PLANNING FOR RURAL INDUSTRIALIZATION: A CASE STUDY OF KAURA LOCAL GOVERNMENT AREA, KADUNA STATE

BY

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DECLARATION

I hereby declare that this thesis report is the outcome of my research work. It has not been accepted in any previous application for a higher degree. All sources of information are specifically acknoledged by means of reference.

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CERTIFICATION

This thesis entitled: "Planning for Rural Industrialization: A Case Study of Kaura Local Government Area, Kaduna State" by YASHEN Jeremiah, meets the regulations governing the award of the degree of Master of Science, Urban and Regional Planning of the Ahmadu Bello University, Zaria, Nigeria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This work is dedicated to all rural peasants and the rural based industrial entrepreneurs in Nigeria, past and present.

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I am grateful to my main supervisor Mr. E. O. Gunn for guidance, suggestions, criticisms and prompt attention to my work. I am also grateful to my second supervisor, Mr. S. U. Okotie for his very useful contributions.

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ABSTRACT

The industrialization of rural areas of Nigeria has over the years become visibly the most viable option for provision of gainful employment for the rural dwellers. But such programmes of rural industrialization, which constitute one of the sectoral approaches to rural development, are most of the time too generalised, uncoordinated and have little or no regard for the various areas' prevailing physical and socio-economic conditions and the existing industrial activities there. This has therefore led to the inability of such programmes to achieve the desired goals of rural industrialization. The major reasons contributing to these failures can be categorised into three:-

(a) Misconception of rural industrialization.
(b) Lack of proper understanding of the various rural settings and their needs.
(c) Lack of comprehensive planning prior to the implementation of the programmes/projects.

This study has therefore been undertaken to examine these factors comprehensively at a sub-regional level i.e Local Government level. The study thus covers Kaura L.G.A. of Kaduna State on account of its being a younger L.G.A. yet to be assigned any project under the on-going "Rural Industrialization Scheme" of the State started in 1980. The aim is to advance workable proposals for effective industrialization of the area.

Subsequent administrations to date have continued with the efforts of implementing the scheme throughout the State. However, the emphasis is still being placed on the establishment of a small scale industry per L.G.A. in the State, with little emphasis on the provision of facilities

and services; and the spatial organisation of the functions there.

The findings in the field study showed that the L.G.A. has a lot of potentials in raw matrials and human resources, infrastructures provision, and the existing industrial activities (which are not without problems that can also be overcome). These collectively provide the means, as a springboard, to be used in launching an all-out industrialization process in the area. It is against this background that having considered the physical and socio-economic conditions of the L.G.A, as against existing approaches and planning strategies, the following were proposed.

(a) The establishment of statutory bodies to take charge of implementation of the programme.
(b) Settlements organisation into hierarchies.
(c) Functions assigned to these hierarchies of settlements for the purpose of serving each locality adequately.
(d) Good road network linking the different settlement hierarchies for effective movement of goods/services and people.

The general idea is to provide the whole area the means for the effective growth and development of their industrial enterprises, to also increase their awareness and development of a sound industrial culture prior to the establishment of industries of larger scales there. It is also aimed at ensuring maximum utilization of available natural and human resources there.

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CHAPTER - ONE

1.00 INTRODUCTION

The importance of industrializing the rural areas of a developing country cannot be overemphaised. It helps stimulate socio-economic growth of the rural environment by providing additional workplaces besides agriculture. It also enhances increases in off-farm incomes, and help check the influx of imigrants into the existing bigger towns which normally is "a serious problem that is faced by all developing countries" (Reza, 1981) including Nigeria.

It is believed that more than 70% of the people in most developing countries reside in rural areas and their main occupation is agriculture. Only an estimated 20 - 30% of the rural labour force here turn to non-farm activities as a primary source of employment and earnings (World Bank, 1987). Families of the farming households thus are under-employed or unemployed during the slack agricultural season.

Differences in economic growth rates of the rural and urban areas of these countries have continued to remain or even increase. In order to narrow this gap and achieve well balanced development between the urban and rural arreas, solution to rural poverty needs to be found, ways to reform the social and economic structure of the rural areas should be considered.

There is thus a considerable potential need for secondary employment which would enable the people work

throughout the year. As a means to that end, rural industrialization is considered appropriate to play an important role. As stated by Austin (1981), "one of the few activities the (rural) unemployed can turn to is employment in rural industries which may include manufacturing, processing, servicing and construction."

1.10 STATEMENT OF RESEARCH PROBLEM

Considering its vast potentials for the development of industries in the State, the Kaduna State Government (now Kaduna and Katsina States) in 1980 launched a statewide industrialization programme tagged "Rural industrialization Scheme." The purpose of the scheme was to:

i. Embark on a statewide industrialization process.
ii. Check rural-urban migration of young school leavers.
iii. Harness the available raw materials.
iv. Increase the productivity of local raw materials.
v. Improve the standard of living of the state citizens.
vi. Improve the qualities of both finished and industrial goods.
vii. Create/add value to export goods.

Each of the 14 Local Government Areas (L.G.A) then was allocated one type of industry or the other to be established. For example, Funtua, Saminaka and Jema'a (now Jema'a and Kaura) L.G.As were assigned plastic products, integrated poultry and furniture industries. It can be

observed that the choice of industry types/scale and their locations was informed by political rather than scientific or sound physical planning principles. The approach therefore cannot be said to be quite appropriate for the scheme.

Presently, only the Zaria Pharmaceutical Industry is fully functional since its commissioning over two years ago. The Ikara Tomatoes Processing Plant started production in 1994 but was closed down about a year after due to financial and other problems. Besides these two, only the Kachia Ginger Processing Plant is undergoing actual construction out of the remaining 12 projects of the scheme.

The fact worth noting here is that there is hardly anything to show or suggest that the L.G.As allocated the projects were adequately prepared for their development there. This is evidenced by the fact that the number and scale of project (i.e small/medium scale industries) assigned each L.G.A was the same; the absence of any accompanying efforts at inducing sccio-economic development in surrounding rural areas of the projects sites; the fact that the continued sustainability of the projects is not assured at all e.g. Ikara Tomatoe Industry; the number of sponsors involved and the length of time taken in the execution of projects; and the complete absence of any clear cut planning strategy employed in the pursuit of the programme.

The problem now is that the expected preparedness required, prior to the execution of such rural development programmes or projects appear to be absent in all the L.G.As assigned projects. This indicates that the benefits hoped for, that are acrueable to the communities and enhancing regional development there can hardly be achieved. Meanwhile, since 1989 to date, there has been more creation of additional (new) L.G.As in the State including Kaura L.G.A. And with industrialization policy still being valid, the tendency is that these new L.G.As will sooner or later be assigned some industries too under the scheme, in the same fashion it was done in 1980. In the light of the above, it has become necessary to seek more appropriate system and strategy in determining the projects and the sites to be assigned these new L.G.As for better results.

