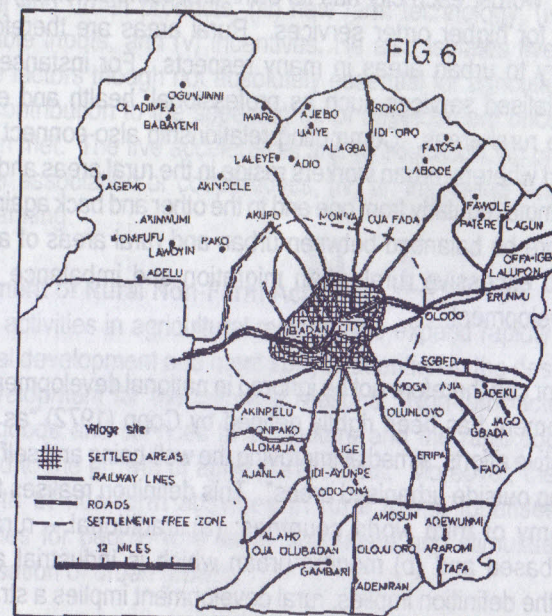


Fig 6: Ibadan City in Relation to its Farming Village

URBAN RURAL INTERACTION

Since Nigerians are mostly farmers they tend to practise agricultural commuting either on a daily basis or periodic basis as pointed out above; between the towns and their farmlands. However, there are other forms of interaction between urban and rural areas. For instance, farm inputs from the urban industries move to the rural areas, while agricultural products find ready market in the urban areas. Capital is also regularly remitted from urban to the rural area for rural development, while agricultural innovation and industrial products diffuse from urban to rural areas. Perhaps the all embracing nature of towns could be understood from a consideration of the major functions of towns.

Towns began in a very early period and arose to perform certain functions viz: (i) to exercise control, (ii) to act as centres for the exchange of goods, (iii) to process resource materials. The first two functions constitute in a broad sense, service or 'central place' functions – those services provided from a centre for a surrounding territory or hinterland. Most of the daughter settlements lying in the hinterland or complementary zone of each of our major towns are largely rural. In other words, each city has its own rural complementary region that looks up to it for higher order services. Rural areas are therefore largely complementary to urban areas in many respects. For instance, the town supplies specialised services such as professional, health and educational facilities to the rural areas. Commuting relationship also connect urban and rural hinterland whereby urban workers reside in the rural areas and *vice versa* and they commute regularly from one end to the other and back again. Planning should therefore be balanced between urban and rural areas of a country in order to avoid excessive rural-urban migration and imbalance in national economic development.

The rural sector can therefore not be ignored in national development planning. Rural development has been rightly defined by Copp (1972) "as a process, through collective efforts, aimed at improving the well-being and self-realisation of people living outside urbanised areas". This definition realises the dualism of the economy of third world countries: (a) traditional – rural which is subsistence based and (b) modern-urban which is industrial and market oriented. As the definition implies, rural development implies a strain towards equity or balance between the rural and urban sectors.

Once the dual structure of our economy is realised, rural modernisation largely involves a transformation of traditional rural society into a modern society. This transformation may be achieved through the following four main processes: (a) the modernisation of technology, leading to a change from simple traditionalised technique to the application of scientific knowledge; (b) the commercialisation of agriculture, which is characterised by the move from subsistence to commercial farming, leading to a specialisation in cash crop production and the development of wage labour; (c) the industrialisation process, which depicts the transition from the use of human and animal power to machine power; and (d) urbanisation, which consists of changes in the

ecological dimension and which is the movement from farm and village towards the growth of large urban centres. These changes may occur simultaneously.

To effect proper transfer of skills and technology between urban and rural areas some essentials for agricultural development must be provided. Mosher (1966) identified five such essentials. They include: (i) transportation, (ii) markets for both rural and urban products; (iii) new farm technology; (iv) availability of purchasable inputs; and (v) incentives. He also isolates five accelerators – these are factors though not absolutely essential for agricultural growth, can make a contribution to the speeding up of development once the essentials have been met. The five accelerators are: (i) education, (ii) production credit, (iii) farmer association or cooperatives, (iv) an improving land base, and (v) proper planning.

Development of Rural Non-Farm Activities

Non-farm activities in agricultural regions also expand rapidly in response to agricultural development and merit special attention in the design of rural and urban development for the following reasons. Non-farm activities supply a range of goods and services to agriculture and the rural population. They contributed to the growth of agricultural output. Moreover, the concentration and growth of non-farm activities in rural towns localises employment opportunities for people who leave agriculture and stimulates a degree of decentralisation of urban growth.

Non-farm activities in rural areas are a primary source of employment and earnings for about 25% of the rural labour force in most developing countries. In African countries rural-non-farm activities account for over 55% of all non-farm employment (Anderson & Leiserson, 1980). The general compositional pattern of rural-non-farm employment in Africa and other third world countries is approximately 20-30% in manufacturing, 20-35% in services including government services, 15-30% in commerce, 5 to 15% in construction, 5% in transport and the rest in utilities and other activities (Anderson & Leiserson, 1980).

The growth and concentration of rural non-farm activities in the rural towns and villages raises substantially the demand for infrastructural services such as electricity, water supplies, roads, schools, health; for vocational training in non-farm activities like banking and credit and for the development of local urban institutions. The provision of infrastructural facilities aims at bringing urban standards of living to the countryside. Non-farm activities in rural areas and towns are thus an essential element in the process of economic development and structural change from rural/agricultural to urban/industrial economies.

