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THE ROLE OF AGRICULTURE AND
RURAL INDUSTRIES IN RURAL
DEVELOPMENT IN NSUKA AREA OF
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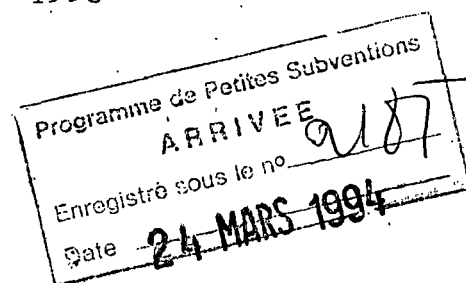
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Department of Geography, University of
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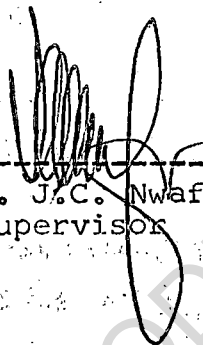
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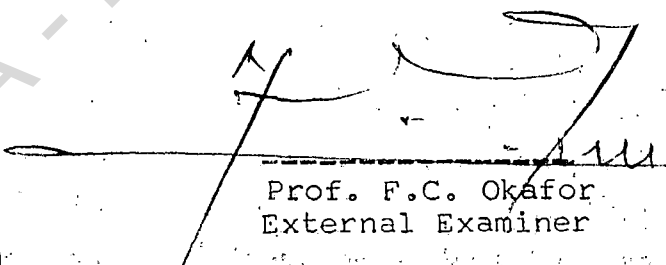
CERTIFICATION

Mr. Madu Ignatius Ani, a postgraduate student in the Department of Geography, specializing in Rural Geography, has satisfactorily completed the requirements for course and research work for the degree of Master of Science (M.Sc) in geography.

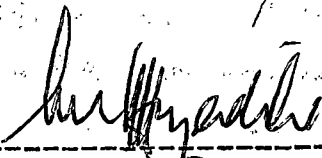
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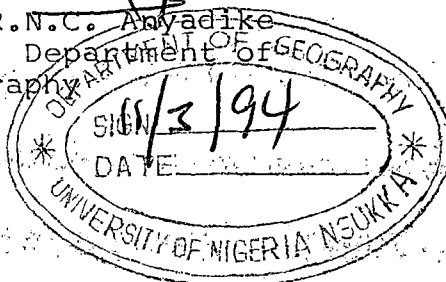
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Ignatius Madu
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ABSTRACT

In this research work, we ~~had~~ assessed the role of agriculture and rural industries in rural development in terms of provision of fund for development projects. We also investigated the magnitude of linkages between the two sectors of the rural economy as well as the influence of such linkages in rural development.

Agricultural operation in the study area is usually done to supplement other household activities. It is also crude and is being strangled by some physical and man-made factors. There is meagre income from agriculture and little fund is contributed from it towards rural development projects. Rural industries also have such limited impact on rural development. Rather, it was discovered that income from other sources, population of a community, total length of main roads and road density, determine the rate of rural development.

Field investigation also revealed that the number and effectiveness of youth associations, social clubs, village and town unions, women organisations and age grades as well as number of illustrious sons and daughters living in towns and who are willing to contribute to the development of their rural communities are instrumental to rural development.

The deplorable conditions of the two sectors notwithstanding, a high degree of interaction was found to exist

between agriculture and rural industries. It was however discovered from the study that there could be linkages without resultant rural development. This is due to the fact that the physical infrastructure which influences such development was either lacking or was too weak in most communities.

Rural development in Nsukka area is in most cases achieved through community development approach. Following this development approach and the influence of population and road density in rural development, the actively developing rural areas coincide with the central plateau zone which has high population and road densities, thus showing an interesting and easily identifiable pattern.

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CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND INFORMATION

Theoretical models of development especially for the developing countries often divide the economy into two sectors namely agriculture and industry. The interaction between the two sectors defines in gross term the path and character of economic growth (Osayimwese, 1983). The role of agriculture in this interaction varies from country to country and is conditioned by factor endowment, institutional arrangement, cultural background, historical factors and policy choices. Nevertheless, the importance of agriculture in this interaction lies in its contribution to Gross Domestic Products (G.D.P) and provision of employment to the rural dwellers. Industries on their part are important for rapid economic growth because they generate income, offer employment among other functions.

It is often postulated that labour is divided between agriculture and industries, but there is hardly any sharp specialization of labour between the two economic activities in the rural areas. In most cases, rural dwellers combine farming with other forms of economic activities especially craft and processing of farm products (Agboola, 1979; Olayide, 1981; Okafor, 1991).

The relationship between agriculture and industry is described as interdependent and complementary. This interdependence between agriculture and industries results in various linkages. Linkages are used to describe the manifold interactions between agriculture and rural industries. These linkages are sometimes referred to as rural linkages (Ranis and Stewart, 1987) and their function is to put both agriculture and rural industries on the right path for effective rural development. The role of agriculture and rural industries in rural development may be assessed by the degree of linkages between the two sectors as well as their linkages with other economic variables (Aigbokan, 1988).

There are three principal paths through which linkages occur namely:- consumption linkages, backward linkages and forward linkages. The last two are often regarded as production linkages, hence some authors classify linkages into consumption and production linkages (Ranis and Stewart, 1987).

Most developing countries including Nigeria have realized that despite rapid growth in G.D.P., rural areas have remained backward. Consequently, urban unemployment,

rural-urban migration, poverty and income inequalities have tended to rise. This calls for strategies designed to make development more balanced and people oriented. In this regard, greater emphasis has come to be placed on rural development through the simultaneous and inter-dependent development of agriculture, industry and other socio-economic activities (Onah 1982).

A programme which tries to take care of the above perspective of rural development according to ^{the} Directorate of Food, Roads and Rural Infrastructure (DFRRI) (1991) is that of integrated rural development. In a broad sense, integrated rural development tries to inter-link and integrate rural development activities such as agriculture, education, health and industry instead of treating them separately and independently. This means that the sectoral programmes are made to develop concurrently and inter-dependently for efficiency and enhanced rural development.

By rural development we mean a set of activities concerned with the transformation of rural environment in order to bridge the gap between the rural areas and the urban counter parts. The ultimate purpose of this transformation is to bring about improvement in the lives and

welfare of all rural dwellers (Ukwa, 1985; Ofor, 1987; Madu, 1992).

The emphasis of this work is on the role of agriculture and rural industries in rural development. Rural industries are defined as industries located in rural areas or urban peripheries which obtain most of their raw materials within the rural space and to a large extent by the rural dwellers. A large proportion of the labour force is also expected to be obtained within the rural space before an industry qualifies or is regarded as a rural industry. Such industries which could be traditional, craft, cottage or modern processing and manufacturing industries therefore rely heavily on indigenous and rural resources for finance, raw materials and skills (Mbagwu, 1978; Ogunfowara and Olayide, 1981; Bagachwa, 1990).

1.2 STATEMENT OF RESEARCH PROBLEM

Majority of the population of Nigeria like other African countries live in rural areas and agriculture still absorbs over 70% of her labour force (Olatobunson, 1975; Agboola, 1979; Olayide, 1980; Aigbokan, 1988) Wanmali (1983) and Aigbokan (1988) have argued that development of the

rural areas can be better achieved by planning for the development of ^{the} agricultural sector. In view of this, most government programmes on rural development in most developing countries had aimed at agricultural improvement. The emphasis on rural transformation through agricultural improvement in Nigeria is evidenced by programmes like farm settlement schemes, Green Revolution, Operation Feed the Nation (O.F.N) and Agricultural Development Projects (A.D.P).

Laudable as these programmes were not, much success was recorded by them in terms of rural transformation. The rural problems of low levels of productivity, employment, housing, sanitation, education and institutional base persisted over the years. The reasons for the failure of these programmes were attributed by Okoye (1987) to lack of integration or inability to establish a balanced symbiotic association between agriculture and non agricultural activities especially rural based industries and crafts.

The failure of the sectoral programmes (with focus on agriculture) to stem rural development in Nigeria necessitated the call for alternative strategy, the most suitable strategy being integrated rural development (Food and

Agricultural Organisation (F.A.O), 1978; 1980; Gana, 1978; Onah, 1980; DERR, 1991). Researchers and planners came to understand that it is only through the integration of the rural development activities that true rural development could be achieved.

The above line of thinking and the fact that rural problems persist after several efforts, compelled the Nigerian government to initiate some programmes aimed at inter-linking and synchronizing rural development activities. These programmes include, the present local government structure aimed at grassroot development; River Basin Development Authorities; Rural Development Authorities, People's and Community Banks.

Unfortunately, the initiation of these programmes and rural development agencies has not made the desired impact on the rural communities. Neither agriculture nor rural industries has shown any significant improvement in terms of increased out-put and expansion. This failure results from the fact that the expected roles of the sectors or the desired linkages between them have not been explicitly identified and pursued. Hence the link between the primary sector and the secondary sector of the rural economy in Nigeria has remained weak (Onyemelukwe, 1977; Okoye, 1987).

Consequently, many agricultural lands remain under-utilized while many agricultural products are wasted or are inappropriately utilized. Rural industries also face similar problems such as low capitalization and scarcity of required raw materials.

The overall effect of the non-performance of both agriculture and rural industries is that rural population has continued to experience hunger and poverty, while rural-urban migration continues unabated because of push factors of the country side, including unemployment and under employment. The specific research problem is that there seems to be minimal understanding of the role of agriculture and rural industries in Nigeria, particularly in the study area in terms of gainful employment, enhanced rural income and funding of rural development projects. The problem therefore calls for an in-depth analysis of the roles of agriculture and rural industries in rural development as well as the analysis of the linkages between the two sectors and the influence of the linkages in rural development.

1.3 OBJECTIVES OF THE STUDY

The aim of this research is to assess agriculture and rural industries in Nsukka area in terms of their operations, patterns, inter-relationships, problems and contributions

towards funding of rural development projects. The specific objectives of the study are:

- (i) To describe the types, nature and patterns of agriculture and rural industrial activities in Nsukka area.
- (ii) To identify and analyse the roles being played by agriculture and rural industries in the development of rural communities in Nsukka area.
- (iii) To assess the nature and pattern of rural linkages in Nsukka area against the background of hypothetical linkages.
- (iv) To examine the problems of agriculture, rural industries and rural linkages in the area of our study.

1.4 SIGNIFICANCE OF THE STUDY

The analysis of the role of agriculture and rural industries in rural development is significant because it will enable us identify what is expected of each of the sectors in rural linkages. The rural linkages as we have observed will help both agriculture and rural industries to grow. This will in turn influence regional employment, income distribution and pattern of rural development. Hence the analysis becomes imperative and requires geographers' attention for equitable and rational resource allocation and balanced rural development.

1.5 THEORETICAL FRAMEWORK

Theoretical models are important in studies involving economic growth and development in various ways. First, the models to a large extent influence the development strategies that are usually adopted. Secondly, they help in identifying for the policy makers the crucial variables for rural development. Most importantly, theoretical models are crucial to researchers because the models help them in formulating hypotheses for investigation and verification (Essang, 1981).

In view of ~~the~~ importance, we shall review some relevant economic growth and development models and analyse their limitations and implications for rural development. However, before the analyses, we shall first distinguish between economic growth and economic development.

Economic growth is defined as an increase in per capita real income over time (Essang, 1981). In this definition, nothing is implied as to the sources of the increase in per capita income or the character of factors of production and infrastructural facilities.

Economic development on the other hand is defined as the process whereby the real per capita income increases over

time through changes in the quality and quantity of production factors, and the institutionalization of the growth process. Thus, Essang (1981), argues that development does not merely imply the growth of per capita real income, but also its distribution, the sources of growth, the development of infrastructure and administrative framework essential for sustained and cumulative growth. As such economic development is a much broader concept than economic growth.

1.5.1 The Dualistic Model Of Economic Growth

Osayimwese (1983) describes development process as an inter-sectoral tussle between agriculture and industry. A dualistic model is used to describe and articulate the relation between the two sectors.

Three variants of dualistic models are distinguished (Osayimwese, 1983: 172):

- (i) Classical or Lewisian dualism;
- (ii) Neo-classical dualism; and
- (iii) Post Lewisian dualism.

In the Lewisian model, industry via accumulation, provides the engine of growth. The agricultural sector is important but plays a supportive and passive role in growth sense. The expansion of the industrial sector is achieved at the expense of agriculture. The model postulates that

since capital tends to flow into sectors characterised by high rates of return and marginal productivity of capital, and labour moves into sectors characterised by high wage rate, it is necessary to undertake measures which will raise the rate of return to capital investment and earnings of labour (Lewis 1955).

The model has relevance to a certain extent for rural development in less developed countries like Nigeria where out-migration of labour and capital from agriculture is usually attributed to much lower returns to these factors of production in rural than in urban investments.

Nevertheless, the model has a number of limitations. The major failure lies in the fact that it concentrates on capital accumulation in the industrial sector rather than on balanced economic development. Aboyade (1976) queried the model because according to him, the assumptions do not simply fit the fact and so will produce erroneous results especially when applied to Africa in general and Nigeria in particular.

The model is also regarded as being partial because it conceals many political, social, cultural and institutional factors which influence growth and development (Osayimwese, 1983).

Finally, the model has also been criticised because the expansion of agriculture can become the prime mover of economic growth rather than capital accumulation in the industrial sector.

The neo-classical dualism is distinguished by the more active role assigned to agriculture because of the realisation that a steady state equilibrium in a dualistic economy depends on the rate of growth of agricultural output. While capital accumulation in industry is still regarded as the engine of growth, expansion of agriculture is also considered as a pre-condition for industrial growth.

The demerit of this model according to Osayimwese (1983) is that it failed to throw sufficient light on the nature and mechanism of technical progress, capital accumulation and expansion of agricultural sector. At the heart of this insufficiency is the incomplete articulation of the economic interaction between agriculture and industry.

Post Lewisan dual economy model is characterised by the existence of two distinct sectors namely; modern sector and subsistence (rural) sector. While the modern sector is market-oriented, and uses considerable capital equipment and technology, the subsistence sector is characterized by absence of savings and capital formulation. The model

emphasises like classical and neo-classical models the need to channel resources to the growing and more dynamic sector where returns to investment are presumably higher.

The model although appealing has shortcomings as a guide to rural development. In the first place, it does not give an accurate representation of the structure and performance of a typical under developed economy. There is no sector of the economy that is characterized by absence of savings, capital formulation and growth in any country.

Furthermore, the model neglects the rural areas and this results in a gap in the earnings of urban and rural resources.

1.5.2 The Basic Resource Model

The basic resource model postulates that economic growth depends on the presence, quality and magnitude of basic natural resources within a particular area or region. That the development of these resources attracts investment capital to the area and increases income distribution and employment opportunities of the area.

There is considerable truth in the proposition of the model since in any part of the world, economic development consists (at least in the initial stage) of effort to exploit the readily available natural resources. However, the model has some limitations.

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In the first place, it would be wrong to assume that the availability of basic resources is a sufficient guarantee of rapid growth. Instances abound where regions or countries continue in stagnation despite the availability of basic resources. The model therefore failed to recognize the fact that the role of natural resources in promoting development is a function of both technological development and the existence of leadership dedicated to the objective of economic development. Secondly, the model does not emphasize sufficiently the operation of diminishing returns.

1.5.3 The Internal Combustion Theory

Internal combustion theory attributes economic growth and development to forces within the region or country other than the presence of basic natural resources. The internal sources of growth include technology, specialization, economies of scale, and existence of growth stimulating institutional, political and administrative arrangements.

The message of this theory is that the requirements of growth can be deliberately created or modified. As such economic growth can occur in any region or country.

The short coming of this theory is that it is only in exceptional circumstances that appreciable economic growth can occur in the absence of basic resources. The internal process can only stimulate growth if opportunities exist.

Secondly, external forces such as foreign demand for products, externally created technological ability, government intervention which comes from outside are more crucial to development than internal forces. Consequently, no country or region can develop in isolation.

1.5.4 Diffusion Model of Rural Development

The diffusion model of development attempts to explain the existence of substantial productivity differences among farmers in the same economic and geographical region. According to the model, such differences arise because of differences in farmers' adoption of new varieties of seeds, mechanical and chemical inputs. Since the path to agriculture and rural development lies in narrowing the existing productivity differences through the diffusion of technological innovations, the authors of the model concentrate on the analysis of the various techniques for diffusing innovations.

Initially the model appeared attractive to rural development planners. But in recent years, the enthusiasm generated by the diffusion model has started to wane, for several reasons.

1. The failure of strategies such as experimental stations and demonstration farms prescribed by the model to spread development.

2. Attempts to apply the strategies prescribed by the model were not accompanied with collection and analysis of micro-economic data required on resource situation of different farms and how this could affect the farmers' response to innovation.
3. The diffusion model works more successfully where the farming population is educated and where the change agents have a thorough understanding of the cultural environment and what they are trying to sell or explain to the farmers. These requirements are lacking in most developing countries.
4. Another serious limitation of this model is that many agricultural technologies are location specific and cannot be adopted by the farmers without considerable adaptation to the local situation. This is an important explanation for limited diffusion of agricultural techniques.

In spite of these weakness, the diffusion model still holds good promise for rural development. This is particularly true when we realise that most of the shortfalls enumerated above emanate from the application rather than from the conceptual framework. With careful application, proper training and education of extension agents and rural

dwellers respectively, the model stands to achieve the desired rural development.

1.6 HYPOTHESES

The following **Null** hypotheses were set up and quantitatively tested:

1. There is no significant interaction between agriculture and rural industries in Nsukka area.
2. There is no significant relationship between income from agriculture or rural industries and number of rural development indices in the study area.