Therefore if industrialization is to be used as one of the main strategies of the state's rural development efforts, there are two fundamental questions that should be resolved in relation to rural industrialization. These are:-

1. What type(s) of industries are best suited for rural development?
2. How should the development of such industries be promoted so that they can effectively contribute to the development of the rural areas of the state?

1.20 SIGNIFICANCE OF THE STUDY

The fact that the policy for the rural industrialization scheme is still valid entails that newly created L.G.As need to be assigned some projects too. This makes the study significantly timely because it will help offer recommendations on available alternative approaches suitable for promoting rural industrialization in these L.G.As.

The study is significant as it will help reduce any undue selfish interest and influences usually brought to bear on Government in determining the types and locations of industries/projects for L.G.As.

Also, most of the important infrastructures required for effective rural industrial development have been provided in most rural areas of the State. Only a few areas are still awaiting the completion of such provisions. The State Government is in the final phase of its rural electrification scheme and the provision of portable water supply to the rural settlements. While the L.G.A. councils together with the State Government are "Opening up" most of these rural settlements through their roads rehabilitation/ construction exercises. What remains now is an effective means of sustainable developmnet of activities in these areas to stimulate social and economic growth in order to sustain these utilities. That is what this study hopes to recommend.

1.30 AIM AND OBJECTIVES

This study is aimed at finding out the problems and prospects of development of rural industrial activities in Kaura L.G.A. with a view to making planning proposals for their effective development in the area, complementary to the "rural industrialization scheme" of the State, based on resource potentials and appropriate planning strategy.

This is to be achieved through the following objectives.

i. To review the concepts of rural industrialization and examine some strategies that can be employed in rural development programmes.

ii. To examine the characteristics of existing industrial activities in Kaura L.G.A.

iii. To find out the prospects and problems of rural industrial activities development in the L.G.A.

iv. To adopt or evolve a suitable planning strategy and make planning proposals for the development of rural industrial activities in the area, and also suggest implementation strategy for their development.

1.40 SCOPE

The study will limit its examination of the characteristics, prospects and problems of industrial activities, to those of Kaura L.G.A.

The types of industries to be concerned with in the study area will be restricted to those of manufacturing, construction, processing of locally sourced raw materials and service industries.

1.50 METHODOLOGY

1.51 Data Collection and Analysis

A windscreen survey of the Local Government Area (L.G.A) was undertaken to get an overview of the number and locations of industries in the area. A total of 169 activities were observed. The number of activities however, visited with the questionnaires and responses obtained was 127.

The respondents were intended to constitute the whole population. Sample size was not considered. This was to allow room for considering the diversity of types of activities in both scales and categories, the wide spread in locations of each types across the Local Government Area (L.G.A) and the significant differences in their experiences due to their different environments. There were however, industrialists that refused to co-operate and respond for private reasons. Some were unavoidably absent throughout the period, while some activities were actually temporarily non-operational. The total number of respondents represent about 75% of the population, which can be considered adequate representation.

Respondents were interviewed and their responses taken down. At the end of each interview, the interviewers took time to make critical observation of the premises jotting down important points.

Other sources of information were documented information and literature, maps and personal interviews with officers of the State Ministry of Commerce and Industry and Agricultural Development Project (A.D.P) Zonkwa.

The data was collated and analysed manually and statistically represented in graphs, tables, figures and descriptive forms.

1.52 Thesis Structure

The study is divided into three parts:

The first part comprises the introduction and the research's perceived problem with a review of literatures on the concepts and strategies for rural industrialization.

The second part deals with the study area's physical and socio-economic characteristics. It is followed by an examination of the existing situation of industrial activities in the area. This highlights the characteristics, prospects and problems of their development.

This part consists of proposed physical planning strategy adopted for the promotion of the scheme, and suggests implementation policies for the management and development of industrial activities in the Local Government Area (L.G.A).

CHAPTER TWO

REVIEW OF LITERATURE

2.10 CONCEPT OF RURAL INDUSTRIALIZATION

A concept of rural industrialization that is universally common is not easy to find. The concept is as varied among the regions of the world as that of rural areas is. However, its objective always is clearly to increase gainful employmnent in the non-agricultural sectors of the region. The strategies adopted in accomplishing it are determined in the light of the conditions prevailing in the region conceived and the overall national level of development.

What is considered a rural settlement varies with the degree of urbanization of the country concerned. To the United Nations (U.N), it is the existence of a substantial proportion of the attributes of a main urban centre that for the purpose of development planning, helps determine whether a settlement could be considered urban or rural. "For as long as it lacked a minimum of urban amenities it is rural from the regional development aspect." (UN, 1974)

Rural industrialization therefore literally refers to a process of considerable enhancement of development of industrial activities in the rural areas of a region. It is a concept viewed with varied meanings to the developed

(industrially advanced) and developing countries. The differences are mainly in the purpose, pattern and industry types employed.

In the developed countries, "nonmetropolitan industrialzation" may come as a result of advancement in industrial development. As a particular industry's production processes become "routinized", the tendency is for that industry to disperse from its orginal points of development and to filter down from large urban environments to smaller ones.

Yet, it may also be a result of Government policies. This is to check the rural-urban migration of people, emerging as a consequence of geographic imbalances in the national labour market caused by development of few major urban-industrial centres. For example, in the United States of America (U.S.A), during the last quarter of the 19th century, the migration of people from the farms became accelerated due to the development of few major urban industrial centres. The improvement of non-metropolitan economic and social conditions was therefore widely perceived as the key to achieving a more balanced geography of population. Thus the Area Redevelopment Act of 1961 came purposely to improve the infrastructural support for new industries for non-metropolitan and problem areas.

While industrialization generally is an evolutionary process of social change with origins in scientific

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discovery, non-metropolitan industrialization on the other hand here, refers to a spatial redistribution of economic activity within the nation. This can also be viewed as a general process within already industrialized societies.

In the developed countries therefore, rural (or non-metropolitan) industrialization is concerned with the spatial redistribution of manufacturing activities and the adoption of Government programmes to promote it. For instance, in Britain, a number of measures were enacted since the mid 1930s for the purpose of promoting expansion of manufacturing activities to depressed industrial districts and areas of rural depopulation. And in the U.S.S.R. the three 5-year plans after 1965 called for more industr in small towns and restrictions on industrial expansion in the cities.

In the developing countries, the process is always deliberate and sponsored usually by Government for some reasons. According to Vepa (1977), rural industrialization "in its operational field, involves such policy innovations as an integrated pattern of development, growth centre oriented programmes and the building of or filling in of gaps in the social and economic infrastructures."