The Spatial Components of Growth

The key components in the spatial system are the urban and rural centres, the transportation network that links them, and the organisational structure that propels demand and other incentives through the system (Logan, 1972). Area specialisation exists between urban and rural areas. But within the framework of urban-rural relationships, urban centres serve as central places for the surrounding rural settlements needing focal points where much of their demands can be provided or to which much of their products can be distributed. At another level of inter-relationship, the urban centre is a functional component or a subsystem in a system of cities and towns. Thus, within a given national system of cities, any city or town worthy of its name justifies its *raison d'être* at two levels of functional interrelationships. One is through the urban-rural relationship within a centre-periphery framework. The other is through the urban-urban relationship within a system of cities and towns. It is usually assumed that the growth of regional cities depends on interaction in the urban system and that city-rural diffusion proceeds through the urban hierarchy by a neighbourhood effect. In Nigeria, for instance, the 36 state structure provides an obvious framework for the selection of urban centres with proper structural relationship and an opportunity for an even rate of national development. Each of the state headquarters disperses development to all the local government area (LGA) headquarters and villages within its jurisdiction more rapidly than will a policy of directing or encouraging investment from only three or four centres as it was the case in the early fifties in Nigeria.

URBANISATION AND THE NEED FOR AGRICULTURAL DEVELOPMENT

In Nigeria rapid growth has been taking place simultaneously in both urban and rural population. Table 1 shows the number and growth of urban centres of 20,000 + persons and rural population in Nigeria between 1921 and 1991.

TABLE 1: NUMBER AND GROWTH OF URBAN CENTRES OF 20,000 + PERSONS AND RURAL POPULATION IN NIGERIA BETWEEN 1921 AND 1991

Year	Population (x' 000)			Number of Urban Centre	% Urban Population	% Growth from 1921		
	Rural	Urban	Total				Rural Population	Urban Population
1921	17,375	1,345	18,720	29	7.18	-0.71		
1931	18,625	1,431	20,056	27	7.14			
1952/53	27,166	3,237	30,403	56	10.65	2.09	0.69	0.62
1962/63	44,925	10,745	55,670	182	19.30	4.43	1.42	2.79
1991	57,185	31,807	88,992	359	36.3	3.52		5.01

Source: 1. Nigeria, 1991 Population Census
2. Udo (1997)

In 1921, Nigeria had a total population of 18.7 million of which 1.35 million or 7.18% lived in urban centres of 20,000 and more people. There were 29 such towns in 1921, but by 1952/53, the number had increased to 56, with a population of 3.24 million or 10.7% of the total population. By 1963, there were about 182 urban centres, inhabited by 19.3% of the population. About thirty years later in 1991, the number of urban centres had increased further to 359 while the level of urbanisation, that is the proportion of urban dwellers had almost doubled to 36.3%.

The rural population also increased from 17.4 million in 1921 to 27.2 million in 1952/3 and to 56.7 million in 1991. Total population in 1952/3 was 30.4 million and this figure was more than double in 1991 with about 89 million (Table 1).

The national population has continued to grow at a rate of about 2.8% per annum, while the urban population is growing at a much faster rate; in some instances at a rate between 5 and 13%. By 1991, the ratio had increased so much that about one out of every three Nigerians lived in towns with more than 20,000 persons.

To further emphasise the increasing rate of urbanisation, table 2 shows population distribution and settlement size by state and rural-urban settlement in Nigeria in 1991. While we had 359 urban centres, there were 67,314 rural centres.

TABLE 2: POPULATION DISTRIBUTION AND SETTLEMENT SIZE BY STATE AND RURAL-URBAN SETTLEMENTS

State	Centres		Population		Percentage	
	Rural	Urban	Rural	Urban	Urban	Rank
Adamawa	2,317	6	1,628,935	473,118	22.51	24
Benue	3,147	6	2,298,263	454,814	16.52	25
Plateau	4,054	11	2,483,484	828,928	25.02	21
Taraba	1,850	3	1,354,464	157,699	10.43	30
Kogi	1,369	15	1,390,573	757,183	35.25	14
Kwara	1,247	4	886,228	662,184	42.77	07
Niger	2,371	8	1,868,939	552,642	22.82	23
Abuja	310	1	264,605	107,069	28.81	19
Bauchi	4,783	12	3,654,532	696,475	16.01	26
Borno	2,466	9	1,632,516	903,487	35.63	13
Jigawa	4,604	4	2,676,027	199,498	6.94	31
Kano	3,801	6	3,493,262	2,317,208	39.88	11
Yobe	1,715	5	1,058,916	340,771	24.35	22
Kaduna	3,363	8	2,331,101	1,604,517	40.77	09
Katsina	3,060	19	2,615,222	1,137,911	30.32	18
Kebbi	2,131	7	1,812,652	255,838	12.37	28
Sokoto	4,211	7	3,864,954	605,222	13.54	27
Abia	1,107	8	1,455,825	882,662	37.75	12
Akwa Ibom	2,030	5	2,177,778	291,835	12.11	29
Anambra	133	38	1,064,460	1,732,015	61.94	3
Cross Rivers	1,770	5	1,432,022	479,275	25.08	20
Enugu	245	27	1,843,797	1,310,583	41.55	8
Imo	1,272	25	1,673,533	812,102	32.67	16
Rivers	1,538	17	2,958,677	1,350,880	31.35	17
Delta	1,539	16	1,731,777	858,714	33.15	15
Edo	1,183	7	1,184,944	987,061	45.44	5
Lagos	373	4	361,136	5,363,980	93.69	1
Ogun	2,130	14	1,288,782	1,044,944	44.78	6
Ondo	2,366	30	2,256,648	1,528,690	40.38	10
Osun	1,990	19	960,470	1,197,673	55.50	4
Oyo	2,959	12	1,059,241	2,393,479	69.32	2
Total	67,314	359	56,703,765	32,288,455	36.28	