1.7 LITERATURE REVIEW

The transition from a traditional agrarian economy to an industrialized economy is a dynamic process that inevitably involves complex interactions among many economic and social factors. Although the role of agriculture in the transition process varies from country to country, in almost every developing country, agriculture is the basis of these interactions and thus economic development.

(Johnson, Scoville, Dike and Eicher 1969; F.A.O, 1978; Hwa, 1983; Robinson, 1990). Robinson (1990) for instance describes agriculture as being at the centre of rural economies.

In a study carried out by Olayide (1981), the roles played by agriculture in the transition were classified into two viz: **B**iological and Economic. In his economic group (which is more relevant to this study), he outlined the roles as follows:

- i) Provision of food to both urban and rural dwellers
- ii) Provision of personal income.
- iii) Supply of import-substitution products.
- iv) Provision of employment opportunities.
- v) Provision of raw materials for agro-industries.
- vi) Maintenance of rural economic stability.

In an earlier work, F.A.O. (1978), listed four major headings under which agriculture contributes to the socio-economic development namely:

- i) Absorption of labour force
- ii) Increased supply of rural products
- iii) Increased demand for products.
- iv) Enhancement of capital accumulation.

Some researchers have focused attention on the contribution of agriculture to specific aspects of rural economy. Among the various roles of agricultures, its contribution to industrial development has attracted interest of researchers. It is often argued that for a primitive agrarian

economy, industrialization cannot succeed without the prior or concurrent emergence of a productive agriculture (Petit-Leurant, 1981; Rangaragan, 1982; Hwa, 1983). Hwa (1983) drawing from the experience of both developed and developing countries concludes that agriculture supports industrialization by providing labour, capital and raw materials to the non agricultural sectors and by generating demands for industrial products.

Another crucial role of agriculture is in the area of absorption of labour force, especially in the developing countries where more people still engage in agriculture than any other sector (Olatunbosun, 1975; Agboola, 1979; Olayide, 1980; Ijere, 1981; Aigbekan, 1988). Agboola (1979) in his work reports that in spite of the recent development in industrialization, the majority of Nigerians are still committed to agricultural sector and that average population of the males who engage in agriculture in every rural community is over 80%.

Researchers have also focused attention on the value of export provided by agricultural sector as well as revenue generation (FAO, 1978; Watson, 1980; Olayide, 1981; Hwa, 1983). Watson (1980) indicates that agriculture has always played the role as earner of foreign exchange

and will continue to do so in the foreseeable future.

Johnson et al (1969) observed that agriculture is an important source of public revenue through the taxation of export crops. In addition, personal taxes are provided by farmers and import duties are passed on to them as consumers.

From the foregoing analysis, it becomes obvious that agriculture holds good promise for the development of rural communities. It is in this regard that people have argued that growth of rural areas can be better achieved by planning for the development of agricultural sector (FAO, 1978; Gana, 1978; Olayide, 1981; Wanmali, 1983). The potentials and promises can only be achieved if solid efforts are made to get this primary enterprise modernized and moving. Such efforts in the view of Olayide (1981) have important developmental, compensatory and educational policy dimension. But this important sector of rural economy is being strangled by various difficulties.

The various obstacles to agricultural development in tropical countries are well documented in literature (Olayide, 1981; Haggbade and Hazell, 1988 and Robinson, 1990). The main problem of agriculture according to Robinson, (1990)

is the low level of income within agriculture compared with other sectors of the economy. Olayide (1981) was however more elaborate in his work. He outlined the problems of agriculture in Nigeria as follows:

- i) The scourge of the natural environment;
- ii) Problems of soil fertility;
- iii) Problems of low productivity;
- iv) Problems of seasonality;
- v) Problems of risk and uncertainty;
- vi) Problems of inefficient systems;
- vii) Problems of dynamics of rural environment;
- viii) Problems of resource allocation/availability.

Having looked at the various literature sources on the role of agriculture in rural economy and rural development, let us turn to the place of rural industries in rural transformation. Rural industries are also noted to have great impact on rural development. Such impacts have been studied and articulated by many researchers (Riskin, 1978; Ukwu, 1985, 1987; Ogunfoware and Olayide, 1981; Weijland, 1985; Seidman, 1986 and Robinson 1990).

The roles were outlined by Ogunfowara and Olayide (1981) as:-

- i) Transition to modern economy,

- ii) Efficient use of resources;
- iii) Complementarity;
- iv) Increase in employment opportunities;
- v) Achievement of regional balance.

In his contribution, Ukwu (1985) affirmed that from the accepted traditional functions, rural industries are essential for self-reliance and self sustaining development. It has also been observed that for a country to rise above poverty level, rural industrialization is necessary (Streetin, 1975; Ijere, 1981; Akintola, Arikawe 1984; Thakur, 1985; Junghans, 1986). This is because the key to improving rural areas lies not only in increasing agricultural production but also in rural industrialization which could provide employment and increase the income of the rural dwellers (Chuta and Liedholm, 1979; Obot, 1984; Nwaocha, 1985; Kathuria, 1988 and Bagachwa, 1990). It therefore becomes pertinent that the geographical spread of rural industries will have positive effects on agricultural productivity by improving the agricultural terms of trade in the rural areas in addition to changing farmers' attitude and increasing their income.

In view of the above contention, Ijere (1981) attributes

the vicious circle of poverty in the rural areas to that of rural neglect and maintained that rural areas cannot extricate themselves from this poverty without outside intervention which include rural industrialization. Writing in the same vein, Akintola-Arikawe (1984), contends that a country desiring to raise the level of income of its people would therefore tend to encourage rural industrialization. Junghans (1986) adds that although rural industrialization is not a panacea for rural problems, industrialization is one of a bundle of development measures that can help resolve outstanding rural problems.

Summarizing the role of rural industries in rural development, Robinson (1990), outlined three principal reasons for encouraging new industries in rural areas as follows:

1. to absorb labour shed by agriculture,
2. to stem out-migration by providing more local employment,
3. to help maintain market or service centre functions.

From the literature so far reviewed, it is obvious that for effective rural development, both agriculture and rural industries should be developed. It is therefore no longer tenable to think of agriculture or industrial growth in isolation. The fortunes of these two sectors are closely interwoven in that the expansion of industry depends on

improvement of agricultural productivity which in turn depends very much on adequate supplies of industrial inputs (Mohammed, 1980 and Hwa 1983).

The above line of thinking explains why integration of agriculture and rural industries has been advocated for effective rural development (FAO, 1978; Williams, 1978; Ijere, 1981; Abban, 1986, Ostwald 1986; and DFRRI, 1991). In this regard, Gana (1978) strongly argues that the present plight of rural areas in Nigeria calls for a sustained effort in the design and implementation of integrated rural development programmes. Consequently, a process of rural industrialization which entails the integration of industry and agriculture with the later providing the base has been formulated (Sigurdson, 1975; FAO, 1978; 1988; Ogunfowara and Olayide, 1981; and Minocha, 1986).

There are various ways by which agriculture can be linked to rural industries. These linkages can be achieved according to Rangaragan (1982) through production, demand, savings and investment. Mills (1980) and Ranis and Stewart (1987) classified linkages into consumption and production linkages. Production linkages according to them can be forward or backward. Bagachwa (1990) was however more explicit in his classification. He outlined three types of linkages as consumption, backward and forward linkages. These he

described as follows:-

- i) Consumption linkages result from the expenditure of farm income on locally produced consumer goods and services.
- ii) Backward production linkages occur where agriculture absorbs inputs produced by local industry.
- iii) Forward production linkages are obtained through the local processing of agricultural outputs.

Bagachwa (1990) also observed that there are linkages which operate in opposite direction (from industry to agriculture). Again three types of linkages are distinguished viz.:

- i) Demand related;
- ii) Supply related; and
- iii) Motivation related linkages.

Aigbokan (1988) in his study stressed that linkages are used to measure a sector's contribution to the economy and that linkages are reflected largely in the pattern of the sector's expenditure. This explains why the role of agriculture and rural industries in rural development are usually expressed in terms of inter-sectoral flow of finance and commodities.

Several factors influence the strength of linkages between agriculture and rural industries. These factors include: extent of input used in agriculture; how far the inputs are applied locally, degree of marketing of products, crop composition, organization and location of markets, technological

choices, infrastructural facilities among others (Haggblade, et al 1988; Bagachwa, 1990).

Some researchers have made attempts to analyse the aggregate importance of the different types of linkages and their implications for rural development. Ranis and Stewart (1987); Haggblade et al (1988) and Bagachwa (1990) established that consumption linkages are the most important in terms of employment and output, followed by forward linkages, while backward linkages were found to be very low in the developing countries. The weak forward and backward linkages recorded in the developing countries results from ad hoc, unco-ordinated and **sporadic**

approaches to rural development. In addition, low income, inappropriate technology, small farm sizes, lack of infrastructure as well as hydrological and climatic problems were identified as factors hampering linkages in Africa (Dalgado, 1984; Haggblade, et al 1988).

Haggblade, et al (1988) suggested that for the linkages to be improved, rural farmers should be provided with inputs and rural infrastructure. They also advocated for adequate **agric-**ultural price incentives and effective marketing network.

Also making suggestion on how to improve rural linkages, Konsted (1980), called for an industrialization policy backed by a thorough study of resource base and possible linkages. He outlined three categories of industries which have strong linkages:-

- i) Agro-processing industries which may stimulate small scale farmers to diversify the crop pattern and animal production.
- ii) Small and medium scale industries producing goods for agricultural purposes or industries processing agricultural products.
- iii) Industries producing agro-based primary or intermediate industrial inputs.

It is evidence~~d~~ from the literature reviewed that very little work has been done to identify and analyse the role of agriculture and rural industries in rural development by way of rural development (projects) funding or by way of linkages in regional perspectives. This work hopes to bridge the gap.

1.8 AREA OF STUDY

The study covers the entire Nsukka area often referred to as Enugu North Senatorial District or simply Nsukka zone (Fig. 1). The area comprises six (6) local government areas namely: Igbo-Etiti, Igbo-Eze North, Igbo-Eze South, Isi-Uzo, Nsukka urban and Uzo-Uwani (Fig. 2). It is made up of eighty-eight (88) rural communities. The choice of Nsukka area is based on the existence of high degree of similarities in cultural, social, economic and ecological setting among the component communities.

The total population of the area according to 1991

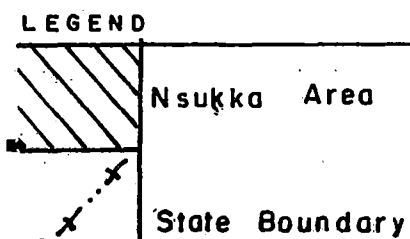
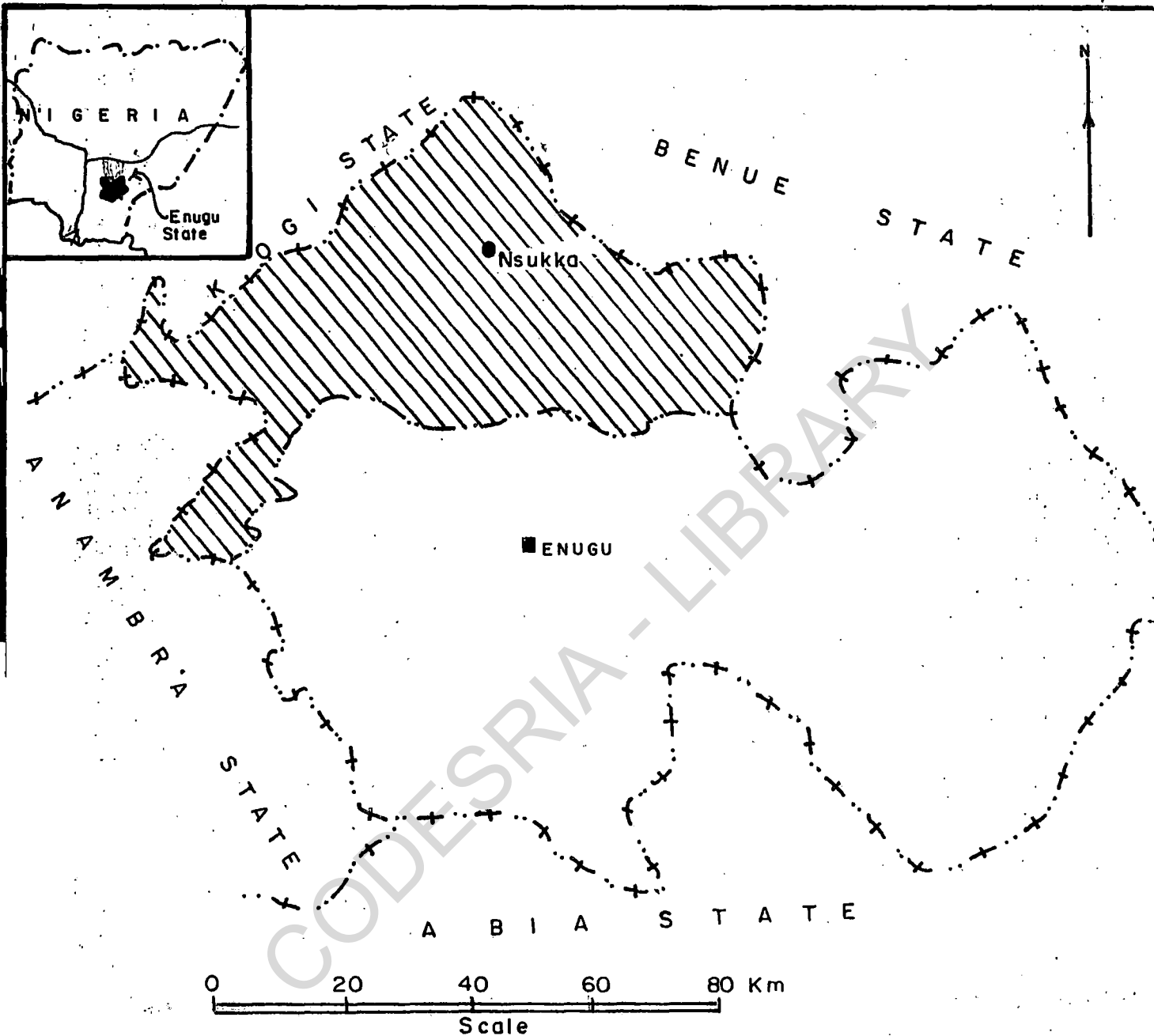


Fig.1. LOCATION OF NSUKKA AREA IN ENUGU STATE

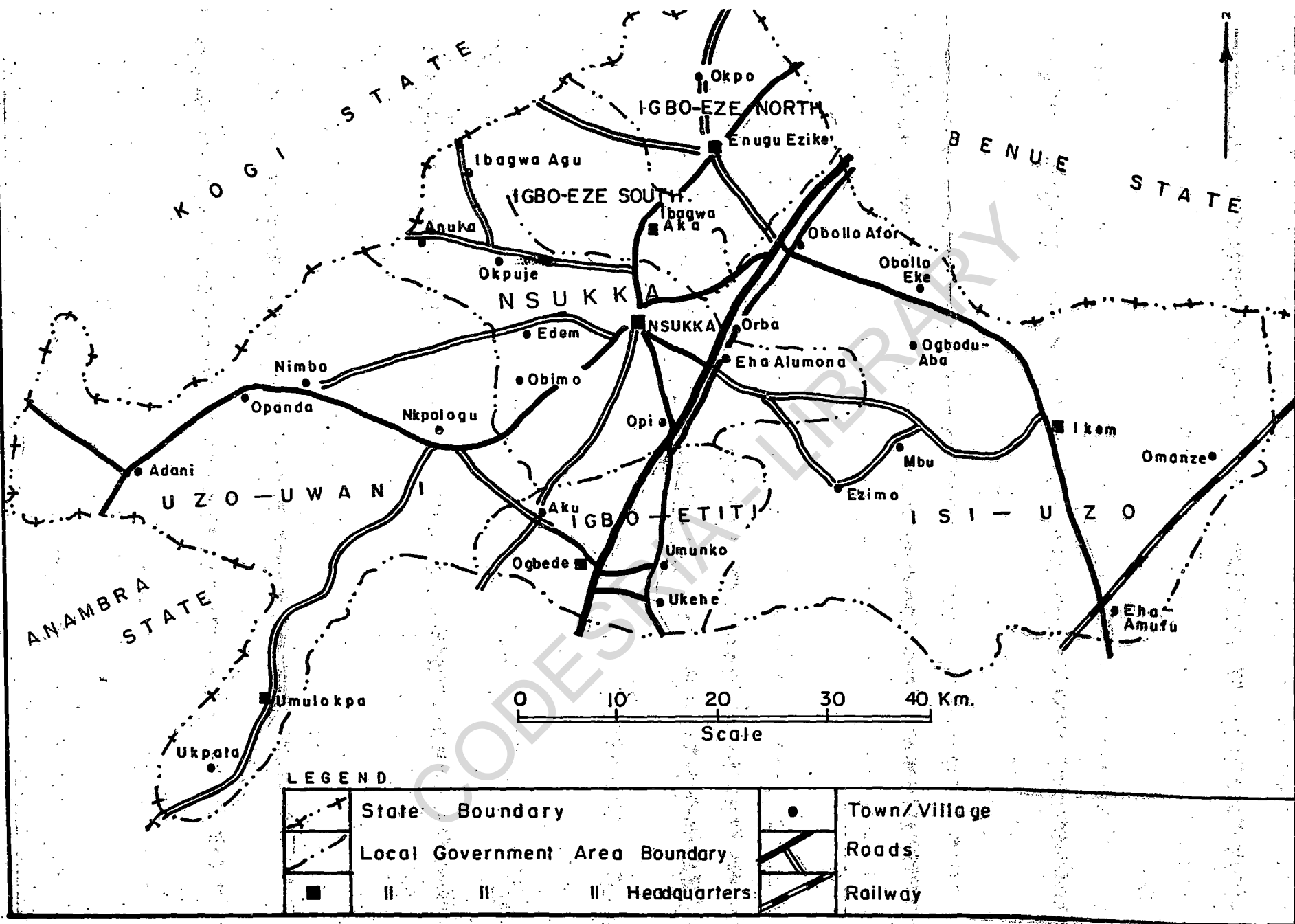


Fig. 2 : NSUKKA AREA SHOWING THE COMPONENT LOCAL GOVERNMENT AREAS AND SOME COMMUNITIES.

population census is 793,637. With land area of 3,402 Km², the average population density of the area is 233 persons/Km². Nsukka area is located between latitudes 6°30' and 7°6' north and longitudes 6°54' and 7°54' east.