It can be seen in a comprehensive form, as a process of technical, social and economic evolution of rural life in the country. It is essentially to promote rural non-agricultural employment for the surplus rural population

which could not be absorbed by the expansion of industry in the main urban centres. However, rural industrialization is not the setting up of one or more industrial undertakings in every village or at every crossroad. "Neither is it the implantation of modern large or medium scale establishments - i.e 'green fields factories' in a rural setting" (UN, Ibid). The latter category could be justified provided such industry exploits to a large extent some locally arising resource, or the industry is part of the policy of industrial decentralization. This disagrees in many ways with what obtains in the Kaduna State industrialization scheme launched in 1981. Especially in the types of industries in some areas.

To the developing countries therefore, rural industrialization is a concept with the aim of stimulating additional employment and income generating opportunities to help provide basic needs of the rural population. To them the greatest chance for the promotion of a larger variety of productive activities in rural areas seem to lie mostly in non-farm group of activities. This consists of manufacturing (both traditional and modern), repair and maintainance, construction and tertiary sector.

According to the UN expert group on rural industrialization, it is in a nutshell, "the establishment of industrial enterprises in the selected centres of development to meet the needs, at least of the areas

serviced from those centres. Therein exists either the minimal infrastructure or it could be developed. The area serviced provided the necessary market and the labour force." In that way, "some of the external economics of the location could be provided within their communities. The area which previously had been almost entirely agricultural then becomes agro-industrial - each sector depending on and complementing the other" (UN, Ibid).

Rural industrialization in the developing countries can therefore be understood to include both attempts at dispersal of industries away from the major urban centres through relocation into more rural areas; and the development of industrial activities there, based on rural resources and the meeting of rural needs. Each region then needs to be investigated to ascertain its particular circumstances before selecting those suitable centres for development in the rural areas.

From the foregoing therefore, rural industrialization for the purpsoe of this study may be viewed as the process of deliberate development of small-scale industrial activities in chosen centres of development within the rural environments. Such industries expolit to some good extent locally available resources, to meet the needs at least of the areas serviced from these centres.

It is generally aimed at enhancing the process of technical social and economic evolution of rural life in the

region. Areas previously almost entirely agricultural becoming agro-industrial. The area serviced, now providing the necessary market and the labour force. As a process, it calls for policy innovations as an integrated pattern of development, growth centre oriented progammes and the building of or filling in of gaps in the social and economic insfrasturcture.

2.20 SUITABLE INDUSTRIES FOR RURAL INDUSTRIALIZATION

It is understandable that whatever form of industry is set up generates some form of development in its area of location. But it is not all industries that are suitable for all programmes/levels of development of a region or country.

The selection of suitable industries for rural areas therefore demands that two important considerations be made - the new ventures to match as far as possible, the human and the natural resources of the area; and should operate on a scale that is appropriate to the market to be served. The latter implies that in most cases the enterprise be small-scale. In Agunbiade's (1987) opinion, they should be "such that will not only profit from locating in the region, but also contribute significantly to economic growth and social welfare in the region."

The most appropriate industries that should be located in rural areas so as to contribute meaningfully to the

development of the area, according to Abbas (Ibid) should be:

a. Those based on natural resources and raw materials of the agro-type.

b. Industries must have backward integration through direct investment in agricultural production, guarantee market for what farmers produce, supply of farm inputs etc, and

c. Such industries must be strongly integrated with the rural areas using labour and raw materials.

The UN expert group on rural industrialization suggest the following as types of industries suitable for incorporation in such programmes. Though not all could be deemed appropriate in every situation.

i. Processing of Agricultural Produce

This mainly refers to the processing of the output of fisheries, silviculture and agriculture in its widest form. The scale of operations range from simple and inexpensive ones in the field of food preservation, to modern processing plants converting the raw produce into a form acceptable to the markets.

ii. Processing of Inputs to Agriculture

This might be merely the replacement of wooden by steel implements. It could also range to the use of irrigation equipment and tractor drawn appliances.

Rural craftsmen could produce a range of handtools, non motorised transport equipment and could be able to undertake servicing and repair of agricultural machinery. The skills so developed might be expanded to undertake the manufacture of such items as ploughs, harrows, sprayers etc.

iii. Mineral Extraction and the Production of Building Materials

In areas with exploitative mineral resources, mining could lead to the establishment of new enterprises - the servicing and repair of mining equipment, the manufacture of certain supplies and the dressing of mining tools. Crushed stones for constructions, bricks, timber roof trosses as well as wooden building fitments would be demanded. Clay roofing and floor tiles might all be needed as development of the region progresses. All of these items could be produced by small-scale enterprises in rural settings and usually are more competitively sought than those by urban undertakings.

iv. Rural Consumer Goods Produced, and Services Performed by Traditional Artisans

Most rural communities in developing countries possess a number of artisans or tradesmen, wood - workers, sheetmetal workers, blacksmiths and tailors - around whose activities small-scale industries could be

developed. With some little assistance, the range of their products, which frequently are restricted to traditional designs could be widened. The artisans here can also undertake the repairs and maintainance of equipment employed in rural transport, industry and homes.

v. Artistic Handcrafts

These products from locally arising materials and use of rural skills have a ready market in developed countries. In fact the demand is growing in the developing ones themselves.

vi. Anciliary Manufactures

These comprise the production of components for eventual assembly in large, usually urban manufactures. This is in the form of subcontracting and is only practical in developed countries that have reached a fairly high technological level, and in those where small scale industries are sufficiently proficient and dependable. It has nevertheless, possibilities in the rural context particularly when appropriate skills have been developed among the workers commuting between the rural settlements and their places of employment in the towns.

2.30 RURAL INDUSTRIALIZATION'S CONTRIBUTIONS TO REGIONAL DEVELOPMENT

To understand the contributions of rural industrialization in regional development may require clarifying what regional development itself implies.

Regions first of all, are to the geographer, either homogenous in respect of some particular set of associated conditions or artibutes like climate, topography, language etc or it is a nodal region. Vagale (1970) views a region to be an area with certain unitary characteristics, "compact enough for satisfactory and efficient administration yet large enough for its unified and integrated development to be balanced and carried out on a scale commensurate with the present day technical possibilities". It therefore ranges from districts to a whole country or even groups of countries.

While development may be elusive depending on who defines it, it in any case represents an idea of continued and "commulative" change for the better. It entails bringing out that which is latent or potent to a more highly organised state.

Regional development therefore may be seen here as a state of human wellbeing rather than as the state of the regions economy. It is measured not only in economic terms but also in terms of social wellbeing, political structures and the quality of physical environment.

According to Conyers and Hills (1992), "the degree of inequality in the region is what measures its development." This encompasses inequality between regions, including the gap between rural and urban areas. The reduction of such unequalities therefore is considered to be one of the most important goals of development.

