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By

ALIMBA, Jonathan Okechukwu

Department Of Agricultural Economics

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Linkages Between Farm and Non-Farm Enterprises in Selected Rural Areas of Anambra State, Nigeria

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LINKAGES BETWEEN FARM AND NON-FARM ENTERPRISES IN SELECTED RURAL AREAS OF ANAMBRA STATE, NIGERIA.

BY

ALIMBA, JONATHAN OKECHUKWU
B. Agric (Hons) Agric. Econs (Nig)
PG/MSc/87/5446.

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CERFIFICATION

ALIMBA, JONATHAN OKECHUKWU, a postgraduate student in the Department of Agricultural Economics, and with the Reg. No. PG/MSc/87/5446 has satisfactorily completed the requirements for course and research work for the degree of Master of Science (M.Sc) in Agricultural Economics. The work embodied in this thesis report is original and has not been submitted in part or full for any other diploma or degree of this or any other university.

Dr. S.A.N.D. Chidebelu
Supervisor

Dr. (Chief) Emea O. Arua
Head of Department

DEDICATION

DEDICATED WITH JOY AND LOVE TO:

MY PARENTS, ELDER AND MRS BENSON O. ALIMBA,

WHO KINDLED THE LIGHT:

MY BROTHER MR. EDWARD ALIMBA,

WHO SAW ME THROUGH; and

MY OTHER BROTHERS AND SISTERS

FOR THEIR VARIOUS SUPPORTS.

Computing Centre for the painstaking analysis of the data.

My parents, brothers and sisters are thanked for their help and patience; and my good friend, Mr. Ogara C.C., for his invaluable advice.

For others who made various contributions to the success of this work but whose names could not appear here, for want of space, I will ever remain grateful.

U.N.N. Okechukwu Alimba.

APRIL 1990

ABSTRACT

This study investigated the nature and extent of linkages between farm and non-farm enterprises in selected rural areas of Anambra State. It also sought to find out the implications of such rural linkages on rural development.

A total of 90 farm and non-farm entrepreneurs were randomly selected for the study from six rural communities in three out of five agricultural zones of Anambra State. Data were collected using structured questionnaire and personal observations.

The major findings of the study were that:

rural farm and non-farm enterprises were mainly in the hands of old and illiterate entrepreneurs;

much time was spent in production, mainly with crude tools and implements;

productivity and prices received for the products were low and distance of rural communities to urban centres influenced entrepreneurs' choice of enterprise (farm or non-farm);

communities more proximate to urban centres chose more non-farm activities while those more remote chose mainly farming;

there was considerable evidence of rural linkages within the rural enclaves of the State; as increasing

farm output was found to increase non-farm output and employment;

rural infrastructure, labour availability and capital were [illegible] critical to all forms of rural activities, linkages and hence rural development; these were found to be inadequate in rural Anambra State, hence the weak linkages.

The study recommended among other things, the mobilization of more idle lands for farm and non-farm enterprises for enhanced rural linkages, radical revision of technology policies to favour local crafts and technologies through the establishment of rural polytechnics and non-farm extension programmes; and revision of both bank credit and tax laws in favour of rural entrepreneurs. It also recommended more empirical work on rural linkages at the state and national levels, as the most viable alternative in the nation's search for a better model for integrated rural development in the era of structural adjustment.

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND

Theoretical models of developing countries often postulate an agrarian sector allocating its labour between two major activities, agriculture and non-agricultural enterprises. The rural people engaged in trade with other communities, selling their works of arts, crafts and handicrafts. However, their major occupation is agriculture. Over 80% of the rural people of Nigeria engage in agricultural and pastoral activities producing food for their requirements as well as some surplus for the market. Most rural people, therefore, combine some farming with some non-farming activities in varying degrees (Olayide, 1980). This gives rise to various forms of linkages between farm and non-farm activities in rural areas.

Linkages are here used to describe the manifold interactions between agriculture (farm) and rural non-agriculture (non-farm) activities in a developing economy (Renis and Stewart et. al, 1987). Identified are two forms of rural linkages. These are, the consumption linkages, i.e., where incomes generated by activities in one sector lead to demand for output of another sector. Secondly, there are production

linkages which may be forward or backward. Backward production linkages occur where productive activity in one sector (A) requires inputs from another (B), e.g., hoes or fertilizer for farm work. Forward production linkages occur where the production of a commodity in (B) provides supplies for productive activities in the other sector (A).

Often, the dominant position of agricultural activities among the rural population in less developed countries such as Nigeria tends to obscure the importance of specialization by rural population in non-agricultural secondary and tertiary occupations (Oludimu and Williams, 1986). Byerlee (1973) stated that non-farm rural economic activities include both monetised and non-monetised enterprises. According to him, those activities that are performed within the household and therefore non-monetised include house construction, food preparation, firewood collection, etc., while those that are monetised include; consumer goods manufacturing, trading and services, e.g., crafts, bicycle repair, weaving, etc., marketing and processing of agricultural products; and manufacture of agricultural inputs such as handtools (hoes, knives and axes).

Closely analysed, these monetised non-farm activities performed in the rural areas sometimes place farming as a part-time activity. Farming is often combined with other rural

non-farm activities the world over. According to Kada (1980), part-time farming is a world wide phenomenon commonly found in the rural societies no matter what the political system or economic development might be. According to him, over 50% of all farm operators in U.S.A. worked off-farm in 1969, while over 60% of such cases was reported in Germany in 1970/71. In broad terms, part-time farming (or part-time farm family) is generally referred to as an economic unit that combines farming activities with "other work activity" thereby tapping the gains of the linkages that exist between the two.

International donor agencies and governments of many developing countries have recently begun to devote increasing attention to the development of policies and programmes for expanding productive employment and earning opportunities undertaken in developing countries (Liedholm and Chuta, 1979).

It has been realised that despite rapid growth in GNP, urban unemployment, particularly, among young school leavers, poverty among a large proportion of the population, and income inequalities have tended to rise and have therefore called for strategies designed to make development more balanced and people oriented. Specifically, greater emphasis come to be placed on ways of bettering the lot

of the "working poor" in the rural and urban informal sectors (Onah, 1982).

A programme which tries to take care of the above perspective of development is that of integrated rural development, which in a broad sense tries to integrate the rural people into the social, political and economic life of a country by dove-tailing agricultural and non-agricultural industries and enterprises. The non-agricultural industries or enterprises include, among others, rural crafts and rural indigenous industries which form part of the subject matter of this research.

The non-agricultural sector of the rural Nigerian economy is relatively advanced by African standards and this is especially true of the textiles and clothing industry, metal work, pottery, dyeing, calabash and leather working. For example, Hopkins (1977) reported that all stages of manufacturing, processing, ginning, spinning, dyeing and weaving are performed locally in African countries. He cited an example of a small village near Timbuctu that had 26 master tailors employing 50 to 100 apprentices and workers. He also noted that by the middle of the nineteenth century, Kano city in Northern Nigeria had become in influence, if not in organisation the "Manchester of West Africa". The dyeing industry, which utilizes both the

synthetic and vegetable indigo dyes, is widely diffused throughout the Northern and Western parts of the country.

In fact, the rural non-farm enterprises in Nigeria have great potentials to generate surpluses which can contribute substantially to rural income and bring about necessary linkage effects between agricultural and rural non-agricultural sectors.

Most African governments, including Nigeria, have recently become increasingly aware of, and concerned with, the need to design effective strategies and policies for developing their small-scale rural industrial establishments. There has also been a growing recognition that small-scale enterprises are not just an urban phenomenon, but are important components of rural development programmes as well (Liedholm and Chuta, 1976).

In Nigeria, the growth in government's interest in small-scale industries paralleled the increasing disenchantment with the so-called import substitution industrial strategy that the country had been pursuing since independence (Onah, 1982). According to him, import substitution was largely designed to foster the development of large-scale urban based, foreign owned firms in the country but the results obtained have been disappointing. While the government was pursuing this import-substitution strategy,

it did relatively little to encourage or promote indigenous small-scale industrial firms. Indeed, except for reserving a few manufacturing activities to the citizens, and for making minor provisions for financing, the government pursued essentially a policy of benign neglect of the rural indigenous small-scale enterprises as could be seen from the first to the last national development plans.

Hymer and Resnick (1969) pointed out that because Third World countries concentrated their efforts on export crops to the neglect of the rural non-farm sector, the much needed "spread" or "linkage" effects necessary to develop the rural sector were not achieved.

Although, there are little survey data available on rural small-scale industries and enterprises, there are very few analytical studies on the dynamics of the growth process in this sector, and how they are linked with agriculture (I.L.O, 1979). It is however clear that the growth of rural small-scale industries is ultimately linked through both factor and product markets with agricultural production. For example in 1979, I.L.O. study of the unemployed in Kenya noted that about 75% of all rural non-farm enterprises were owned by predominantly large-scale farmers, suggesting transfer of savings and entrepreneurial ability from agriculture.

Until recently, the rural non-farm sector has not been considered in Nigeria's rural development as a distinct sector for analytical purposes. Yet, an examination of available evidence reveals that there are extensive activities in this sector. For example, Luning (1967) presented data that revealed that 48% of the employed males in rural areas of Sokoto province had either primary or subsidiary occupations in the rural non-farm sector. Similarly, Norman (1971) found that 47% of the average male adult working time in a major village (Mahawanyi) in Zaria region, was spent on non-farm occupations.

1.2 THE PROBLEM

It would seem that one of the quantifiable measures of rural incomes is the contribution made by farm and non-farm enterprises to the country's Gross Domestic Product. But little or no attention is focused on the contributions of non-farm enterprises and how they help the agricultural sector through several forward and backward linkages. As a result, those charged with the formulation and execution of rural development programmes and policies are generally forced or of necessity to make decisions "unencumbered by information" (Liedholm

and Chuta, 1976).

This research is an attempt to fill the information gap relating to non-farm economic activities in Nigeria, which may help in future policy making.

Rural development offers great opportunities for the integration of farm and non-farm activities in the rural areas of Nigeria in order to realise the full potentials of these areas. Few systematic studies have been carried out on the potentials for establishing feasible linkages between farm and non-farm activities in the rural areas. Previous emphasis on rural development has been in the direction of agrarian development. Examples are the National Agricultural Food Production Project (NAFPP) launched in 1972, and the Operation Feed the Nation (O.F.N), 1976, directed specifically towards increasing food production, rather than to integrated rural development.

Defined in economic sense, integrated rural development programme consists of a series of mutually-supporting (interrelated) agricultural and non-agricultural activities oriented towards a stated objective or sets of objectives (Onah, 1982). Integrated rural development implies therefore bringing together under one management and control a number of projects which have some relevance to one another. It is a strategy arising out of a realization of the fact

that many single projects have failed because their introduction without concomitant and complementary ones brings in its wake other constraints which tend to impede progress. The Green Revolution of the Shagari administration 1979-83 and its counterpart, the present Directorate of Food, Road and Rural Infrastructure of the present Military Administration, are attempts to adopt an integrated approach to the problem of rural development in Nigeria.

Laudable as these programmes are, not much success appears to have been achieved by them. The rural population continues to experience hunger and poverty while the rural-urban migration continues unabated because of the push factors of the country side; coupled with unemployment and under-employment.

The specific research problem therefore is that there seems to be minimal understanding and exploitation of the gains of farm and non-farm linkages in Nigeria, particularly in the areas chosen for the study; in terms of gainful employment and enhanced rural incomes. That being the case, it is pertinent to find out the factors responsible for the situation. Could it be that such linkages are not feasible because of some resource constraints. If so, what are these resource constraints? Are there any socio-cultural barriers constituting limiting factors to any

attempts at any linkages?

Is there any form of linkage between farm and non-farm activities at all in the areas of study? What are the levels of income and employment generated by existing linkages? What are the appropriate policy variables that could be used to achieve sustained linkages between the two sub-sectors of the rural economy? Answers to these questions are sought in the course of this investigation.

1.3 OBJECTIVES OF THE STUDY

The main objective of this study is to investigate the linkages between farm and non-farm activities in some rural areas of Anambra State and analyse their implications for rural development in Nigeria.

Specifically, the study sought to:

(a) describe the nature of farm and non-farm enterprises in the area of study and how they are organized;

(b) describe the extent of linkages existing between farm and non-farm enterprises in terms of consumption, backward and forward linkages;

(c) analyse some possible constraints and solutions to the achievement of linkage between the two sub-sectors; and

(d) in the light of the findings, prescribe policy implications and options for integrated rural development in Nigeria.

1.4 JUSTIFICATION OF THE STUDY

The introduction of the structural adjustment programme in 1986 with the Foreign Exchange Market as its main lever has led to a significant depreciation in the value of the Naira and the consequent high exchange rate, thereby raising appreciably, the price of imported production inputs. Also, there has been a seemingly high awareness on integrated rural development in many developing countries including Nigeria.

In the light of all these, the research will be useful to:

(a) the government and policy makers in some developing countries and Nigeria in particular concerning policies on Structural Adjustment Programmes (SAP) as it relates to the local sourcing of raw materials and agro-based industrial projects;

(b) it will serve as a guide to both the federal and state governments of Nigeria on the formulation and implementation of future development plans and policies particularly as it concerns integrated rural development;

(c) the operators of rural development programmes, and the rural entrepreneurs themselves will also benefit from the findings; and

(d) it may be of use to future researchers on areas of rural development and linkages at various levels of development as a stepping stone for their study.

1.5 HYPOTHESES TESTED

Since this research is concerned with the evidence, nature, extent and problems of linkages or inter-relationships between rural farm and non-farm enterprises, as a means of rural development processes, the following null hypotheses were tested.

(i) Null Hypothesis (Ho): There is no relationship between the type of rural enterprise (farm or non-farm) undertaken in rural areas and some

personal characteristics of the entrepreneurs (age, educational status, marital status, family size, number of years spent in learning trade).

(ii) Null Hypothesis (Ho): There is no relationship between the distance between rural communities and the nearest urban cities and some enterprise variables like entrepreneurs adoption of modern non-farm inputs, adoption of modern farm inputs, the number of contacts with extension workers, the place entrepreneur sold his farm produce, place he purchased farm inputs, and the place he purchased non-farm inputs and sold products.

(iii) Null Hypothesis (Ho): Some variables associated with rural farm and non-farm enterprises (like entrepreneurs age, educational status, household size, type of rural enterprise engaged in, starting capital (farm), starting capital (non-farm), number of household labour (farm and non-farm),

number of rural cottage industries, number of rural infrestructure available, income from farm to non-farm and vice versa) are not interrelated with each other and therefore do not influence rural linkages.

1.6 DEFINITION OF TERMS

1.6.1 Rural Area:

According to evidence cited in the World Bank (1978a), the dividing line between "rural" and "urban" is arbitrary, particularly in the census data collected in most developing countries. They are often framed in terms of urbanization characteristics, rather than minimum size or occupational structure size. The United Nations definition of "urban" is localities with 20,000 or more inhabitants, the rest being rural. But this definition cannot be applied to Nigeria where many localities are with populations exceeding the U.N. figure, but still having most of the rural linked characteristics.

According to Olayide (1980), the word "rural" could assume economic, sociological, ethnic, racial and other dimensions. But he restricted the word to spatial and occupational contexts. Two indices were,

therefore, used to measure rural Nigeria:

(a) spatial index, indicating the percentage of the population living in rural areas; and

(b) occupational index, which shows the percentage of the labour force in agriculture.

This boils down to defining the urban areas, the remaining areas being tagged rural. From 1952 census, urban areas were defined as centres of 5,000 people or over, hence, some 80% of the Nigerian population was then regarded as rural.

The second distinguishing factor of rural and urban population is mainly in terms of occupation. While the urban population is mainly involved in non-agricultural occupation, four-fifths of the rural population in Nigeria are involved directly or indirectly in the exploitation of land. It centres principally around farming, animal husbandry, poultry, fishing, forestry, food processing, cottage industries and petty trading (I.L.O, 1970).

The last index, "occupation" was used when referring to rural areas in Nigeria in this research.

1.6.2 Rural Non-agricultural Enterprises

This was taken in this context to mean any of the activities in the rural area outside farm work. This was used interchangeably with non-farm work in this research.

In fact, ILO's "International Standard Classification of Occupations" sub-divided the non-farm occupations as follows:

(a) professional technical administration;
(b) sales workers (petty traders);
(c) miners and quarrymen;
(d) transport workers;
(e) craftmen and production process workers; e.g. blacksmithery, wood workers, pot-makers, weavers, etc., and
(f) service workers - bicycle repairers, cobblers, dry cleaners, etc.

However, petty traders such as food retailers, fish retailers, hoteliers and beer parlour dealers, as well as service workers, such as bicycle repairers, cobblers, dressmakers and food processors like gari processors, gin distillers and wine tappers were also studied.

1.7 ORGANIZATION OF THE PROJECT REPORT

The project report is organized in five chapters. Chapter one dealt with the introduction and background of the study; chapter two was used to review the related literature; while chapter three examined the methodology used in the research. Chapter four was devoted to presentation and discussion of findings of the research and lastly, chapter five was used for the summary, recommendation and conclusion of the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 INTRODUCTION

This review is centred on various viewpoints on rural development through agriculture and non-agricultural enterprises; occupation of the rural population, importance of rural non-farm activities, rural non-farm wages and incomes, classification of rural linkages between farm and non-farm enterprises, and factors affecting the magnitude of rural linkages in a developing economy such as Nigeria.

According to Oyajide (1986), Nigeria in spite of the oil boom in the 1970's and 80's remains basically an agricultural economy. While Nigeria achieved substantial aggregate real growth in 1960-82 fuelled by the oil boom, particularly during the second decade of this period, real agricultural output growth stagnated or declined. Classical theories of migration in Nigeria have always underlined the importance of the so-called "push-pull" factors. Amongst the "push" factor, over-population and low agricultural productivity take priority, while the "pull" factor was the oil money "flowing" in the urban areas. Over 60% of the young people between the ages of 15 and 30 were pulled out in search of the oil money,

thereby leaving the traditional occupations of agriculture and non-agricultural enterprises totally neglected. The relative size of Nigeria's agricultural sector implies that its performance is critical to the economy's overall growth. In addition, its close linkage and interraltionships with the rest of the economy makes agriculture vulnerable to changes in the other sectors.