The topography of the area is dominated by cuesta landform. Ofomata (1974) divided the area into four major landforms namely: western lowlands, a plateau zone, escarpment zone and eastern lowland. The general height of the plateau has been estimated by Ofomata (1974) to be about 305m above the sea level. The most striking relief features in the area are numerous residual hills and dry valleys.

In the west, the topography is gentle, constituting a rolling lowland plain. The escarpment zone is the northern extension of Enugu escarpment formed by false bedded sandstone. The eastern lowland region has prominent geographic features among which are monotonous rolling type of landscape and a good number of streams.

Most part of the study area lack surface drainage. This according to Ofomata (1978) was due to the fact that the underlying sandstones are highly permeable and pervious. However, the eastern part has some good network of streams as we had earlier observed. The east is drained by two large streams namely Eme and Amanyi as well as other smaller streams. Likewise, the western area has some streams that drain the area.

The soil type has been described as red soil with texture

varying from loamy to sandy loam according to locality and dept of the soil. (Asawalam, 1988). As a result of drain-ages variation, the soil in the eastern part may become swampy in the rainy season. The soil fertility also varies within the area. The fertility according to Asawalam (1988) tends to increase estward and westward from the central plateau.

The climate belongs to the type described as having definite wet and dry season. The wet season lasts from April to October, while the rest of the months experience dry season. Rainfall varies from 900 mm to 2,380 mm while temperatures are high both during the day and in the night. The average mean daily temperature is ^{20.4°C} ~~68.8°F~~ while its mean monthly maximum is about ^{24.2°C} ~~75.5°F~~ (Madu, 1985).

The vegetation of Nsukka area is dominated by two physiognomic and structural forms namely broad leave and harbaceous graininoids. The area according to Igbozurike (1978) lies between the savana vegetation types of northern Nigeria and the rainforest belt of the south. He therefore classafied the vegetation of the area as "Rainforest-Savanna Ecotone".

1.9 RESEARCH METHODOLOGY

1.9.1.1 Sample Selection

Twelve communities were selected for investigation of

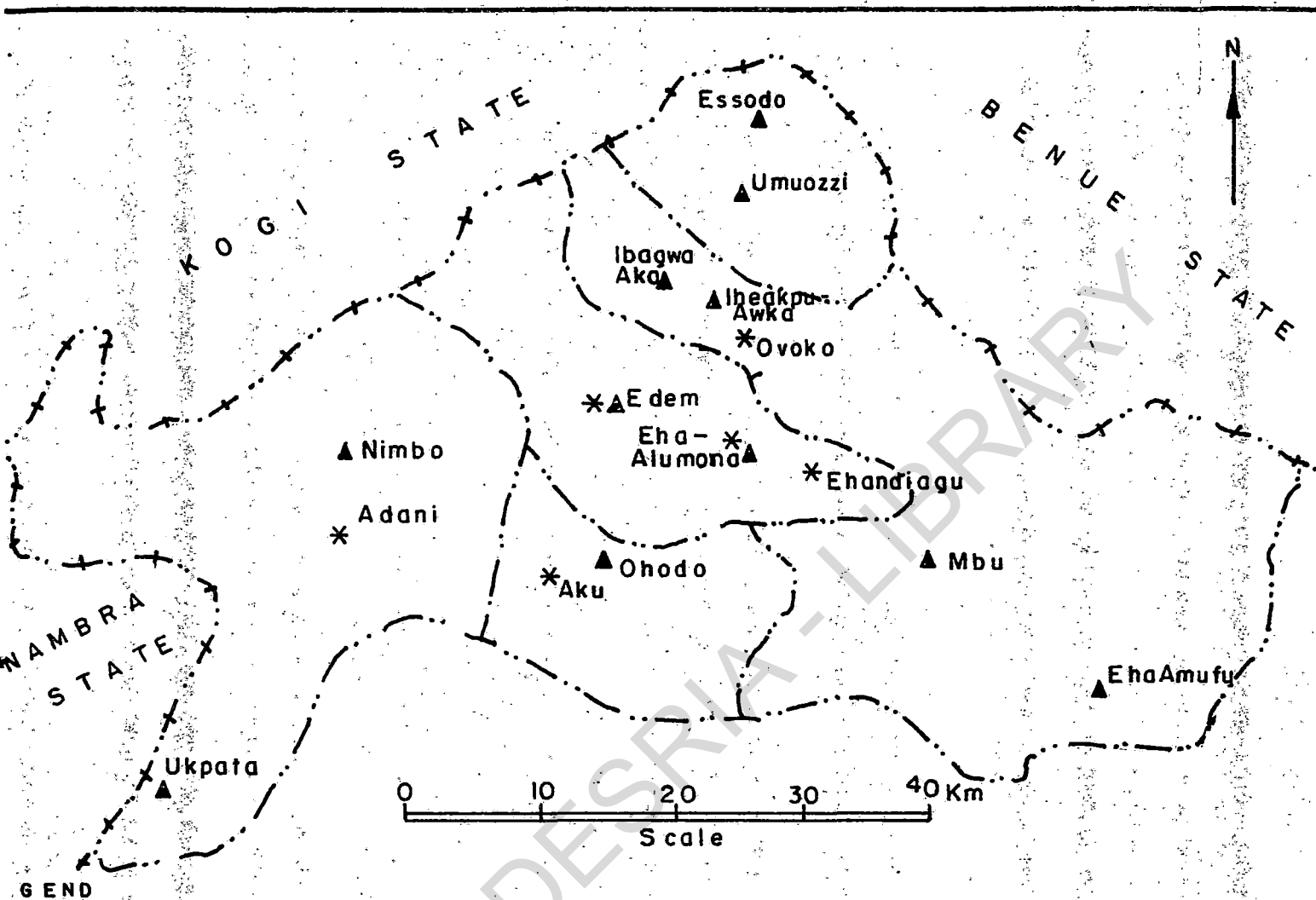
agricultural variables from the eighty-eight (88) rural communities in the study area. This was done by randomly selecting two communities from each of the six local government areas (Fig. 3). The communities selected are:

- i) Aku and Ohodo (Igbo-Etiti)
- ii) Umuoizzi and Essodo (Igbo-Eze North)
- iii) Ibagwa Aka and Iheakpu Awka (Igbo-Eze South)
- iv) Eha-Amufu and Mbu (Isi-Uzo)
- v) Eha-Alumona and Edem (Nsukka)
- vi) Nimbo and Ukpata (Uzo-Uwani)

The random selection of two communities from each of the six local government areas is deemed representative of the area of study because of similarities in physical make up and agricultural practices within each L.G.A.

From each community sampled, twenty farmers were randomly selected. Again the justification for selecting only twenty farmers is explained by the fact that there is a lot of similarity in characteristics of farmers in a particular community. The sample is therefore a good representation of the population.

For rural industries, only communities with up to 20 rural industries of a particular type were selected. The reason for this purposeful selection is to get equal number of respondents with agricultural operation ^{in any community chosen.} Secondly, the



▲	State Boundary	▲	Community Sampled for Agriculture
—	Local Govt. Area Boundary	*	Community Sampled for Rural Industries

3: NSUKKA AREA SHOWING SAMPLED COMMUNITIES.

selection was aimed at getting adequate statistical assessment of the contributions of rural industries to rural development. Consequently, only 5 communities that satisfy the above conditions were ^elected. Subsequently, twenty respondents were randomly selected from each community ^{samp~~led~~}~~selected~~ and the type of industrial activities as follows:

- i) Ovoko - Distillery (local brewing of gin)
- ii) Adani - Food processing
- iii) Edem - Weaving
- iv) Eha-Alumona - Blacksmithing
- v) Eha-Ndiagu - Pottery.

1.9.2 Data Collection

In carrying out this research, information was sought on agricultural variables and the aforementioned rural industries in the selected communities. The information required was collected by using questionnaire, which was administered among the randomly selected farmers and industrial entrepreneurs in each of the selected communities.

The questionnaire was designed to seek information on the following rural industrial enterprises and agricultural variables:

- i) Land ownership and access to required inputs.
- ii) Type of agriculture, crop composition and sizes of farm lands.

- iii) Location and organization of markets for the products.
- iv) Income from agriculture and other sources;
- v) Income expenditure pattern.
- vi) Types of rural industries, sources and nature of both raw materials and outputs.
- vii) Number of people employed.
- viii) Units of production (individual, household, partnership or co-operative).
- ix) Capitalization or investment value.
- x) Income from rural industries and other sources as well as income expenditure pattern.
- xi) The extent of rural industrial outputs used in agriculture.
- xii) Accessibility of rural dwellers to credit facilities, extent of provision of rural infrastructure and means of information flow.
- xiii) Socio-cultural barriers to the development of agriculture and rural industries.
- xiv) Suggestions that will lead to improvement/expansion of agriculture and rural industries among other information (see appendix A).

Additional information was obtained from secondary sources on population of the communities, length and density of roads, distance of communities selected to the urban

centres and land area. A census of rural development projects and facilities was also taken in each community selected. In addition, participant observation was carried out during the fieldwork to probe into the operations of the economic activities.

1.9.3 Data Analysis

The data collected were analysed in three stages. The first stage which was a preliminary analysis involved the use of descriptive statistics to verify how agriculture and rural industrial activities are carried out in the area. In the second stage, we analysed the relationships between the variables and how these variables and relationships influence rural development. In this stage of our analysis, person's moment correlation analysis was used. The hypotheses were also tested by the correlation analysis. Finally, we analysed the spatial patterns of rural development by using Friedmann's centre periphery model.

The above methods of analysis were chosen because they are considered to give reliable and adequate statistical treatment as well as spatial dimension to research analysis. The methods have been applied by Akintola-Arikawe (1984) and Veek and Pannell (1989) with satisfactory results.

1.10 PLAN OF THE WORK

The study is made up of five (5) inter-related chapters. Chapter one deals with the introduction, comprising, background information, statement of research problem, objectives of the study, theoretical framework, hypotheses, literature review, area of study, and research methodology.

In chapter two, agriculture and rural industrial activities are analysed while chapter three looks at ^{the} linkages between agriculture and rural industries. Chapter four is devoted to the role of agriculture and traditional industries in rural development in terms of provision of funds for development projects. Finally, chapter five deals with the empirical application of classical model of economic development and conclusion.

CHAPTER TWO

ANALYSES OF AGRICULTURE AND RURAL INDUSTRIAL ACTIVITIES

The emphasis of this study is on the role of agriculture and rural industries in rural development in Nsukka area. It is therefore pertinent that before delving into the above task, we shall first of all analyse their operations, patterns and problems.

2.1 PATTERN OF AGRICULTURAL LAND USES

Agriculture is the dominant occupation in Nsukka area. It has been estimated that about 94% of the population engage in agriculture (Uzozie, 1978). However, some of the farmers also combine farming with other economic activities such as trading, working in government and private establishments among others. It was discovered that 47% of the farmers surveyed combine farming with other economic activities.

Agricultural landuses in Nsukka area vary from locality to locality, in terms of time of planting, method of cultivation, type of crops grown and their association, hectarage cultivated per farmer, distance the farmer travels to the farm, farm productivity and intensity of landuse. These variations result from cultural and physical differences among the communities.

Planting comes up earlier in Isi-Uzo than the rest of

the local government areas. As early as October/November, farmers in Isi-Uzo particularly in Eha-Amufu and Mbu, have already cultivated yam mounds. It was discovered that soils in the area become sticky and difficult to cultivate during the rainy season. As a result, farmers make mounds before the onset of rainy season. In other local government areas, making of mounds and planting of seeds begin around March (after the onset of rainy season).

The most common method of cultivation is mound. The sizes of the mounds also vary with locality. In Eha-Amufu and Mbu, large mounds are made. This is done to check flooding of farm lands and washing away of the farm crops during the rainy season. Relatively large mounds are also made in Eha-Alumona. In other communities, small mounds are usually cultivated.

Generally, the size of farm lands is small in Nsukka area, although some farmers have fairly large farmlands (up to 10 Ha.). The size depends on community, family size of the farmer and method of acquiring land. Table 1 shows that communities in Isi-Uzo and Uzo-Uwani have larger farm lands per farmer than communities in other local government areas.

**TABLE 1: Average Size of Farmland Per Farmer
By Local Government Area**

<u>Local Govern- ment Area</u>	<u>Average Size of Farm Land (Hectares)</u>
Igbo-Etiti	2.3
Igbo-Eze North	2.4
Igbo-Eze South	2.0
Isi-Uzo	4.1
Nsukka	2.2
Uzo-Uwani	6.3

Source: Fieldwork 1992

Two types of farmlands are identified in Nsukka area. These are the compound farmlands and outer farmlands. Compound farm lands which surround compounds and settlements are more intensively cultivated and are fertilized by farm yard manure. Because of short distance of the farmlands to the homes, frequent visits to the farms are usually made in a day. Crops that are frequently used are cultivated in the compound farm lands. These include, vegetables, pepper, beans and maize. Other crops cultivated in the compound lands include, yam, cocoyan, oilpalm and plantain.

The outer farm lands are more common among daughter settlements known locally as 'Agu' where farmers travel some distance before getting to the farms. Farmers usually go to

the farms early in the morning and come back in the evening. Outer farmlands are less intensively cultivated than the compound lands. The main crops grown in the outer farmlands are yam, cassava, cocoyam, maize, guinea corn and pigeon pea. Fruits like oranges, pawpaw, banana and pineapple are also produced in both the compound and outer farmlands.

To make maximum use of the available farm lands, farmers in Nsukka area grow the aforementioned crops in combination. However the number of crops combined depends on the type of farmland, size of the farmland and the type of crop(s) grown. More crops are combined in the compound lands than in the outer farm lands. By taking a total count of crops in the farm lands during the 1992 growing season, an average of 10 crops were found to be combined in the compound farm lands, while an average of 8 crops were found in the outer farm lands. Because of the shorter distance of the compound lands to the homes of the farmers, more crops are combined to meet up with the frequent food needs of the farmers and their families.

It was also discovered that the smaller the size of the farmlands, the more the number of crops combined. This again is an attempt by the farmers to raise as much as they can, the many crops required for their meals and sales in the available farmlands. Table 2 illustrates the relationship between size of farm lands and crop combinations.

TABLE 2: Size of Farmlands and Number of Crops
Combined on Local Government Area Basis

Local Government Area	Average Farm Size per farmer	Number of Crop Combinations
Igbo-Etiti	2.3	14
Igbo-Eze North	2.4	10
Igbo-Eze South	2.0	14
Isi-Uzo	4.1	9
Nsukka	2.2	11
Uzo-Uwani	6.3	7

Source: Fieldwork 1992.

The study further reveals that some crops because of their high nutrient requirements are not amenable to combination with many crops. A good example is cocoyam which is either cultivated singly or combined with few crops like maize and vegetable.

One major feature of agricultural operation in Nsukka is the dominance of crop production over livestock rearing. Livestock production is in-significant in the study area although most farmers keep poultry, sheep, pigs and goats. In most cases the livestock kept are few in number and raised by free range system. However, in Igbo-Etiti, rearing of dwarf cattle is prominent.

As a result of the dominance of crop production over livestock production, division of Nsukka area into agricultural zones is usually done by using crop association

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As a result of the dominance of crop production over livestock production, division of Nsukka area into agricultural zones is usually done by using crop association

(Uzozie 1978). Based on the classification made by Uzozie (1978), Nsukka area has the following agricultural zones.

1. Rice/Maize/Yam with coconuts and oilpalm.
2. Yam/Maize/Pigeon Pea with some oilpalm.
3. Cassava/Maize/Pigeon Pea with some oilpalm and irvengia.
4. Cassava/pigeon Pea/some oilpalm/parkia.
5. Yam/Maize/Cassava/Pigeon Pea/oilpalm.

Figure 4 shows the areas covered by each agricultural zone.

2.2 STRUCTURE AND SPATIAL ORGANISATION OF RURAL INDUSTRIES

The structure of an industry usually refers to the internal arrangement of the elements that constitute the industry. It is normally described in terms of the scale of operation of the industry, its investment value, number and composition of the employees among other characteristics. Spatial organisation in the other hand refers to the arrangement of the industries in space. It is therefore important that we analyse the structure and organisation of rural industries in Nsukka area so as to ascertain how they affect industrial performances in the area.