Rural industrialization can thus enhance these and more through the following:

i. Large Scale Employment

Once rural industrialization is under way the most prominent industries are the small-scale manufacturing units located in households and estates. The role they play towards the region's development is provision of large scale employment not only to the unemployed but also to nearly all marginal labour. In India for instance, by 1980 this sector was responsible for offering employment opportunities to about 23.6 million persons as against about 6 million engaged full-time in large and medium - scale industries.

ii. Mobilization and Development of Skills

Rural industrialization requires comparatively lesser technical and managerial proficiencies due to the nature of industries it is based on. These could be developed more rapidly and in relatively shorter periods. It therefore helps in mobilizing untapped resources of capital and skill that may otherwise

remain underuntilised or completely unutilised in the region. Besides it serves a nursery for technical and managerial skills in the region.

iii. Checking Rural-Urban Migration

It helps to take jobs to the people rather than vice-versa, because the industrial units herre can easily be more widely dispersed. This is applicable to any region or country that industrial activity has by far come up in a couple of cities and urban areas. It thus helps check rural - urban migration with its inherent consequences. Roy (1970) observed that in China (Taiwan Province), the Government's policy of decentralised industrial growth made it possible to "transfer labour services from agricultural to non-agricultural activity without moving labourers from rural to urban areas." It thus enhances the quality of life in the region.

iv. Stimulates Increases in Agricultural Production

It contributes in promoting agrobased industries which is an important threshold of development in industrially backward areas. Rural industrialization has great potentials for stimulating growth in agricultural production in any rural area it is pursued. This enables the proper linkage between agriculture and industry to be strengthened.

v. Raise Farmers' Economic Levels

Due to the fact that the process induces increased demands on agricultural produce for industrial and domestic uses, it helps raise the income of farmers in such areas. Abbas (Ibid) established this in a study of the impact of a tomatoe processing factory (VEGFRU) on the development of its rural neighbourhood in Borno State. About 93% of the farmers testified they had great improvements in their levels of production and income earnings.

vi. Develpment of Latent Resources

The process of rural industrialization brings increased pressure on infrastructures from both the industries and the population. This often results in the gradual development and utilization of latent resources of the region i.e water, power, land and human resources. It thus stimulates the need also for the development of key infrastructures in the area such as water, road, electricity, schools, health services etc. making rural areas more liveable to the greater majority.

vii. Equitable Distribution of National Income

Industrializing the rural arreas ensures this via the distribution of productive industrial activity over a wider area in a large number of hands. And it is thereby counteracting any tendencies toward concentrating economic power in a few hands at a small

number of places. Also this helps narrow the growth rate differences between the urban and rural areas encouraging balanced development in the region.

viii. Distribution of Benefits of Industrial Growth

Rural industrialization aids the development and wider distribution of small industries in the region. This helps to distribute the benefits of industrial growth along, over a wider area too. In the process, it is thereby cultivating industrial culture and creating a class of artisans which are quite essential and conducive for the industrial growth of developing countries.

2.40 PLANNING STRATEGIES FOR RURAL INDUSTRIAL DEVELOPMENT

There are three common approaches to rural development in general. These are Community Development, Integrated Rural Development, and the Sectoral Rural Development approaches. The early approaches and some present ones in the developing countries are in most cases sectoral in orientation. Under this sectoral approach, the commonly emphasised sectors include, Agricultural development, Health and Social Services Provision, Educational development, Specialised Research development, and Rural Industrial development where Rural Industrialization fits in.

The planning strategies for rural development, and rural industrialization for that matter, are the various ways or models utilized in explaining the spatial organisations of human activities. Three basic strategies will be discussed here, these are commonly employed in rural development programmes.

2.41 Growth Centre Theory

The theory developed by Perroux (1950) originally referred to centres of foci in abstract economic space from which the centrifugal forces emanate and to which the centripetal forces are attracted. The concept envisages that development does not appear at all places and all at once. But rather it appears in points or growth poles with variable intensities spread along diverse channels and has varying terminal effects for the whole of the region.

The growth centre, according to the basic concept, generates two effects - the "spread" and the "backwash" or the "trickle down" and "polarization" respectively. The propensity of the centres is a function of innovations which each can generate and this in the long run will result in structural changes manifested in social economic and geographical space.

With time however, the scope of the theory and the concept itself has been broadened and there has also been reorientation to include issues of policy intervention and planning. In his analysis of the strategy, Funnel (1976)

outlined three rationale for its adoption for functional spatial organization in developing countries. These are:

(a) Growth centres may be developed as a framework for the delivery of social services to ensure rerasonable equal distribution of ameninities.

(b) The strategy may be adopted whereby the centres may act as places through which new ideas are to be channeled in the hope that innovations may be stimulated around the centre.

(c) Thirdly, the strategy may be adopted so as to facilitate effective control of the growth of large cities via decentralization and location of economic, social and cultural activities in the created centres. This strategy can be adopted for the development of service centres and growth points at local levels.

The growth centre strategy mainly, is concerned with the development of space and distribution of services and utilities. To this end therefore, the strategy is a means of channelling development projects to attractive and selected places. And it, if applied deliberately, has been acclaimed to be useful for the development of lagging depressed or overlapping areas in both developed and developing countries.

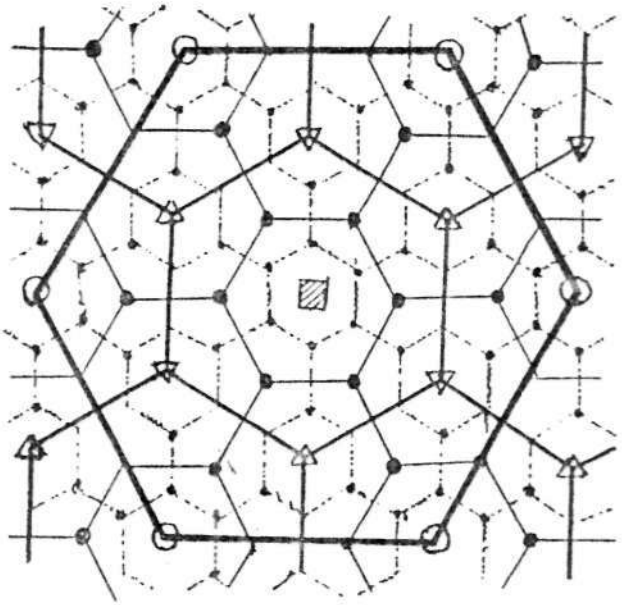
It provides in the early stages of development opportunities for deliberate sectoral and spatial concentration of activities. Based on this, Penovil

(1969), emphasised the need to identify the growth potentials of a growth centre. Such potentials usually employed for identification are, accessibility of natural resources, and markets, quality and importance of infrastructure, size of settlements, socio-political factors favouring development, etc. Once a site for growth is identified, based on some criteria above it is adviced that change agents like investors and entrepreneurs both from within and outside the area for its development be introduced.

However, the theory has been criticised in that it is only effective in expanding the zone of metropolitan influence of the selected settlement. This arises from the basic assumptions of "closed" regional system in which the benefits of growths are fully restricted. But regions are essentially "open" systems with possibilities for leakages to occur and in which case the multiplier effects of a growth centre may very well be felt elsewhere other than the complementary region.