2.2 OCCUPATION OF THE RURAL POPULATION

The rural sector of Nigeria population can be distinguished from the urban sector in terms of the volume of non-agricultural occupation within the two sectors. Economic activity in the rural sector depends directly or indirectly on the exploitation of land. According to Olayide (1980), the major occupation of the Nigerian rural majority centres principally around farming and animal husbandry, food processing and local crafts. The entire compound of buildings, gardens and trees may range in size from 0.05 ha in densely settled areas to 4.0 ha or more where land is more plentiful. A typical Nigerian rural farmer is usually a small holder, in most cases planting an area of some 1.5 - 2 ha, frequently divided into small and sometimes scattered plots.

Oludimu and Williams (1986), in their study of rural

non-farm activities, included among others, metal work, blacksmithing, bricklaying, food processing, (e.g. gari processing) wine tapping and petty trading as some of the rural non-farm enterprises performed in parts of Bendel State. An International Labour Organization (ILO) study in Western Nigeria in 1970 showed that rural industries are family owned, are labour-intensive, employ few purchased capital goods, and use largely traditional technologies and family labour. Likewise, most skills are obtained through informal education as reported by Diejomaoh and Orimolade (1971). A small group of industries (eg blacksmithery, carpentry and tailoring) has been delineated as using "medium level" capital intensive techniques (ILO, 1971).

According to Islam (1986a), most rural activities in Asia are considerably more small scale and labour-intensive than substitute products produced in the urban centres. This is true both for rural cottage and handicraft industries. However, the latter involve more capital per worker and lead to higher labour productivity than the former.

Available empirical evidence also indicates that the amount of non-farm activity tends to vary directly with the population of the rural settlements. In rural Western

Nigeria, for example, the ILO survey found that in villages with fewer than 500 inhabitants, 31% of the male engaged in non-farm enterprises, while in the villages between 1,450 and 3,600 inhabitants, 73% of the males engaged in non-farm activities.

2.3 IMPORTANCE OF RURAL NON-FARM ENTERPRISES

One of the first issues to be considered is whether or not non-farm activities are quantitatively an important component of the rural economy.

According to Gibb (1971), the future size of the rural non-farm sector would also depend on the future growth of the agricultural sector. For example, increased agricultural production would create not only an indirect "income effect" that could increase the demand for rurally produced consumer goods but also a direct "output effect" (associated with backward and forward agricultural linkages) that could increase the demand for rurally produced agricultural inputs and also provide opportunities for rural non-farm activities.

As far as linkage effects are concerned, the rural non-farm magnitude depends on the increase in markets for agricultural products, in improved supplies of inputs and technology, and in modernising influences on attitudes to accumulation in agriculture. Given the

paucity of comprehensive income and value added statistics relating to rural areas of most developing countries, one must of necessity rely primarily on employment data for illuminating on this issue (Chuta and Liedholm, 1979).

In a study carried out in some rural Asian countries, Renis and Stewart et al (1987) identified some important roles played by non-farm employment in rural Asia as follows:

(a) sustaining employment and incomes in the face of rising population;

(b) providing seasonal occupations for farm workers during less busy times of the year;

(c) contributing to equality and poverty alleviation, by increasing the incomes of the poor; and

(d) performing the linkage functions thereby contributing to a dynamic and equitable growth cycle.

In the words of Oshima (1984):

> there is no way that a densely populated agriculture can manage to sustain the growth of urban incomes over a long periods and keep up with the growth of urban incomes without a rise in income from off-farm sources.

2.3.1 Rural Primary Employment

According to Chuta and Liedholm (1979), the evidence available from national censuses and various regional and rural surveys indicates that non-farm activities provide an important source of primary employment in rural areas of most developing countries. For example, the recent data collected from developing countries including Nigeria, show that one-fifth or more of the rural labour force is primarily engaged in non-farm activities. Although the rural non-farm percentage ranged from 14 to 49%, it later fell to between 19 to 28%. Women's participation in non-farm activities is often not counted as employed labour even when these activities result in transactions.

2.3.2 Rural Secondary Employment

Available primary employment statistics also understate the magnitude of rural non-farm activities, because they fail to reflect those farmers who engage in non-farm activities in a part-time or seasonal basis. Data on secondary employment are not generally available in most countries. Limited evidence indicates that from 10 to 20% of the rural male labour force engage themselves in non-farm activities as secondary

occupation (Chuta and Liedholm, 1979). For example, in Nigeria, 20% of the rural males engaged in non-farm work on a part-time basis, and in Sierra Leone, Afghanistan and Korea the figures were 11, 16, and 20 per cent respectively (World Bank, 1978a).

Norman (1973) pointed out that there are significant monthly variations in the amount of rural farm and non-farm employment over the agricultural cycle. Farm and non-farm employment move in opposite directions. There is no period when non-farm employment disappears and thus, non-farm employment does compete with farm employment during peak periods of agricultural demand. According to him, data from Nigeria reveal that the peak in non-farm labour use is nine times that in the slack period. The fluidity of labour between a number of activities in a seasonal basis is thus a striking feature of rural areas.

Non-farm activity in rural areas thus provide a source of employment for from 30 to 50 per cent of the rural labour force in developing nations; when primary and secondary occupations are included (Luning, 1967).

The relative importance of rural as opposed to urban manufacturing may appear somewhat surprising. There is empirical evidence to indicate that employment in small, rural manufacturing enterprises often exceeds that in

large urban manufacturing firms. For example, in Sierra Leone, 86% of the total manufacturing sector employment and 95% of the manufacturing establishments were located in rural areas (Chuta and Liedholm, 1979). Also available evidence indicates that the vast majority of the existing rural non-farm enterprises in developing countries would fall in the artisan and informal enterprise category (Staley and Morse, 1965).

2.3.3 Rural Non-farm Wages and Income

An important issue centres on whether the earnings from rural non-farm occupation or the average incomes of non-farm household are above those in agriculture.

According to Chinery (1974) this issue is of particular importance, given the increased interest in identifying the sectoral characteristics of the rural and urban poor. Limited available data suggest that on the average, the wages and incomes generated by rural non-farm activities generally exceeded those generated by farming. In Northern Nigeria, for example, non-farm income comprised 20% of the total household income of the lowest income docile, but

rose to 37% of the income of the highest docile (Malton, 1977).

Contrary to what Hymer and Resnick (1969) have argued, i.e., that rural non-farm goods and services were "inferior" good and thus, the demand for these goods would decline as rural incomes rose (Mellor et. al, 1976) empirical surveys in diverse countries as India, Kenya and Uganda, indicate that the elasticity of demand for non-food consumption items by rural households is positive and in most cases, exceed unity, and it accounts for an increasing proportion of a rural household's budget as its income rises.

Consequently, these few studies reveal that rural non-farm goods are not inferior (i.e. possesses an expenditure elasticity below zero). Rather than being viewed as an overriding constraint, the demand induced from increasing incomes should be viewed as a strong force for growth of rural non-farm activities in developing countries.

2.3A Classification of Rural Linkages Between Farm and Non-farm Enterprises

A very important issue centres on the nature and extent of direct linkages between rural non-farm activities

and other sectors of the economy, especially agriculture.

According to Renis and Stewart (1987) direct linkages may take the form of consumption linkages, i.e., where incomes generated by activities in one sector lead to demand for output of another sector. These clearly may operate both from farm to non-farm and conversely. Secondly, there are production linkages, which may be backward or forward. Backward production linkages, occur where productive activity in one sector requires inputs from another, e.g. machinery or fertilizer, hoes and matchets for agriculture. Forward production linkages occur where production of a commodity provides supplies for productive activities in other sectors. The forward linkage of one sector may be regarded as the backward linkage of another, i.e., the use of domestically grown cotton in spinning represents a forward linkage from the point of view of agriculture and a backward linkage from the point of view of the textile industry.

There are divergent opinions and varying empirical evidence on the production linkage issue in Nigeria, especially in agriculture.

Hirschman (1958), contended that without empirical evidence, the linkages between agriculture and other sectors were quite weak. Yet Mellor (1976) argued that

linkages between agriculture and non-agricultural enterprises were or could be potentially quite significant. These agricultural linkages were essential ingredients in Mellor's rural-led strategy for development.

The magnitude of these linkages depended on the level and type of agricultural production and the demand they impose on the non-agricultural sector. Such demands may be met by local industries or by national or international industries depending on the nature of the demand and the supply response at various levels. Clearly, the dynamic interaction between agriculture and non-agriculture within the rural economy depends on how rural non-agriculture responds to those demands and conversely on the extent of leakages out of the local economy.

There are also linkages which operate in the opposite direction, i.e., from non-agriculture. Broadly, these are of three types:

(i) demand related, consisting of demand for agricultural products by the non-agricultural sector;

(ii) supply related, consisting of the supply of items which will help promote agricultural output; and

(iii) motivation-related, dealing with the

perception of investment opportunities outside agriculture and the acquisition of non-agricultural incentive goods (Renis and Stewart et. al, 1987).

The empirical evidence on rural non-farm linkages with agriculture in Nigeria tends to be somewhat limited. The rural non-farm activities are either omitted in many studies, often for lack of data, or are lumped together with agriculture or modern large-scale industrial and business enterprises (Chuta and Liedholm, 1979).

With respect to the "forward linkage" from rural non-farm enterprises to agriculture, the empirical studies indicate that rurally produced agricultural inputs are particularly important where traditional intermediate agricultural technologies are utilized.

Johnston and Kilby's (1975) analysis of farm equipment in India, Pakistan and Taiwan, stressed that traditional tools were most often made by rural artisans, while improved implements, and irrigation pumps and motors were likely to be fabricated by light engineering workshops located in rural areas.

Karsten's study of rural blacksmiths in Ethiopia (1972) and Liedholm and Chuta's analysis of rural artisans in Sierra Leone (1976) provide further support for the role played by rural artisans in providing inputs for traditional

agriculture in Africa. Liedholm and Chuta (1979) noted that approximately one dollar of rural blacksmithing output, particularly in form of hoes, knives and axes is demanded for every one hundred dollar of agricultural output.

Both Child and Kanelda's (1975) analysis of the dissel tube well production in Pakistan and Cartilliers (1975) study of electric tube well manufacturing activities in India, point out the extensive growth of these light engineering activities in those rural areas where improved agricultural practices have been adopted.

With respect to the backward linkages from rural non-farm activities to agriculture, these are quite significant. Most of the studies focus on the linkages between rural agricultural processing and agricultural sector, although rural transport and rural marketing activities are also potentially important backward linkages.

Falcon (1967), revealed that the cash flows to small-scale processing activities, the majority of which were rural, were more than five times the flow to urban large-scale processing.

Indeed, the strength of this "backward" linkage from rural non-farm processing to agricultural production

depends critically on the choice and location of processing technology involved. Although, there is an indication that a range or mix of technologies will sometimes be optimal, most of the case studies of processing indicate that small-scale rurally based processing activities generally are economically efficient in developing countries. Studies of rice processing in Indonesia (Timmer, 1975) and Sierra Leone (Spencer, 1976) reveal the significant links between small rural rice mills or hand pounding, and rice production. Similar results for palm oil processing are reported for Nigeria (Miller, 1965).

2.3.5 Factors Affecting the Magnitude of Rural Linkages

Renis and Steward et. al (1987) in their study of rural linkages in Phillipines, identified four major factors that affect the magnitude or extent of rural linkages. These are income distribution, asset distribution, crop composition and supply factor.

(a) Income distribution: According to them, a more equal distribution of income tends to be associated with high propensity to consume goods, in general but a higher propensity to consume food, and a

lower propensity to consume non-foods (goods and services). Also, it may tend to be associated with a greater propensity to consume goods produced locally in the rural economy, and also to consume labour-intensive and appropriate goods from the rest of the economy.

(b) Asset distribution and backward linkages: More equal land distribution will tend to be associated with higher local consumption linkages, but lower backward linkages. But the inputs that are used by smaller farmers may involve a larger element of local production than those of larger farmers; so local backward linkages might be high.

(c) Crop composition: This determines the input use. Some crops require more labour and therefore a higher consumption linkages, while other use more capital or other inputs. It can also affect the potential for forward linkages. The development of labour intensive crops and those suitable for local processing affects potential for increasing consumption and forward linkages.

(d) Supply factor: Linkages between agriculture and non-agriculture may be enhanced by the provision of various facilities including electricity, roads, research and development and extension.

Improved roads to major urban centres may increase the extent of national linkages but reduce local linkages since it becomes easier for rural consumers to obtain consumption from urban centres and process their produce centrally.

In summary, these various empirical studies and evidence in some parts of the developing countries, and other analytical reviews indicate the importance of rural non-farm linkages with agriculture and point to the need for future researchers to incorporate explicitly rural non-farm enterprises when analysing sectoral interactions.

This is exactly what this study intends to provide for Nigeria and in particular Anambra State where such empirical information on rural non-farm enterprises and their sectoral interactions are lacking.

2.4.1 Rural Aggregate Operational Perspective

Taking the rural areas of Anambra State under study to have a closed economy, we can illustrate the inter-relationships between the agricultural (farm) and non-agricultural (non-farm) sectors in such an economy. The sectors have been divided into a production sector and households. Inter-sectoral linkages at this level of

aggregation may be classified into four types as shown in the four circles in Figure I.

(i) intersectoral commodity exchange;

(ii) intersectoral finance;

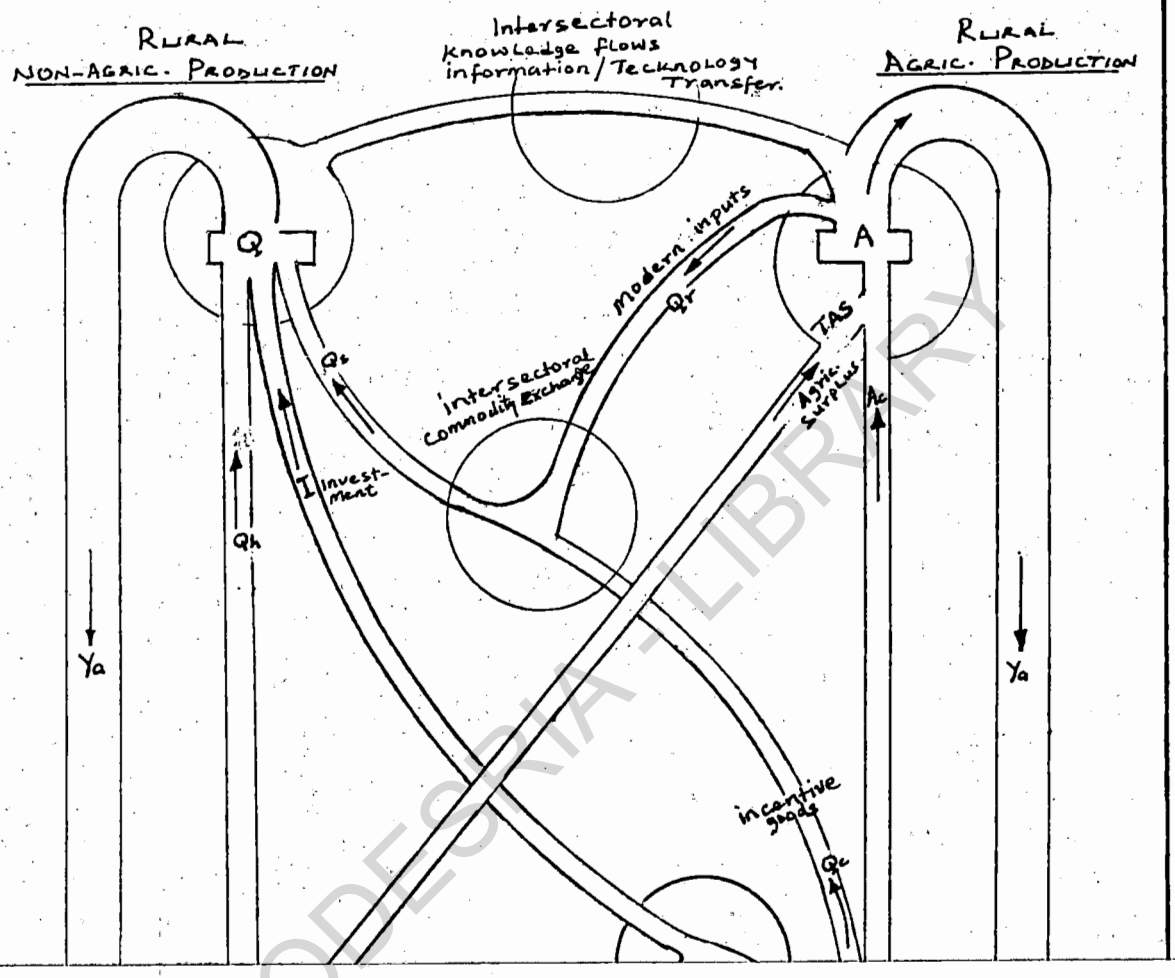
(iii) intersectoral labour migration; and

(iv) intersectoral exchange of information

(Renis and Stewart et. al, 1987).

The arrows indicate the direction of the flow of monetary payments - with flows in the opposite direction implying movement of real goods and services.

In intersectoral commodity exchange, (Figure I) part of the total output of agricultural sector (A) goes to the agricultural households for self consumption (Ac) and a part is bought by non-agricultural households. This flow is labelled as TAS, or total agricultural surplus. This (it should be noted) is a commodity surplus, i.e., the excess of production of agricultural commodities over consumption of agricultural commodities in agricultural sector). It is not equivalent to agricultural savings (or the excess of agricultural production over total consumption of agricultural and non-agricultural commodities in agricultural sector). Similarly, total output (Q) of the non-agricultural sector is partly consumed by the non-agricultural households (Qh), while the rest of the



non-agricultural output takes the form of investment goods (I), agricultural and non-agricultural goods or goods bought by agricultural sector (Qs). This component, Qs is further divided into rural inputs for agriculture (Qr) and consumer goods (Qc) for agricultural households.