2.2.1 Structure of Rural Industries

Rural industries in Nsukka are predominantly on small scale operation. In fact, majority of the industries surveyed were found to belong to the very small scale or artisanal industries according to Page (1979). Table 3 shows the

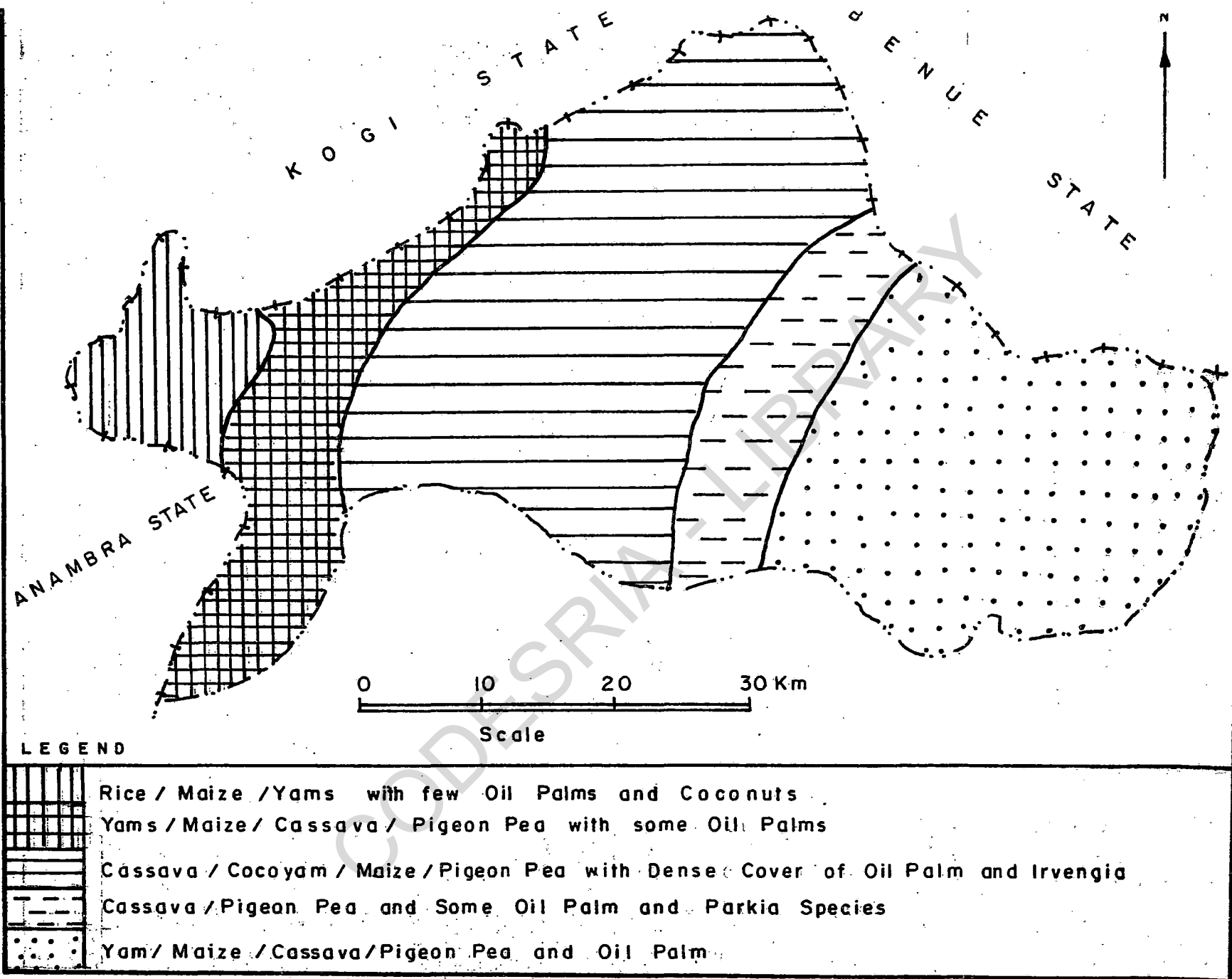


Fig. 4 : AGRICULTURAL ZONES OF NSUKKA AREA

(After Uzozie, 1978)

distribution of rural industries by size using Page's (1979) classification.

TABLE 3: Number of Industries In Each Industrial Type According To Scale of Operation

Type of Industry	No. Under Very Small Scale (Less than 10 Employees)	No. Under Small Scale (10-50 Employees)
Distillary	18	2
Food Processing/Milling	16	4
Pottery	20	-
Weaving	20	-
Blacksmithing	20	-
Total	94	6

Source: Fieldwork 1992

Rural industries in the area is also characterized by a high proportion of individual enterprises. Evidence from Table 4 shows that 60% of the industries are under individual unit of production. Only 2% of the industries are under partnership.

TABLE 4: Industrial Types And Units of Production

Type of Industry	Units of Production			
	Individual	Household	Partnership	Co-operatives
Distillery	10	10	-	-
Food Process/ Milling	18	-	2	-
Pottery	16	4	-	-
Weaving	16	2	-	1
Blacksmithing	-	20	-	-
Total	60	36	2	2

Source: Fieldwork 1992.

Another important feature of rural industries in Nsukka area is great variation in investment value with industrial type. The total investment value for the 100 industries surveyed is ₦209,3000. However only distillery and food processing have significant values. The two industrial types account for 52.5% of the total investment value. Weaving and pottery have very low investment values (Table 5).

There is also a considerable variation in number of employees. Table 6 indicates that only 250 workers including apprentices are employed in the 100 industries. Again distillery and food processing have the highest shares.

Another striking feature of the industries surveyed is

TABLE 5: Average Investment Value By Industrial Type

Industrial Type	Investment Value #
Distillery	48,800
Food Processing	61,000
Pottery	500
Weaving	350
Blacksmithing	1,000

Source: Fieldwork 1992.

the variation in sex composition in the industries. Table 7 shows that there is complete absence of male in pottery and weaving. It is not the tradition of men to engage in the two activities in Nsukka area. Similarly women do not engage in blacksmithing and distillery partly because of tradition and partly because of the tedious nature of the activities. Blacksmithing and distillery require hard labour and so do not appeal to women.

TABLE 6: Total Number of Employees Per Industrial Type (Including Apprentices)

Industrial Type	Number of Employees
Distillery	98
Food Processing	52
Pottery	20
Weaving	20
Blacksmithing	60
Total	250

TABLE 7: Sex Composition of Employees By Industrial Type

Industrial Type	Sex Composition	
	Male	Female
Distillery	98	-
Food processing	47	5
Pottery	-	20
Weaving	-	20
Blacksmithing	60	-
Total	205	45
Percentage	82	18

Source: Fieldwork 1992.

2.2.2 Spatial Organization of Rural Industries

The most outstanding feature of rural industrial activities in Nsukka area is the geographical concentration of the industries in few communities. Pottery for instance, is only found in Mbu, Neke, Ogurogu, Adaba, Ukpata and Eha-Ndiagu. However, Eha-Ndiagu is the most famous pottery community because of large number of women who engage in it in the community. Here the entire women in a village known as Ezebunagu engage in pottery. Many reasons account for the predominance of pottery in the community. First, is the abundance of raw material (clay) in the area. Second is the presence of Nkwoagu market which serves as the outlet for the products of the industry. People from different parts of the study area come to Nkwoagu to buy

pots, There is also abundant supply of fire wood(for heating) at Eha-Ndiagu and this equally helped in the development of pottery in the area.

Blacksmithing has similar concentration in few communities. It is a predominant economic activity in Umu-Ugwu village in Eha-Alumona. Every family in this village engages in blacksmithing. Although blacksmithing can be found in many communities in Nsukka area, they are usually few in number and are extremely scattered in those communities other than Umu-Ugwu. We discovered from field investigation that every person from Umu-Ugwu village is an 'Eguru'. In Nsukka area, one is not allowed to engage in blacksmithing unless he is an 'Eguru'. The concentration of Eguru at Umu-Ugwu has therefore led to a greater number of blacksmithing industry in the village.

Similarly, food processing and milling are concentrated in Eha-Amufu and Adani. Adani is more prominent because of the presence of government owned Adani Rice Project and World Bank Rice Project. The fertile plain land in the area has also attracted both small and large scale farmers who engage in the production of rice, beans, tomatoes, cassava and maize. Consequently many food processing industries are located here. There are 11 Rice Mills at Adani, one belonging to Adani Rice while the rest are privately owned.

In addition, since the establishment of farm settlement at Adani in 1965, the community has been witnessing influx of migrants. As a result, labour is easily available.

The clustering of industries (mostly agro-based rural industries) at Adani are therefore explained by economic and political factors including availability of both raw materials and labour and government policy on rural development through the establishment of farm settlements.

The concentration of distillery at Ovoko is also explained by economic factor. Ovoko has poor agricultural resources mainly because of infertile soil. As a result most of the inhabitants turn to non-farm activities, thereby making labour available for rural industries. Secondly the nearness of the community to Orie Orba market means that the products of the industries are easily sold. In addition the entrepreneurs have realized that a lot of advantages are derived from localization of industries, hence the concentration of distillery at Ovoko.

Weaving has similar economic factors that restrict its operation to Edem Ani. The reasons for the concentration of rural industries in Nsukka area, therefore, range from economic to socio-cultural factors. However pottery concentration is also explained by historical factor associated with slavery. Although there is no more slavery, entry into

the occupation has remained restricted to the people in the aforementioned communities formerly regarded as slaves.

2.3 PROBLEMS OF AGRICULTURE AND RURAL INDUSTRIES

There are many obstacles limiting the operations of agriculture and rural industries in Nsukka area. The problems range from physical to socio-cultural as well as economic considerations. The identification of these problems is necessary since this will enable us recommend measures that will put both sectors of the rural economy in the right path for effective rural development.

2.3.1 Problems of Agricultural Development

The main obstacle to a radical change in agriculture in Nsukka area is the tradition of land tenure system that results in scattering of land holdings, thus preventing consolidation of lands. Land consolidation is a prerequisite for modern agricultural development because it makes mechanization and other modern techniques of farming possible.

Secondly, the age composition and educational qualification of the farmers are other serious obstacles to agricultural development in the area of our study. Most of the farmers interviewed are old and illiterate. (Table 8).

TABLE 8: Educational Qualification of Farmers By Local Govt. Area

LOCAL GOVERN- MENT AREA	HAD NO FORMAL EDUCATION	F.S.L.C	WASC
Igbo-Etiti	32	6	2
Igbo-Eze North	30	10	-
Igbo-Eze South	34	6	-
Isi-Uzo	20	18	2
Nsukka	28	8	4
Uzo-Uwani	36	4	-
Total	180	52	8
Percentage	75	22	3

Source: Fieldwork 1992.

The overall effects of the age and educational status of the farmers are low rate of innovation adoption, low productivity and low income to the farmers.

Furthermore, agricultural development is being hampered by scarcity of fertilizers. In most rural communities, fertilizers are out of reach of the farmers. For instance, a bag of N.P.K. fertilizer was selling at ₦200.00 during the fieldwork (May - Dec. 1992). The scarcity and high cost of fertilizers are serious threats to agriculture since the lands are continually being cultivated and need replenishment of lost minerals.

High cost of labour is another strangulating factor to agriculture in the area. This results from out-migration

of youths to the urban areas. Consequently, few youths who remain in the village to do farm work, charge exorbitantly for farm operations. During the field study, a mound of yam cost ₦10.00 at Eha-Amufu.

Bad roads and high cost of transportation also hinder agriculture in Nsukka area. The problem of road transportation is more acute in the rainy season than in the dry season. At Mbu for instance, whenever it rains, farmers will have no way of evacuating their products because ^{the} roads ^{the} will become swampy and slippery. As a result of bad roads, transportation cost is usually high in the communities surveyed.

Other problems of agriculture in the area which we identified include; lack of extension agents to educate the farmers on modern farming techniques, shortage of fund for expansion and modernization, lack of storage facilities and inefficient methods of weeds and pests control.

2.3.2 Problems of Rural Industrial Development

One of the major obstacles to rural industrial development in Nsukka area is inadequate capital. The area is characterized by low income, high dependency ratio which results from high fertility and extended family relations and high propensity of the people to spend especially for festivals and burial ceremonies. Consequently, there ~~are~~ little or no savings, thereby limiting capital for industrial development.

There is also the problem of acquiring credit. Most rural dwellers interviewed do not have access to banks, either because of non existence of banks or because of lack of knowledge of the services provided by banks. Even where banks exist or when the rural dwellers have access to them, lack of collateral and high interest rate prevent them from acquiring credit from the banks. These also boil down to inadequate capital for establishment of rural industries.

Labour shortage is also hampering the development of most rural industries in Nsukka area. The shortage is however more acute in pottery, weaving and blacksmithing. Pottery and weaving which are predominantly female occupations do not appeal to the educated and young women because of low income derived from them, the way people look (with contempt) on those who engage in the activities and low level of technology applied in the industries. For pottery, there is also the fear of being identified as a slave, so people shy away from the activity. Blacksmithing although male occupation, faces similar situation. It is therefore difficult to acquire labour for these industries.

High cost of raw materials and scarcity of spare parts are also threatening the existence and survival of rural industries in the study area. However these problems affect only food processing/milling and distillery.

2.4 LOCATION AND ORGANIZATION OF RURAL MARKETS FOR AGRICULTURAL AND INDUSTRIAL PRODUCTS

Rural markets are kinds of formal exchange mechanisms which are conventional elements of grassroot economic organisation in most rural communities (Goods, 1971). They are predominantly periodic and show considerable variations in sizes and functions. The functions of rural periodic markets include:

- i) The sale and purchase of crops, livestock, local and imported manufactured goods and craft articles.
- ii) Provision of services such as repair of bicycles, motorcycles, watches, etc.
- iii) Inter-personal and community socialization.

Rural markets are therefore important to agriculture and rural industries because the markets serve as outlets for their products as well as places of purchase of the required inputs. Rural markets are therefore crucial for the development of agriculture and rural industries in particular and rural development in general, hence the inclusion of location and organisation of rural markets in this chapter.

Rural markets are classified according to sizes and functions, spatial and temporal arrangement and economic orientation (Mbagwu 1978). These classes are important

because they help in understanding the relationship between rural markets and the organisation of the markets into a system.

Many criteria are used in classifying markets according to sizes and functions. These include:-

- i) Number of firms or services provided by the markets.
- ii) Sales operation
- iii) Catchment area of the markets.
- iv) The way local people distinguish and perceive their markets (since every market is known by repute, it can be ranked by the people).

An examination of the spatial distribution of markets in Nsukka area reveals that every community in the area has at least one market. However, as we have noted earlier, there is considerable variation in sizes and functions of these markets. Table 9 shows the distribution of rural periodic markets in the surveyed communities.

TABLE 9: Number of Rural Markets In The Communities Surveyed

Community	Number of Markets
Aku	2
Ohodo	1
Iheakpu-Awka	1
Ibagwa-Aka	1
Nimbo	2
Mbu	2
Eha-Amufu	1
Ukpata	1
Eha-Alumona	3
Umuozzi	1
Essodo	5
Edem	1
Ovoko	2
Eha-Ndiagu	1
Edem	1
Total	21

Source: Fieldwork 1992.

Using the perception and rankings of rural markets by the respondents, the four most important markets in Nsukka area were identified. These markets are; Orié Orba which ranks first, Afor Obollo, Nkwo Ogbede and Nkwo Ibagwa which rank 2nd, 3rd and 4th respectively. Table 10 shows the distribution in time and space of major markets in Nsukka area. From Table¹⁰ and Figures 5 and 6, we can observe that Eke markets have the highest occurrence, followed by Nkwo,

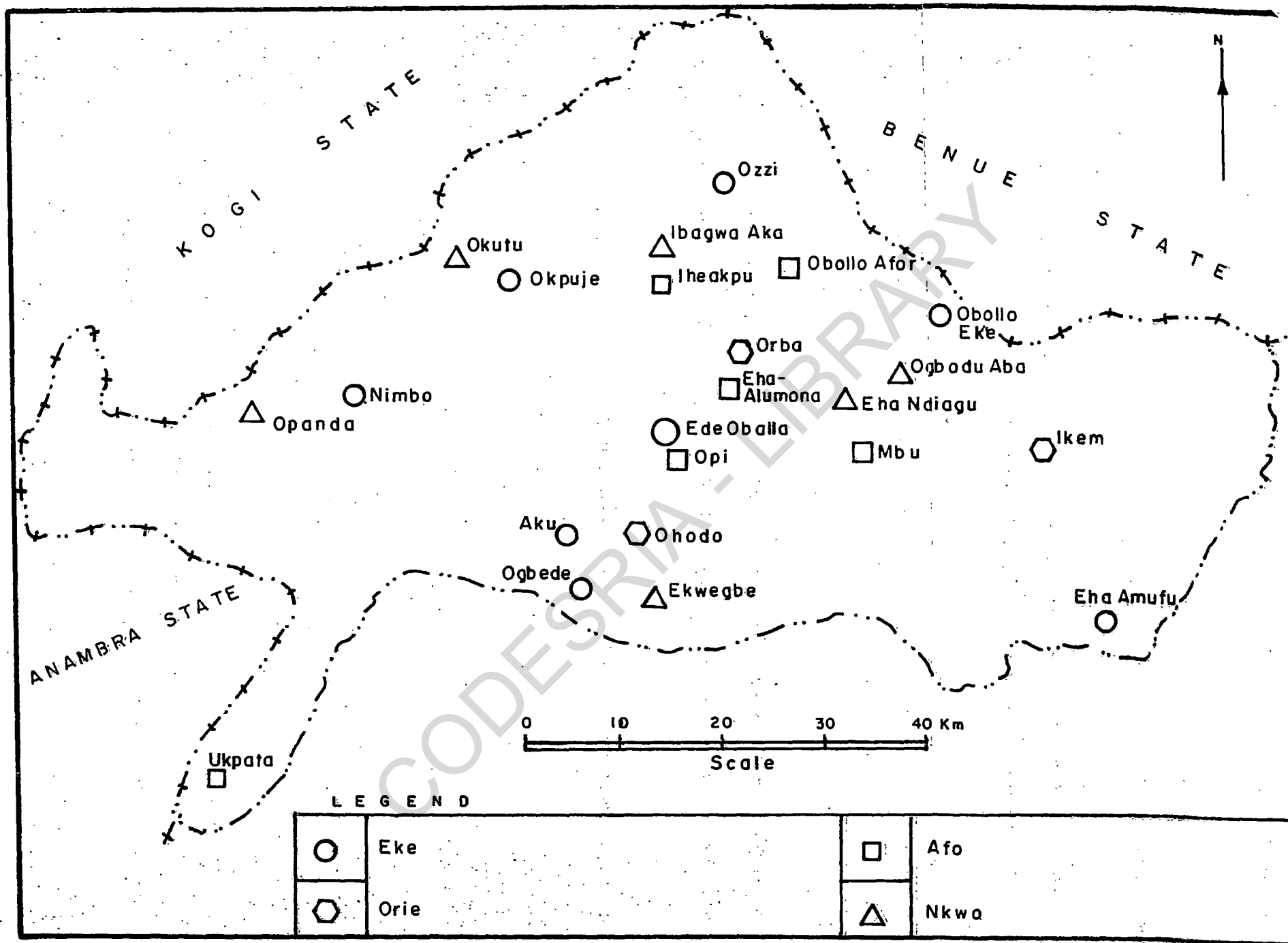


Fig. 5: SPATIAL DISTRIBUTION OF RURAL MARKETS IN NSUKKA AREA.