2.42 Central Place Theory

This strategy is based on Christaller's (1933) central place theory which was further elaborated by Losch (1954) among others. The theory relates to the regularity in size, composition and distribution of settlements primarily serving their hinterlands. The theory assumes that some ordering principle govern the distribution of central



SETTLEMENTS ORDER

FIRST

SECOND

THIRD

FOURTH

FIFTH

FIG.1 FORMATION OF CENTRAL PLACES

SOURCE: CENTRAL PLACE THEORY, BEAVON 1997

places. Some specific arithmetic measures of distance for the range of central functions has been established to arrive at 5 hierarchies of central plces (Fig. 1).

Christaller first of all introduced a descriptive terminology of the elements to be used. The region served by a central place was termed its complementary region. Central place whose central activities extended their influence over a large area were termed places of high order, whereas central places whose activities were less extensive in influence were described as central places of lower order. The service limit of each central activity was described by the outer limit of the range of commodity in which it dealt.

Christaller further explains that the demand for and the consumption of central commodities would depend among other things upon the distribution of and socio-economic variations in the population, and upon the degree to which the population was concentrated in any particular central place. Demand for central activities would also depend on the distance, including effort distance, that a person had to travel to obtain the commodities. And demand would also fall off to zero with increasing distance from the central place.

This analytical model has been used in the spatial organisation to hierarchical market systems and rural service centres located at economic distances apart to

enhance the economic base of the rural population. The argument is that every rural producer has to be within a convenient travel time and some adequately competitive selling places for his produce. As distances increase so does the level and variety of goods and services. At a higher level of hierarchy of centres a wide variety or range of goods and services are offered. For these services to be provided, certain threshold population is needed. There is therefore, a positive correlation between the size of a centre and the nature of activities which could be sustained by it.

Many authors have advocated for a system of hierarchical market centres in order to efficiently serve the dispersed rural population. Funnel (1976), highlighted the need for a hierarchical market system and rural service centres in ensuring efficient supply of social services to rural population.

The idea of different hierarchy of central places at regional level is seen to act as the basis for a much more national complex hierarchy of central places capable of knitting the entire spatio-economic structure together in a functional sense for more efficient productive activities necessary for rural development.

2.43 Polarised Activity Centre (P.A.C)

This is a modification of both Central Place Theory and Growth Pole Strategy developed by Kulshrestha (1980). It

works on the same strategy, that is that development can be achieved through deliberate channelling of activities in selection centres. But it goes further in its assumptions which include;

(a) That spatial development results from a complex interaction of economic, socio-cultural, political, administrative, physical and historical forces which generate different kinds of development. These activities, when located in space produce specific spatial development pattern.

(b) The characteristics of activity determinants which constantly change over time are determined at any given time by the policies, demands and actions of individuals and groups (both private and Governments).

(c) Through the diffusion process of development impulses, the behavioural pattern of groups and individuals change with time and new additional demands, policies and actions are generated.

(d) A polarised region comprises of a core and periphery. Each urban or rural centre has an immediate influence area which contains a set of primary rural settlements directly depending upon and interacting with it.

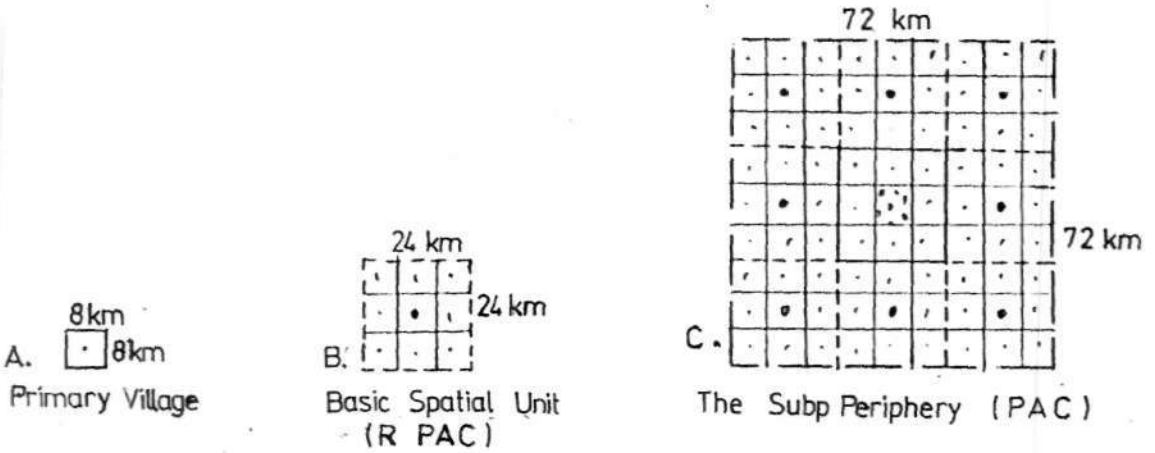
(e) Such an urban area can be induced to develop in a lagging or depressed area by deliberate planning.

(f) The basic characteristics of various settlements of a polarised region may vary depending on the nature of activities that are polarised there.

(g) A system of square lattice can be more practical in explaining the spatial model.

From the above assumptions, therefore, PAC is both descriptive and normative because it explains and identifies past and present spatial patterns and also identifies the future locations of activities and the resultant spatial pattern.