The rural agricultural production sector makes factor payments for land and labour (Ya) as well as payments for rural inputs (Qr). The income received by agricultural households is either spent on consumption (Ac + Qc) or saved (Sm) and hence flowing into the finance sector. Similarly, for the non-agricultural household sector, factor payments (Ya) are either consumed (Qc + TAS) or saved (Sn); Sm and Sn together constitute the total saving fund of the rural economy that finance investment in the rural economy.

In addition to commodity and financial flows, inter-sectoral labour movement occurs, i.e., the reallocation over time of a portion of the agricultural labour force to non-agricultural sector, as non-agricultural labour, through the intersectoral labour market.

A further linkage of note is the technology information/ education flow from non-agriculture to the agricultural sector, a flow which enhances agricultural productivity, both via the achievement of literacy and the effects of

agricultural research and development (R and D) and extension (Tang, 1958; Evenson and Kislev, 1958).

At an early stage of development, the size of the total agricultural surplus (TAS), i.e., the excess of production of agricultural commodity over consumption of agricultural sector is critical to the development of the whole economy. This is because, the development of agricultural surplus constitutes an essential prerequisite for the growth of the non-agricultural economy. This surplus is required to permit the reallocation of labour from agriculture to the non-agricultural sector.

Figures II and III summarize the various relationships which may exist in any rural economy, and which together constitute what is meant by "rural linkages".

From Figure II, there exists a two-way interaction between the two sectors both at a macro-level and within the rural economy. That is to say an increase in agricultural productivity generates demands on the non-agricultural sector while growth in this sector in turn raises demand for the output of the agricultural sector. In addition, informal technology information networks and modernizing influences increase with the development of non-agricultural activities in the rural economy.

From the foregoing review, the nature of rural linkages

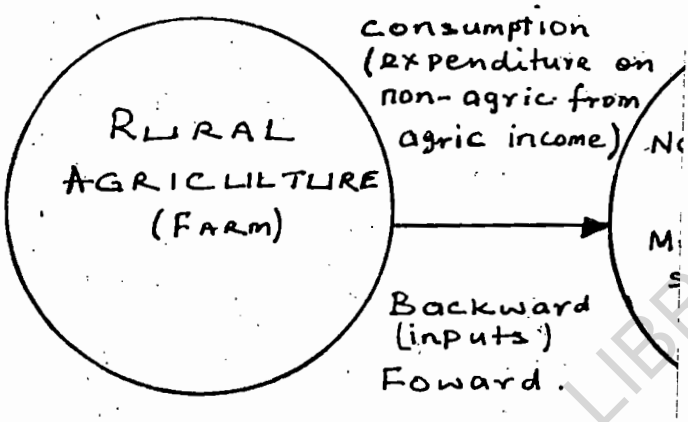
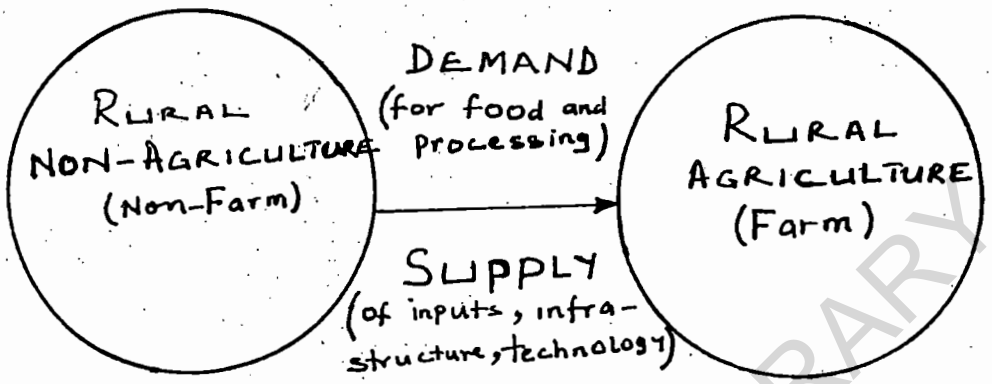


FIG. II AGRICULTU
(NON-FARM) LINK

SOURCE: Adopted



MOTIVATION
(opportunities for consumption, saving and investment)

FIG. III INDUSTRY TO AGRICULTURE LINKAGE.
(Initiated By Non-farm Development)

SOURCE: Adopted from Renis & Stewart et al, 1987.

between farm and non-farm enterprises and their influences on rural economy is hypothetically shown. The present research will therefore seek to relate the rural linkages in the area of study with the above hypothetical exposition, hence pointing out areas of similarity and differences.

CHAPTER III

METHODOLOGY

3.1 SAMPLING PLAN

The study was carried out in three out of the five agricultural zones of Anambra State. The three zones, Awka, Enugu and Abakaliki are noted for their unique combinations of farm and non-farm activities, and were purposively selected.

A multi-stage sampling technique was adopted by sampling firstly the local government areas (LGAs) and secondly the communities within the LGAs. The choice of the LGAs and communities was based on purposive sampling in the sense that three LGAs, one from each zone was selected on the basis of:

(a) one LGA noted for a good combination of farm and non-farm enterprises; and on this basis, Awgu LGA was selected, from Enugu zone;

(b) one LGA noted mainly for its farming potential, and on this basis, Ikwo LGA was selected from Abakaliki zone;

(c) one LGA, noted for its predominant non-farm activities and on this basis, Awka LGA, from Awka zone was selected.

From each LGA, two communities were selected in

the following order:

(i) from Awgu LGA, Nenwe and Ndeaboh communities were selected because of their good combination of farm and non-farm activities. They are also fairly near to urban employment opportunities;

(ii) from Ikwo LGA in Abakaliki zone, Onu Ebonyi Echara and Akpanwudele were selected because of the relative prevalence of farmland, in quality and quantity, which made the communities in the LGA predominantly farming. Also their selection was based on their remoteness from urban employment opportunities;

(iii) from Awka LGA of Awka zone, Amawbia and Mgbakwu communities were selected because of their predominantly non-farm activities due to their very good reputation for indigenous crafts and technology and relative proximity to urban employment opportunities.

It was the intention of such selection procedure to obtain a variety of communities with different structures of opportunities on farm and non-farm enterprises for a good control, comparison and indepth analysis.

Of the 60 rural entrepreneurs identified in each

community, in a reconnaisance survey, 15 were randomly selected and studied.

Altogether, 30 rural entrepreneurs were selected in each LGA of a zone, making the total number of the rural entrepreneurs studied to be 90.

3.2 DATA COLLECTION

A reconnaisance survey was carried out in order to give the researcher an overview of the nature of the environment in the area of study, after which a final survey was conducted to collect primary data using structured questionnaire.

The researcher was assisted by some Agricultural Development Project (ADP) extension staff, and trained enumerators drawn from each community, to interview sampled respondents.

Data were collected on rural farm enterprises and 10 monetised rural non-farm enterprises, namely, tailoring and other service works, petty trading, cloth dyeing and weaving, local brewery and distillery,

blacksmithery and other metal works, farm products processing (e.g. gari processing), local craft making (e.g. basket making), carpentry and joinery, wine tapping, and wine and food retailers.

A rural farm or non-farm entrepreneur was for the purpose of this study taken to be any entrepreneur who puts in up to 75% of available labour into his enterprise, and who derived more than 60% of his annual income from the given enterprise (if he undertakes only one enterprise) or one who puts in not less than 45% of available labour into each of the enterprises and derived up to 35% of his annual income from each of the enterprise he undertook (if he combined two enterprises).

Based on the above rural enterprises listed, and the assumption, data were collected on the variables like age of entrepreneur, educational status, household size, type of rural enterprise chosen, farm size (ha), starting capital (for farm and non-farm) etc.

Secondary data came from published and unpublished works.

3.3 DATA ANALYSIS

Data collected were analysed in two stages. The first stage was the preliminary analysis, after which a

more elaborate analysis followed. The preliminary analysis involved the use of descriptive statistics to describe how farm and non-farm activities were being carried out in the study area.

In order to investigate the set of relationships between two or more variables, null hypotheses 1 and 2 were tested using cross-tabulation analysis.

Since the study sought to investigate sets of relationships among two or more variables, after cross tabulation analysis, it was necessary to test hypothesis 3, by conducting further analysis in terms of Spearman's intercorrelation analysis using intercorrelation matrix forms. This was done in order to investigate how the selected rural non-farm enterprise variables were interrelated with those of farm, and among themselves.

Both cross-tabulation and intercorrelation analyses were done for each LGA and for the data from the three LGAs combined. This was to enable the researcher to eompare and contrast findings in order to analyse those factors thought to affect or influence rural linkages and hence rural development critically.

The cross-tabulation analysis used was of the form:

$$\chi^2 = \leq \frac{(O - E)^2}{E}$$

χ^2 = chi-square

O = Observed frequency in a cell.

E = Expected frequency in a cell.

The intercorrelation matrix used could be stated explicitly as follows:

	X_1	X_2	X_3	X_4	X_5	. . . X_m
X_1	r11 = 1					
X_2	r12	r22 = 1				
X_3	r13	r23	r33 = 1			
X_4	r14	r24	r34	r44 = 1		
X_5	r15	r25	r35	r45	r55 = 1	
.	.	.	.	.	.	
.	.	.	.	.	.	
.	.	.	.	.	.	
X_n	r1n	r2n	r3n	r4n	r5n . . .	rmn = 1

where:

(a) X_1, X_2, X_3 . . . X_n, were the exogeneous variables which the interrelationships were determined

(b) r11, r12, r13 ... r1n were the column coefficients determined; with diagonal values = 1, since they were the same.

(c) r11, r21, r31, ... rmn, were the row coefficients determined as in b.

Note: If the intercorrelation matrix coefficient rmn is less than 0.5, it is taken that there exists an independent relationship between the two variables with such coefficient; but if greater than or equal to 0.5, there is a dependent relationship.

3.4 DELIMITATION AND LIMITATION OF THE STUDY

The researcher has delimited himself to linkages between farm and non-farm enterprises as they occurred in rural areas and paid less attention to the linkage situations at the national and international levels.

Inability to generate input-output data on farm and non-farm enterprises constituted much limiting factor in the analysis of the extent and magnitude of linkages in the rural areas surveyed. Most of the rural entrepreneurs hardly kept records of their activities, so the research was limited much to the data the entrepreneurs could recall from memory. It was also very difficult to convince the rural entrepreneurs (especially the non-farmers) to supply information on their enterprises; and that limited the number of entrepreneurs studied. The researcher was limited to an extent to data and explanations supplied by interpreters in Ikwo

area of Abakaliki zone, due to language problems.

Limited finance posed some problems on the intensity and magnitude of the research.

CHAPTER IV

PRESENTATION AND DISCUSSION OF FINDINGS

4.1 PERSONAL CHARACTERISTICS OF THE RESPONDENTS

Some personal characteristics of the respondents such as age, educational qualification, marital status, number of wives, number of years spent in learning a trade and type of enterprises (farm and non-farm) engaged in by the rural entrepreneurs constituted the independent variables in this study. These variables in one way or the other may have influenced the extent of linkages between farm and non-farm enterprises in the rural areas studied.

4.1.1 Age

Table 1 showed that no respondent was 20 year of age or less, while only 8.9% of the entrepreneurs were above 60 years of age.

Table 1. Age Distribution of Rural Entrepreneurs by LGAs.

Age in years	Respondents in LGAs				
	Awka	Awgu	Ikwo	Total	%
< 21	-	-	-	-	-
21 - 30	3	2	-	5	5.6
31 - 40	10	8	9	27	30.0
41 - 50	7	8	5	20	22.2
51 - 60	8	10	12	30	33.3
> 60	2	4	2	8	8.9
	30	30	30	90	100%

Source: Field Survey 1989

Table 1, also showed that no rural entrepreneur studied was below the age of 30 years in Ikwo area of Abakaliki zone. Of the 30 respondents that were of the ages between 51-60 years, eight came from Awka area of Awka zone, 10 from Awgu area of Enugu zone, while 12 were from Ikwo area. The implication of this might be that older people tend to dominate in the rural areas where there are more farming opportunities (like Ikwo area of Abakaliki zone); and less in areas where there are more non-farm opportunities. This may be because younger people tend to abandon farm for non-farm enterprises, while older people retire and move into farming where there are enough farmland.

4.1.2 Educational Qualification of Respondents

Out of the 90 rural entrepreneurs studied, 25 or 27.8% of them had no formal education while only four of the respondents had formal education for more than 12 years (Table 2).

Table 2. Distribution of Rural Entrepreneurs According to the Number of Years Spent in Formal School.

No. of years in formal school	Respondents in LGAs						Total	%
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		
No schooling	2	6.7	9	30	14	46.7	25	27.8
1 - 3	3	10	7	23.3	6	20	16	17.8
4 - 6	11	36.7	7	23.3	8	26.7	26	28.9
7 - 9	5	16.7	2	6.7	2	6.7	9	10
10 - 12	7	23.3	3	10.0	-	-	10	11
>12	6	6.7	2	6.7	-	-	4	4
	30	100%	30	100%	30	100%	90	100%

Source: Field Survey, 1989.

Table 2 showed that of the 30 respondents studied in each LGA, 14 or 46.7% had no formal education in Ikwo, while nine or 30% and two or 6% had no formal education in Awgu and Awka LGAs; respectively. No respondent had more than nine years of formal education in Ikwo, while seven or 23.3% in Awka, and three or 10% in Awgu had formal education exceeding nine years. Two or 6.7% had formal education above 12 years in Awka and Awgu LGAs, respectively.

It could be inferred from the above distribution that more educated entrepreneurs were concentrated in Awka than Awgu and less in Ikwo LGA. This could be because of the

differences in farm and non-farm opportunities that existed in the different areas. This tallies with Kada's (1980) observation that there is always a tendency for people of low educational background to remain where there is more agricultural opportunities than non-agricultural opportunities in developing countries (Kada, 1980).

4.1.3 Marital Status and Number of Wives of Rural Entrepreneurs

Table 3 showed that out of the 30 respondents sampled in Ikwo area, 28 or 93.3% were married and seven or 30.4% of that number had more than two wives.

In Awgu area, 23 or 70% of the 30 respondents were married and two or 6.7% had more than two wives; while in Awka area, 21 or 70% of the rural entrepreneurs were married with only one respondent marrying more than two wives (Table 3).

Table 3. Marital Status and Number of Wives Married by Rural Entrepreneurs

(a) Marital Status	Respondents in LGAs					
	Awka		Awgu		Ikwo	
	No.	%	No.	%	No.	%
Single	4	13.3	2	6.7	-	-
Married	21	70.0	23	76.7	28	93.3
Divorced	-	-	-	-	-	-
Separated	2	6.7	1	3.3	-	-
Widowed	3	10	3	10.3	2	6.7
Total	30	100%	30	100%	30	100%
(b) No. of Wives						
One	15	78.9	10	52.2	8	42.1
Two	3	15.7	7	36.3	10	52.6
More than two	1	5.4	2	10.5	7	30.4
Total	19	100%	19	100%	25	100%

Source: Field Survey, 1989.

It could be observed that the number of wives married by entrepreneurs in each area reflected the type of enterprise undertaken. It seemed that entrepreneurs in rural areas with dominant agricultural opportunities married more wives. The reason could be to have many helping hands in the farm. Most non-farm operators may not need many wives, as they may not even be very useful source of labour

for some of the specialised jobs.

4.1.4 Type of Rural Enterprise Undertaken by Entrepreneurs

The distribution of entrepreneurs studied showed that some undertook farming alone, others non-farm only, while some combined the two activities effectively (Table 4).

Table 4. Distribution of Entrepreneurs According to Rural Enterprise Undertaken

Type of Enterprise	Respondent in LGAs						Total	%
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		
Farm only	4	33.3	7	23.4	25	83.3	36	40
Non-farm only	19	63.3	1	31.3	1	3.3	21	23
Both	7	23.4	22	73.3	4	13.3	33	37
Total	30	100%	30	100%	30	100%	90	100%

Source: Field Survey, 1989.

From Table 4, 25 or 83.3% of the surveyed entrepreneurs in Ikwo area of Abakaliki zone were full-time farmers, while 07 or 23.4% were located in Awgu area of Enugu zone, and only 04 or 13.3% of such entrepreneurs were in Awka area of Awka zone. Altogether, 36 or 40% of the 90 entrepreneurs were full-time farmers.

Awka LGA, had 19 or 63.3% of the total full-time non-farm entrepreneurs while Awgu LGA had 22 or 73.3% of the entire entrepreneurs that combined farm and non-farm activities effectively.

The type and level of farm or non-farm enterprises dominant in each area has useful implications on rural linkages. The linkage effects will depend on the level of interactions between farm and non-farm activities both within and outside the areas in question.

4.1.5 Number of Farm Entrepreneurs in Relation to Nearness to Urban Opportunities and Size of Farmland

This section looked at the relationship between nearness to urban opportunities, number of farm families and size of farmland available to farm entrepreneurs in the area surveyed (Table 5).

Table 5 showed that of the 90 entrepreneurs studied, 69 were farm families. This group was again classified by "proximity to urban employment opportunities" and by "size of farmland". Since there could be variations with respect to those two criteria, even within the same community, and since there were overlaps in terms of entrepreneurs who combined farm

and non-farm activities, it may not be entirely valid to judge how far the two factors affected or influenced the linkages between farm and non-farm enterprises in the surveyed areas.

Table 5. Ratio of Farm Entrepreneurs by Proximity of Urban Opportunities and by Size of Farmland

Proximity to Urban Opportunities*	Size of farmland**			Av. ratio No. of Entreps.
	Large	Medium	Low	Total
Proximate	-	4.3%	5.8%	10%
	-	(3)	(4)	(7)
Intermediate	13%	18.8%	15.9%	47.7%
	(9)	(13)	(11)	(33)
Remote	36.2%	5.8%	-	42%
	(25)	(4)	-	(29)
Av. ratio	49.4%	28.9%	21.7%	100%
(No. of farmers)	(34)	(20)	(15)	(69)

Note: The number of farm entrepreneurs are in brackets.

*Proximity is taken here to be the distance between farmers community to the nearest urban township; <20 km is taken to be proximate, 20-30 km, intermediate and >30 km, remote.

**Size of farmland is based on the size of land farmed on by the farmer last year; <1 ha is low, 1-2 ha, medium and >2 ha is taken to be large.