(Source : Fieldwork, 1992)

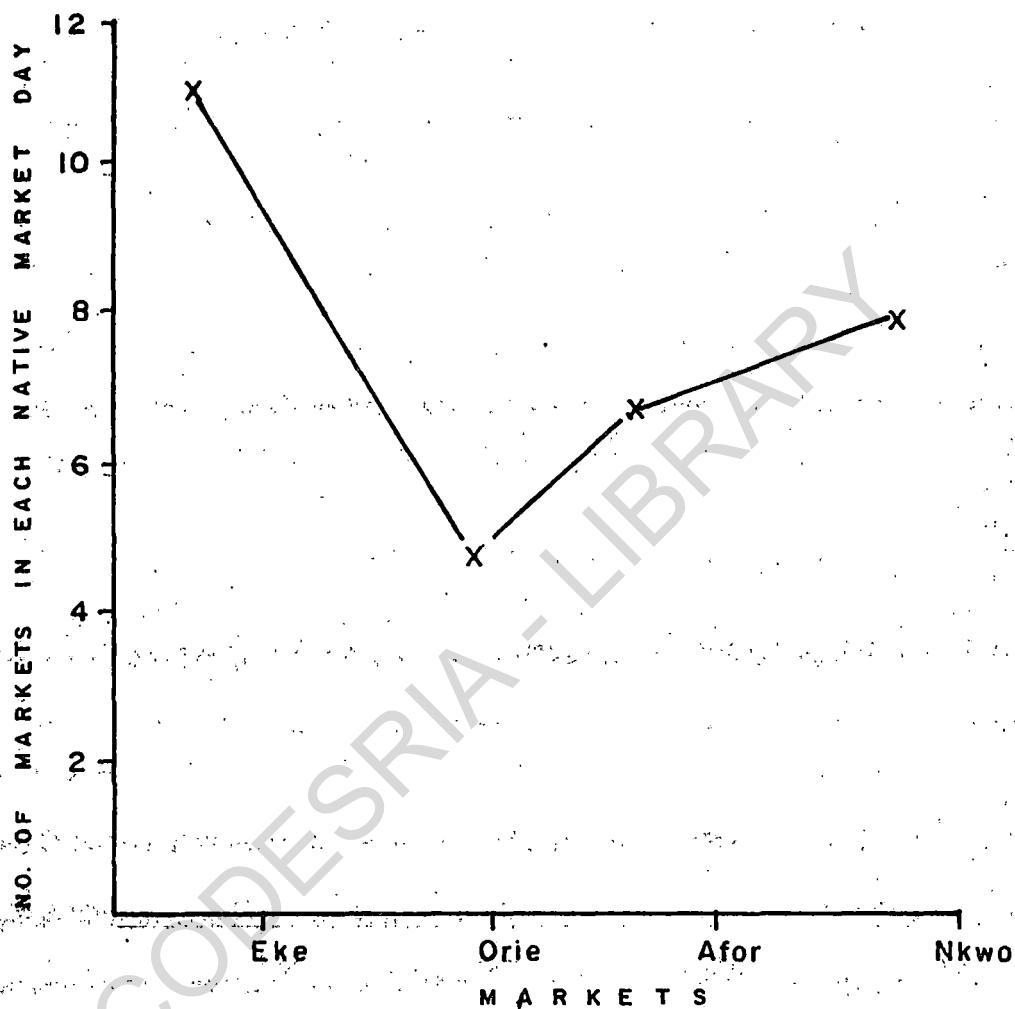


Fig. 6: TEMPORAL ORGANIZATION OF RURAL PERIOD MARKETS IN NSUKKA AREA.

(Source: Fieldwork, 1992)

Afor and Orie in that order. Orie which has the highest order market (Orie Orba) therefore has the lowest occurrence of markets. This is explained by the fact that other markets do not compete favourably with Orie Orba market. Field investigation also revealed that markets that occur the same day are widely spaced to avoid competition from the same service area.

The organisation of rural markets described above has important implication for rural linkages. According to

TABLE 10: Temporal and Spatial Distribution of Periodic Markets in Nsukka Area

Eke	Orie	Afor	Nkwo
Abbi	Adani	Opi	Ibagwa Aka
Opanda	Orba	Eha-Alumona	Eha-Ndiagu
Ede-Oballa	Opanda	Obollo Afor	Mbu
Ozzi	Ohodo	Mbu	Aji
Obollo-Eke	Ikem	Ukpata	Ogbede
Eha-Amufu		Umuagama	Ekwegbe
Aku		Iheakpu	Ogbodu Aba
Nimbo		Ovoko	Okutu
Eha-Alumona			
Umulokpa			
Opi Adu			

Source: Fieldwork.

Ranis and Stewart (1987), rural backward linkages are stronger if non farm inputs produced locally were used locally for agricultural production. This means that there

will be more linkage effects when farmers buy locally produced implements like hoe, cutlass etc. within the locality than when such items were brought from outside. Purchases outside the locality are usually seen as leakages from the rural economy, even though such purchases might be used for further production in the locality.

Similarly, sales of farm products within a locality bring about strong rural linkages in the locality. However this may not lead to increase in rural income which would be the case if such products are sold outside the locality (especially urban markets) where prices are higher. The places of sales of farm products and purchases of farm inputs are therefore important factors of rural economy which influence greatly the rate of rural development.

Evidence from field investigation shows that majority of the farmers sell their products in the local market(s) within their communities. This accounts for 58.33% (Table 11). The table further indicates that Isi-Uzo sales a larger quantity of farm products at urban market outside the area of study than other local government areas. This is because of its close proximity to Enugu Urban. The distance from Eha-Amufu to Nsukka is 59.6 km, while the distance from Eha-Amufu to Enugu is only 44.5 km.

Rural communities in Nsukka local government area, as seen in Table 11 sell more products in Nsukka urban market

than the rest of the local government areas. This can again be explained by the proximity of the communities to the urban centre.

TABLE 11: Places of Sales of Farm Products
By L.G.As In Nsukka Area

Local Govern- ment Area	Areas of Sales by Respondents			
	Local Market	Neighbour- ing Market	Urban Market in the zone	Urban Mar- ket outside the zone
Isi-Uzo	16	-	-	24
Nsukka	18	4	18	-
Igbo-Etiti	24	6	6	4
Igbo-Eze South	34	6	-	-
Igbo-Eze North	26	12	2	-
Uzo-Uwani	22	8	8	2
Total	140	36	34	30
Percentage	58.33	15.00	14.17	12.50

Source: Fieldwork 1992.

It was discovered from the study that 69.2% of the respondents buy their implements from outside their communities. Majority of the purchases were made at Orié Orba which as we said earlier is the largest rural market in the area. Only 30.8% of the purchases were made within the communities surveyed.

The purchases were mainly done at Orié Orba because of lower prices of the implements in the market. Because of large supply of the implements from different communities

in and outside the zone, prices are relatively lower than in other rural markets. Only very few of the implements are sold in the urban markets and are sold at exorbitant prices, hence the little or no purchases of farm implements from urban markets.

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CHAPTER THREE

LINKAGES BETWEEN AGRICULTURE AND RURAL INDUSTRIES

3.1 TYPES AND HYPOTHETICAL NATURE OF LINKAGES

This chapter deals with the interactions between agriculture and rural industries. The interactions as we have earlier observed do occur through three principal paths viz: consumption, forward and backward linkages. These interactions can however be illustrated against the background of existing theory of such relationships. This has been aptly outlined by Ranis and Stewart (1987) as follows:

- i) inter sectoral commodity exchange,
- ii) inter sectoral finance flow,
- iii) inter sectoral labour migration,
- iv) inter sectoral exchange of information.

Linkages as implied by the above relationships involve movement of goods, finance, labour or information from one sector of the economy to the other. Inter commodity exchange from agriculture refers to the total agricultural output that goes to agricultural households for self consumption and the part that goes into non-agricultural households. This is referred to as the total agricultural surplus. Similarly, total output of the non-agricultural sector is partly consumed by the non agricultural households while the rest of the non-agricultural output takes the

form of investment goods, non-agricultural goods or goods bought by agricultural sector, the components which are further divided into rural inputs for agriculture and consumer goods for agricultural households.

The agricultural production sector makes factor payments for rural inputs. The income received by agricultural households is either spent on consumption or saved, thereby flowing into the finance sector. In the same way, non-agricultural household sector makes payment for lands and labour and the income from the sector is also either saved or spent on consumption. The savings from agriculture and non-agricultural sectors together constitute the total saving funds of the rural economy that finance investment in the rural areas.

In addition to the commodity and finance flows, intersectoral labour movement also occurs. This is mainly the re-allocation over time of a portion of the agricultural labour force to the non-agricultural sectors as non-agricultural labour. A further linkage of note is the technology information/education flow from non-agriculture to the agricultural sector. This flow enhances agricultural productivity through increased literacy level among farmers and the application of agricultural research and development.

At an early stage of economic development, the size of the total agricultural surplus is critical to the development

of the whole economy. This is because the development of agricultural surplus constitutes an essential pre-requisite for the growth of the non-agricultural economy. This surplus is also required for the re-allocation of labour from agriculture to non-agricultural sectors.

The various relationships between agriculture and non-agricultural sectors of the rural economy can therefore be summarized by saying that an increase in agricultural productivity generates demands for the non-agricultural sectors, while growth in non-agricultural sectors in turn raises demands for the outputs of agriculture. The purpose of this chapter is to relate rural linkages in the area of our study with the hypothetical expositions outlined above.

3.2 FACTORS THAT INFLUENCE THE STRENGTH OF LINKAGES

The magnitudes of rural linkages are influenced by many factors. The following are highlights on some of the factors.

(i) Income Distribution: In the opinion of Ranis and Stewart (1987), a more equal distribution of income tends to be associated with higher propensity to consume goods in general, but a higher propensity to consume food in particular and lower propensity to consume non-food (goods and services). Even distribution of income may also tend to be associated with a greater propensity to consume goods produced locally in the rural economy.

(ii) Asset Distribution

More equal distribution of lands tends to be associated with high local consumption linkages, but lower backward linkages. However if the inputs that are used by small scale farmers involve a larger elements of local production than those of large scale farmers, backward linkages might be high.

(iii) Crop Composition

Crop composition determines the type and quantity of inputs used for crop production. Some crops require more labour and therefore a higher consumption linkages, while others use more capital or other factor inputs. The development of labour intensive crops and those suitable for local processing also affect potentials for increased consumption and forward linkages.

(iv) Supply Factor

Linkages between agriculture and rural industries may be enhanced by the provision of various facilities including electricity, roads, schools, research and extension services. Improvement of rural-urban roads may however increase the extent of national linkages but reduces local linkages. This is true since it becomes easier for consumers to obtain their supplies from urban markets and process them in the urban areas.

(v) Level of Technology: The level of technology affects the quantity and quality of agricultural and non-agricultural products. Mechanized farming for instance, produces a larger output than labour intensive farm operations. Consequently, more products are turned out for processing and this in turn results in higher financial flow from one sector to another.

3.3 MAGNITUDES AND PATTERNS OF LINKAGES

We have seen that the magnitudes of rural linkages are influenced by many factors. We have equally observed that the strength of the factors in turn depends on the level of economic development a community has attained. As such, the magnitudes of rural linkages vary across rural spaces. At this juncture, there is need to assess the strength and patterns of variation of the rural linkages among the surveyed communities in the study area.

3.3.1 Strength And Pattern Of Forward Linkage.

Forward linkage occurs through the processing and distribution of agricultural products. This means that there must be movement of commodity and finance from agriculture to rural industries before forward linkage is said to result. The agricultural products usually processed in Nsukka area include, cassava for garri production, grinding of dried cassava tubers, maize and groundpea into flour and rice

milling. The magnitude of forward linkage may therefore be obtained by assessing the relationship between income from agriculture and the amount spent on processing of the agricultural products. Where the amount is high, then there is high inter-sectoral finance flow between agriculture and rural industries. But where little or no amount is spent on local processing of agricultural products, the linkage is said to be weak.

It was discovered from the study that there is relatively high income expenditure on processing of agricultural products in Nsukka area. However, this like other geographical phenomena vary from locality to locality. The study reveals that expenditure on processing of food and other agricultural products is greater in communities that are farther away from Nsukka urban market. Thus, Ukpata, Nimbo and Eha-Amufu account for 55% of the total expenditure on food processing among the sampled communities (Table 12). Reasons for the higher expenditure include; higher agricultural outputs from the remote communities and consequent higher income from agriculture, higher cost of transportation of products, and machine inputs among others.

The quantitative magnitude of forward linkage which was determined by Pearson's moment correlation co-efficient shows a high positive value of 0.79. Many reasons account

for the high positive correlation co-efficient. Among them is the shift from traditional method of processing agricultural products by pounding in mortars and grinding on stones to modern processing using machines. It is now a common feature to see children and women line up in front of food processing and milling machines to grind food for meals and commercial purposes. The strong forward linkage also results from increased agricultural products brought about by improved agricultural techniques, and a well integrated rural markets which in turn brings about inter-community exchange of goods and services.

TABLE 12: Average Income From Agriculture Spent
On Rural Industrial Goods and Services Per
Annum Per Farmer

S/No.	Community	Income . Expenditure				
		Blacksmith- ing	Dis- tillery	Milling and Pro- cessing	Pott- ery	Wea- ving
		₦	₦	₦	₦	₦
1.	Edem	200	1200	368	100	-
2.	Ukpata	500	2000	456	160	-
3.	Nimbo	320	2200	448	240	-
4.	Aku	300	1800	460	210	-
5.	Ohodo	230	400	200	220	20
6.	Eha-Alumona	220	300	112	40	0
7.	Ibagwa-Aka	240	40	80	60	-
8.	Umuoizzi	250	0	108	20	-
9.	Essodo	260	10	134	20	20
10.	Eha-Amufu	500	600	550	300	30
11.	Mbu	360	200	226	180	20
12.	Iheakpu Awka	200	210	64	20	-
	Total	3,580	8,960	3,206	1,570	90

Source: Fieldwork 1992

3.3.2 Magnitude and Pattern of Consumption Linkage

Consumption linkage is the type of interaction that also results from the flow of finance between agriculture and rural industries. This interaction takes place when income from agriculture is spent on the purchase of goods and services from the rural industries. The goods normally

purchased in Nsukka area include, pots for various uses, locally made hot drinks popularly known as kaikai or ogogoro and cloths.

We discovered that significant amount of money is being spent on rural industrial goods and services in the study area. The pattern of expenditure again shows an increase in amount spent on locally made goods with distance from Nsukka urban market. The reason is that whereas communities close to Nsukka urban market make greater use of modern manufactured goods such as plastic containers, aluminum pots and take modern distilled wines, remote communities rely more on local products because of either non availability or high cost of modern manufactured goods. The situation arises because of bad roads and high cost of transportation which limit interaction between the communities and the urban centre.

Table 12 shows that farmers in Igbo-Eze North spend little or nothing on hot drinks because of availability of fresh palm wine in the local government. The local government area is regarded as the home of palm wine in Enugu state.

Consumption linkage can also be determined quantitatively by applying Pearson's Moment Correlation co-efficient, This can be obtained by correlating income from agriculture and the amount spent on purchase of consumer goods from

rural industries. By applying this statistical method, a **positive** correlation co-efficient of 0.60 was obtained as shown in Appendix B₂.

From the above result, it is clear that there is a close interaction between agriculture and rural industries through consumption linkage. The close interaction may be attributed to the high propensity of farmers to take locally made hot drinks after farmwork, during festivals and funeral ceremonies. Secondly, the diverse use of pottery products increases the demand for them all over the area, although the demand is higher at Isi-Uzo and Uzo-Uwani than the rest of the local government areas because of greater distance from urban market as we have explained.

3.3.3 Backward Linkage

The third and the last linkage we considered in this chapter is backward linkage. This results from the supply of implements and inputs to the agricultural sector by rural industries. Backward linkage is determined by the extent of inputs used in agriculture and how far the inputs are produced and applied locally.