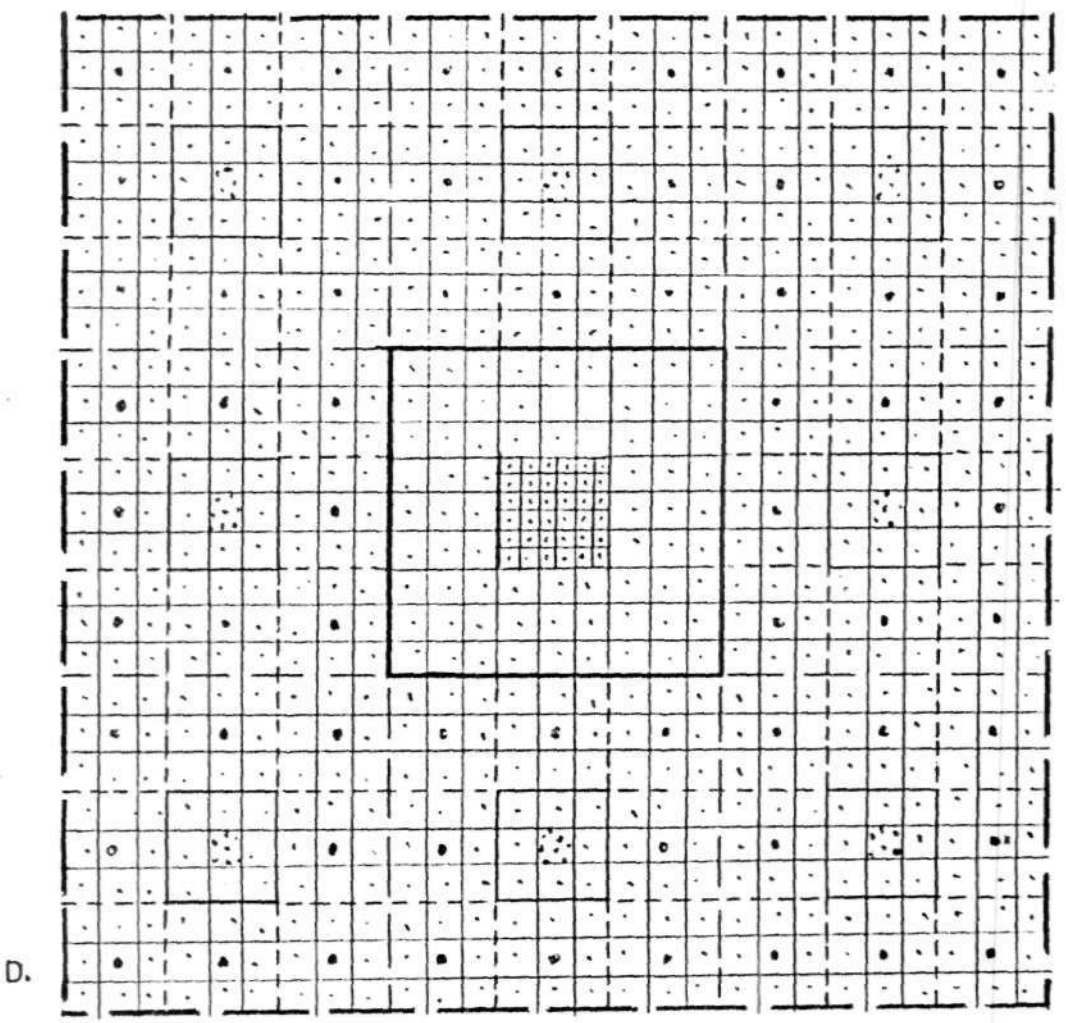
In the PAC, the basic spatial unit, as applied by Kulshrestha, consists of eight villages, which is the smallest unit, each having a field of influence of 8 km by 8 km and is being distributed around a higher order settlement - Rural Polarised Activity Centre (R-PAC) (Figure-2.). This arrangement of the settlements maximises the number of settlements served for the distance between two R-PAC and the farthest village. The distance between two R-PAC is 24 km and there is a set of 8 R-PAC from the influence area of the PAC. Each PAC serves all the R-PAC within its area and covers an area of 72 km by 72 km. The highest settlement on the hierarchy is the Dominant - PAC (D-PAC) which serves about 8 PAC.



Primary Village

Basic Spatial Unit (R PAC)

The Subp Periphery (PAC)



The Periphery And Core (D PAC)

KEY

- Rural Settlements
- R PAC
- PAC
- D PAC
- Core boundary
- Periphery boundary
- Sub Periphery boundary
- Rural Sub Periphery boundary
- Rural boundary

Fig. 2 Polarised Activity Centres

SOURCE: POTARISED ACTIVITY CENTRE FOR SPATIO - ECONOMIC DEVELOPMENT.

Below are assumptions on whose bases population threshold of the various hierarchy of settlements was proposed.

i. The population size of rural settlements (5th order should be such that it can support a small primary school.

ii. An R-PAC (4th order) should be able to support a fairly large primary school.

iii. A small PAC (S-PAC) (3rd order) should be large enough to support a secondary school.

iv. A medium size PAC (M-PAC) should be able to tertiary activities and be large enough to manage and maintain itself.

The table below shows the proposed population sizes of various settlements based on the above assumptions.

Table 1 - Sizes of various Hierarchies of PACs

	Hierarchy order	Population size
Rural settlements	v	2,500 - 5,000
R-PAC	iv	5,500 - 20,000
PAC (small size)	iii	20,000 - 100,000
PAC (medium size)	ii	100,000 - 500,000
PAC (large size)	i	500,000 - and above
D-PAC		

Source: Kulshrestha (1980), Polarised Activity Centre for Spatio-Economic Development

While the spatial model shows an ideal situation, the development in a region may not necessarily follow the