Source: Nigeria, 1991 Population Census

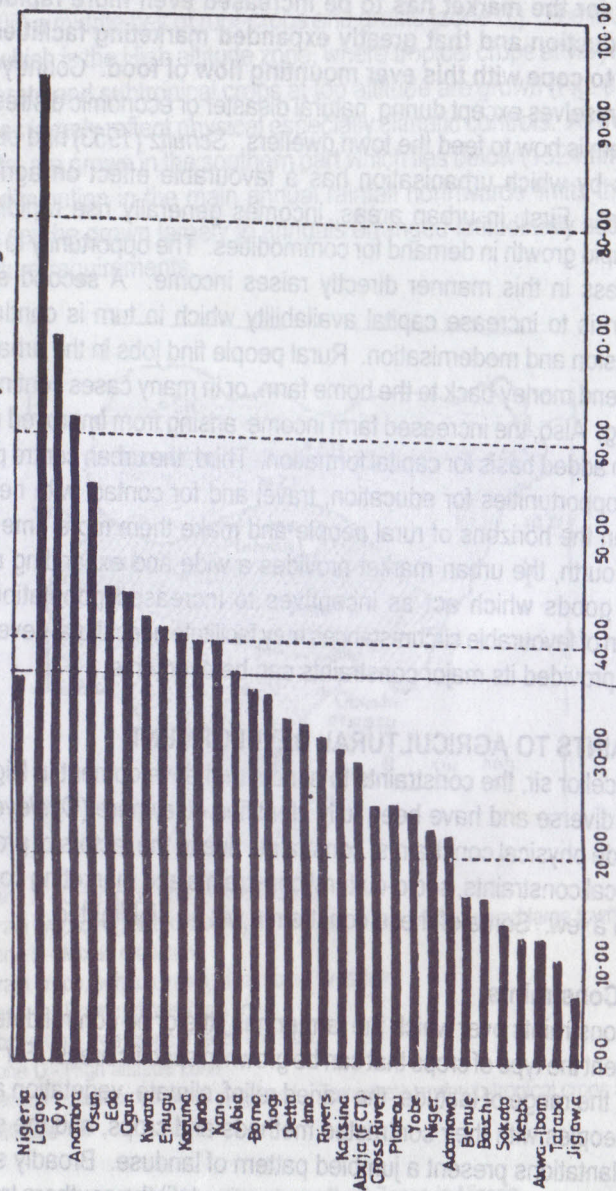
Note 1:

A settlement may consist of one or more localities

Total rural population was 56.7 million as against 32.3 million of urban population. The percentage of total population of 89 million that were urban was 36.3%, the balance of 63.7% represented rural population in 1991 (Table 2). These facts and figures reveal the preponderant importance of rural sector in Nigeria. Fig. 7 shows percentage of population in urban areas in each state in Nigeria in 1991 and reveals that Lagos state with 93.7% urban, Oyo (69.3%), Anambra (61.9%) and Osun (55.5%) are the most urbanised states by comparison with Jigawa (6.9%), Taraba (10.4%), Akwa Ibom and Kebbi (12%) which are the least urbanised. A pictorial view of the spread of urban centres as presented in Fig. 7 confirms that the south-west is the most urbanised region in Nigeria.

Note 1: A settlement may consist of one or more localities
Source: Nigeria, 1991 Population Census

Fig. 7 : Percentage of Population in Urban Areas by State, Nigeria 1991



The rapid growth of population and towns in Nigeria means that food production for the market has to be increased even more rapidly than overall production and that greatly expanded marketing facilities must be built up to cope with this ever mounting flow of food. Country people will feed themselves except during natural disaster or economic distress. The basic problem is how to feed the town dwellers. Schultz (1953) had observed some ways by which urbanisation has a favourable effect on agricultural development. First, in urban areas, incomes generally rise rapidly, thus, providing rapid growth in demand for commodities. The opportunity to enlarge farm business in this manner directly raises income. A second effect of urbanisation is to increase capital availability which in turn is conducive to farm expansion and modernisation. Rural people find jobs in the urban areas and often send money back to the home farm, or in many cases continue part-time farming. Also, the increased farm income arising from improved markets provides an added basis for capital formation. Third, the urban centre provides expanded opportunities for education, travel and for contact with new ideas which widen the horizons of rural people and make them more amenable to change. Fourth, the urban market provides a wide and expanding range of consumer goods which act as incentives to increased population. This combination of favourable circumstances may facilitate agricultural development in Nigeria, provided its major constraints can be overcome.