In the study area, this type of linkage is limited to the supply and use of crude agricultural implements such as machetes, hoes, knives, axes, sickles and diggers and to the repair of these farm tools and equipment. Fertilizers and other inputs like chemicals are not locally made

do
and so/not influence backward linkage (although linkage may occur at the national level).

There is considerable variation in the pattern of expenditure on the implements and services. The amount spent on the procurement and servicing of farm implements depends on the distance of a community from major markets, income from agriculture and nature and durability of the implements. One of the reasons adduced for the relatively high income expenditure on farm implements in Isi- Uzo is the short life span of the implements which ^{is} caused by the nature of the soil in the area. At Uzo-Uwani, the implements are costly because of the far distance from Orie Orba where most of the implements are purchased. In addition, these two local government areas have larger farmlands, so more farmwork is done and this requires both more implements and more frequent use of them.

The magnitude of backward linkage was determined by applying the same statistical analysis as in the previous linkages. The result shows a positive value of 0.46.. This result again signifies a close interaction between agriculture and rural industries (Appendix B3)

3.4 DISCUSSION: TEST OF HYPOTHESIS

The first hypothesis we stated for evaluation in the study reads, "there is no significant interaction between

agriculture and rural industries in Nsukka area". We have seen from the analysis on rural linkages that the magnitude of various linkages varies in Nsukka area. The results obtained by using Pearson's Moment correlation co-efficient shows the following:

- i) Forward linkage $(r = 0.79)$
- ii) Consumption linkage $(r = 0.60)$
- iii) Backward linkage $(r = 0.46)$

It is obvious from the above results that forward linkage is the strongest linkage in our area of study, followed by consumption linkage while backward linkage trails behind. When these co-efficients were further subjected to multiple correlation analysis to ascertain the aggregate strength of the linkages, the following results were obtained:

- 1) Holding R_1 constant
 $R_{1.23} = 0.36$ or 36%
- 2) Holding R_2 constant
 $R_{2.13} = 0.68$ or 68%
- 3) Holding R_3 constant
 $R_{3.12} = 0.74$ or 74%

where $R_1 = 0.79$

$R_2 = 0.60$

$R_3 = 0.46$

The above illustration shows that significant value of 0.68

or 68% and 0.74 or 74% were obtained by holding R_2 and R_3 constant respectively. The aggregate linkage was further varified by correlating total income from agriculture and total amount flowing into rural industries. Again a high positive value of 0.71 was obtained (Appendix B4)

Based on the results of the statistical analysis and explanations made, we rejected the null hypothesis. In the alternative, we accepted that meaningful interaction is going on between agriculture and rural industries in Nsukka area.

3.5 CONSTRAINTS TO LINKAGES

Many obstacles impede rural linkages particularly backward linkage in Nsukka area of Enugu State. Those obstacles include:

- i) Production constraints among which are small size of farmlands, use of crude methods and implements for farming, inadequate inputs, inaccessibility of some farmlands due to poor road network, environmental hazards such as drought and occasional floods among others.
- ii) Marketing constraints which include poor prices of agricultural products, poor transportation networks and high cost of transportation.

Some of these problems have been highlighted in the previous chapter. The overall effect of these obstacles is low rural income. The limited income in turn gives rise

to limited amount being spent on local products and services. The limited finance flow from agriculture no doubt affects the quality and quantity of goods produced by rural industries. This explains why there is low backward linkage in Nsukka area.

3.6 SUGGESTED SOLUTIONS TO THE CONSTRAINTS TO RURAL LINKAGES

To enhance rural linkages, the following suggestions should be critically examined and taken into consideration by planners and policy makers.

First the issue of fertilizer supply and distribution should be re-addressed. The fertilizers supply is inadequate and the distribution system faulty. The current method whereby farmers get fertilizer through government authorized agents is not working out well as a result of corrupt practices. In most cases, the agents hoard and sell fertilizers at exorbitant prices. In view of the above, we suggest that the government pursue the proposed additional fertilizer plant at Onne and phosphate beneficiation plant at Sokoto (which will supply raw materials to fertilizers plants), with vigour to increase the supply of fertilizers. When this is done, the fertilizers should be sold direct to the farmers in the open markets like any other commodity.

Provision of more tractors and at reduced prices to the rural farmers are other considerations that need urgent attention. These will not only reduce the man-hour spent

on farmwork, but will also increase farm productivity and ameliorate problems of labour shortage.

Further more, proper attention should be paid to the education of the farmers on the use of improved seeds and modern techniques of farming. The impact of the extension workers employed by the Enugu State Agricultural Development Projects (ENADEP) is not being felt in Nsukka area. Most farmers still lack contact with the extension agents.

Finally, the issue of rural industrialization should as a matter of urgency be addressed by all those concerned with the development of rural communities. We advocate that the type of rural industries to be established be based on both local resources and agriculture so as to enhance the desired linkages. In other words, to strengthen the rural linkages and achieve rural development, rural industrialization process that has agriculture and local resources at the base as illustrated in figure 7 is necessary.

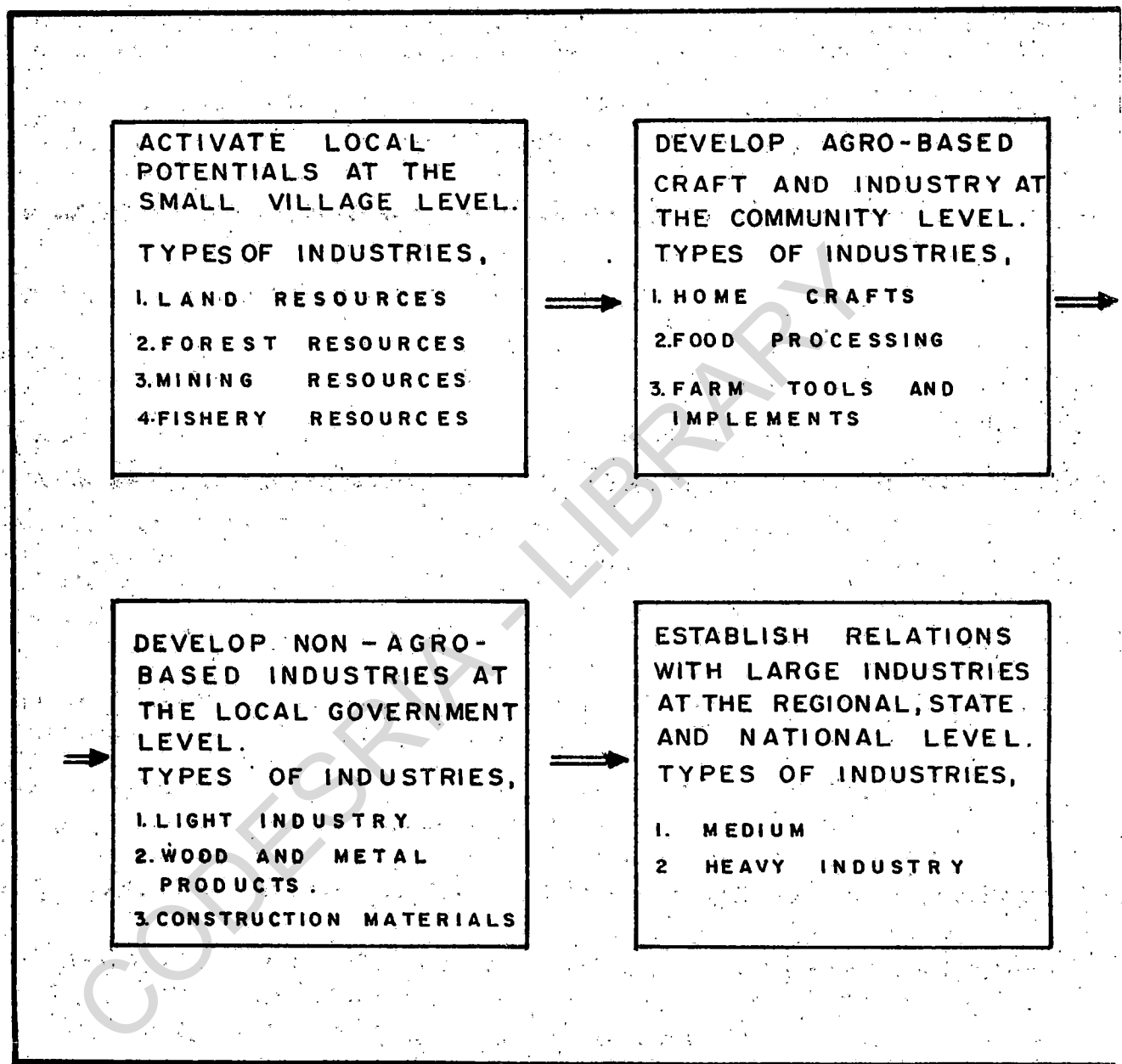


Fig.7 : STEPS TO RURAL INDUSTRIALIZATION

(After F.A.O., 1978)

CHAPTER FOUR

AGRICULTURE, RURAL INDUSTRIES AND RURAL DEVELOPMENT

4.1 INDICES OF RURAL DEVELOPMENT

There is no generally agreed indices used in establishing the degree of rural development. The problem of developing some parameters for usage in measuring the level of rural development stems from the varied conceptualization and definitions given to the concept of rural development (Okoye 1988). But as we noted in the introductory part of this work, the ultimate purpose of rural development is to bring about improvement in the lives and welfare of all rural dwellers. To assess the level of such human improvement, certain elements which can be viewed from the physical presence of facilities or the quality of life of the people in a place are therefore considered. Because of the varied nature of the indices used in the computation, the choice of indicators vary according to the researcher's approach and his/her field of study.

In this work, the space aspect of rural development which according to Okoye (1988) refers to the physical facilities in a place, was used to ascertain the level of rural development among the communities investigated. Thus, by assessing the number of physical amenities in the communities, the level of rural development was determined. The indicators or indices were weighted on the point scale of (1)

for lower order establishments or facilities, (2) for high order ones and (3) for the highest order amenities as follows:

A. Educational Institutions

- i) Tertiary 3
- ii) Secondary 2
- iii) Primary 1

B. Health Institutions

- i) Hospital 3
- ii) Maternity/Clinic 2
- iii) Dispensary 1

C. Recreational Facilities

- i) Civic Centre 3
- ii) Town Hall 2
- iii) Village Hall 1

D. Commercial Establishments

- i) Daily Market 3
- ii) Periodic market 2
- iii) Bank 3

E. Communication

- i) Post Office 3
- ii) Postal Agency 1

F. Public Utilities

- i) Electricity 3
- ii) Pipe borne water 3
- iii) Public well 1

The level of development a community has attained was then measured by the aggregate weighted score of each community on the aforementioned indicators, while the scores of communities in each local government area were added to give the local government area weighted score. To obtain the scores, a census of these indicators was undertaken in each community and the scores computed in each community by summing up the weighted scores. The scores in each community ~~are~~ shown in Table 13 while Table 20 shows the scores by local government areas.

TABLE 13: Computed Scores of Rural Development Indices On Community Basis

Community	Score of Social Amenities	Percentage
Ukpata	20	2.8
Edem	44	6.2
Nimbo	44	6.2
Aku	92	12.9
Ohodo	24	3.4
Eha-Alumona	107	15.0
Ibagwa Aka	61	8.4
Umuozzi	115	16.0
Essodo	69	9.7
Eha-Amufu	79	11.0
Mbu	29	4.1
Iheakpu-Awka	31	4.3

Source: Fieldwork 1992

4.2 THE ROLE OF AGRICULTURE AND RURAL INDUSTRIES IN RURAL DEVELOPMENT

Having looked at the operations of agriculture and rural industrial activities in Nsukka area, we shall now turn to the evaluation of the roles they are playing in rural transformation. Although we had earlier observed that the roles can be assessed by inter-sectoral interactions the emphasis of this work is on financial contributions towards development projects in the rural communities. Thus, the proportion of income from both agriculture and rural industries that go into the provision of social amenities in the rural areas was used in establishing the roles being played by the sectors in rural development!

4.2.1 The Role of Agriculture In Rural Development

We had earlier noted that agriculture is the dominant economic activity in Nsukka area, and that it provides employment for about 94% of the working population. It is therefore expected that majority of the income in the area comes from agriculture. But as we had also observed, most farmers combine agriculture with other economic activities. It is however ironical that income from these other sources is greater than income from agriculture. Agricultural income accounts for only 42.62% of the total income of the 240 respondents, while income from other sources accounts for the remaining 57.38% (Table 14).

In spite of the relative low income from agriculture, the sector performs some useful functions which contribute in one way or the other to the development of rural communities in Nsukka area. Apart from provision of employment already mentioned, agriculture also provides food for the rural dwellers. Furthermore, the income generated by the rural dwellers from agriculture is put into various uses. In the first place food items which are not produced in the communities or those not produced in enough quantity are purchased from agricultural income. Farm implements and other farm inputs are also bought by rural dwellers from agricultural income.

The farmers also purchase electronic items such as radio/radio cassette as well as other household facilities. Majority of the respondents (65%) reported having radio or radio/cassette while 4.2% were discovered to have television and other electronic items. Electronic items such as radio and television are important to rural development because they are media through which government disseminates information. They therefore help to link the communities in Nsukka area with other communities both at state and national levels.

TABLE 14: Annual Income Per Respondent
By Community

Name of Community	Income From Agric. #	Income From Other Sources #	Total Income Per Respondent #
Ukpata	6,500.00	4,000.00	10,500.00
Edem	4,800.00	6,000.00	10,800.00
Nimbo	7,000.00	3,800.00	10,800.00
Aku	8,500.00	12,400.00	20,900.00
Ohodo	3,500.00	2,500.00	6,000.00
Eha-Alumona	5,000.00	10,500.00	15,500.00
Ibagwa-Aka	1,105.00	8,500.00	9,605.00
Umuozzi	4,500.00	16,000.00	20,500.00
Essodo	5,000.00	9,000.00	14,000.00
Eha-Amufu	8,000.00	6,000.00	14,000.00
Mbu	7,500.00	4,500.00	12,000.00
Iheakpu-Awka	3,000.00	3,500.00	6,500.00
Total	64,405.00	86,700.00	151,105.00

Source: Fieldwork 1992.

Agricultural income is also used in improving the quality of residential buildings in rural areas of our study. It was an interesting discovery that 90.8% of the farmers now live in zinc roofed houses. This signifies changing morphology of rural settlement and hence rural transformation.

It was also discovered that agriculture is contributing to rural development in Nsukka area through its role in education. Most of the farmers spend a sizeable amount of money on the provision of education to their children and relations (Table 15).

Most communities do embark on self-help projects by mobilizing rural resources through development lunchings to achieve rural development. The incomes of the rural dwellers as well as those living in towns are mobilized through these lunchings for the provision of schools, markets, village halls, hospitals etc. Again income from agriculture is contributed towards the provision of these amenities. An average of ₦168.33 is being spent annually by farmers on the lunching activities.

TABLE 15: Average Annual Income Expenditure On Education Per Respondent On L.G.A. Basis

Local Govt. Area	Average Amount (₦)
Isi-Uzo	1,290.00
Uzo-Uwani	825.00
Nsukka	1,200.00
Igbo-Eze North	1,300.00
Igbo-Etiti	1,100.00
Igbo-Eze South	775.00

Source: Fieldwork, 1992 .

From the various contributions so far analysed, it is

clear that agriculture is important for rural development. However, when statistical analysis was applied to assess the strength of determinants of rural development, income from agriculture was found to be negatively correlated with rural development indices. The strength of each determinant was assessed by correlating each variable with the total score of social amenities which were used as indices of rural development. This method has been successfully applied by Akintola-Arikawe (1984) and Okoye (1984) with satisfactory results.

The main determinants of rural development as indicated by the result of the correlation analysis (Table 16) are, population, length of roads, road density and income from other sources. The influence of population on rural development is understandable, since most of the rural development projects are initiated and executed by the people themselves. The more the population, the more the resources that are mobilized for rural development. Even when the government provides the amenities, communities with large population are usually selected because it is more economical and viable to establish them in such populous communities.

Table 16 shows that population and income from other sources have equal influence and are the most important determinants of rural development. Sources of other income include; trading, salary and wages from government and

private establishments as well as other paid jobs, remittance from sons, daughters and relations living in towns among other sources.

Another important contributor to rural development is the total length of main roads. This is self explanatory

TABLE 16: Result of Correlation Co-efficient of Selected Determinants of Agriculture And Rural Development

S/No.	Selected Determinants	Correlation Co-efficient
1.	Population	0.88
2.	Land Area	0.35
3.	Average Farm size	-0.36
4.	Distance from Urban Market	-0.21
5.	Total length of Main roads	0.64
6.	Road Density	0.57
7.	Income from Agriculture	-0.39
8.	Income from other sources	0.88

Source: Fieldwork 1992

since roads determine the ease at which goods and people move in and out of a community. This also explains why road density is positively correlated with rural development indices.

Table 16 also reveals that there is weak positive correlation coefficient between land area and rural development indicators, while income from agriculture and distance from

urban market are negatively correlated.

In addition to the factors shown in table 16, evidence from field investigation shows that the quality of the population, how co-operative the people are, and the existence of peaceful condition in a community are crucial elements of rural development. Other factors include number of viable social clubs, societies, and age grades as well as number of indigenous sons and daughters in government and highly placed working places. In Eha-Alumona for instance, most of the major rural development projects were initiated and executed by clubs, societies and age grades which include Eha-Alumona Social Club, Agbamere Progressive Union and various age grades.

In Aku and Umuozi communities, rural development is highly influenced by contributions and remittances from wealthy business men and women living in towns and cities. Rural development in the communities is also influenced by those highly placed individuals in government and private/international organisations, who use their influences and positions to attract the attention of government and international organisations to their communities.