Source: Field Survey, 1989.

Nevertheless, Table 5 clearly showed that, other things being equal, (i) the nearer or the more proximate an entrepreneur or community was to urban opportunities, the likely the smaller the agricultural land available to it. No farmer who had a very large farmland was proximate to urban opportunities. (ii) Conversely, the more remote an entrepreneur or a farming community was from urban centres, the more the available farmland. The first and second points could easily be explained, by observing that the more rural people were exposed to urban opportunities, the less they got involved in agriculture and the likelier they took to non-farm employment to supplement their farm land. Also, it is generally true that farmland prices and rents are higher in communities located closer to urban centres, because of the competition of non-farm projects with farm for land.

Secondly, it is conceivable that in such rural communities close to urban centres where stable and high income non-farm employment opportunities are readily available, rural non-farmers can rent out their farmlands while their major livelihood comes from non-farm employment and supplementary income from the rent. This situation was found to be prevalent in Awka area of Awka zone.

4.1.6 Relationship Between the Entrepreneurs Personal Characteristics and the Type of Enterprises Undertaken

Table 6 where cross-tabulation analysis was done (for each of the 3 LGAs) on the type of enterprise engaged in, and entrepreneurs personal characteristics, the result showed that:

The type of rural enterprise (farm or non-farm) taken up by an entrepreneur had no significant relationship (at 5% level of significance) with the age of the entrepreneur in Awka and Awgu LGAs, but significantly related in Ikwo LGA. It had no significant relationship when data from the three LGAs were combined and analysed. No significant relationship exists between type of enterprise chosen and educational level of the entrepreneurs in the three LGAs; and on marital status, but significantly related in Awgu LGA and for the three LGAs jointly analysed. It had no significant relationship on the number of years an entrepreneur spent in learning the trade in any of the three LGAs analysed.

The significant relationship established between age and type of enterprise chosen in Ikwo could be as a result of farming being the major enterprise of the rural entrepreneurs, and the mean age of farm entrepreneurs

TABLE 6. RELATIONSHIP BETWEEN TYPE OF ENTERPRISE UNDERTAKEN AND PERSONAL CHARACTERISTICS

	Type of Enterprise in LGAs (Farm & Non-farm)			
	AWKA	AWGU	IKWO	ALL 3 LGAs Combined
Personal Characteristics				
Age	14.79*	8.14*	16.60	11.67*
Educational Status	5.74*	3.67*	4.99*	5.15*
Marital Status	5.04*	2.84*	1.55*	1.44*
No. of Wives/Family Size	2.62*	9.93	2.09*	10.04
No. of years spent in learning trade	3.07*	0.928*	3.70*	2.10*

*Significant at 05%

being higher than those who picked up non-farm enterprises in the area. Young people have migrated much from Ikwo to other urban areas or even to other rural communities for paid employment and basic infrastructures absent in the area.

The significant relationship between type of enterprise undertaken and family size of entrepreneurs in Awgu could be because most entrepreneurs combined farm and non-farm enterprises in the area, mostly when their families got larger. At the early stage of the family life cycle, most of them are either farm or non-farm entrepreneurs, who gradually combined the two activities as the family got larger.

4.2 TYPE, NATURE AND ORGANIZATION OF FARM ENTERPRISES IN ANAMBRA STATE

The analysis on the type, nature and organization of farm enterprises was done to identify entrepreneurs objectives for taking to farming, methods of land procurements for farming, farm size cultivated last cropping season, major crops planted, major types of livestock kept, place of purchase of farm inputs and sale of farm products and major sources of capital for farmers, etc.

4.2.1 Farmers Objectives for Entering into Farming

Rural entrepreneurs had several aims and objectives for entering into farm business. These objectives ranged from food provision for the family, to guarding against failure in other businesses, profit making, generation of employment and provision of additional revenue (Table 7).

Table 7. Farmers Objectives for Entering into Farming Business

Objectives	Respondents in LGAs						Total	%
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		
Provision of food for family	4	36.3	10	34.5	5	17.2	19	27.5
Hedging against failure in non-farm biz	3	27.3	6	20.7	3	10.3	12	17.4
Profit	2	18.2	5	17.2	12	41.4	19	27.5
Employment generation	-	-	-	-	2	6.9	2	2.9
Supplementary income	2	18.2	8	27.6	7	24.1	17	24.6
Total	11		29		29		69	100

Source: Field Survey, 1989.

Table 7 showed the distribution of respondents

objectives according to LGAs. From Awka LGA, 36.3% of the respondents indicated that they farmed primarily for family food needs, 34.5% and 17.2% of the farming entrepreneurs in Awgu and Ikwo areas respectively had similar objective for farming. No farmer in Awka and Awgu areas entered into farming in order to generate employment for people.

According to Kada (1980), farmers objectives for entering into farm business had a bearing on the amount of resources they invested into farmwork, the amount of time they put in it, and therefore the quantity of produced and supplied to serve the consumption needs of those in non-farm business. That might ultimately have some useful implications on rural linkages.

4.2.2 Farm Entrepreneurs Reasons for Remaining Solely in Farming

Farm entrepreneurs had various reasons for taking up farming as a sole business. Their reasons ranged from farming being the most profitable enterprise in their area, to availability of arable land for farming. Others reasoned that less training and skill were required for farming unlike non-farm work, yet others had availability of cheap labour and less starting capital for farming as their main reason for remaining

sole farmers (Table 8).

Table 8. Farmers Reasons for Taking Farming as a Sole Occupation

Criterion Variable	Response in LGAs						Total	%
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		
Most profitable in the area	2	33.3	4	33.3	8	26.7	14	29.1
Availability of land	-	-	2	16.7	10	33.3	12	25.0
Less training and skill required	2	33.3	2	16.7	6	20.0	10	20.8
Availability of cheap labour	-	-	-	-	4	13.3	4	8.3
Less starting capital	2	33.3	4	33.3	2	6.7	8	16.7
Total	6		12		30		48	100%

Source: Field Survey, 1989

Table 8 showed that 33.3% of the entrepreneurs who took up farming as their sole occupation in Ikwo did so because of availability of much arable land in the area. No farmer in Awka was in farming because of availability of arable land.

Farmers reasons for remaining purely in farming were fundamental to their decisions not to go into non-farm

business solely or combine the two enterprises. This had implications on rural farm and non-farm linkages and rural incomes as a whole. According to Kada (1980) there is always a limited production and consumption linkages in areas dominated by farmers who take farming as a sole business and a reverse situation in areas where farming is taken as a part-time job.

4.2.3 Methods of Land Procurement by Rural Entrepreneurs in Anambra State

The ways land is procured in an area for farming could influence the nature of farm enterprises in that area, and hence rural linkages (Table 9).

Table 9. Methods of Land Procurement for Farming

Criterion Variable	Response in LGAs						Total	
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		%
Inheritance	4	36.3	12	41.4	14	48.3	30	43.5
Pledge	2	18.2	4	13.8	3	10.3	9	13.0
Family land	2	18.2	6	20.7	8	27.6	16	23.2
Bought	3	27.3	7	24.1	4	13.8	14	20.3
Total	11		29		29		69	100%

Source: Field Survey, 1989.

From Table 9, it could be seen that only 36.3% of the

farmers in Awka area got their farmland through inheritance. In Awgu and Ikwo LGAs, 41.4% and 48.3% of the farmers respectively inherited their farmland. In Awka LGA, 27.3% of the farmers bought their farmland while 24.1% and 13.8% respectively bought theirs in Awgu and Ikwo areas.

Implications of the various methods of land procurement for farming could be many. Pledging and buying of land may reflect virtuous forms of land redistribution, but may tend in the long run to concentrate land in the hands of rich land speculators (Renis and Stewart et al, 1987). The above hypothesis was found to be true of communities near to urban centres (e.g. Amawbia, Mgbakwu) where land speculators have bought most of the farm lands because of high farmland prices and rents. This situation could likely lead to poor asset distribution in those communities and hence poor consumption linkage.

Land inheritance and family land ownership may turn to be better and more equitable land distribution systems in rural communities of Ikwo (Onu Ebonyi Echara and Akpanwudele) and Awgu (Ndeaboh community) which are remote from urban centres.

More equal land distribution tends to be associated with greater use of labour and less use of purchased inputs, including capital. Consequently, more egalitarian land distribution could be associated with higher local consumption

linkage and low backward linkage (Renis and Stewart et. al, 1987). However, the inputs that are used by the smaller farmers may involve a larger element of local production (as found in some of the rural communities above) than those of larger farmers. So local backward linkages might be equally high in these areas.

4.2.4 Farm Size Cultivated Last Farming Season

Farm sizes of the entrepreneurs was an important indicator of the type and level of farming activities undertaken in the areas. Four categories of farms were delineated in the study area using farm size in hectares as a criterion. These included very small holders of less than 0.5 ha, small holders of 0.5-2 ha, medium holders of 2.01-3.5 ha and large holders of >3.5 ha (Table 10).

Table 10. Farm Size of Entrepreneurs Last Farming Season

LGAs surveyed	*No. of Entrepreneurs by Farm Size (ha)								Total
	Very small (<0.5 ha)		Small (0.5-2 ha)		Medium (2.1-3.5 ha)		Large** (>3.5)		
	No.	%	No.	%	No.	%	No.	%	
Awka	5	45.4	4	36.3	2	18.2	-	-	11
Awgu	11	36.9	5	16.7	5	16.7	8	29.7	21
Ikwo	1	3.3	5	16.7	9	30.0	13	46.6	29
Total	17		14		16		21		61

*The figures in the brackets are the percentages calculated from the row totals of respondents.

**Farm size of 3.5 ha may be regarded as large in Eastern Nigeria but may not be taken as such in Northern Nigeria

with large land mass.

Source: Field Survey, 1989.

From the data presented on Table 10, it could be seen that most farmers in Awka farmed on land areas of less than 2 ha, while up to 46.6% of the farmers in Ikwo farmed on areas of land of more than 3.5 ha, and more than 29.7% of the farmers in Awgu cultivated areas of land that exceeded 3.5 ha.

From the above result, it could be deduced that majority of the farmers in Awka (and to some extent Awgu) may have combined farming with non-farm activities in various degrees in order to increase the total income of the family. Overall linkages between farm and non-farm enterprises in these areas might be very high. But backward linkage might be higher in areas with predominant farming enterprise as in Ikwo area.

4.2.5 Major Crops Cultivated by Rural Farm Entrepreneurs in the Study Area

Crop composition is a factor that also determines input use, with some crops requiring more labour and therefore leading to higher consumption linkages, while others use more capital or other inputs. The type of crops dominantly farmed in an area could also affect

the potential for forward linkage. Table 11 showed the crop composition in the areas studied. Four major crops were considered as staple in Anambra State (Yam, cassava, rice, maize).

Table 11. Major Crops Cultivated in the Study Area

Type of Crops	Crop Farmers in LGAs						Total	
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		%
Yam	2	18.2	8	27.6	10	34.5	20	28.9
Cassava	1	9.0	12	41.4	3	10.3	16	23.2
Rice	1	9.0	4	13.8	14	48.3	19	27.5
Maize	4	36.4	2	6.9	2	6.9	8	11.6
Vegetables	3	27.3	3	10.3	-	-	6	8.7
Total	11		29		29		69	100%

Source: Field Survey, 1989.

From Table 11, it is shown that rice and yam formed the major crop composition of farmers in Ikwo area, having 34.5% and 48.3% respectively of the farmers. In Awgu, yam and cassava farmers dominated having 27.6% and 41.4% of the entire farmers respectively. Awka had 36.4% of the farmers as maize farmers while 27.3% cultivated vegetables.

Farmers in Awka area who had small farmlands and cultivated mainly maize and vegetables (Tables 10 and 11)

indicated that they used much purchased farm inputs such as fertilizer to sustain the fertility of the land lost due to much pressure on land. Also capital inputs used in the area were of traditional type (hoes, matchets, etc) since it was not economical to mechanize such small plots.

Yam and cassava farmers in Awgu and Ikwo did not use mechanized operations as mechanization of these crops were still not popular. Farmers in these areas practised mainly land rotation as a means of soil fertility regeneration and therefore did not use much fertilizer and other agro-chemicals. Only few rice farmers in Ikwo used pesticides and herbicides to combat rice pests and weeds.

Backward production linkages between farm and non-farm (modern industries) could therefore be seen to be weak; while rural backward production linkage between farm and local industries could be said to be strong, because of much use of traditional technology and other inputs from these industries more than the modern ones.

4.2.6 Major Livestock Kept and System of Rearing

Most farm entrepreneurs combined crop production with rearing of livestock while others reared livestock

alone as their only farm business. Table 12, showed the distribution of livestock farmers and major livestock kept while Table 13 showed methods of rearing.

Table 12. Major Livestock Kept and Distribution of Livestock Farmers

Type of Livestock kept	Distribution of Livestock Farmers in LGAs							
	Awka		Awgu		Ikwo		Total	
	No.	%	No.	%	No.	%		%
Poultry	5	45.6*	8	27.6*	4	14.8*	17	25.4*
Goat	2	18.2	10	34.5	9	33.3	21	31.3
Pig	3	27.3	5	17.2	6	22.2	14	20.9
Sheep	1	9.0	6	20.7	5	29.6	12	17.9
Cattle	-	-	-	-	3	100.0	3	4.4
Total	11		29		27		67	100%

*Calculation of the percentages was based on the row totals.

Source: Field Survey, 1989.

Table 13. Methods of Rearing Livestock

Systems	Livestock Entrepreneurs in LGAs							
	Awka		Awgu		Ikwo		Total	
	No.	%	No.	%	No.	%		%
Roam about (Extensive)	4	36.4*	9	31.0*	12	44.4*	25	37.3
Confined (intensive)	5	45.4	12	41.4	6	22.2	23	34.3
Semi intensive	2	18.2	8	27.6	9	33.3	19	28.4
Total	11		29		27		67	100%

*Percentage calculation was based on row totals.

Source: Field Survey, 1989.

From Table 12, it could be seen that poultry farmers dominated in Awka with 45.6% of the entire livestock farmers studied in the area. Awgu and Ikwo had goat farmers more with 34.5% and 33.3% respectively of the total livestock farmers in the two areas. No farmer kept cattle in Awka and Awgu, while the entire three cattle farmers were from Ikwo area.

Most livestock farmers in Ikwo area or about 44.4% left their animals to roam about (extensive system) while majority of the livestock farmers, 45.4% and 41.4% respectively practised intensive system (confined their animals) in Awka and Awgu areas.

The type of animals kept by farmers and the systems of rearing could have a determinant effect on the amount of labour used and the type, quantity and quality of non-farm inputs used.

It was found that farmers who kept more non-ruminants like poultry and pig adopted intensive system of rearing and used more non-farm inputs like processed feeds, vet drugs and other modern equipments. Such farmers also used more skilled labour for rearing livestock and more operating capital. In contrast, most rural farmers operated extensive rearing. Labour and other purchased inputs used were low. This finding could have implications on rural linkages.

4.2.7 Place of Purchase and Sale of Farm Inputs and Produce

The nature and location of the markets where agricultural inputs and outputs are purchased and sold could have important implications on rural linkages and leakages.

According to Renis and Stewart et. al (1987) rural backward production linkage would be stronger if non-farm inputs produced locally were used locally for agricultural production. There would be more linkage effects when farmers buy some locally produced technologies, like hoes and matchets and crafts, such as strawhats and baskets, within the locality than when such were bought even from neighbouring markets within one zone. Purchases outside the locality should be seen as leakages out of the rural economy even though such purchases might be used to further production in the locality.

On the other hand, sales of farm products within the locality might lead to a strong rural linkage but may not lead to increases in rural income which could have been the case if such products were sold outside the locality (Table 14 and 15).

Table 14. Place of Purchase of Farm Inputs

Criterion Variable	Respondents in LGAs						Total	
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		%
In the local market	3	27.3	12	41.4	14	48.3	29	42.0
Neighbouring market	5	45.4	10	34.5	9	31.0	24	34.8
Urban market outside zone	3	27.3	7	24.1	6	20.7	16	23.2
Total	11		29		29		69	100%

Table 15. Place of Sale of Farm Produce

Criterion Variable	Respondents in LGAs						Total	
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		%
Within the farm	2	18.2	6	20.7	3	10.3	11	15.9
At the nearest rural market	5	45.4	14	48.3	16	55.2	35	50.7
At the nearest urban market	4	36.4	9	31.0	10	34.5	23	33.4
Total	11		29		29		69	100%

Source: Field Survey, 1989.

Table 14 showed that up to 48.3% of the farmers in Ikwo area purchased their farm inputs within their local markets, while 41.4% and 27.3% of the farm entrepreneurs

in Awgu and Awka respectively purchased their inputs locally. In Awka area, 27.3% of the farmers purchased their farm inputs outside the LGA, while 24.1% and 20.7% did so in Awgu and Ikwo areas respectively.

Furthermore, farmers who sold their farm produce at the nearest local market were dominant in Ikwo area 55.2%, while 45.4% and 48.3% disposed their farm outputs in the nearest rural markets in Awka and Awgu respectively. Most farmers in Awka 36.4% sold their products in urban markets. Only 30% and 34.5% of the farmers sold their products in urban markets in Awgu and Ikwo respectively.

The various implications of these findings had been discussed.

4.2.8 Sources of Capital for Farm Entrepreneur

The source(s) of capital for farm enterprise could be an indicator of the level of capital invested into farming by rural entrepreneurs and the farm size. Much use of personal capital and capital from informal lending agents could mean subsistence level of production by the rural farmers (Table 16).

Table 16. Major Sources of Capital for Farm Enterprise (1988 Farm Year)

Sources of capital	Farm Entrepreneurs in LGAs						Total	
	Awka		Awgu		Ikwo			
	No.	%	No.	%	No.	%		%
Personal capital	5	45.4*	8	27.6	12	41.4	25	36.2
Relations and friends	-	-	2	6.9	3	10.3	5	7.2
Esusu clubs	2	18.2	6	20.7	4	13.8	12	17.4
Money lenders	-	-	-	-	1	3.4	1	1.4
Coop. Societies	2	18.2	8	27.6	6	20.7	16	23.2
Comm./Coop banks	1	9.1	2	6.9	1	3.4	4	5.8
Govt. Agencies/ NDE	1	9.1	3	10.3	2	6.9	6	8.7
Total	11		29		29		69	100%

*Calculation of the percentages was based on the column totals.