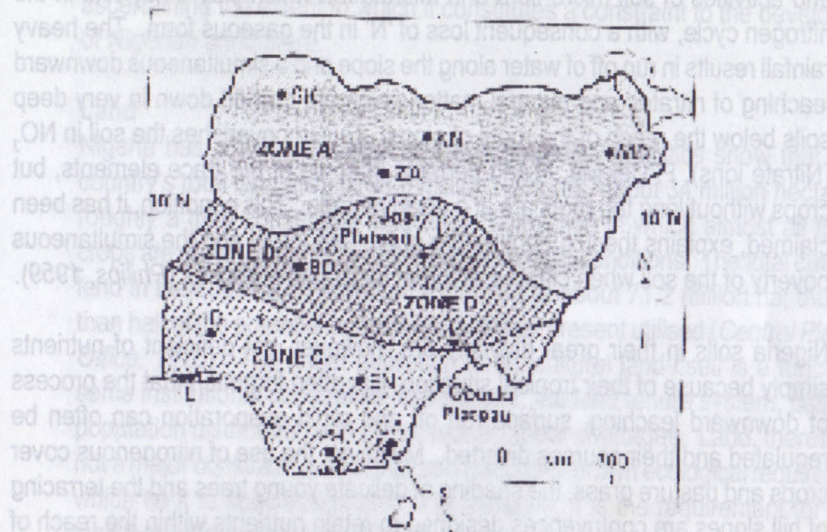
CONSTRAINTS TO AGRICULTURAL DEVELOPMENT

Vice-Chancellor sir, the constraints to agricultural development in Nigeria are many and diverse and have been fully identified elsewhere (Oyeleye, 1978). They include physical constraints, constraints due to the factors of production, technological constraints, socio-cultural constraints and marketing constraints to mention a few. Some of these constraints will be highlighted.

Physical Constraints

Physical constraints over which the farmer has little or no control determine to a great extent the type of crops that can be grown in specific areas. For instance, in Nigeria, the range of latitude, the varied relief, climate, vegetation and soils, differing peoples with their contrasted methods and crops, and the existence of a few plantations present a jumbled pattern of landuse. Broadly speaking, however, four agricultural zones can be recognised: (i) the southern tree-crops,

root-crops and maize zone (zone C); (ii) the northern zone of (millet and guinea corn) with cotton and groundnut as the main cash crops, (zone A); separating the two is (iii) a middle belt of root-crops and grains (zone B). The fourth zone is zone D which is the High altitude zone, where tropical crops at varying levels and temperate and subtropical crops at top altitude are grown (Fig. 8). These broad zones largely reflect physical especially climatic controls. All tree crops, for example, are grown in the southern part which lies below (1524mm) isohyet while the diminution in the main annual rainfall northwards limits the type of crops that can be grown largely to annuals arranged latitudinally according to their moisture requirements.



- Zone A - Grain crop and livestock zone
Grain crops, irrigated cane sugar, market garden crops around large towns, livestock
- Zone B - Mixed crop zone
Grain crops, surplus yams, rice, some livestock
- Zone C - Root and tree crop zone
Root crops, tree crops, maize and rice
- Zone D - High altitude zone
Varied tropical crops at varying levels, Temperate and sub-tropical crops at top altitudes

Fig. 8: Four Main Agricultural Zones in Nigeria.

As observed by *Smyth and Montgomery (1962)* tropical soils tend to be poor in plant nutrients and this perhaps accounts for the lower yield per hectare of grains in Nigeria compared with more advanced countries. The lower yields *per ha* of grains have been blamed more on the inherent poverty of the soil and less on the low level of farming technology of Nigerian farmers compared with that of farmers in the advanced countries. It is accepted that in cleared areas of the humid tropics with their heavy precipitation and high temperature, the combination of heat and moisture at the soil surface produces rapid and complete oxidation of organic matter resulting in the emission of atmospheric CO₂ and other gases. This tends to result in the retardation of the population and activities of soil micro-flora and microfauna which play a key role in the nitrogen cycle, with a consequent loss of 'N' in the gaseous form. The heavy rainfall results in run off of water along the slope and a simultaneous downward leaching of nitrates and mineral matter which are carried down in very deep soils below the reach of the roots of crops. This impoverishes the soil in NO₃ (Nitrate ions), P, Ca, Mg, K and perhaps in some of the trace elements, but crops without long tap roots are at a disadvantage. This condition, it has been claimed, explains the luxuriant nature of the rain forest and the simultaneous poverty of the soil when cleared of forest for arable purposes (*Philips, 1959*).

Nigeria soils in their great diversity are, however, not deficient of nutrients simply because of their tropical situation. It is often forgotten that the process of downward leaching, surface run off and rapid evaporation can often be regulated and their courses diverted. Mulching, the use of nitrogenous cover crops and pasture grass, the shading of delicate young trees and the terracing of hill slopes are contrivances designed to retain nutrients within the reach of crop plants (*Oyelele, 1978*).

It is, however, in the field of animal husbandry that strong arguments have been adduced in support of the view that small size and low productivity are a function of tropical environment. Low crop yields, as already observed, which characterise tropical environment, adversely affect the productivity of the animals inhabiting these areas and living on these plants and their products. This has an indirect effect on the small size and the conformation of tropical breeds of livestock (*Williamson and Payne, 1959*).

Constraints due to the Factors of Production

Land, Labour, Capital and Entrepreneurship are the basic conventional inputs used in the production process. The whole process of growth and development is intertwined with the concept of technical and economic efficiency in the allocation and use of resources. The level of output per unit of resource input is a clear indication of efficiency. Unfortunately, no such figures are available for Nigeria. This probably owes to the fact that each factor of production cannot be treated in isolation from other factors since a combination of two or more factors of production is essential before any form of production takes place. Nevertheless, it is helpful to examine each factor of production with a view to ascertaining the extent to which it constitutes a constraint to the development of Nigerian agriculture.