4.2.2 The Role Of Rural Industries In Rural Development

Rural industries although small in number and geographically concentrated in few communities, are performing some

useful functions in the transformation of rural communities in our area of study. In the first place, they provide goods and services to the rural dwellers. The goods include:

1. Locally distilled hot drink which is popular in most villages and usually taken after farmwork or during festivals and funeral ceremonies.
2. Pots and bowls of different shapes and sizes which include;
 - i) Sacrificial pots
 - ii) Pitcher used for collecting water.
 - iii) Water storing pots.
 - iv) Cooking pots.
 - v) Palmwine pots.
 - vi) Cassava fermenting pots
 - vii) Oil storing pots.

The services rendered by the rural industries include repair and servicing of farm implements, food processing such as grinding of maize, groundpea, and cassava into flour and processing of cassava into garri.

Furthermore, rural industries provide employment and income to few people that engage in them. The income from rural industries together with income from other sources are put into various uses such as purchasing of food items, clothes, building materials, household facilities, education

for the negative correlation with rural development. The result of the correlation co-efficient shown in Table 18 indicates that major determinants of rural development are population, income from other sources, total length of main roads and road density.

TABLE 18: Correlation Co-efficient of Determinants of Rural Industries And Rural Development

S/No.	Selected Determinants	Correlation Co-efficient
1.	Population	0.84
2.	Distance from Urban Market	-0.38
3.	Land area	0.05
4.	Total length of main roads	0.98
5.	Road density	0.68
6.	Income from industry	0.29
7.	Income from other sources	0.89
8.	Investment value	-0.54

Source: Fieldwork 1992.

4.3 DISCUSSION: TEST OF HYPOTHESIS

The second hypothesis we postulated for evaluation states, "there is no significant relationship between income from agriculture or rural industries and number of rural development indices in our area of study".

We saw from the analysis of agricultural landuse and the role of agriculture in rural development that agriculture

to a large extent, in Nsukka is still crude and it is practised to supplement income from other sources. The basic function of agriculture in the area is provision of food usually on subsistence basis. The agricultural surplus is normally small and this surplus as we had earlier noted, is important for rural development. The overall implication is that meagre income is obtained from agriculture and little amount of money is contributed from it to rural development. Consequently, negative correlation exists between agricultural income and rural development expressed in terms of physical availability of social amenities.

Similarly, rural industries although perform some useful functions to the rural communities, hardly generate surplus (except for milling and distillery) for saving and investment. Apart from mills at Adani, and distilleries at Ovoko, rural industries in the area are virtually artisanal in scale of operation. As a result, they don't influence rural development in terms of provision of funds for development projects. Like income from agriculture, there is negative correlation between rural development and income from rural industries.

It is then clear that neither income from agriculture nor income from rural industries has significant influence in rural development in Nsukka area. On this note, we accept the hypothesis in its totality.

and rural development activities. The average income obtained from the industrial activities according to industrial type is shown in Table 17.

TABLE 17: Average Annual Income Per Industrialist According to Industrial Type

Industrial Type	Average Income N
Distillery	52,000
Food Processing/Milling	33,000
Pottery	1,248
Weaving	1,200
Blacksmithing	5,760

Source: Fieldwork 1992.

It can be observed from table 17 that distilling provides the highest income per annum per industrialist, followed by food processing.

Rural industries although contribute to rural development as outlined above, their contribution is insignificant in terms of provision of fund for rural development activities. Income from rural industries is in fact negatively correlated with rural development indices. This can be explained by the fact that income from the industries is meagre except for distillery and food processing/milling. The socio-cultural restrictions of some of the industries to few communities in Nsukka area is also a strong reason

4.4 NATURE AND PATTERN OF RURAL DEVELOPMENT

Rural development in Nsukka is in most cases achieved through community development approach. Community development can be defined as the process by which the efforts of the government authorities are united with the efforts of the people in a community in order to organize the people and their resources so as to satisfy their basic needs. This essentially means that the government often gives support and incentives to communities that embark on rural development projects. These projects usually include; hospitals, schools, markets, electricity, water schemes among other projects.

Community development approach to rural development has a number of negative implications. First, it leads to unnecessary competition for projects and duplication of such development projects. This explains why every village has at least one village hall or town hall as it is erroneously called (Table 19).

Secondly, community development approach brings about dicotomization of rural areas. Communities with large population and other resources will continue to develop at the expense of others. In other words, some communities will become transformed, while less previlaged communities will become marginalized.

TABLE 19: Number of Village Halls In The Sampled Communities

Community	No. of Village Halls
Aku	41
Ohodo	14
Iheakpu Awka	12
Nimbo	29
Mbu	13
Eha-Amufu	12
Ukpata	13
Eha-Alumona	44
Umuozzi	23
Essodo	18
Edem	28
Ibagwa Aka	17

Source: Fieldwork 1992.

Following the above development approach and the influence of population on rural development, the pattern of rural development in Nsukka follows closely the pattern of population distribution in the area. Using communities investigated under agriculture (since they represent a wider geographical area), the pattern of rural development indicates that Umuozzi has the highest indices of rural development followed by Eha-Alumona and Aku (Fig. 8).

These three communities account for 43.9% of the total social amenities in the area (16.0%, 15.0% and 12.9% respectively). From the population point of view, the three communities are the most populous, accounting for 47.1 of the total population. In contrast, Ukpata, Mbu and Ohodo which account for only 10.03% of the population and 10.21% of social amenities are the least developed communities.

On local government level, the same pattern of development is maintained. Local government areas that have communities with large population account for larger shares of rural development facilities as shown in Table 20. We can easily observed from Table 20 that Igbo-Eze North and Nsukka local government areas are the most developed, while Isi-Uzo, Igbo-Eze South and Uzo-Uwani local government areas have small share of percentage social amenities each. The distribution of rural development facilities is also shown pictorially in Figure 9.

TABLE 20: Percentage Share of Social Amenities by Local Government Area

Local Government Area	Score of Social Amenities	% Share	Rank
Igbo-Etiti	116	16.2	3
Igbo-Eze South	92	12.9	5
Igbo-Eze North	184	25.7	1
Isi-Uzo	108	15.1	4
Nsukka	151	21.1	2
Uzo-Uwani	64	9.0	6

Source: Fieldwork 1992

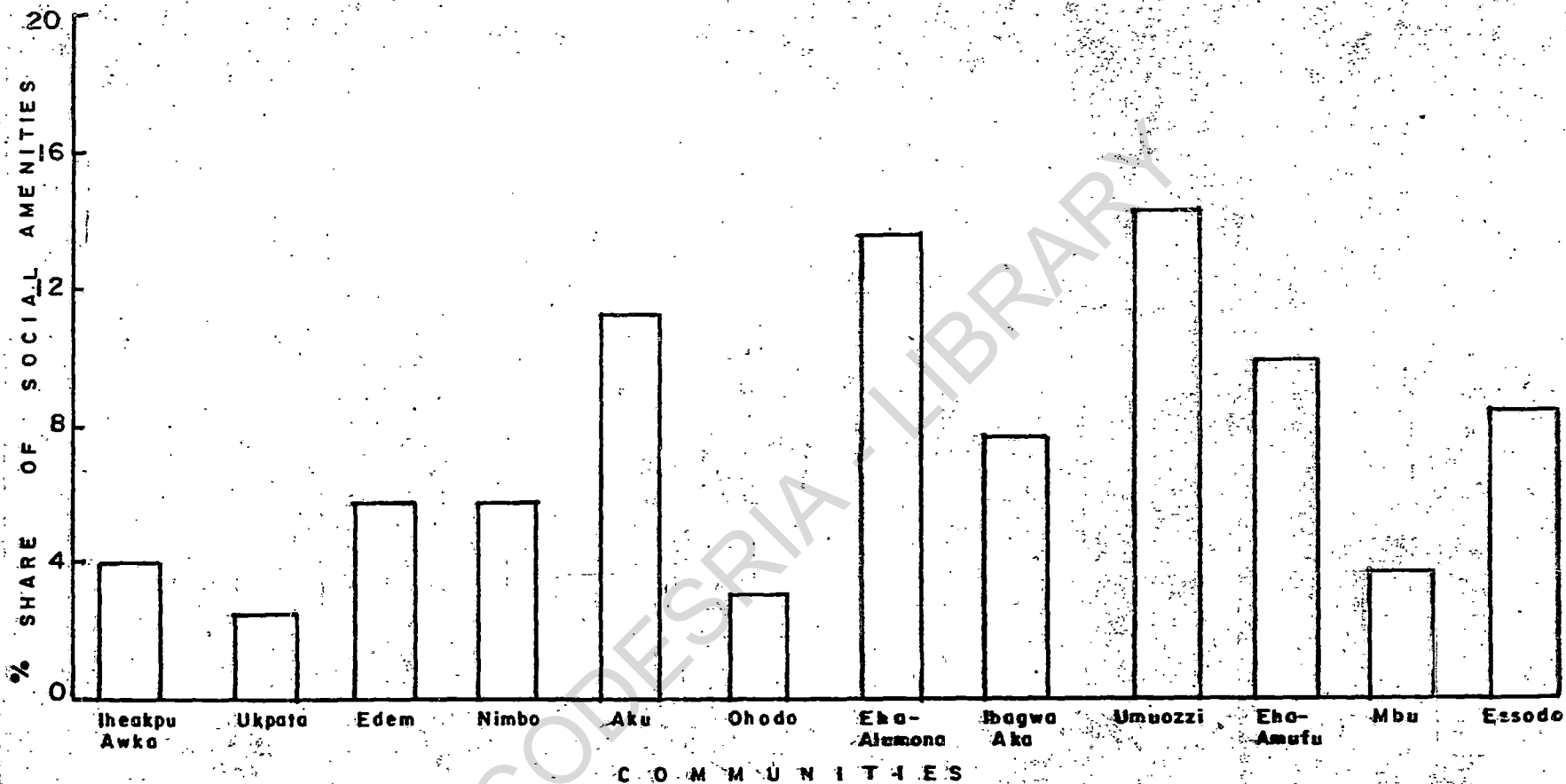


Fig.8 : DISTRIBUTION OF SOCIAL AMENITIES BY COMMUNITIES.

Source : Fieldwork 1992

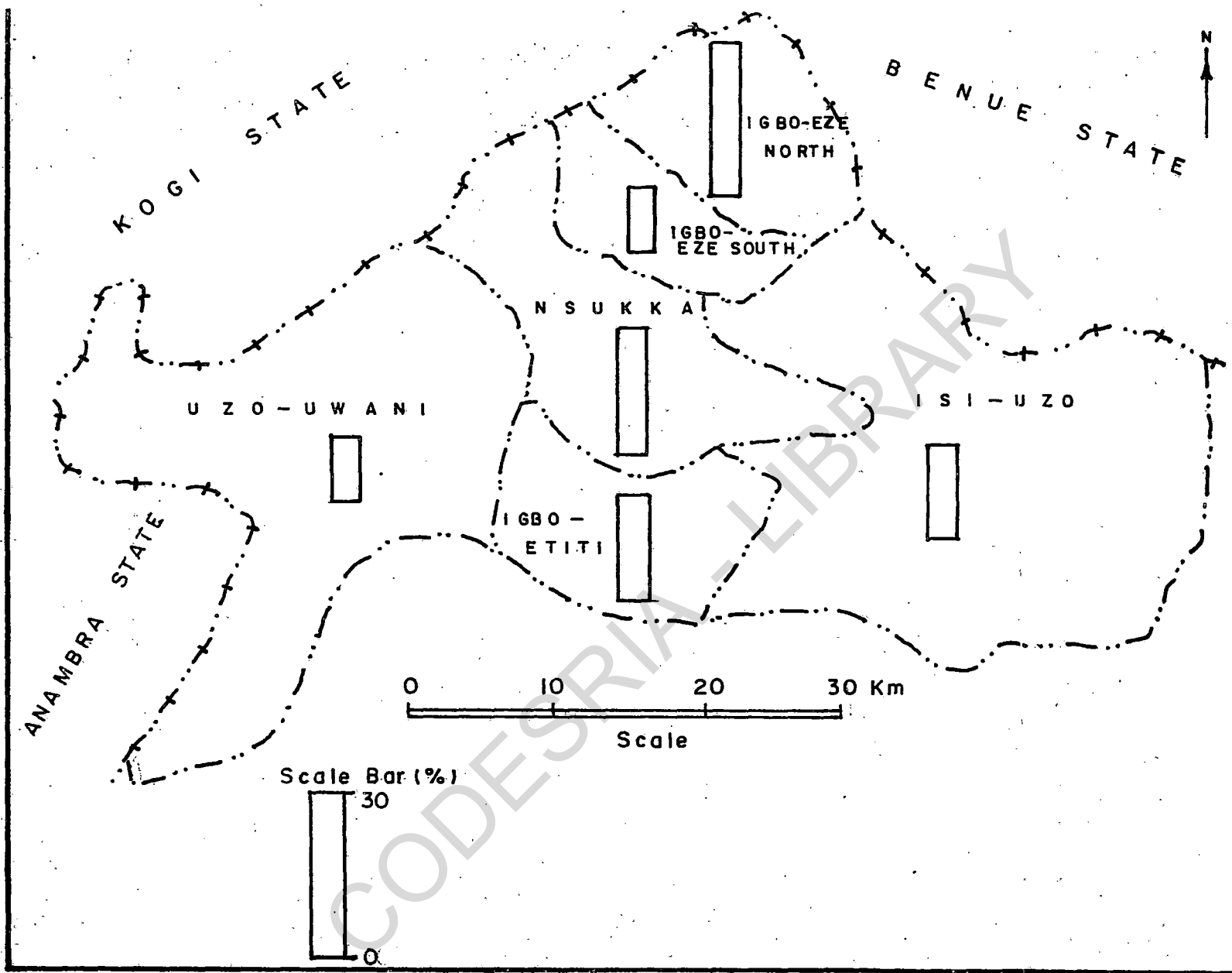


Fig.9. PERCENTAGE SHARE OF SOCIAL AMENITIES BY LOCAL GOVERNMENT AREAS (EXCLUDING NSUKKA URBAN CENTRE)

(Source : Field Work, 1992.)

The pattern of rural development in Nsukka area ~~are~~^{is} further probed by applying Friedmann's centre periphery Model. The model postulates that at the transitional stage (when the proportion of gross national product coming from industry is 10 - 25%), now the stage for many developing countries, a dual economy characterised by an expanding coastal centre that feeds on the resources of a relatively impoverished periphery develops. The resulting spatial structure differentiates into:

- i) a centre: Core region with expanding growth, enjoying various externalities.
- ii) a periphery: Outer zone which may have up to four divisions depending on the varying intensity of criterion or criteria used.

The criteria used by Friedmann (1966) were, the location of urban centre and relative juxtaposition in space, concentration of political power and economic activities, population in the urban centres and the existence of a relatively well developed transportation routes connecting the urban centres into a system of interacting functional nodes.

The basic operational synthesis of Friedmann's centre periphery model relevant to our study is that by carefully plotting the distribution of social amenities and pattern

of rural development and by carefully noting the emergent scattering and clusterings, it is possible to trace the development of a centre periphery structure if it exists.

To achieve the above objective, the communities were ranked according to the percentage share of social amenities. The rank scores were grouped into three centres after careful observation of the emergent pattern and the communities in each group or centre assigned the number of that group. These numbers were then plotted against each community. Finally the pattern was mapped out by extrapolation (see Table 21 and Figure 10). The method we applied in distinguishing centre types may seem subjective, but according to Akintola-Arikawe (1984), there is no unerring method of determining the core area of development.