Source: Field Survey, 1989.

From the data on Table 16, it could be seen that the majority of the farmers used their personal capital for farming (36.2% of the farmers in the three zones studied in 1988). Many farmers especially from Awgu and Ikwo areas used funds from cooperative societies 27.6% and 20.7% respectively. The least source of capital for farmers in the three zones was money lenders (1.4%). Awka farmers

used more capital from commercial and cooperative banks (9.1% of the farmers in the area) while Awgu and Awka made more use of capital from government agencies and National Directorate of Employment (NDE).

Since a greater percentage of the farm entrepreneurs used more of informal lending agencies, it could imply low capital investment in farming. Low capital investment in farming could lead to low level of backward linkages and low incomes from farming.

4.3 TYPE, NATURE AND ORGANIZATION OF NON-FARM ENTERPRISES IN ANAMBRA STATE

The type, nature and organization of non-farm enterprises was examined to determine the number of non-farm families, and the type of non-farm activities undertaken, nature of non-farm training received, number of years spent in learning non-farm trade, reason for remaining a totally non-farm entrepreneur, reasons for combining non-farm with farmwork, sources of capital for non-farm activities and income obtained from non-farm enterprises.

4.3.1 Number of Non-Farm Entrepreneurs and Type of Non-farm Activities Undertaken

The major non-farm activities undertaken by the

rural entrepreneurs in the surveyed area were grouped into 10 operations (Table 17).

Local crafts and technology as used here included activities like basket making, mat weaving, making of strawhats, blacksmithing and other metal works, mason work, various forms of carving and woodworks, and pottery and clay work. Included in processing of farm products were activities such as gari processing, palm oil processing, maize processing, palm oil processing and local soap making. Petty trading included activities such as foodstuff retailing, selling of some local fast food and delicacies, beer and palm wine retailing.

Some of the entrepreneurs studied engaged in non-farm activities only (full time non-farmers) while others combined non-farm with farming in various degrees (part-time non-farmers).

Table 17. Number of Non-farm Entrepreneurs By Type of Non-farm Operations.

Non-farm operation	Number of Non-farm Entreps by LGAs							
	Awka		Awgu		Ikwo		Total	
	No.	%*	No.	%*	No.	%*		%*
Wine tapping	1	3.8	4	7.4	1	20	5	9.3
Local gin distillery	3	1.5	1	3.8	2	40	5	9.3
Local crafts and technology	7	26.9	6	26.0	1	20	16	29.6
Farm produce processing	4	15.4	4	17.6	-	-	9	16.7
Shoemaking/ repairing	1	3.8	1	3.8	-	-	2	3.7
Tailoring	1.	3.8	1	3.8	-	-	2	3.7
Dyeing and weaving	2	7.7	-	-	-	-	2	3.7
Furniture making	2	7.7	1	3.8	-	-	2	3.7
Petty trading	3	11.5	4	17.7	1	20	7	12.6
Artisans	2	7.7	1	3.8	-	-	3	5.6
Total	26	100%	23	100%	5	100%	54	100%

*Calculation of the percentages was based on the column totals.

Source: Field Survey, 1989.

From Table 17, Awka LGA (mainly Amawbia community) topped the list of entrepreneurs who engaged in local crafts and technology with seven or 26.9% of the 26 non-farm

entrepreneurs studied engaging in local craft and technology. The major crafts and technologies engaged in included wood carving and other wood works, and blacksmithery and other metal works. Various art works were carved by the indigenous carvers which included items like fancy doors, royal chairs, walking sticks, masquerade faces, etc., while iron and metal works included matchets and knives, hoes, axes, pots, gongs and den guns.

Nenwe and Ndeaboh communities in Awgu LGA, were mainly noted for their local craft weaving artistry. Up to 6 or 26% of the 23 non-farm entrepreneurs studied made mats (from local reeds), strawhats, baskets (from palm fronds), gari sieve (from reeds), raffia trays, carved mortars and pestles. Other local products included items from blacksmithery and metal works such as metal pots, gong, hoes, weeding hoes, matchets and repairing of metal products. Women mainly engaged in pottery works. Non-expanding clay was the major material which they moulded into various shapes and sizes of pots and earthenwares.

Of the five non-farm entrepreneurs in Onu-Ebonyi Echara and Akpanwudele in Ikwo LGA, two or 40% of them engaged in the production of local crafts and technology (mainly blacksmithery). They produced uniquely large wide hoes for cultivation and small weeding hoes.

It should be noted that Ikwo LGA was comprised mainly of farming entrepreneurs who had little or no time for non-farm activities (more than 75% of their time was spent on farming). Out of the 54 non-farm entrepreneurs in the surveyed areas of Anambra State, 26 or 48.1% were from Awka zone, 23 or 43% from Enugu zone, while five or 9% were from Abakaliki zone.

It appeared that the number of non-farm entrepreneurs must have been influenced by the farmland available to individuals in the zones. The less the farm size, the more people tended to leave the farm for non-farm businesses, and vice versa.

4.3.2 Type and Level of Non-farm Training Received By Rural Entrepreneurs

This section considered the type and level of training before entering non-farm business (Table 18).

Table 18. Type and Level of Non-farm Training Received By Rural Entrepreneurs

Criterion Variable	Respondents in LGAs: Awka No.	Awka %*	Awgu No.	Awgu %*	Ikwo No.	Ikwo %*	Total	%
(a) Type of Non-farm Training								
From home	8	30.8	10	43.5	2	40	20	37
Apprentice	7	26.9	6	26.0	1	20	14	25
Schl. of Craft/ Domestic Centre	2	2.9	-	-	-	-	2	3.5
Technical School	1	3.8	1	4.3	-	-	2	3.7
Tertiary Institutions	3	11.5	-	-	-	-	3	5.6
No training	5	19.2	6	26.0	2	40	13	26.0
Total	26	100%	23	100%	5	100%	54	100%
(b) Level of Training (mths)	No.	%	No.	%	No.	%		%
< 6 mths	5	19.2	6	26	2	40	13	24
6 - 11 mths	3	11.5	5	21.7	1	20	9	16.6
12 - 18 mths	2	2.9	4	17.4	1	20	7	12.9
19 - 24 mths	6	23.0	3	13.0	1	20	10	18.5
25 - 30 mths	1	3.8	1	4.3	-	-	2	3.7
> 30 mths	9	34.6	4	17.4	-	-	13	24.0
	26	100%	23	100%	5	100%	54	100%

*Calculation of percentages was based on the column totals.

Source: Field Survey, 1989.

Table 18 showed that the majority of the respondents in the three zones received their training from their homes(from parents who started the enterprise). This group represented eight or 30.8% of such entrepreneurs in Awka area, 10 or 43.5% in Awgu and two or 40% in Ikwo areas. As many as seven or 26.7% of the entrepreneurs were trained as apprentices in Awka area; while five or 19.2% had no training in Awka. Awgu and Ikwo LGAs had 26% and 40% of entrepreneurs without training respectively.

Duration of training ranged from less than 6 moths (19%, 26% and 40% in Awka, Awgu and Ikwo areas respectively) to greater than 30 months in Awka (34%) and Awgu (17.4%).

The type and duration of non-farm training have important implications on rural farm and non-farm linkages. Firstly, when young people receive non-farm training in their homes, they often participate in farming activities on part-time basis. The more young people are trained in schools of crafts, and tertiary institutions, the less they are available to agriculture. This is because, these schools are usually located in centres outside their rural homes.

Secondly, the more sophisticated the training programme and the duration, the more unwilling the entrepreneurs to return to farming or combine farming with non-farm activities. Also, there is an hypothesis that stated that

the longer the training programme, the less available is labour for farming and the more the trainees are in quest of urban employment (Kada, 1980).

Therefore, the type and duration of training programme of non-farm activities, may have had important impact on rural linkages through labour supply. Also, there could be much leakages out of the rural economy, as money from farm was spent in purchasing non-farm capital equipment after training, the yield of which may not flow back into agriculture, and non-agricultural enterprises. This could be because most of the entrepreneurs who received modern training usually practised their trades in big cities.

4.3.3 Purpose of Entering Into Non-farm Business and Reason for Remaining a Non-farm Entrepreneur

Information obtained revealed that some of the non-farm entrepreneurs objectives for entering and remaining in non-farm business ranged from profit motives to producing as a way of life, while reasons for remaining solely a non-farmer ranged from land insufficiency, to perception of non-farm activities as being less tedious than farming (Table 19).

Table 19. Objectives of Entering into Non-farm Business and Reasons for Being Full-time Non-farm Entrepreneur

Criterion Variable	Non-farm respondents in LGAs. N=54							
	Awka		Awgu		Ikwo		Total	
	No.	%*	No.	%*	No.	%*		%*
For profit	24	92.3	22	95.6	4	80.0	30	55.6
For Emergency cash	4	15.4	6	26.0	2	40.0	12	22.2
As a way of life	9	34.6	10	43.5	1	20.0	20	37.0
Insufficient farm-land	18	69.2	1	4.3	1	20.0	20	37.0
Less tedious than farming	2	7.7	-	-	-	-	2	3.7
Less labour requirement	1	3.8	-	-	-	-	1	1.9
More decent than farming	1	3.8	1	4.3	-	-	1	1.9
More lucrative	16	61.5	1	4.3	1	20.0	18	33.3
	N=26		N=23		N=5		N=54	

*Calculation of percentages was based on number of non-farm respondents.

Source: Field Survey, 1989.

Table 19 showed that in all the LGAs, the most important reason for being a non-farm entrepreneur was profit, with 92.3% of the respondents in Awka, 95.6% in Awgu and 80.0% in Ikwo LGAs. The next important reason varied among the LGAs. In Awka, it was land insufficiency, in Awgu it was a

way of life while in Ikwo it was for emergency cash.

Entrepreneurs reason for being in non-farm could affect the nature and size of non-farm enterprises; and hence the type and magnitude of linkages. For example, an entrepreneur whose sole objective of being in non-farm enterprise was profit, was likely to invest more of his resources on his non-farm activity, than the one whose objective was emergency cash (Kada, 1980).

According to him, an entrepreneur whose reason for opting for non-farm enterprise was land insufficiency was likely to concentrate his available resources on non-farm than farm enterprise. The above hypothesis could be used as an explanation for the differences in the distribution and levels of intensity of farm and non-farm enterprises in the areas studied.

4.3.4 Number of Hours Spent by Rural Non-farm Entrepreneurs on Their Business Per Day

As observed by Kada (1980). the reasons an entrepreneur has for remaining in non-farm enterprise could determine his resource allocation pattern, including time. Allocation of available time is one of the main determinants of whether an entrepreneur is classified as a full-time or a part-time farmer or non-farmer (Table 20).

Table 20. Number of Hours Spent in Non-farm Activities by Entrepreneurs Per Day

Average Hour/Day	No. of Entrepreneurs in LGAs							
	Awka		Awgu		Ikwo		Total	
	No.	%	No.	%	No.	%	No.	%
1 - 3 hrs	6	20	7	23.3	25	83.3	38	42.2
4 - 6 hrs	4	13.3	21	70.0	4	13.3	29	32.2
7 - 9 hrs	19	63.3	2	6.7	1	3.3	22	24.4
9 hrs	1	3.3	-	-	-	-	1	1.1
Total	30	100%	30	100%	30	100%	90	100%

Source: Field Survey, 1989.

From Table 20, it could be seen that up to 83.3% of the respondents in Ikwo area of Abakaliki zone spent 1 to 3 hours in non-farm work. They could therefore be referred to as full-time farmers. In Awgu area, of Enugu zone, the majority (about 70%) worked 4 to 6 hours per day on non-farm activities. Therefore, less than half of the daily working hours was given to the farm and other miscellaneous activities. They could then be classified as part-time non-farmers. Awka zone had more than 63% of its entrepreneurs working for more than seven hours per day on non-farm activities, hence they could be termed full-time non-farmers.

Rural linkages were expected to be stronger in those areas where farm and non-farm activities were combined (e.g. Awgu LGA), but weaker in the other areas that specialised in either farm or non-farm business. However, consumption linkage could be high in the later areas (Awka, Ikwo) as they could be important markets for non-farm and farm products.

4.3.5 Type of Business Organization Among Rural Non-farm Entrepreneurs

The type of business organization entered into by an entrepreneur could be an indication of the size, level of management and sources and amount of capital available to the enterprise.

Table 21, showed that 72.2% of the non-farm entrepreneurs operated under sole proprietorship, while 9.3% were in partnership, but no entrepreneur operated a public company level of business in the three zones studied.

This could be the reason for why the operating capital of these rural non-farm business was very low, leading to low production due to small size of the business.

Table 21. Type of Business Organization of Rural Non-farm Entrepreneurs by LGAs

Type of Business Organization	Entrepreneurs in LGAs				
	Awka	Awgu	Ikwo	Total	%
Sole proprietorship	18	17	4	39	72.2
Partnership	2	3	-	5	9.3
Coop. Society	6	3	1	10	18.5
Total	26	23	5	54	100%

Source: Field Survey, 1989

4.3.6 Sources of Initial Capital For Non-farm Entrepreneurs

The source and size of capital for non-farm often serve as a good indicator of the magnitude of non-farm activities being undertaken in an area. Where entrepreneurs used mainly personal capital or capital from informal lending agents, the size of their business would be expected to be small.

Table 21 showed that non-farm entrepreneurs secured capital from a range of sources such as personal savings, relatives and friends, Isusu clubs, money lenders, and cooperative societies, commercial and cooperative banks, and government agencies. Though the average amount presented on the table may not be very reliable as it depended mainly on the memory recall of the respondents,

it could however give an idea of the situation under study.

Table 22. Major Sources of Capital for Non-farm Enterprises and Average Amount Obtained.

Sources	No. of Rural Entrepreneurs and Average Amount Obtained in LGAs			
	Awka	Awgu	Ikwo	Total
Personal capital	6,618(25)*	2,562(25)	2,497(5)	11,677(55)
Relations and Friends	1,512(8)	1,150(2)	739(3)	3,402(11)
Isusu Clubs	500(2)	381(8)	628(1)	1,508(11)
Money Lenders	2,000(1)	2,000(1)	-	4,000(2)
Coop. Societies	887(8)	400(1)	-	1,287(9)
Comm./Coop banks	600(1)	-	-	600(1)
Govt. Agencies	2,700(2)	6,749(2)	-	9,449(4)

*The figures in parenthesis show the number of entrepreneurs in each category.

Source: Field Survey, 1989.

From Table 22, it could be seen that the majority of the non-farm entrepreneurs used their personal capital to fund their businesses as initial capital. This amounted to an average of ₦6,618 for 25 non-farm entrepreneurs in Awka area, ₦2,562 for 25 entrepreneurs in Awgu area and ₦2,497 for five entrepreneurs in Ikwo area. The least

used source of initial capital was commercial and cooperative banks. However, few entrepreneurs got loans from government agencies like the National Directorate of Employment (NDE).

4.3.7 Relationship Between The Distance Between Entrepreneurs Rural Village and Nearest Urban Cities and Some Enterprise Variables

Table 23 showed the result of cross-tabulation analysis between the rural entrepreneurs village and urban cities and some farm and non-farm production variables. From the table, it is shown that the use of modern non-farm production techniques was unrelated to the distance between the entrepreneurs village and urban cities in Awka and Awgu and for the three LGAs combined. It was also shown to be unrelated to the use of modern farm innovations in Awka and Awgu LGAs, but related in Ikwo.

A case of no relationship was established between the distance variable and the number of times entrepreneurs contacted extension workers in Awka, and Awgu, but related in Ikwo and for the three LGAs combined.

The relationship that existed in Ikwo could be attributed to logistic problems linked to bad roads from Ikwo to any other urban city. It was found that

TABLE 23. CROSS-TAB RESULT OF RELATIONSHIP BETWEEN DISTANCE OF COMM. FROM URBAN CENTRES, AND SOME ENTERPRISE VARIABLES

ENTERPRISE VARIABLES	DISTANCE OF COMMUNITIES FROM URBAN CENTRES			
	AWKA	AWGU	IKWO	ALL LGAs
Use of modern non-farm production inputs	8.20*	2.23*	-	11.27*
Use of modern farm production inputs	7.5*	3.0*	12.81	13.97
No. of contacts with extension workers	12.65*	7.61*	35.62	61.84*
Place of sale of farm produce	3.24*	1.07*	-	33.98
Place of sale of non-farm products	6.26*	7.38*	-	10.60*
Place of purchase of farm inputs	7.36*	1.07*	2.35*	5.52*
Place of purchase of non-farm inputs	5.93*	3.58*	-	15.50*

*Significant at 05%

most extension agents lived in Abakaliki urban and visited farmers around the LGA headquarters (Onu-Ebonyi) Echara and rarely visited farmers far away from the headquarters (e.g. Akpanwudele).

Extension agents (and most other workers) did not reside in Ikwo LGA, may be due to lack of basic infrastructures and amenities in the area. Most of the farmers in the area did not adopt modern farm innovations because they were not informed.

Other variables, like place of sale of farm produce, place of purchase of inputs (both farm and non-farm) showed no relationship with the distance between the village and urban city. The explanation for this could be the fact that many rural entrepreneurs (mostly farmers) had no "profit motive" as an objective function of their enterprise. They sold their products anywhere depending on how needy they were for immediate cash. Most rural entrepreneurs were indifferent as to the place they sold their products. The reason could be because there was not much difference between urban and rural price levels for the products, especially if transportation cost to urban markets was added.

4.4 RURAL LINKAGE IN ANAMBRA STATE

This part of the research is intended to analyse evidence of rural linkages in the surveyed areas. It is not intended to provide a comprehensive survey data, but rather to illuminate on the type of linkages found in the different areas of Anambra State. First, farm to non-farm (industry) linkages are discussed, then non-farm to farm linkages. In general, rural linkages may be classified into consumption, backward and forward.