Land

Nigeria has a wealth of agricultural resources. Statistics show that of the country's total land area of 98.3 million hectares, about 34 million hectares or roughly a third constitutes land under cultivation in which almost all tropical crops are grown on account of the varied climatic conditions. The total cultivable land in the country, is, however, estimated at about 71.2 million ha; thus less than half of the potential agricultural land is at present utilised (*Central Planning Office, 1975*). The under-utilisation of agricultural land itself is a function of some institutional constraints, in particular, the land tenure system, pattern of population distribution and the seasonal labour shortages. Land, therefore, is not a major constraint except that each crop has its own ecological requirements which tie it to specific location. For instance, it is the requirement for fertile land that limits cocoa cultivation largely to the area of exposure of the basement complex in western Nigeria where relatively fertile soils than can be found elsewhere in Nigeria have developed. For food crops land becomes less important as a constraint. It is actually less restrictive in the savanna lands of Nigeria where the millions of native cattle, goats and sheep offer an attractive potential for improved livestock production.

Capital

Most farmers regard capital/money as the major constraint. Before discussing the effectiveness of this constraint, it is useful to consider its nature. Traditional Nigerian agriculture uses practically no inputs from outside the agricultural

sector. The major exception is cocoa for which chemical spraying has for long been a regular practice. Cash is, therefore, primarily a means of acquiring more land or, more often additional labour. In most cases, capital is no more than a "subsistence fund" which the farmer needs in order to maintain his family and his labourers during the months when his crops are not yielding revenue. The widespread small-scale nature of agricultural operation is attributable to small-scale injection of capital into farming enterprise. All the rural surveys conducted at various times and in the various states of Nigeria show that rural credit is administered in small doses, (Luning, 1966), (Oyeleye, 1984, 2002).

Two broad categories of factors prevent most Nigerian farmers from making an optimum use of credit (Adegboye, 1964). The first can be termed internal rationing embracing deep seated aversion to borrowing, lack of decision-making ability, lack of equity, high interest rate and price uncertainty, needless use of credit on non-economic holdings and other institutional and social barriers. The other category, which can be termed external rationing, includes lack of understanding of the problems and productivity of agriculture by credit institutions, defects in land tenure and land inheritance. For instance, because of the land tenure system, land usually cannot serve as collateral and most farmers have little other collateral except growing crops, which most lending institutions do not accept. In addition, the fusion of family and business matters on the family farm is a serious limiting factor, since at times the use of credit for purposes of commercial production and for purposes of family consumption is not often clearly defined or separated. All these risks combined with lack of adequate accounting amongst farmers usually place obstacles in the way of peasant farmers in their efforts to procure agricultural credit.

Technological Constraints

In Nigeria, low level of farming technology results in low productivity which in turn results in low income, from which little savings for investment can be made. Since individual farmers are in most cases unable to provide adequate capital with which to modernise agriculture, the onus of breaking the vicious circle rests on the government. It is, however, gratifying to note that the Federal Government has taken some steps to improve agricultural production. Some of these measures include: (i) the establishment of agro-service centres; (ii)

the establishment of rural credit institutions, especially the Nigerian Agricultural and Cooperative Bank (NACB) now named Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB) Ltd. with its headquarters at Kaduna and numerous branches all over the country; (iii) the creation of River Basin Development Authorities (RBDA) and (iv) the establishment of extension service unit within each state's Ministry of Agriculture.

Of all these, only in the area of rural credit provision has any success story been recorded. For instance, field investigation (Oyeleye, 1991) revealed that most agro-service centres had no tractors. The few centres that had tractors had old tractors and they had no spare parts to repair broken down ones. They were at best dealing with sales of fertilizers. The functions of each of the RBDA are to study the water resource potential of its basins, to construct and maintain dams, dykes, bore-holes and irrigation schemes for the production of crops and livestock. A decade after the inception of these RBDAs, only six of the twelve authorities had taken off, after colossal sums of money had been spent on each of them. The extension service officials are usually very few in number and effective contact with widely scattered rural farmers is usually impossible.

U. L. ARCHIVE

Some success stories have, however, been recorded with reference to farm credit. Available records show that a total of about 313, 549 applications for loans amounting to N647,388,461 were received between 1981 and 1994. NACB was able to approve N319,978,262 loans to a total of 144,250 beneficiaries or 41% of all applicants. The beneficiaries received only 49% of the amount applied for (Oyeleye, 2002). These percentage figures indicate enormous credit supply gap yet to be filled; since about 54% of the applicants could not be satisfied and 51% of the loans applied for, could not be met. The increasing volume of demand for small loans makes it imperative for the government to increase its assistance to (NACRDB). The invigoration of the small holder scheme instituted by the NACRDB is in line with the Federal Government policy of making small-scale farmers the centre-piece of its agricultural policy. This makes it mandatory for both NACRDB and the Federal Government to provide adequate fund for the scheme. It also shows that there is room for other rural credit institutions such as Community Banks to make their contributions to rural credit provision.

Labour and Entrepreneurship

In the absence of mechanisation, virtually all agricultural processes have to be done by hand, and the family is the unit of agricultural production in Nigeria. Labour shortage especially in the critical seasons, is a major factor which imposes a limit on the farmers' holdings. Since a man and his family can only do so many day's work per year, there is a strict limit to the amount of land which can be cultivated. The labour situation is further aggravated by the continuing rural-urban migration as a result of drudgery in farm work, low returns from agriculture and more opportunities for employment in urban areas. Therefore, organised labour from outside the family, however, used to be an important feature of agricultural production especially during the peak requirement of labour on the farm. The difficult condition of the environment and the primitive nature of agricultural implements make cooperative or collective effort an indispensable feature of labour organisation, consisting usually of close relatives, members of the same age-groups, and such neighbours as farm contiguous plots.