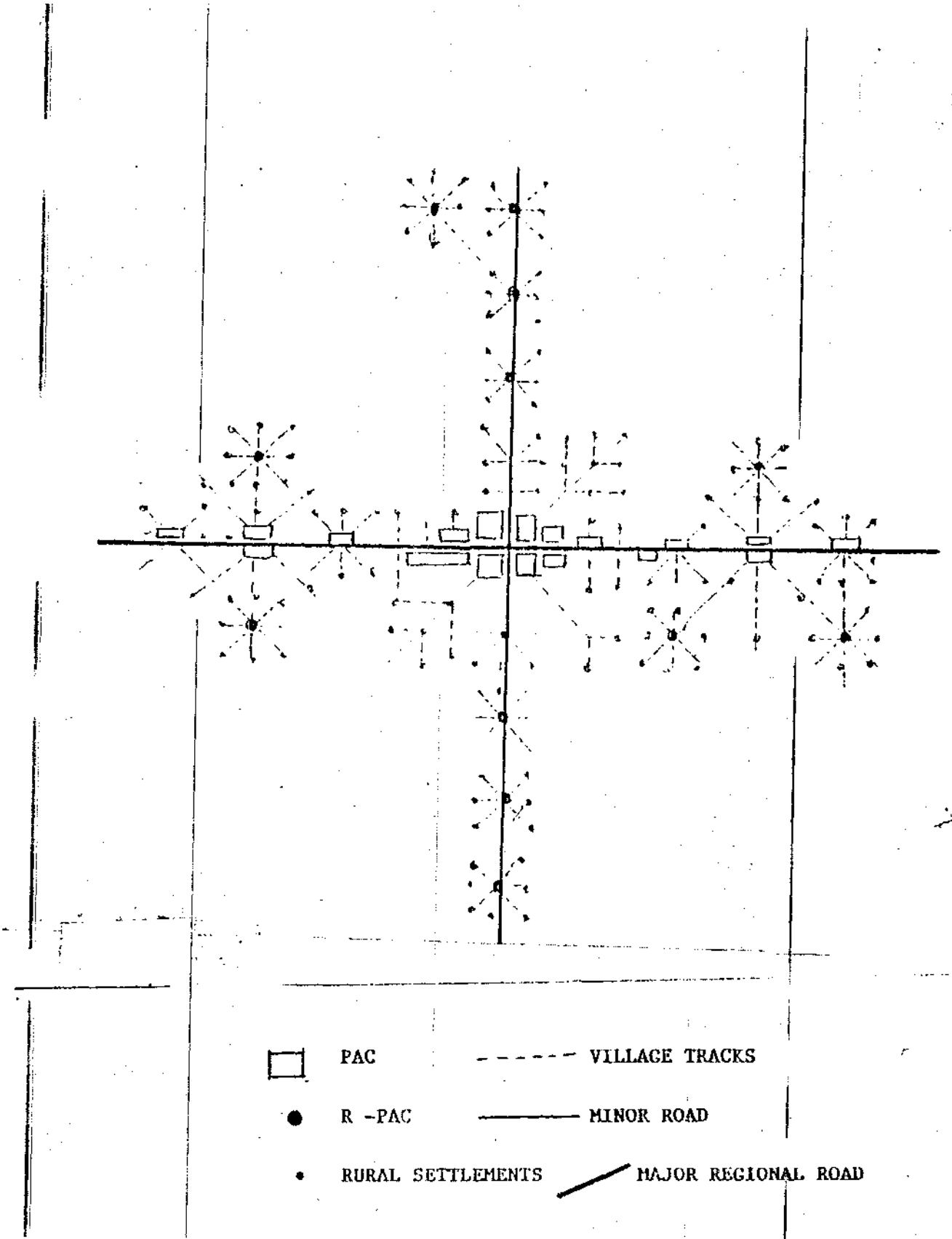
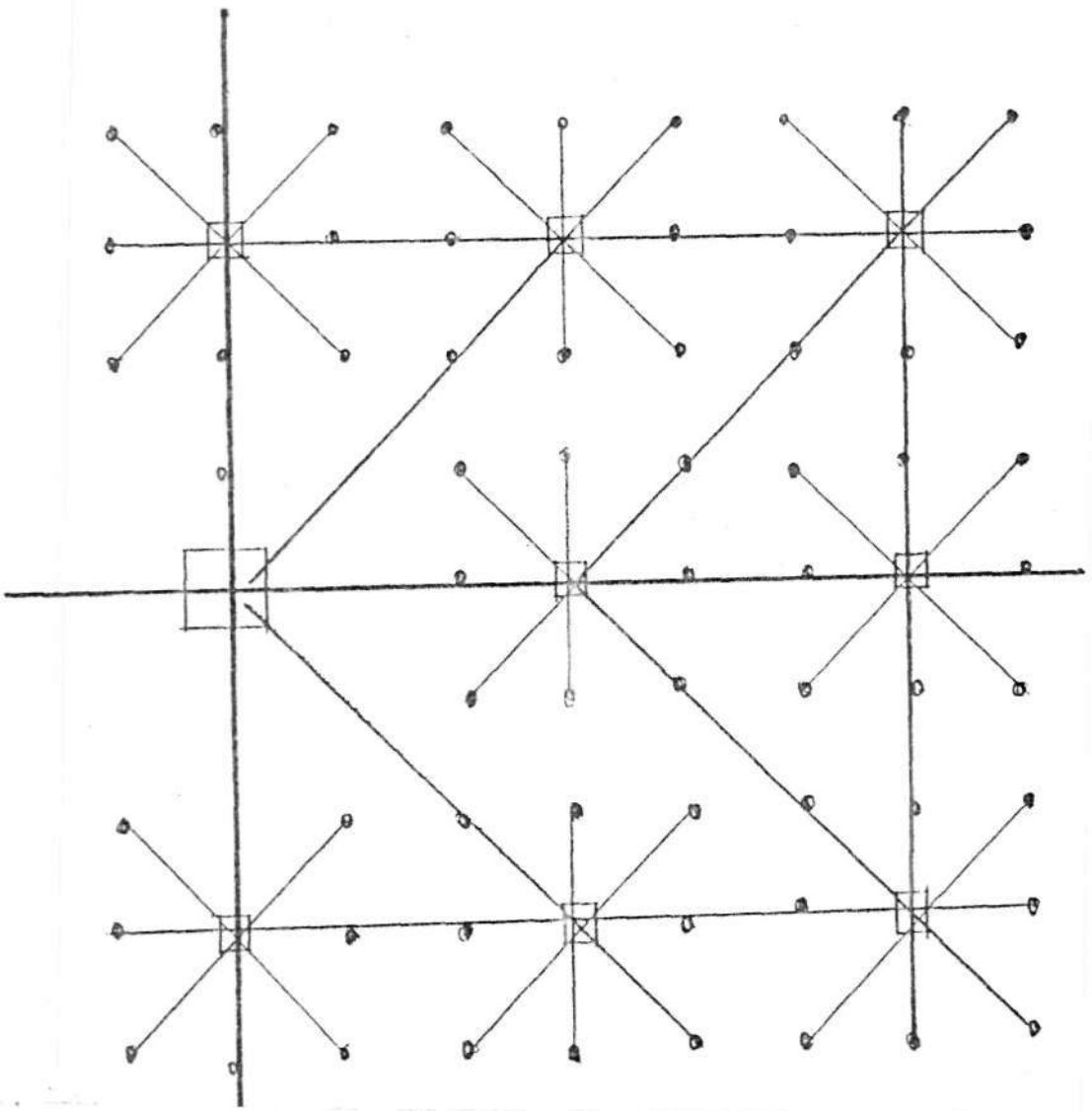


FIG. 3a. PROPOSED SPATIAL MODEL VARIATIONS:
LINEAR DEVELOPMENT- CORRIDOOR

SOURCE: POLARISED ACTIVITY CENTRES FOR SPATIO- ECONOMIC DEVELOPMENT.
KULSHRESTHA, 1980.