4.4.1 Evidence and Magnitude of Consumption Linkages in Anambra State

Consumption linkages as earlier explained occur where incomes generated by activities in one sector lead to demand for output of another sector.

The nature and extent of consumption linkages in Anambra State depend on how incomes generated in agriculture (farm) and non-agriculture (non-farm) are allocated between consumption and savings, and among different types of consumption expenditures.

Household expenditure patterns depend mainly on the level of household income. For the rural economy as a whole, expenditure patterns then depend on the average level of household income and the distribution of income among households (Renis and Stewart, 1987).

Rural non-farm employment in Anambra State is dominated by consumption linked activities, that is, activities which supply consumption goods and services to people in the area. Results obtained in some parts of Awka LGA (Amawbia and Mgbakwu communities); Awgu LGA (Nenwe and Ndeaboh communities) and Ikwo LGA (Onu-Ebonyi Echara and Akpanwudele communities), showed that over 85% of the rural non-farm activities in Awka LGA were consumption related while in Awgu and Ikwo they were 80% and 75% respectively (Table 16).

Such activities included barbing and hairdressing, furniture making, wine tapping, local gin distillery, food processing, tailoring, shoemaking and repairing, cloth dyeing and weaving, and petty trading.

It was also found that non-farm consumption related employment accounted for more than 73% in Awka area, 74% in Awgu area and 60% in Ikwo area. These ratios had high relationship with non-farm family incomes and hence implications for rural consumption linkages.

An analysis of consumption linkage in Sierra Leone (King and Byerlee 1978) found that low income families tended to spend extra income on more labour intensive commodities, relative to high income families, while rural consumers spent larger proportion of their incomes on goods produced in the rural areas.

Results obtained showed that consumption linkages could be related to both consumption related employment of households (Table 23) and household income distribution patterns (Table 25).

Table 24. Consumption Related Employment (Activities) as a Percentage of Total Rural Non-farm Employment (Activities) in Anambra State

	No. of Entreps. Employed in LGAs			
Criterion Variable	Awka	Awgu	Ikwo	Total
Total Non-farm Employment (A)	26	23	5	54
Consumption-Related Employment (B)	19	17	3	39
% of B to A	73%	74%	60%	72.2%

Source: Field Survey, 1989.

As could be seen from Tables 24 and 25, most households in areas with higher percentage of consumption related employment, fall into the class of medium and high income levels (Awka and Awgu) while the area with lower consumption related employment had more households in low income class (Ikwo area).

Table 25. Rural Household Income Distribution Pattern in Anambra State, 1989

Income Levels	Households in LGAs		
	Awka	Awgu	Ikwo
Low Income Households (₦)**			
<500	2	4	7
500 - 1000	4	2	8
1001 - 1,500	3	4	6
Sub total	9(30%)*	10(33%)*	21(70%)*
Medium Income Households(₦)**			
1,501 - 2,000	6	12	4
2,001 - 2,500	4	3	3
Sub total	10(33%)*	15(50%)*	7(23%)*
High Income Households (₦)**			
2,501 - 3000	8	4	-
3,000	3	1	2
Sub total	11(36%)*	5(17%)*	2(7%)*
Grand total	30 100%	30 100%	30 100%

*Percentages were calculated based on 30 entrepreneurs sampled in each LGA.

**Criteria used for classification of household income were mine based on the generally low rural household income levels. This classification could be justified in that rural household of ₦3000 income for example, with little or no overhead expenditure could be taken as high income household, while the urban counterpart with many overheads such as house rent, water bill, etc., could be regarded as low income household.

Source: Field Survey, 1989.

The majority of the rural entrepreneurs in Ikwo area of Abakaliki zone (70%) could be said to be of low income, while 30% and 33% could be grouped in this category in Awka and Awgu areas respectively. Medium income households were delineated to be 50% in Awgu area, 33% in Awka and 23% in Ikwo. In Awka area, 36% of the households could be said to be of high income group, while 10% of such households were found in Awgu and 6% in Ikwo area.

4.4.2 Average Household Income, Farm and Non-farm, and Expenditure Pattern

Farming households consist of the rural land owner-occupiers and few tenants with different sized farms, and agricultural labourers.

In general, the more high income households (large farmers) continuously get more share of agricultural income than low income households (small land holders, and small tenant farmers), the less local consumption linkages are likely to be (Renis and Stewart et. al, 1987). The reason for this preposition, they argued, may be because:

(i) high income households tend to have higher propensity to save than the low income households;

(ii) high income households tend to consume more goods produced outside the area and less local goods, thus weakening local linkages and;

(iii) high income households tend to consume less goods as a proportion of income.

Consequently, while total local linkages will tend to be greater where the share of low income households (small farmers, small non-farm entrepreneurs) is greater, expenditure on non-food items will not be.

The evidence on consumer behaviour and the nature of consumption linkages from the three zones of Anambra State tend to support these hypotheses. The study which investigated both farm and non-farm households at three levels of income also found that non-farm households tended to have much higher income than the farming households (Table 26).

Table 26. Average Household Income From Farm and Non-farm Enterprises and Household Expenditure Patterns

Criterion Variables	Average Expenditure in LGAs (₦)		
	Awka	Awgu	Ikwo
(a) Estimated Average Farm Income (₦)*	900.52	1,520	2,037.3
Expenditure On:			
Farm inputs	118.9(13.1)**	298.9(19.7)	619.8(30.4)
Primary food products	187.4(20.8)	302 (20)	266 (13.0)
Consumer items/ services	454.0(50.4)	530 (34.8)	560 (27.0)
Community development	86 (9.5)	90 (5.9)	190 (9.5)
Savings	59 (6.5)	300 (19.7)	398 (19.5)
Sub total	900.52(100%)	1,520(100%)	2,037(100%)
(b) Estimated Average Non-farm Income (₦)*	6,769	4,501	2,605
Expenditure On:			
Farm inputs	244(3.6)	373(8.3)	400(15.4)
Primary food products	1,857(27.4)	1,711(38)	856(32.8)
Consumer items/ services	2,827(41.8)	1,173(26)	1,001(38.4)
Community development	341 (5.0)	245(5.4)	147 (5.6)
Savings	1,500 (22.1)	998 (22)	210 (8.0)
Sub total	6,769(100%)	4,501(100%)	2,605(100%)

*Estimated average income was obtained by averaging the total income of the whole respondents involved in each category - farm and non-farm.
**Figures in brackets are in percentages.

Source: Field Survey, 1989.

From Table 26, Awka area, which was identified as having more of high income households, tended to spend more on consumer items, such as, shoes, clothes and other manufactured products and services, such as school fees, barbing and hairdressing, etc., than the other LGAs.

Also the table estimated that average household incomes from the non-farming entrepreneurs tended to be higher than those of the farming households. Renis and Stewart et. al (1987), had a similar result from a survey they conducted in Oton and Tigbauen areas of the Philippines.

The result from the rural areas of Anambra State also showed that high income households own more luxury goods (like radios, TV, bicycles, motorcycles and motor vehicles) than the low-income ones. Evidence is shown from the number of households that had these items in Awka area - which had already been established as having more high income households as compared with Awgu and Ikwo areas (Table 27).

Table 27. Distribution of Households According to Number of Manufactured and Luxury Items Possessed

Type of items	No. of Households in LGAs. N=90							
	Awka		Awgu		Ikwo		Total	
	No.	%	No.	%	No.	%		%
Radio	18	54.5*	11	33.3	4	12.1	33	36.7
T.V.	9	75	3	25.0	-	-	12	13.3
Bicycle	12	33.5	14	38.9	10	27	36	40.0
Motorcycle	8	44	6	35.3	3	17.6	17	18.9
Motor vehicles	6	75	2	25.0	-	-	8	08.9

*The percentages were calculated based on the row totals, i.e., owners of particular item in the 3 LGAs.

Source: Field Survey, 1989.

From Table 27, it could be observed that Awka topped in the ownership of Radio (54.4%), TV (75%), Motorcycle (44%) and motor vehicles (75%), while Awgu topped in the possession of bicycles (38.9%). Ikwo was the least in all categories.

Differences in household income in those areas, and lack of complementary infrastructure like good roads, electricity, etc., (as in Ikwo) must have accounted for these observations.

It should be noted, however, that possession of these

items by many households in an area is an indication of consumption leakages of the rural economy rather than linkages. This is because most of these luxury items were brought in urban centres outside the rural enclaves using rurally generated incomes.

4.4.3 Evidence and Magnitude of Backward Production Linkages in Anambra State

Backwards production linkages occur where production activity in one sector requires input from another. In this case productive activity in agriculture (farm) requires inputs from another sector, industry or non-farm. From the findings of the study, the evidence of this type of linkage was relatively small numerically. It was also found that farm activity in this part of Nigeria was still of very small scale (3 ha of farmland per farm family) and crude locally manufactured tools and implements were used. Some of the non-farm (industrial) inputs could be classified under local crafts and technologies. These crafts included raffia baskets, straw hats, raffia trays, straw bags and mats and wooden mortars and pestles. Local technologies include digging and weeding hoes, matchets, axes, kitchen knives, metal gongs and pots, digging tools, spears and den guns,

earthen pots and other forms of earthen wares.

All these products of local crafts and technologies were found to be backwardly linked with agriculture in one way or the other. For example, most rural farmers required raffia baskets as implements for carrying farm inputs like organic manures, planting materials and simple farm tools to the farm, and conveying farm outputs, such as yam, cassava, maize, okra, cocoyam, fruits and vegetables from the farm or homes to rural or urban markets. More than 90% of the farmers used raffia baskets for these purposes. The various shapes and sizes of the baskets served as good weights and measures of quantities of products in relation to their prices in rural areas, e.g., groundnut, cocoyam, cassava and okra fruits.

Straw hats were extensively produced and used in farming areas of Anambra State. More than 80% of the farmers studied (especially in Nenwe, Ndeaboh in Awgu LGA and Onu-Ebonyi Echara and Akpanwudele in Ikwo area) used straw hats in farming. These hats were mainly used for protection against direct heat of the sun and rain while in the farm. Raffia trays were weaved for the purpose of post-harvest processing. They were mainly used for drying of certain farm products like groundnuts, pepper and grains

prior to storage; by spreading these produce on them and exposing to the sun. They were also found useful to farmers for winnowing off chaff in farm level processing of some products such as rice, maize and other grains.

Straw bags were used by farmers (mainly males) for carrying little items which might be needed by the farmer during the day's farmwork such as the snuff box, match box, cigarette pack, small knives and, sometimes, food items. Farmers and hunters also used it as containers for games killed during farming or hunting. Large straw bags were used, instead of jute bags, to store grains.

Mats were used mainly in Ndeaboh, Onu-Ebonyi Echara and Akpanwudele communities for spreading parboiled rice for drying before milling. Also farmers rested on mats after the day's work.

Wooden mortars and pestles were carved by rural carvers (mainly in Amawbia, Nenwe and Mgbakwu communities). Apart from the wide use of the equipments as household utensils, they served farmers in grain producing areas in processing. Parboiled rice was processed by some farmers by hand pounding, especially where milling machines were lacking. Also, boiled palm fruits were pounded using mortar and pestle in many rural villages during palm oil processing.

More than 95% of the rural farmers studied used local tools and implements like matchets for clearing of bushes and regrowths, axes for felling trees, large West African hoes for cultivation; small hoes, for weeding, and small knives for harvesting of cereals (like rice) and vegetables.

Metal gongs were used for scaring away birds and other rodent pests of rice and maize (especially in Ikwo and Awgu rice producing areas).

Den guns and spears produced by the local blacksmiths were used for hunting of games like giant rats, monkeys, baboons, antelopes, etc., which also could be pests of farmers crops.

Earthen pots and earthen wares, important products of women in Nenwe and Ndeaboh, were important farm inputs. The big sized pots were useful for inert storage of grains which would serve as planting materials for next planting season. Also, such pots were used as containers for fermenting cassava into foo-foo. These uses were very common among women in Nenwe, Ndeaboh and Ikwo areas.

One of the quantitative methods of knowing the importance of rural backward production linkages between farm and non-farm enterprises in Anambra State was to measure the level of employment generated as a result of these linkages. In other words, how many people were

directly or indirectly involved both in the production of the farm inputs and distribution (Table 26).

Table 28. Number of Rural Entrepreneurs Involved in Backward Production Linkages as Percentage of Total Non-farm Entrepreneurs

Type of Production	No. of Entrepreneurs in LGAs			
	Awka	Awgu	Ikwo	Total
Local craft production	5	3	1	9
Local technology production	4	4	2	10
Distribution of craft and Technology*	3	6	1	10
Total No. of Entreps Involved	12	13	4	29
Total No. of Non-farm Entreps.	26	23	5	
% Involved in Craft & Technology	46%	56.5%	80%	53.7%

*Distribution channel was ignored because very little channel of distribution was involved in local craft and technology.

Source: Field Survey, 1989.

From Table 28, it could be interpreted that of the 26 non-farm entrepreneurs in Awka area, 12 or 16% engaged in the manufacture and/or distribution of local crafts and technologies. The figures were 13 or 56.5% of the entire non-farmers in Awgu LGA, and 4 or 80% of the non-farmers in

Ikwo area.

According to Mikkelson and Langam (1981) rural backward production linkage occurs only for smaller machines (in this case hoes, matchets, axes, etc). Consequently, small and medium sized farms which use small machines (instead of large tractors and combines) generate greater backward linkages than large farms which use 4-wheel tractors with the labour displacing effects. Since over 85% of the farmlands in the surveyed area were small, and fragmented, small technologies such as hoes, matchets and axes were often used.

Therefore, there was a very high demand for these local crafts and technical implements, compared with medium and large machinery which were rarely used. Hence, the employment generated and consequently the magnitude for rural backward linkages were relatively high.

The study found that the sizes and designs of some of the local crafts and technical products were location specific. Large round hoes (for example) were common among the farmers in Ikwo communities, while smaller and lighter ones were designed for farmers in Awka and Awgu areas. Local backward production linkage was strengthened from the fact that most rural non-farm entrepreneurs got or purchased their raw materials locally, within their

rural markets, where they also sold their products.

But how far did the said rural linkages lead to increased rural incomes and development? From the study, the time spent in production of some of the non-farm products in relation to their market prices was generally high. Since most of the tools and implements were crude, using them was associated with drudgery, resulting to low farm productivity. Therefore, incomes generated from the linkages were low. That gave rise to low consumption, low investment and low saving and low contribution to community development by the rural entrepreneurs studied.

Table 29 showed that the number of entrepreneurs involved in local craft and technology industry and the number of items produced in a year were small. While the average number of days spent in the production of a unit item was high, the average selling price was low relative to the time spent in production. The places of purchase of raw materials and sale of products were localized to the entrepreneurs' village or neighbouring markets. These factors affected the level of rural income of non-farm entrepreneurs in Anambra State.

Therefore, policies aimed at increasing the number of entrepreneurs in the industry by improving the methods of production and productivity is likely to increase marketing

channels and the unit prices of the products. These could in effect increase agricultural production and rural linkages, rural incomes and hence rural development.

Table 29. Type and Average Number of Local Crafts and Technology Inputs Produced and Sold in the Past One Year in Relation to the Time of Production and Prices

Type of Products	No. of Entreps*	Av. Qty sold	Av. Time of Pdn/day	Av. selling price/ unit (₦)**	Place of sale/ customer
Large hoes	10	25	6 days/ hoe	40	Villages
Weeding hoes	10	25	3 days/ hoe	25	Neighbours
Large metal pots	8	16	4 days/ pot	60	Local users
Basket + raffia trays	20	45	2 days/ basket	5	Retailers
Straw hats/bags	6	120	2 days each	15	Retailers
Earthen pots/wares	9	30	5 days each	25	Local users
Mortar & Pestle	5	12	8 days each	45	Retailers

*Number of entrepreneurs in the three zones surveyed was 54.

**Average unit price = sum of the prices in all the zones divided by 3.

Source: Field Survey, 1989.

4.4.4 Evidence and Magnitude of Forward Production Linkages in Anambra State

Forward production linkages occur where production of a commodity provided supplies for productive activities in other sectors. Forward linkage of one sector may be regarded as the backward linkage of another. For example, the use of domestically grown maize in a maize flour industry represents a forward linkage from the point of view of flour industry. But what is important to consider is first, which industry is the main focus of the study, and second, which sector is thought to be the initiating or causal agent of the linkage. In this study, forward production linkage was considered as a flow of agricultural (farm) products to non-farm or industrial sector. The study also took this flow as a unidirectional one since agriculture was the causal agent of the linkage.

Most forward linkage studies are focused on industrial processing of agricultural produce. At a higher level, forward agricultural to industrial linkage is visible, because it involves the study of the linkages between agriculture and agro-based industries. But at the rural level, it is not very easy to notice the interactions and interrelationships that exist between

agricultural production and local processing. This is because it is difficult to estimate where primary farm production stops and where local processing starts. However, much attempts was made to establish the case of forward linkages of this nature in Anambra State.

According to Renis and Stewart et. al (1987), many features influence the degree of local processing. One of these is the type of commodity grown and the sort of processing required. Also influential is the location of consumption.

Generally, processing for local consumption takes place locally. The problem of choice of location arises when commodities to be produced are aimed at urban or export markets. This was however, not generally true of processing in rural Anambra State; where there were few modern processing industries. The rural (traditional) processing methods, in addition to supplying the rural consumers, also served the consumption needs of the urban and export markets. From the survey, it was found that modern small technologies were more in the rural processing industry than in the primary production.

Much of such small processing technologies were found in the processing of cassava to gari, oil palm processing, rice processing and maize processing (Table 30).

Table 30. Small-scale Processing Enterprises in the Six Communities Surveyed in Anambra State

Communities	No. of Enterprises by Type					
	Oil palm processing	Rice processing	Cassava processing	Maize processing	Total	%
Amawbia	-	-	3	5	8	10
Mgbakwu	1	1	2	4	8	10
Nenwe	2	3	12	9	26	32.9
Ndeaboh	2	6	7	5	20	29
Onu Ebonyi	1	7	2	3	13	16.3
Akpanwudele	-	4	-	1	5	6.3
Total	6(7.5%)	21(26.3%)	26(32.9%)	27(33%)	80	(100%)

Source: Field Survey, 1989.