As an entrepreneur, the Nigerian farmer is responsible for the general policy or plan on which his system of farming is based. He is as well the chief executive or farm manager who is responsible for the administration of that plan. Both functions are concerned with the fundamental problem of ascertaining and adopting the optimum combination of land, capital and labour at his disposal. Under any given set of circumstances the optimum combination is that which will enable the farmer to obtain the maximum financial returns from his farm as a whole. The given set of circumstances will be conditioned by such factors as the size of the farm, the size of the business, the system of land tenure and by the methods of buying and selling.

Marketing Constraints

The marketing of food crops gives neither a fair return to the producer nor a fair price to the consumer. Considerable price variations occur within and between seasons. An efficient marketing organisation for food crops is a necessary institutional reform. This might be in the form of Producers' cooperative marketing societies which will effect an organised, orderly and efficient marketing of food crops at the wholesale level.

The seasonal nature of agricultural production and the unpredictable year to year fluctuations in output, combined with low price elasticity of most farm products make them peculiarly susceptible to price instability. Seasonal price fluctuations are especially marked in Nigeria where the lack of resources and frequent indebtedness of producers make it impossible for them to wait for a favourable market. This situation is aggravated by lack of efficient storage and processing facilities.

Traditional methods of storage still persists in some parts of Nigeria whereby cassava are stored in the ground and harvested as the need for it arises. Yams can also be stored in racks, shaded and sheltered by a covering of palm leaves and by the foliage of live poles. These poor storage facilities contribute to the deterioration of crops. The establishment of cooperatively owned concrete storage depots deserves to be encouraged since they will act as buffer for foodstuff during harvest period and thus cushion the effect of seasonal variations on the price level. Efficient storage alone may result in at least 25% increase in the quantity of cereals in addition to the associated improvement in quality (Agrawal, 1962).

NEED FOR RURAL- URBAN PLANNING

Vice-Chancellor sir, the poor production technique in the agricultural sector reveals itself in such forms as smallness of production units, scattered holdings, poor storage and marketing facilities and inadequate infrastructural facilities. In consequence, the ability of Nigerian farmers to produce enough food to meet the requirements of the growing population both in the rural and urban sectors cannot but yield less than marginal result. The resultant shortage of food together with the attendant inflation in the prices of food has brought with it the untold burden of food import bill. This is surprising in a country where about 67.5% of the labour force are engaged in agriculture. Something concrete should be done to ensure Nigeria produces enough food to feed its numerous population. Subsistence production is universally associated with rural poverty and when the rural poor migrate to the town, they carry with them their characteristics. Rural and urban poverty represents either side of the same coin. For instance, rural poverty is generally regarded as a factor in rural-urban migration which plays an important role in urban poverty. In effect rural poverty is reinforcing urban poverty. For instance, unemployment and poverty

in the rural areas are transferred to unemployment and poverty in the cities through the migration of unemployed and underemployed rural workers. The spatial configuration of urban poverty is reflected in illegal housing on the periphery of the city where the population are trapped in the ghettos on the edge of the city (See plates 1 and 2 for typical slums in different parts of Lagos). These can be compared with plates 3 & 4 showing parts of well-planned estates.



Plate 1: A typical slum in part of Bariga, Lagos.



Plate 2: Another typical slum in part of Ajegunle, Lagos



Plate 3: Part of a well planned estate in Lagos.



Plate 4: Another well planned estate in Lagos

In the ghettos, the problems largely caused by rural-urban migration are of almost total absence of opportunity and amenities, of proper housing, water, sanitation, electricity, schools, hospitals, roads, public transport and even jobs.

Given the linkage between the rural and urban areas in the development process, the solution for rural urban poverty must be found in a balanced rural-urban development planning. This would involve a programme of industrialisation and the provision of social services in the rural areas. Differential wage-levels between urban and rural areas are important cause of rural-urban migration so by raising the level of productivity in the rural area, the tide of rural-urban migration may be stemmed.

To boost productivity in the rural area government should provide subsidised fertilizers, high yielding crop varieties and modern implements of farming. Other facilities bearing on improved agricultural productivity include the improvement of infrastructural facilities serving the agricultural sector such as access roads, credit facilities, marketing facilities and the construction of irrigation projects in rain deficient zones to provide farmers with a regular supply of water.

There is an imbalance between the rural and urban sector but the two are inseparable. The development of the rural area affects the urban sector in many ways: (i) it may attract some urban people to reside in the rural area and thereby develop the area with their capital, knowledge and expertise, it may reduce drastically the tide of rural urban drift, while it prepares the rural well educated for future life in the urban areas; (ii) moreover, most rural development programmes in most countries of the world are formulated and implemented by urban-reared administrators. Thus, rural development with a view to exterminating or reducing poverty is development for all people, urban and rural; and it should involve both rural and urban sectors in complementary activities.