TABLE 21: Types of Rural Development Centres Distinguished In Nsukka Area

S/No.	Rank Score	Community	Centre Type	% Share
1	1 - 4	Umuozzi Eha-Alumona Aku Eha-Amufu	Core (actively Developing Area)	54.9
2	5 - 8	Ibagwa-Aka Edem Essodo Nimbo	Outer core (Transitional Areas)	30.5
3	4 - 12	Iheakpu-Awka Mbu Ohodo Ukpata	Sub-outer core (Backward Areas)	14.6

Source: Field Survey 1992

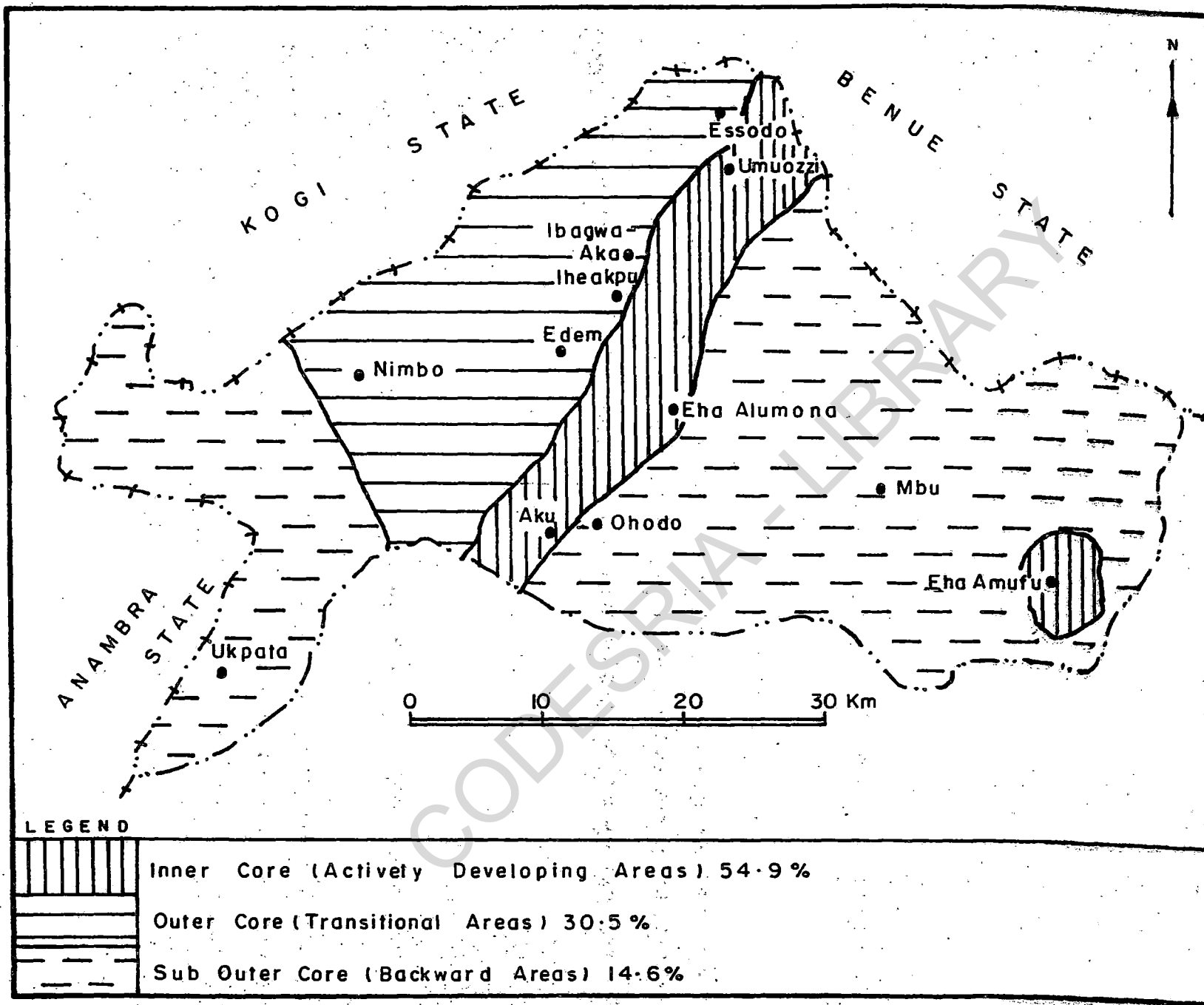


Fig.10: PATTERN OF RURAL DEVELOPMENT IN NSUKKA AREA.

Source : Fieldwork.

The pattern of rural development shown in Figure 10 indicates ^{some} interesting features. It shows that the core area runs along the central plateau which has the highest density of population in Nsukka area (Madu 1985). The core area accounts for 54.9% of the total indices of rural development among the selected communities. Figure 10 further reveals that the intensity of rural development decreases on both sides from the central plateau, although the decrease is more towards the eastern side.

CHAPTER FIVE

APPLICATION OF ECONOMIC MODEL OF DEVELOPMENT AND CONCLUSION

5.1 EMPIRICAL APPLICATION OF CLASSICAL MODEL OF ECONOMIC DEVELOPMENT

The evidence presented by this study suggests a pattern of economic change that appears to be following the classical model of structural shift. High income from non-agricultural activities signifies that farmers are taking non-farm jobs to supplement their income. In most communities, the farming activities and income from them have become negligible or secondary, thus suggesting part-time farming. This trend results from lower economic returns to factors of production in the rural areas. The consequence is migration to the urban areas where wage rate is high.

The pattern of economic development indicates that urban income mobilized in the rural areas through remittance to relations and development lunchings are more significant to rural development than agricultural operations and income from them. Also more significant are, income from business enterprises and non agricultural activities such as employment in government and private establishments.

The pattern of economic development outlined so far, has relevance to rural development in our area of study in spite of the criticisms outline in chapter one. In the first

place, rural development in the area can be achieved by improving the rural economic returns through the development and exploitation of rural resources. This will help reduce the influx of rural dwellers to the urban centres. Secondly, since most capitals for developing rural areas in Nsukka come from the urban centres, efforts should be made to enhance rural-urban interactions in the area. This will help direct more urban resources to rural areas as well as bring about increased supply of rural products to the urban market and enhance income of the rural dwellers.

5.2 PLANNING IMPLICATION

The overall planning implication of the pattern of economic change identified is that by improving the economic returns and infrastructural base of the rural areas and by carefully harnessing the resources of the urban dwellers, rural areas can achieve some significant advancement.

Rural economic returns can be improved in the following ways.

- i) Provision of easy access roads to the rural areas to enhance easy means of transportation and evacuation of rural products.
- ii) Establishment or improvement of rural markets to ensure that rural products are sold easily and at good prices. This will also ensure that rural dwellers get adequate goods and services from urban areas.

- iii) Establishment of agro-based industries to tap the resources of agriculture and improve the income and employment status of the rural dwellers.

Urban resources on the other hand can be mobilized and directed towards rural areas through the following activities.

- i) Establishment and encouragement of town unions in the urban centres so as to unite the urban dwellers towards the development of their communities.
- ii) Encouragement of mass returns (whereby every individual living outside his or her community is mandated to come home for a particular day(s) for rural development activities).
- iii) Embarking on development lunchings to tap the resource of the communities for rural development.

5.3 SUMMARY OF FINDINGS

In trying to find solutions to the objectives of the study, a number of interesting relations were discovered.

First it was discovered that the pattern of rural development closely resembles the economic change of the Lewisian or classical model. Agricultural operations are still carried out by old and illiterate farmers who get minimal income from the sector. Rural industries are socio-cultural restricted to few communities and are faced with low investment values. The rural communities are therefore

characterized by low economic returns to factors of production.

As a result of the peasant nature of agriculture and lack of rural industries in most communities and inherent problems affecting the existing ones, both agriculture and rural industries have little or no influence in rural development, in terms of enhanced rural income and provision of fund for rural development projects. Income from both sectors are therefore negatively correlated with the indices of rural development. The ability of a community to develop was found to depend on the income from other sources, population of the community, length and density of roads, number and effectiveness of social clubs, societies and age grades among other variables.

Another interesting finding is the existence of high degree of interactions between agriculture and rural industries. It was however discovered from the study that the interactions do not have much influence in rural development in the area because of limited finance involved in the interactions and lack of basic infrastructure.

Finally, the study reveals that the pattern of rural development is determined by the patterns of rural population distribution and road development. Communities with high

population and road densities have high percentage shares of social amenities, thus acting as the core or actively developing rural areas.

5.4 RECOMMENDATIONS FOR MORE EFFECTIVE RURAL DEVELOPMENT APPROACHES

We have seen that there is slow pace of rural development in Nsukka area. This can be blamed on the approaches adopted for rural development in the area in particular and Enugu state in general. We are therefore advancing for immediate action by those trusted with the transformation of rural spaces the following alternative approaches.

1. Since lack of access roads is identified as one of the major problems of agriculture and rural development, road construction and improvement through direct rural participation should be encouraged. The DFFRI access roads do not get to most communities and where the roads exist, drainage facilities are not provided. The communities should be made to participate in road construction, maintenance and provision of drainage gutters through direct labour, at least once in every month just like the monthly environmental sanitation exercise. This suggestion seems to be the immediate and practicable solution to rural transportation problem in Nsukka area, since most government programmes on improving rural transportation have remained much of paper work.

2. One of the main obstacles to rural development is low income of the rural dwellers. It is therefore difficult to raise capitals for industrial establishments and agricultural expansion. This problem can be solved by encouraging co-operative societies in the rural areas. This will not only help the rural dwellers to pull their resources together, but will also help them gain access to credit facilities.
3. Farm settlements should be established at every local government area, with resident extension agents so as to hasten the rate of diffusion of modern farm techniques and improve farm productivity.
4. The government should encourage inter-community co-operation in implementation of rural development projects. This can be done by grouping and guiding communities towards implementation of specified projects. Inter-community co-operation in development projects helps in checking unnecessary competition and duplication of projects as well as in mobilization of more rural resources for effective rural development.
5. Less emphasis should be placed on community development strategy to rural development in view of the inherent negative implications. Rather, attempt should be made to homogenize and develop the entire rural spaces within the local government levels.

5.5 SUGGESTIONS FOR FURTHER STUDIES

There is no geographical study or research that lays claim to the solution of all geographical problems. This present work is therefore no exception. For this reason, we are suggesting for further research the following areas not covered in the present work.

1. The linkages between agriculture and non-agricultural activities other than rural industries.
2. The role of rural markets in rural economy and rural development.

5.6 CONCLUSION

Results from the study have clearly shown that for effective rural development, planners should not only focus attention on agricultural productivity or industrial outputs but must also consider the relationships between the economic sectors. Attention should also be focused on the provision of physical infrastructure. However if the economic activities and the relationships are to reduce socio-economic deprivations in the rural areas and promote rural development, experts in various disciplines have to take part in both the planning and implementation of rural development projects. Since geography is both a consequence and a determinant of development, geographers should be at the centre of the inter-disciplinary approach to rural development.

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LOCAL GOVT. AREA

SECTION A: QUESTIONNAIRE FOR FARMERS

[illegible]

[illegible]

NAME OF COMMUNITY: _____

LOCAL GOVERNMENT AREA: _____

SECTION B: QUESTIONNAIRE FOR TRADITIONAL INDUSTRIALISTS

[illegible]

CODESPIA

17 Type of Building. What type of building do you have? 1. Thatched 2. Zinc roofed	18 Income expenditure. How much do you spend on the following 1. Food 2. Household facilities 3. Rural development lunching/activities	19 Source of fund. How did you get fund for the industry 1. personal saving 2. Loan from friends and relations 3. Loan from bank	20 Problem of acquiring credit. 1. Non existance of banks 2. No collateral 3. No knowledge of credit facilities	21 Problem of expansion. Which problems limit expansion of your industry?	22 Suggestions for improvement.	23 Other informatio

APPENDIX B: CALCULATION OF LINKAGES

B₁ Forward Linkage.

Community	Annual Income From Agriculture Per Respondent	Income Expenditure on Processing of Farm Produce
	₦	₦
Ukpata	6,500	456
Edem	4,800	368
Nimbo	7,000	448
Aku	8,500	460
Ohodo	3,500	200
Eha-Alumona	5,000	112
Ibagwa-Aka	1,105	80
Umuozzi	4,500	108
Essodo	5,000	134
Eha-Amufu	8,000	550
Mbu	7,500	226
Heakpu-Awka	3,000	64
Total	64,405	3,206
Mean	5317.05	267.17
Std. Deviation	2118.25	169.65

$$r = \frac{XY/n - \bar{X}\bar{Y}}{S_x S_y}$$

where x and y are variables being investigated

$\bar{X}$ and $\bar{Y}$ are mean values of the variables.

$S_x S_y$ are standard deviation of the variables.

n = number of variables being investigated.

$$r = \frac{2056800/12 - (5367.08)(267.17)}{(2118.25)(169.65)} = \underline{\underline{0.79}}$$

B₂ Consumption Linkage

Community	Income from Agriculture	Income Spent on Traditional Pro- ducts
	₦	₦
Ukpata	6,500	1,300
Edem	4,800	2,160
Nimbo	7,000	2,440
Aku	8,500	2,010
Ohodo	3,500	640
Eha-Alumona	5,000	340
Ibagwa-Aka	1,105	100
Umuozzi	4,500	20
Essodo	5,000	50
Eha-Amufu	8,000	930
Mbu	7,500	400
Iheakpu-Awka	3,000	230
TOTAL	64,405	10,620
Mean	5367.08	885.00
Std. Deviation	2118.25	844.91

$$r = \frac{69965500/12 - (5367.08)(885.00)}{(2118.25)(844.91)} = \underline{\underline{0.60}}$$

B₃ Backward Linkage

Community	Income From Agriculture ₦	Amount Spent on Farm Implement ₦
Edem	4,800	200
Ukpata	6,500	500
Nimbo	7,000	320
Aku	8,500	300
Ohodo	3,500	230
Eha-Alumona	5,000	220
Ibagwa-Aka	1,105	240
Umuoizzi	4,500	250
Essodo	5,000	260
Eha-Amufu	8,000	500
Mbu	7,500	360
Iheakpu-Awka	3,000	200
Total	64,405	3,580
Mean	5367.08	298.33
Std. Deviation	2118.25	101.23

$$r = \frac{20160200/12 - 1578833.9}{2118.25 \times 101.23} =$$

$$r = 0.47$$

=====

B₄ Aggregate Rural Linkage

Community	Income From Agriculture X	Total Finance Flowing into Rural Industries Y
	₦	₦
Edem	4,800	1,868
Ukpata	6,500	3,116
Nimbo	7,000	3,208
Aku	8,500	5,978
Ohodo	3,500	1,070
Eha-Alumona	5,000	672
Ibagwa-Aka	1,105	420
Umuozi	4,500	328
Essodo	5,000	444
Eha-Amufu	8,000	1,980
Mbu	7,500	986
Iheakpu-Awka	3,000	494
Total	64,405	20,564
Mean	5317.05	1713.67
Std. Deviation	2118.25	1612.48

$$XY = 1.38471 \times 10^8$$

$$XY/n = 11539292.0$$

$$XY/n - \bar{X}\bar{Y} = 2427622.9$$

$$SxSy = 3415635.8$$

$$r = \frac{2427622.9}{3415635.8} = \underline{\underline{0.71}}$$

APPENDIX C: Data Matrix of Selected Determinants of Agriculture and Rural Development

Community	*Population	Land Area (Km ²)	Average Farm size (Hectares)	Distance From Urban Market (Km)	Total length of Main Roads (Km.)	Road Density	Average Annual Income from Farming per Respondent	Annual Income from other Sources
							₦	₦
Ukpata	2567	19	8.0	43.0	8.6	0.45	6,500	4,000
Edem	18982	12	1.8	6.2	6.6	0.55	4,800	6,000
Nimbo	10879	20	4.6	30.6	9.0	0.49	7,000	3,800
Aku	39351	18	2.6	21.5	14.6	0.81	8,500	12,400
Ohodo	13023	7	3.0	20.0	4.3	0.61	3,500	2,500
Eha-Alumona	30207	17	2.5	7.5	13.3	0.78	5,000	10,500
Ibagwa Aka	20557	11	1.3	6.6	8.2	0.74	1,105	8,500
Umuozzi	68842	16	2.0	16.0	12.0	0.75	4,500	16,000
Essodo	21546	15	2.8	18.5	10.7	0.71	5,000	9,000
Eha-Amufu	43495	33	5.0	44.5	6.2	0.19	8,000	6,000
Mbu	13,911	17	3.1	25.0	11.5	0.68	7,500	4,500
Iheakpu	10690	6	2.6	8.0	4.5	0.75	3,000	3,500

Source: Fieldwork, 1992

*Calculated as a percentage of the 1991 census using the 1990 estimate, since the census figure has not been released on community level.

APPENDIX D: Inter-Correlation Matrix of Determinants of Agriculture
And Rural Development

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉
X ₁	1.00	.30	-.35	-0.06	.44	.11	.14	.85	.88
X ₂	.36	1.00	.57	.74	.26	-.28	.74	.13	.35
X ₃	-.35	.51	1.00	.87	-.14	-.35	.51	-.44	-.36
X ₄	-.06	.74	.87	1.00	-.06	-.66	.70	-.30	-.21
X ₅	.44	.26	-.14	-.06	1.00	.92	.42	.73	.64
X ₆	.11	-.28	-.35	-.66	.92	1.00	.01	.76	.57
X ₇	.14	.74	.51	.70	.42	.01	1.00	.01	-.39
X ₈	.85	.13	-.44	-.30	.73	.76	.01	1.00	.88
X ₉	.88	.35	-.36	-.21	.64	.56	-.39	.88	1.00

Source: Fieldwork 1992

X₁ = Population

X₂ = Land Area

X₃ = Farm size

X₄ = Distance from
Urban market

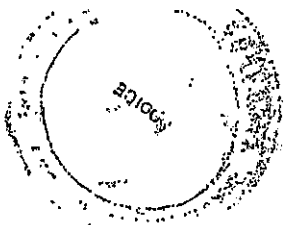
X₅ = Length of main road

X₆ = Road Density

X₇ = Income from Agric-
ulture

X₈ = Income from other Sources

X₉ = Score of social
Amenities



ABSTRACT

Majority of the population of Nigeria like other African countries live in rural areas and agriculture still absorbs over 70% of her labour force. Agricultural improvement was initially seen as the Panacea for rural development. Presently efforts have shifted to integrated rural development.

In spite of the various efforts by the government and planners to improve agricultural productivity and rural non-agricultural products both agriculture and rural industries have remained largely ineffective for rural development. The overall effect of non-performance of agriculture and rural industries is that rural areas have remained under-developed. The basic problematic is that there seems to be minimal understanding of the role of agriculture and rural industries in Nigeria, particularly the study area in terms of gainful employment, enhanced rural income and funding of rural development projects.

Two communities were selected from each of the six local government areas for agricultural activities while five communities with concentration of rural industrial activities were purposely selected. Information on the economic activities was obtained by questionnaire, oral interview, field investigation and secondary sources. The data obtained were analysed by descriptive statistics, correlation analysis, and Friedmann's centre periphery Model.

The result of the study reveals that income from agriculture and rural industries are minimal and do not influence rural development in terms of project funding. Furthermore, the study indicates that in spite of the deplorable conditions of agriculture and rural industries, a high degree of interaction was found to exist between them, although it was discovered that linkage could exist without resultant development.

Finally the study shows that rural development in the area is mostly achieved through community development approach and that the actively developing rural areas lie within the central plateau zone which has high population and road densities.