As earlier hypothesized, one of the factors influencing the degree of local processing is the location of consumption. Data on Table 30 seemed to justify these hypotheses. From the data, it could be seen that Amawbia and Mgbakwu had only 10% each of the total processing firm. This could be because, they were not among the major food producing areas. Also because palm produce and rice were not the major crops grown in Amawbia, there were no rice or oil palm mills there.

Cassava and maize were grown in greater quantities in Nenwe and Ndeaboh, therefore, many rural entrepreneurs engaged

in the processing of these crops. About 32.9% and 29%, respectively, were involved in processing in these communities out of the total of 80 rural processors in the areas surveyed. Nenwe community was contiguous to Enugu urban consumers, and that could have influenced the demand for the processed products.

Rice production was the most profitable enterprise in Ikwo area of Abakaliki zone. Out of the 13 rural processing firms in Onu-Ebonyi Echara, seven were for rice processing. A similar result was obtained in Akpanwudele. Though Abakaliki urban town was not very near to Ikwo LGA, much of the processed rice was sold there, probably because of the large rice market in Abakaliki urban.

Maize milling was done mainly for local consumption by households. Only Awka LGA, had a large maize milling factory. The maize flour produced was mainly for urban consumption.

One of the most important ways of measuring the significance of forward linkage is to measure the number of labour employed or displaced by either the traditional or modern small-scale methods of processing. Most of the initial processing (both at the farm level and the pre-milling processes) were labour intensive. In rice processing, for example, initial processing was highly labour-intensive,

mostly in the farm level threshing, drying and winnowing. The pre-milling stages of parboiling, and drying of the paddy also used high labour intensive traditional methods. The same was true in the processing of other products such as oil palm, maize and cassava in the state.

A survey of some rice producing areas of Anambra State (Onu Ebonyi Echara, Akpanwudele, Ndeaboh and Nenwe) showed mechanical milling of paddy was substantially cheaper than hand pounding. It was also labour saving. It took only two men to operate a rice milling machine to process about 2.0 tons of rice per day, which 100 men could not achieve using hand pounding. One-man-operated cassava grinder could process (grind) about a ton of cassava in an hour, which 50 men could not achieve using hand grating.

Much labour was also saved from the use of palm oil mills for extracting palm oil instead of the traditional methods of extraction. The same was true of maize milling.

However, it should be noted that the cost of family labour for manual processing was usually in kind rather than in cash, whereas over half of the cost of mechanical processing was in cash. For the farmers or entrepreneurs with limited access to cash, manual methods of processing could be recommended (especially for the processing of oil palm, cassava, and initial stages of rice and maize processing but

not milling). This was because rice and maize processing by hand pounding was found to be full of drudgery than cassava and manual oil palm processing.

Family labour might have a much lower real cost or opportunity cost than the market wage rate in those areas where the family members did not seek outside work (eg in Ikwo area) or they might, but only at a much higher wage rate than they are prepared to work for the family (as in Awka). Thus, from the rough cost estimate, it was found that mechanical processing was likely to be the most profitable choice for commercial processors, who had to hire a lot of labour for farm level and initial processing. However, family labour could be an appropriate choice for family or processors for local consumption.

But for a high forward linkage effects to be maintained, it is important to encourage the use of mechanized systems of processing at least for the highly labour consuming aspects of processing, such as, rice and maize milling. Therefore, both the traditional and modern intermediate methods of processing are suggested, depending on the type and stage of processing operation. This is to avoid sacrificing rural employment to cost saving devices, at this stage of development in Anambra State. This will still maintain a high degree of forward production linkage between

farm and non-farm (industry) sector.

4.5 MAJOR PROBLEMS FACING FARM AND NON-FARM ENTERPRISES AND THEIR EFFECTS ON RURAL LINKAGES

Fabella (1986b), in his study of "rural labour absorption and allocation in India" maintained that any factor affecting rural farm and non-farm enterprises also would affect rural linkages.

In this study of some rural areas of Anambra State, many factors were advanced by the rural entrepreneurs as affecting their enterprises. Among the farm entrepreneurs, such factors ranged from inadequate land for farming and high cost of agricultural inputs to lack of extension services (Table 31).

Problems facing non-farm entrepreneurs included inadequate land for expansion to lack of modern technical knowledge of operations (Table 32).

Table 31. Major Problems Affecting Farm Enterprises in Some Rural Areas of Anambra State

Criterion Variable	Farm Entrepreneurs in LGAs (N=69)				
	Awka	Awgu	Ikwo	Total	%
Inadequate farmland	10	6	2	18	26.1
Costly farm inputs/labour	11	20	14	45	65.2
Lack of capital/loan	6	18	9	33	47.8
Lack of infrastructure/ market	3	15	26	44	63.8
Lack of modern farming implements	5	8	10	23	33.3
Poor extension services	4	19	21	44	63.8

Table 32. Major Factors Affecting Non-farm Enterprises in Some Rural Areas of Anambra State

Criterion Variable	Non-farm Entreps. in LGAs (N=54)				
	Awka	Awgu	Ikwo	Total	%
Lack of land for expansion	7	2	-	9	16.7
Labour shortages	12	6	-	18	33.3
Problem of time in peak farming	4	12	4	20	37.0
Shortage of capital/loan	18	14	2	34	63.0
Problem of buying/replacing tools	9	6	5	20	37.0
Shortage of raw materials	20	5	-	25	46.3
Small markets for products	8	17	5	30	55.6
Lack of basic infrastructure	6	11	5	22	40.7
Inadequate knowledge of modern methods	4	8	1	13	24.0

Source: Field Survey, 1989

Table 31 showed that costly farm labour and other inputs, lack of basic infrastructure and markets, and poor extension services were the key problems that affected farm enterprises in the area studied. The variables each had more than 33% of the total farm entrepreneurs in the three zones, indicating their negative effects on the farm enterprises.

Table 32 showed the most prevalent problems of non-farm entrepreneurs to be shortage of capital/loans, inadequate markets for products, dearth of raw materials, and lack of basic infrastructure. Each had more than 40% of the total respondents indicating their negative effects.

Some of the key variables implicated as affecting both farm and non-farm enterprises and hence rural linkages were further examined in terms of their importance, and the implications of lack of them on rural linkages in Anambra State in general.

4.5.1 Basic Infrastructure and Amenities

Forward production linkages focussed on the factors leading to high local linkages from the perspective of demand. Favourable demand factor could lead to rural linkages. But the actual development of non-agricultural activities depend on supply factor as well. But the major

influence here is the state of infrastructure. Fabella (1986b) in a study of a province in Philippines showed positive effects of roads and electricity provision on non-farm employment levels. Table 31, showed the state of infrastructure in the areas surveyed in Anambra State.

Table 33 State of Rural Infrastructure and Amenities in the Three Sampled LGAs in Anambra State

Criterion Variable	Local Govt Areas Sampled		
	Awka	Awgu	Ikwo
Electricity (No. of communities)	5	4	-
Potable water (No. of comms.)	3	3	-
Accessible roads (in km)	77.90	106.15	24.75
Modern market (number)	1	1	-
Hospital/Maternity (number)	5	3	-

Source: Field Survey, 1989 and F.S. Idachaba (1979).

From Table 31, it could be seen that rural infrastructure in Anambra State was inadequate, especially in Ikwo LGA of Abakaliki zone.

In the study of the impact of rural infrastructure in Nenwe and Ndeaboh in Awgu LGA (DFRRI Information Unit, Awgu LGA, 1989) it was found that within a year of commissioning of electricity project in Nenwe (1987 - 1988);

(a) the number of business (provision stores, beer parlours etc) increased by more than 40% due to the increase in return migrants, who established most of these non-farm businesses, thereby increasing, the rural consumption linkages;

(b) the number of artisans (masons, welders, carpenters, etc.) who were willing to settle in the community increased by more than 10%, thereby increasing both consumption and backward linkages;

(c) the number of small-scale processing industries like cassava mills, maize mills and rice mills increased by more than 45%; cassava mills increased from 7 to 12, oil palm mills from zero to 2, rice mills from 2 to 3 and maize mills from 4 to 9 (all using electricity). There was therefore marked forward rural linkages.

(d) More of the bank workers, hospital workers, secondary school teachers, extension workers and other service workers now settled in the rural community instead of coming to work from Enugu urban. That also had a remarkable significance on rural linkages, especially consumption linkage.

The same report (DFRRI, 1989) cited the impact of a 33-km road constructed to connect Ndeaboh (formally land locked) with the LGA headquarters, Awgu. Within a year

of commissioning the road (1988-1989):

(a) the cost of transport per passenger and per kilometre fell by 33%, transportation became more reliable, and the number of vehicles plying the road increased from 3 to 18;

(b) waiting time for vehicles was reduced by more than 50% and travel time per trip was halved;

(c) prices received by farmers increased for all the farm products by more than 20%

(d) farmers now produced perishables (fruits, vegetables) for urban markets for the first time;

(e) less than 20%, as against more than 75% of the farmers who sold at farm gate now sold at markets outside the community;

(f) visits by extension workers increased by over 50%;

(g) more farmers now used modern farm inputs like fertilizer and agro-chemicals for farming, thus increasing rural backward production linkages; and

(h) there were significant increases in the number of and incomes arising from non-farm enterprises, with over 60% increase in the number of enterprises, partly due to rising agricultural output and incomes - as farm income rose by about 10%. These were all of significance to local linkages in that area.

The two case studies above, though without a comprehensive data served to illuminate the importance of physical infrastructures and amenities to local linkages. But from this study, it was found that there was in most cases, total absence of most of these basic infrastructures in most communities of the State (see Table 33).

It could be inferred from the study, that though there could be aspects of rural linkages in the 'rural enclaves' such linkages could hardly result in development without the complementary infrastructural facilities.

4.5.2 Issue of Labour Input

Labour is of prime consideration in any issue of farm and non-farm enterprises. This is partly because the number and quality of labour determine the level of production in these sectors, their linkage effects and the level of employment generated as a result of such linkages. The ways labour is allocated within families operating farm and non-farm enterprises (part-time farmers) is also an important consideration in rural linkage. The rural families operating both farm and non-farm enterprises (part-time farm families) are economic units that take the different sets of employment opportunities, both farm and non-farm. The decision

as to how the family allocates its available labour between farm and non-farm is important not only because it affects the level of income obtained from the two sources, but also because it determines the nature and direction of resource use.

Table 34 showed the average total labour available to rural entrepreneur families in a week and the ways labour was allocated in the three LGAs sampled.

Table 34. Average Total Weekly Labour Available to Rural Entrepreneurs and Methods of Sharing

Criterion Variable	Av. Weekly Labour (mandays)* available and sharing methods in LGAs			
	Awka	Awgu	Ikwo	Total
Family labour (mandays)	32	60	72	164
(i) Farm only	8	32	60	100
(ii) Non-farm only	20	8	8	36
(iii) Both	4	20	4	28
Hired Labour (mandays)	60	48	32	140
(i) Farm only	12	16	22	52
(ii) Non-farm only	38	12	8	58
(iii) Both	10	20	2	32
Apprentices	48	24	8	80
(i) Farm only	-	-	2	2
(ii) Non-farm only	42	22	6	70
(iii) Both	6	2	-	8

*Average Total Labour = total labour available (mandays) to the whole entrepreneur families in each LGA, divided by the number of entrepreneur families, i.e. 30 in each LGA.

Source: Field Survey, 1989

Table 34 showed that average family labour was highest in Ikwo area (72 mandays) followed by Awgu area (60 mandays) and least in Awka area (32 mandays). Average mandays for hired labour and apprentices were conversely highest in Awka than other areas. Methods and quantity of labour allocated depended on the type of enterprise engaged in by the entrepreneur (farm or non-farm) and, more importantly, the type of labour (family or hired, or apprentices) available to the family. Most agricultural labour was family supplied, while non-farm activities used more hired labour, and labour from apprentices. Differences in opportunity cost of labour might be responsible for the allocation patterns. Non-farm enterprises required more skilled labour than farm, and skilled labour has higher opportunity costs. Farm enterprises rarely used apprentices.

Areas with more basic infrastructure were also found to have more non-farm entrepreneurs (e.g. Awka area) than areas with little basic infrastructure (e.g. Ikwo). This may be because of the push-pull factors associated with enclave development.

From the above analysis, it seemed that non-farm enterprises were the higher employers of paid labour (hired and apprentices). Therefore non-farm labour was expected to be more in areas with dominant non-farm enterprises.

Consumption linkages were expected to be higher here since most of the non-farm migrant labour force engaged in some consumption-oriented activities like barbing and hairdressing, petty trading and food vending.

Forward linkages were high in these areas since skilled labour were available to manage the non-farm enterprises which were linked with agricultural production. In addition, backward production linkages were high since many non-farm labour engaged in the production and distribution of farm inputs (like fertilizers, agro-chemicals, hoes, matchets, poultry equipment, etc).

4.5.3 Issue of Capital

Capital is one of the most critical input variables in all forms of production processes. It influences the level and quality of other factors of production such as labour, land size, and even management.

Taking the rural economy of Anambra State as a closed one, the level of capital investment in such an economy (in a circular flow) influences the household income (from farm and non-farm), household consumption, household saving, and the level of flow of goods and services.

As earlier found, much of the capital investment in farm and non-farm enterprises in the rural Anambra State was personal capital. Because capital was small, it led to small scale investments. Income yield from such investments was low, and business expansion insignificant. A vicious circle of low capital, low investment, low consumption, and low saving among rural entrepreneurs usually developed. The effect was a stagnating as against dynamic rural linkages in these areas.

It was found that some rural entrepreneurs did not avail themselves of financial opportunities offered by banks; either from faults of theirs and/or the banks; or the government policies (Table 35).

Table 33 showed that many of the rural entrepreneurs who did not avail themselves of business loans from commercial banks and government agencies were not interested in applying for loans (38.9%). Other major reasons were lack of collateral security demanded by banks (42.2%) and the distance between the banks and the rural communities (banks are usually located in the state capitals or LGA headquarters).

Table 35. Entrepreneurs Reasons for not Securing Business Loans From Commercial Banks/ Government Agencies

Reasons Given	Respondents in LGAs (N=90)							
	Awka		Awgu		Ikwo		Total	
	No.	%	No.	%	No.	%		%
Not interested	9	(30)*	12	40	14	46.7	35	38.9
Far distance of bank	4	13.3	4	13.3	12	40.0	20	22.2
Lack of security	6	20.0	13	43.3	19	63.3	38	42.2
Lack of 25% equity share	-	-	2	6.7	1	3.3	3	3.3
Not saving with bank	3	10.0	5	16.7	8	26.7	16	17.8
High interest rate	8	26.7	2	6.7	6	20.0	16	17.8
Frustrating borrowing process	3	10.7	9	30	2	6.7	14	15.6
Inability to repay loan	2	6.7	1	3.3	-	-	3	3.3
Total	N=30		N=30		N=30		N=90	

*Percentages were calculated from the column totals

Source: Field Survey, 1989.

The effects of not making use of borrowed capital from formal agencies on rural enterprises and therefore on rural linkages are vicious in nature as was earlier analysed.

4.5.4 Relationships Among Specified Farm and Non-Farm Variables

Since linkages involve random relationships among some variables, a null hypothesis of no relationship was tested

using Spearman Brown's intercorrelation matrix. This was done in order to test how the variables relate among themselves to influence rural farm and non-farm linkages. (Tables 3-6, Appendices 3-6).

The table showed the intercorrelation matrix results for each of the three LGAs and for the data from the three LGAs jointly analysed. It showed that for each of the three LGAs and all combined, age had high negative relationship with educational status in Awka ($r = -0.607$), for Awgu ($r = -0.723$) and Ikwo ($r = -0.379$) and for all the LGAs ($r = -0.547$). This could imply that the higher the age of the rural entrepreneurs, the less their educational attainment. Age was found to be independent of household size in all the LGAs ($r < 0.5$). Age was independent of farm size in Awka, ($r = -0.047$), and in Awgu ($r = 0.045$) but quite related in Ikwo LGA ($r = 0.520$). Farm size therefore tended to increase in Ikwo with age of the rural farmers because of many farm hands that emerged from older entrepreneurs' households.

Educational status had independent relationship with farm and non-farm starting capital, income from farm and non-farm, total income saved by rural entrepreneurs, and income flowing from farm to non-farm enterprises in all the LGAs analysed. The fact that the coefficients were below

0.50 showed insignificant relationship; but all the coefficients had positive r-value confirming their positive but little influence on themselves.

Farm size had a high positive correlation (independence) with income flowing from farm to non-farm ($r = 0.561$) in the three LGAs, and the amount saved by rural entrepreneurs ($r = 0.596$). It could be said that the larger the farm size, the larger the amount flowing from farm to non-farm enterprises and the amount saved by rural entrepreneurs.

Starting farm capital had high positive correlation with farm income ($r = 0.589$), income from farm to non-farm ($r = 0.595$) and income from non-farm to farm ($r = 0.557$). It followed that the larger the amount invested in rural business (farm and non-farm) the higher the income yield was likely to be, and the higher would be the capital flow from one type of business to the other, especially for entrepreneurs who combined enterprises. This showed a strong evidence of linkages.

Total income saved by the rural entrepreneurs had a high positive correlation with income realised from farm ($r = 0.512$) and income from non-farm to farm ($r = 0.510$) for all the three LGAs jointly analysed. The influence here is that rural saving had a direct relationship (or dependence) with rural investment. Therefore, any policy that favour rural

saving would automatically favour rural investment.

Also there was a high positive correlation between income from farm enterprises and income from non-farm enterprise ($r = 0.510$), income flowing from farm to non-farm enterprise ($r = 0.502$) and income from non-farm to farm sector ($r = 0.574$) for all the LGAs jointly analysed. The results then showed a direct dependence of these variables among themselves and the linkages among them.

The number of rural cottage industries in a community was found to be highly correlated with the number of rural infrastructure (water, electricity, road, etc) available in the community ($r = 0.591$), with income from farm to non-farm ($r = 0.648$) for the three LGAs jointly analysed. The result showed the critical effect of rural infrastructure on the development of rural non-farm enterprises (cottage industries) and indirectly on the interflow of resources from rural industries (non-farm) to farm.