A CASE FOR URBAN AGRICULTURE

Vice-Chancellor sir, in the early times, as observed earlier, human settlements were usually surrounded by agricultural land. This symbiotic relationship still persists till to day in the rural areas. However, the opposite of rural agriculture is urban agriculture. This is a feature, in recent years, whereby agricultural activities are featuring within many urban centres. Urban agriculture has been defined as an industry that produces, processes and markets food and fuel largely in response to the daily demand of consumers throughout the urban and peri-urban areas, applying intensive production methods, using and reusing

natural resources and urban wastes to yield a diversity of crops and livestock (UNDP, 1966). Urban agriculture properly organised, provides benefits to the economy, the environment and the well-being of both those active in the industry and to the residents of the city. It contributes to the health and well-being of a community by reducing hunger, improving nutrition and improving environmental condition that affect health. By reducing hunger and malnutrition, urban farming makes urban poor healthier, more productive and more resistant to diseases. The job opportunities provided by urban agriculture generate employment opportunities and income for those who have the fewest employment opportunities in urban areas. Because they are close to the market, urban farmers can tailor their production to market demand and supply high value and perishable items such as vegetables, fruits, fish, milk and poultry products which rural farmers cannot supply because they have to be delivered fresh to consumers. Urban agriculture is thus complementary rather than competitive with rural farming. Urban food production has a significant multiplier effect on the city economy. It generates economic activities in related industries such as agricultural inputs, storage, transportation, canning, marketing and food processing industries. Some street food vendors grow their food and cook same for sale along our main streets. Some of these include snacks like roasted or boiled maize, yam, plantain and groundnuts which are cheaper and more handy than meals prepared in roadside sheds.

Urban agriculture can utilise unused resources such as waste water, solid waste, vacant plots of land, bodies of water, utility rights of way, sites reserved for future schools or industries which abound in our major cities. However, most vacant plots of land attract refuse in our cities like Ibadan and Lagos (see plate 5 for a typical refuse dump site in Lagos). Urban agriculture can serve to clean these refuse depots and maintain them in an orderly pattern, use them for food production and green them to improve the quality of the environment. Although in some advanced countries, farmers have moved away from waste towards agro-chemical inputs to nourish the soil, yet the use of biological waste in urban agriculture has many advantages. It contributes to natural resource conservation, turns waste from a problem into a resource, reduces the public cost of waste management as the private sector gets involved and provides a better living environment. Urban agriculture deserves every encouragement because its major problems can be circumvented. Agriculture is used in its

broadest sense to include: horticulture, aquaculture, arboriculture, poultry and animal husbandry.

THE CLARION NEWS, Nov 10, 2012

THE METROSection

Against filth, the war goes on in Lagos



Plate 5: A Mountain of Refuse (Dump Site) in part of Lagos.

Vice-Chancellor sir, urban agriculture contributes to the national economy of some advanced countries. For instance, the U.S. Department of Agriculture found that 1/3 of the agricultural products of the U.S.A. was produced within urban metropolitan area on 1/9 of the agricultural land (Heimlich, 1989). Moreover, the percentage of urban families engaged in agriculture varies from 10% in some large cities in North America to about 80% in some Asian cities. By contrast, only a small proportion of urban residents in Lagos practise urban agriculture; less than 6% of total work force. Of this proportion, about 25% are migrants from the north who come annually to Lagos during the dry season to engage in some form of vegetable farming (Oyeleye, 1990). At present, there is no stated policy in support of urban agriculture in spite of all its benefits to our big cities. Such a policy is long overdue.

As cities are growing, urban environments are deteriorating. Urban agriculture has the potential to address hunger, poverty and urban environmental degradation in a sustainable way. What we need now are efforts at all levels and by both public and private interests to put in place regulatory and support system that can help the urban agriculture to flourish and to really play a truly complementary role to rural agriculture.

POLICY RECOMMENDATIONS

Vice-Chancellor sir, since small-scale farmers constitute about 70% of total adult farmers in Nigeria and since they produce about 90% of the nation's output of food, government should focus more sharply on small-scale farmers as the centre piece of the nation's food supply. Subsidised farm inputs like fertilisers, farm credits, high yielding seedlings, storage facilities and simple tools should be made available to small-scale farmers organised on a cooperative basis. Moreover, access roads should be provided to facilitate the evacuation of farm products from the farms to the towns and to expose rural inhabitants to civilisation. Once major highways and road access have been built, all other programmed developmental inputs can be provided in a phased and additive manner.

Housing has always been one of the major concerns of public policy all over the world; because shelter is a basic necessity of life, and also a pre-requisite to the survival of man. It constitutes one of the universal forms of material culture being found in all societies which are not nomadic. It ensures continuity of community life. As a result government should encourage a policy of housing for all by which every family can be assisted to build affordable shelter through a system of soft loan.

The system of education that has emphasised the production of white-collar job seekers has succeeded in selective out-migration of able-bodied men from rural to urban areas. Mass mobilization for rural development is therefore essential and must involve the formulation of programmes that not only make farming attractive but also lucrative. Agriculture should be given priority place in the curricula of our educational system. Moreover, most agricultural graduates should be encouraged to engage in farming and government should grant them generous low-interest loans to enable them to practise various aspects of farming such as: poultry, fishery, piggery, arable cropping and tree cropping. This measure will enhance food availability for the country, and ready employment, that is highly needed, for some of our graduates.

Urban agriculture should be encouraged in our urban centres. All vacant lands not utilised by their owners, be they private or public, should be accessible by willing urban farmers, since this does not deny the owner of the land of his

right of ownership. Moreover, legislative measures to protect the right of urban farmers should be put in place. This will help to solve problem of insecurity of tenure. Government should revive Operation Feed the Nation (OFN) Scheme and ensure it is properly executed because it favours urban agriculture.

Urban agriculture can be turned into a major industry in Lagos State through a policy decision that pursues semi-food self-sufficiency. It has been observed elsewhere (*Lagos State, 1989*) that Lagos State can produce all of its vegetables and substantial requirements of its cassava and maize. For instance, Bamako in Mali produces all of its vegetables as well as Quagadougou in Burkina Faso. Government policy in Lagos State should encourage farmers in Lagos State to grow these crops on a commercial scale.