Income from farm to non-farm had a positive correlation with income from non-farm to farm ($r = 0.50$). That showed the complementary nature of farm and non-farm enterprises on each other and hence rural linkages and development.

CHAPTER V

SUMMARY, RECOMMENDATIONS, AND CONCLUSIONS

5.1 SUMMARY

This study investigated the nature and extent of linkages between farm and non-farm enterprises in some rural communities of Anambra State.

A total of 90 farm and non-farm entrepreneurs in six rural communities, namely, Amawbia and Mgbakwu in Awka LGA of Awka agricultural zone; Nenwe and Ndeaboh in Awgu LGA of Enugu zone; and Onu-Ebonyi and Akpanwudele in Ikwo LGA of Abakaliki zone, were studied. Data collection involved house-to-house visits to interview sampled rural entrepreneurs using questionnaire and personal observations.

The major findings are as follows:

(a) The majority of the rural entrepreneurs in the three LGAs studied were within the age range of 51-60 years, with the highest concentration of this age range in Ikwo LGA. Also, educational status among rural entrepreneurs in the three LGAs was very low with only 4% having formal education above 12 years; while 25% had no formal education at all. Ikwo LGA, had more entrepreneurs with more than two wives (30.4%) while Awka LGA had least (5.2%).

(b) On the type of rural farm and/or non-farm enterprises engaged in by rural entrepreneurs, Ikwo LGA had the largest number of entrepreneurs who engaged in farming alone (83.3%) and Awgu LGA had the largest number who combined farm and non-farm activities (73.3%), while Awka had the largest number who engaged in non-farm enterprises alone (63.3%). The type of enterprise dominant in a community was found to be linked with the proximity of the rural community to urban employment opportunities. The nearer the urban centre to the rural area, the less farm jobs were picked and vice-versa. Every entrepreneur had some reasons and objectives for being in his particular enterprise, and that influenced his level of production.

(c) Land availability formed one of the major decision variables of the farmer on the type of enterprise chosen, the type of farming practised, crop composition, level of mechanization and level of inputs used and hence high implication on forward and backward production linkages existing in the rural areas. The majority of the farmers in Ikwo and Awgu LGAs purchased their inputs and sold their farm outputs within their local markets instead of urban centres, while the majority in Awka LGA bought and sold in the

urban centres of Awka and Onitsha. There was therefore stronger rural linkage in both Ikwo and Awgu areas, and leakages in Awka LGA.

(d) Out of the 54 rural non-farm entrepreneurs, only 8.0% were engaged in non-farm work in Ikwo, 45% in Awgu (mainly farm produce processors and local craftsmen) while 48% (who were mainly rural blacksmiths and carvers) were found in Awka LGA. Most of the non-farm entrepreneurs had no formal training outside their homes, while most who had training stayed less than 6 months in learning the trade, especially in Ikwo and Awgu LGAs. Their main objective for engaging in non-farm activities was profit (60.9%). The rural entrepreneurs' reason for entering into non-farm enterprises in Awka LGA was due to insufficient farmland (90% of the respondents) followed by those who indicated that it was more lucrative than farming (89% of the respondents in the category). These reasons and objectives determined or influenced the number of hours entrepreneurs put into their activities. Up to 63.3% of the non-farm entrepreneurs in Awka LGA, put in as much as 7-9 hours in non-farm activities.

(e) Major sources of capital for the rural entrepreneurs was personal savings and other informal sources, while bank loan was the least used source.

(f) Most of the non-farm enterprises were consumption related establishments. Awka area had 85% of such enterprise while Awgu and Ikwo areas had 80% and 75% respectively. These enterprises generated more than 75% of consumption related employment in Awka area, and 74% and 60% respectively, in Awgu and Ikwo areas. Expenditure of the entrepreneur households were linked with income distribution. Households with higher incomes spent more on manufactured and luxury goods than low income households, which spent more of their incomes on food.

(g) Most rural enterprises were labour-intensive, especially farming. This led to high level of consumption linkage since it had increasing effects on rural incomes.

(h) Rural crafts and technology had high relationship with farm production in terms of providing inputs to farmers, and generating rural employment to the producers and distributors. This is an important aspect of backward production linkages. However, the production of those local non-farm inputs was time

consuming relative to the prices received by the producers. Also using those farm inputs (implements and tools) was fraught with drudgery, leading to low productivity, low incomes, low consumption, low investment, and low saving among rural entrepreneurs. It also led to low individual contribution to community development;

(i) Forward linkages were mainly associated with processing of products like oil palm, rice, cassava and maize used more modern equipment than primary farm production. Entrepreneurs engaged in processing constituted 33% of the total number of non-farm workers studied in Nenwe, 29% in Ndeaboh, and 16% in Onu Ebonyi. The major type of processing in an area was linked with the type of crops grown in that area. Mechanized processing was labour displacing and thus lowered rural forward linkages, and to some extent, consumption linkages. But they were more cost and time saving.

(j) On the major factors affecting farm and non-farm enterprises, inadequate farmland (especially in Awka area), high cost of farm inputs (e.g. fertilizer), shortage of capital, lack of basic infrastructure (especially in Ikwo area), weak extension services,

shortage of labour for non-farm enterprises, and problems of replacing working tools and implements were highly implicated in the three LGAs.

(k) From a report on the impact of rural infrastructure in Nenwe and Ndeaboh, (DFRRI, 1989) it was found that within one year of commissioning electricity supply, there were direct visible and rapid increases in the volume of farm and non-farm activities with some increases reaching up to 45%. The same was found to be true with the commissioning of a 33 km road linking Ndeaboh community with Awgu LGA headquarter. These no doubt had positive effects on the magnitude of rural linkages in these areas. Therefore meaningful linkages that lead to development could hardly occur without complementary infrastructure and amenities.

(l) Rural farm enterprises still utilized more unpaid family labour than non-farm enterprises, and that accounted partly for the high level of migration of young agricultural labour force from rural to urban centres for paid employment.

(m) Starting capital for farm and non-farm enterprises was low because many entrepreneurs did not avail themselves of bank loans for various reasons linked

to banking procedures and entrepreneurs problems.

(n) Cross tabulation analyses showed that entrepreneur's age was not related in any way to the choice of enterprise in Awka and Awgu areas, but not in Ikwo. It could be due to the fact that most people who took up farming there were older people, while the younger ones migrated to places of higher paid non-farm employment.

(o) A case of significant relationship was established between the distance from the rural community and urban cities and with the number of visits of extension agents and levels of adoption of modern innovations. The farther the rural community from the urban centres, the less frequent the extension visit, and the less the adoption of modern innovations and rural linkages (especially backward linkages).

(p) The place of purchase of inputs and sale of outputs by rural entrepreneurs had no significant relationship with the distance between their community and urban townships. The explanation could be because most rural entrepreneurs lacked 'profit motives' coupled with high cost of transportation to urban markets and small volume of products.

(q) Farm size was highly related to farm income, non-farm income and the total family income in all the

LGAs, except Awka where most of the rural entrepreneurs were non-farmers.

(r) Analysis with intercorrelation matrix of some variables showed that age was negatively correlated with educational status of rural entrepreneurs (implying that the older the entrepreneur, the less educated he was found to be), but age was positively dependent on household size (i.e. the older the entrepreneur, the less educated he was found to be), but age was positively dependent on household size (ie. the older the entrepreneur, the larger the household size), and positively correlated with farm size in all the three LGAs, except Awka.

(s) There was a strong dependence (high positive correlation) between educational status and the starting capital (farm and non-farm), income from non-farm and farm, income saved and income flowing between the two sectors in all the LGAs.

(t) Household size had a positive correlation with total household income from the two sectors. Large households might be netting more income because of the large unpaid family labour used in production, but saving was negatively correlated may be because of high level of consumption by such large families.

(u) The type of enterprise chosen (farm or non-farm) was negatively related to farm size. Communities with large farmland were found to be mainly farmers (e.g. Awgu and Ikwo areas).

(v) Entrepreneurs who engaged in non-farm activities required less labour than the farming entrepreneurs, and most rural non-farm entrepreneurs were concentrated where there were more rural infrastructures and amenities.

(w) There was a high positive correlation (dependence) between farm size and amount saved by rural entrepreneur, income from non-farm, income flowing between farm and non-farm and among themselves, for all the three LGAs, and for each of them.

(x) Both starting capital for farm and non-farm and the amount of labour available to rural entrepreneurs were positively correlated with income from farm and non-farm, and amount flowing between farm and non-farm business; and

(y) the number of rural cottage industries was positively correlated with the number of rural infrastructures available in each area, thus showing strong linkages. That could explain the critical nature of rural infrastructures to the development of non-farm

enterprises. Rural infrastructure and amenities also influenced the number of young entrepreneurs who settled and engaged in rural non-farm employment. Rural linkages could occur without basic infrastructures and amenities, but such linkages could rarely result in development.

5.2 RECOMMENDATIONS

Rural farm and non-farm activities in Anambra State have been found to be of crude and subsistence levels as a consequence of weak rural linkages. This has resulted in a reduced rate of growth of both farm and non-farm enterprises, which could not have been the case with a more improved production techniques. There was a considerable imbalance in the provision of infrastructural facilities between the urban and rural areas, resulting in considerable poverty and stagnation of rural enterprises. Labour absorption (especially young skilled labour) were limited both in farm and non-farm enterprises, and income distribution among rural households was uneven and non-farm entrepreneurs had more incomes than rural farming households.

This situation has to be reversed in order to

achieve a better rural linkage and integrated rural development. To do this would require major radical political, social and economic changes, using strategies which are innovative in nature. These strategies include

(a) A radical enforcement of the land use decree which will enable the government to mobilize all idle lands including the disputed ones for farm and non-farm ventures.

(b) Radical revision of technology policy which will favour indigenous crafts and technology industries, and upgrade simple traditional farm machines more adaptable to our local conditions and yet less labour displacing. The could be done through the establishment of local craft and technology extension services (similar to the agricultural extension service), and rural craft and technology polytechnics. Modern methods of fabricating simple and intermediate farm tools and implements, more adaptable to the particular area will be learnt in the polytechnics.

(c) Most discussions on rural linkages seemed to hinge largely on provision of rural infrastructures and amenities. First, re-allocation of expenditures on infrastructure towards the rural areas especially

in form of roads, and electricity will promote links between rural entrepreneurs and modern township markets. No meaningful and positive linkage can occur without infrastructural facilities as evidenced from the study;

(d) Rural people know their priorities better. Therefore, there should be decentralization of policy making, so that decisions on economic planning, infrastructural priorities, etc., are taken by local bodies in the light of locally felt needs. A situation where electricity is given to a rural community without access roads and potable water or health services (as was the case in some communities studied) is a misplacement of priorities, which can hardly lead to any form of development.

(e) Revision of the credit allocation system which favours investments in large scale capital-intensive industries of import-substitution type, to rural small-scale agricultural based and labour intensive manufactures, which would encourage greater industrial decentralization and more labour absorption.

(f) Revision of the big hurdles rural entrepreneurs are made to cross before loan is given to them. Such rural activities like basket making, mat making,

carving, local blacksmithing, tinkering, pot moulding and so on, should be encouraged through less stringent credit policies by the government. The present establishment of People's bank by the federal government is commendable but the bank should be made more 'rural'.

(g) Tax holidays should be given to the starting rural entrepreneurs as a sort of encouragement for profitable production, and to make them remain in the rural enterprise.

(h) Farm and non-farm extension services should be made compulsory for every lending institution; and

(i) formation of cooperative societies in all forms of rural enterprises should be highly encouraged. This would greatly improve the capital base of many rural enterprises (as with Amawbia carvers Multipurpose Cooperative Society).

5.3 CONCLUSIONS

Evidence from the study has shown that there could be linkages without a resultant rural development, because the factors that influenced such linkages were either inadequate or too weak. In general, more empirical work need to be done on rural non-farm

enterprises as a definite sector, and the linkages they have with farm sector; both at the rural, national and international levels. The empirical work would be useful, to obtain a firmer idea, and the nature of other linkage processes at work. There is a need for a more comparative studies of different states of the federation with different operations of farm and non-farm activities in relation to their attempts at integrated rural development.

It is only through a better understanding of this sectoral interactions that growth in both agriculture and non-agricultural enterprises and their complementary role in rural development in Nigeria can be fully appreciated.

A good knowledge of these linkage factors between farm and non-farm activities in rural areas will help rural development planners in Nigeria and other developing countries, and lack of this knowledge may continue to lead to a lopsided rural development programmes.

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TABLE 1 (APPENDIX 1). INTERCORRELATION MATRIX OF SOME RURAL ENTERPRISE VARIABLES - AWKA LGA

ENTERPRISE VARIABLES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Age in years	1.00														
2 Educational status	-0.601*	1.00													
3 Household size	0.131	-0.082	1.00												
4 Type of rural Enterp. Engaged in	-0.228	-0.054	-0.232	1.00											
5 Farm size (ha)	-0.047	-0.022	0.169	-0.012	1.00										
6 Starting capital (farm)	-0.011	-0.011	-0.089	0.063	-0.323	1.00									
7 Starting capital (non-farm)	-0.152	0.082	0.464	-0.084	0.020	0.020	1.00								
8 No. of household labour available	0.123	-0.252	-0.382	0.366	0.317	0.317	-0.210	1.00							
9 Income saved	-0.161	0.175	-0.415	0.412	0.210	0.242	0.251	0.185	1.00						
10 Income from farm	-0.249	0.068	0.155	0.187	0.568*	0.258	0.638*	0.086	0.356	1.00					
11 Income from non-farm	-0.194	0.245	0.019	0.013	0.094	0.084	0.510*	0.341	0.549*	0.485	1.00				
12 No. of rural cottage industries	-0.128	-0.252	0.560*	-0.021	0.323	-0.042	0.551*	-0.351	0.674*	0.209	0.562*	1.00			
13 Presence of rural infrastructure	-0.085	-0.139	-0.478	0.652*	-0.553*	0.378	-0.312	0.486	0.512*	0.059	0.491	-0.255	1.00		
14 Income from farm to non-farm	-0.182	-0.142	-0.250	0.410	0.410	0.184	-0.415	0.198	0.413	0.482	0.034	0.342	0.450	1.00	
15 Income from non-farm to farm	-0.115	-0.214	-0.068	0.315	-0.045	0.359	0.481	0.034	0.284	0.770*	0.063	0.063	0.281	0.581*	1.00

TABLE 9 (APPENDIX 3). INTERCORRELATION MATRIX OF SOME RURAL ENTERPRISE VARIABLES - IKWO LGA

ENTERPRISE VARIABLES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Age (in years)	1.00														
2 Educational status	-0.379	1.00													
3 Household size	0.047	0.042	1.00												
4 Type of Enterprise chosen	-0.479	0.131	-0.158	1.00											
5 Farm Size (ha)	0.520*	-0.025	0.026	-0.609*	1.00										
6 Starting capital (farm)	-0.339	0.091	0.030	0.228	0.111	1.00									
7 Starting capital (non-farm)	0.176	-0.119	-0.069	-0.009	0.139	0.317	1.00								
8 No. of household labour	-0.369	-0.045	-0.202	0.435	-0.349	0.162	-0.015	1.00							
9 Income saved	0.081	0.021	-0.129	0.148	0.302	0.450	0.251	0.021	1.00						
10 Income from farm	0.131	0.219	0.153	-0.309	0.356	0.217	0.260	-0.271	0.419	1.00					
11 Income from non-farm	-0.184	0.216	0.094	0.106	-0.441	-0.418	0.510*	-0.195	0.214	-0.361	1.00				
12 No. of rural cottage industries	-0.264	0.186	0.041	0.112	0.153	0.728*	0.379	0.015	0.051	0.585*	0.448	1.00			
13 No. of infrastructure	-0.518*	0.174	-0.227	0.759*	-0.444	0.210	0.061	0.194	0.194	-0.079	0.219	0.291	1.00		
14 Income from farm to non-farm	-0.210	0.210	0.235	0.450	-0.510*	0.486	-0.210	0.314	0.314	-0.483	-0.241	0.168	0.152	1.00	
15 Income from non-farm to farm	-0.117	0.194	-0.065	0.335	0.061	0.625*	0.415	0.184	0.184	-0.310	0.541*	0.612*	0.327	0.480	1.00

TABLE 4 (APPENDIX 4). INTERCORRELATION MATRIX OF SOME RURAL ENTERPRISE VARIABLES - ALL 3 LGAs.

ENTERPRISE VARIABLES	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Age in yrs	1.00														
2 Educational status	-0.547*	1.00													
3 Household size	0.125	-0.205	1.00												
4 Type of rural enterp. engaged	-0.172	0.013	-0.240	1.00											
5 Farm size	0.159	-0.242	0.197	-0.262	1.00										
6 Starting capital (farm)	-0.067	0.152	-0.073	0.127	-0.242	1.00									
7 Starting capital (non-farm)	-0.039	0.093	0.174	-0.157	-0.166	0.071	1.00								
8 No. of household labour	-0.096	0.127	-0.027	0.330	0.197	0.215	-0.081	1.00							
9 Income saved	-0.410	0.081	-0.461	0.322	0.496	0.275	0.340	0.098	1.00						
10 Income from farm	-0.167	0.047	0.27	-0.100	0.229	0.589*	0.093	0.421	0.512*	1.00					
11 Income from non-farm	-0.210	0.321	0.190	-0.281	-0.481	-0.091	0.486	0.320	0.525*	0.510*	1.00				
12 No. of rural cottage industries	-0.128	0.194	0.130	-0.260	0.034	0.222	0.086	0.231	0.092	0.293	0.493	1.00			
13 No. of rural infrastructure	-0.194	0.261	-0.425	0.414	0.549*	0.366	0.210	0.061	0.051	-0.234	0.513	0.591*	1.00		
14 Income from farm to non-farm	0.190	0.480	0.216	0.328	0.561*	0.595*	0.541*	0.351	0.581*	0.502*	0.524*	0.648*	0.210	1.00	
15 Income from non-farm to farm	-0.077	0.036	0.014	0.324	0.054	0.557*	0.354	0.282	0.510*	0.574*	0.502*	0.491	0.229	0.501*	1.00