A sustainable future for cities would require a move towards technologies that transform waste into useful products rather than dump it. Some city governments in advanced countries such as Shanghai and Jakarta have developed city-wide programmes to collect, compost and sell organic waste. Similarly, India, Israel, Jordan and Mexico, use treated urban waste water for irrigation purposes in respect of urban and peri-urban crops. Lagos and some of our urban centres should endeavour to do so and widen the scope of their food production.

CONCLUSION

Vice-Chancellor sir, housing ranks second after agriculture in the amount of land it consumes; both are therefore very important to man. Unless adequate measures are taken to bring orderliness to the processes of allocating farmlands and assembling plots of land for housing in rural areas as is done in parts of big cities, they will continue to threaten the satisfactory development and systems of future settlement. Thus a comprehensive planning approach for both urban and rural environment is desirable in order to stimulate the symbiotic relationship between them. This is more so for third world countries where land under rural area constitutes about 75% of total land area.

Rural development programmes should not be undertaken in the belief that they will alleviate urban ills by reversing the urbanization process. There is little to suggest that any government has succeeded to a measurable degree

in slowing down urban growth. But rural development can help to smooth the transition between rural and urban life, and to narrow the gap between them in living standards, by disseminating urban attitudes, providing job opportunities and introducing education, health and communal facilities. It can also provide city people with the pleasure of access to the countryside for recreation.

District or sub-regional centres where services, facilities and basic infrastructure can be economically provided form a vital part of any rural settlement system. These centres help to divert migratory flows away from overcrowded cities since it is usually cheaper to meet basic needs and easier for migrants to adjust themselves to urban lifestyles in places which are close to their original homes. The growth of such centres may be stimulated by the provision of infrastructural facilities and the establishment of industries based on the processing of agricultural products.

Comprehensive development policies must take place for both urban and rural environment, if irreversible environmental damage is to be avoided. This planning approach provides the machinery for integrating the three sectors of development: economic, social and physical and their component areas of housing, agriculture, infrastructure, industry and recreation. It helps to allocate resources, rationally and equitably among the various sectors. It links national, regional, urban and rural issues in a series of reciprocal relationships and enables activities to be integrated over a geographical area determined by the nature of the problem to be solved. In this way the symbiotic relationship which has commenced between agriculture and human settlement from time immemorial will become more dynamic, sustainable and will definitely last human lifetime.

ACKNOWLEDGMENTS

I am first and foremost grateful to God the Author and Perfecter of human life for His infinite mercies on me from the period of my birth up to this moment. It is my sincere prayer that He who has control over heaven and the earth will continue to look after each and every one of us – Amen.

I wish to acknowledge the contribution and love of my parents in persons of Deacon & Mrs. E.O. Oyeleye of blessed memory who did their best to lay a solid foundation for my early Christian education. May their souls rest in perfect peace – Amen.

I want to acknowledge the contribution of my lecturers at the University of Ibadan for their dedicated training during my undergraduate period. In particular, I want to pay glowing tribute to my Professors at the post graduate levels in person of A. L. Mabogunje now retired at the Master's level and W. B. Morgan of the University of London King's College, but also now retired at the Ph.D. level. I have gained immensely from their thorough training and the daily interaction of ideas with them both throughout my post graduate studies. I pray fervently that they may continue to flourish and prosper throughout the rest of their lives – Amen.

I also owe a debt of gratitude to the Central Research Committee of the University of Lagos for making many research grants available to me at various times which have enabled me to carry out indepth researches into agricultural activities as well as rural and urban settlements in various parts of Nigeria.

Vice-Chancellor sir, I wish to state that my teaching and research areas straddle both agriculture and human settlement. While many articles in learned journals and books have been published in the two areas; I have recently (about two months ago to be precise) published a 491 page book comprising eleven chapters on settlement geography which will be very useful for undergraduates studying settlement related courses across various disciplines. Settlement related courses are offered in the departments of urban and regional planning, building, architecture, estate management and of course geography. Besides, everyone interested in putting up a shelter of his own should be interested in the book. In spite of the burgeoning interest in settlement studies, textbooks

adopted to the needs of students of the third world countries are difficult to come by. This book is an attempt to fill this gap. The book is the result of over two decades of teaching and research in settlement geography at the University level.

At this juncture, I want to sincerely thank the Vice-Chancellor in person of Prof. Oye Ibidapo-Obe for creating an enabling environment for the Members of the Publication Committee of the University of Lagos who funded the publication of this worthwhile book. I also thank the Publications Committee for job well done. The book is now available at the University of Lagos bookshop and most other University Bookshops across the country at a price of only N1000 per copy.

I also thank the University of Lagos Press for promptly producing this inaugural lecture, which sells for only N100.

I will like to recognise the presence of members of staff of Geography Department, members of staff of all the departments in the University; my beloved students from Geography Department and from various other departments in the University; members of the Diaconate of Yaba Baptist Church as well as members of Yaba Baptist Church, friends from sister Universities, friends and close relations, members of Oke-Ogun club and gentlemen of the press. I also wish to recognise the presence of my son-in-law Omololu and daughter-in-law Bukky and their children Kemi, Tamilore and Ireayomide – thank you all for coming.

Finally, I want to pay glowing tribute to my charming and virtuous wife, Mubo and children Gbenga, Bimbo and Kunle for their support and understanding all the time. They are a constant source of joy to me. It is my fervent prayer that you and we may live long under the special grace of God – Amen.

Ladies and Gentlemen I thank you all for your attention. God bless.

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