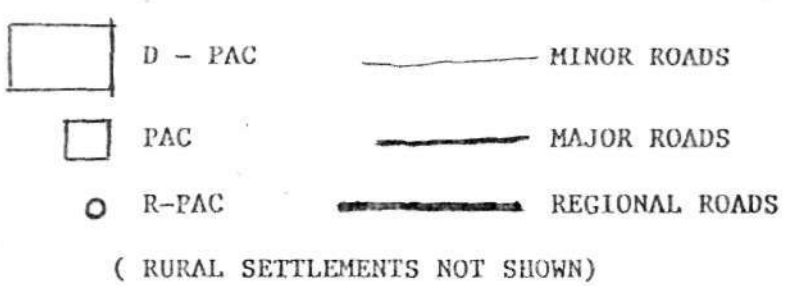
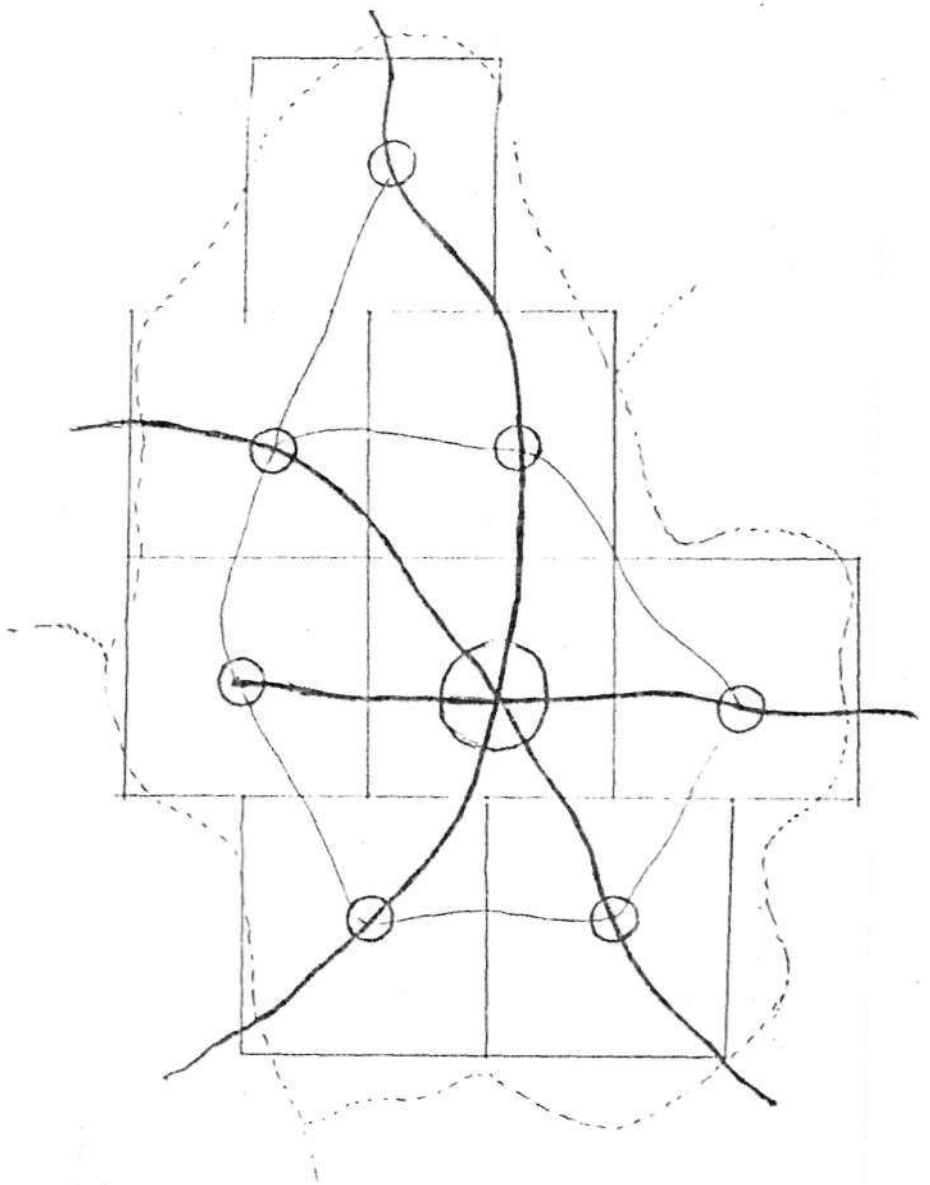


FIG. 3b. PROPOSED SPATIAL MODEL: VARIATIONS-THE D-PAC MAY NOT BE IN THE GEOGRAPHIC CENTRE FOR SPATIO- ECONOMIC DEVELOPMENT.

KULSHRESTHA, 1980.



BOUNDRIES

ROADS

D – PAC

PERIPHERY

MINOR

PAC

SUB– PERIPHERY

MAJOR

FIG. 3c. SPATIAL MODEL. VARIATIONS: FLEXIBILITY OF SUB – PERIPHERY ACCORDING TO PERIPHERY BOUNDARY.

SOURCE: POTARISED ACTIVITY CENTRE FOR SPATIO – ECONOMIC DEVELOPMENT.

symetrical pattern due to physical socio-economic administrative, historical or political contraints. In order to cater for these variations, Kulshrestha proposed some variation models based on the variation factors (Figure-3a to 3c). These proposals give the model a wider degree of applicability.

2.50 RURAL INDUSTRIALIZATION APPROACHES OF SOME COUNTRIES

Many rural industrialization programmes have been undertaken by many developing countries for various reasons. Those of three countries are appraised here to identify the policy framework and planning strategies used. The situation in Nigeria is also reviewed to identify its position too.

2.51 The Indian Example

Since the early 1950s, India has been experimenting with different policy measures and action progammes for reducing regional imbalances in general and promotion, of rural industrialization in particular.

Her rural industrialization efforts cannot be defined in isolation from the small-scale industries development programme for the whole country. India is one of the first countries to attach importance to the development of small-scale industries. The most important policy that played a role in this direction was provision of industrial estates all over the country. Out of the 493 estates sponsored by

the Government, 132 were reserved for rural areas, 184 for semi-urban and 117 for urban areas. That is in proportions of 26.8%, 37.3% and 35.9% respectively.

In India, rural industrialization has been gradually conceptualised under the country's successive 5-year plans. Its scope has been extended by stages from village confined industrial units, to industrial enterprises which draw demand for their products from a group of villages, these more or less constitute a homogenous tract. It was concretized and institutionalized under first pilot projects (cottage and small-scale industries) and secondly rural industries' projects. It has lately been advocated and adopted for industrializing relatively backward areas, through promoting the concept of appropriate technology, determined by the areas' resource endowments and demand horizons.

India's small-scale industries which are the main feature in rural industrialization are subdivided into two. These are modern small-scale and traditional rural industries (handlooms and powerlooms, Khadi, coir etc). They are defined as manufacturing and repairing units with maximum investment levels of $210,000 and $260,000 (i.e Rs 2 mill and Rs 2.5 mill) in ancillary units. Today India is reputed the leader in rural and small-scale industrial development among the "third world" countries, for its success in this direction.

India's experience is of special significance. It shows that rural industrial development requires a great deal of effort by Government at providing the important environment and infrastructures required for it. This should be comprehensive in scope and speedy in execution. There is need therefore for administrative competence for effective implementation and coordination if programmes of rural industrialization are to succeed.

2.52 Korea's "Saemaul" Factory Programme

In its efforts to reform the essential social and economic structure of its rural areas, Korea as a developing country, took measrues that encourage the establishment of small-scale factories in the rural areas. By the early 1960s, she had implemented a project to further her rural industrial development policy. It was known as the "Saemaul" factory programme.

The basic concept of Government policy was to strengthen the linkages between agriculture and industry through increasing farmers' incomes, and through a well balanced development of the whole society also. Government sought to achieve this by establishing "Saemaul" factories in each locality. That is those that had raw materials readily determined available to be drawn on. "Saemaul" factors were therefore establihed in areas with abundant locally sourced raw materials. This in some areas was meant to revive and develop traditional handicraft industries.

For obvious reasons specific kinds of factories were determined for specific areas. Consideration was also made of the type of industry that is able to use agricultural products in the region as raw materials.

The development of saemaul factory attracts alot of incentives from the Government. These include financial support for setting up and operation; tax exemption; preferential treatments with regards to utilities and services; and consultancy and guidance services; on export matters, including the operation of an exhibition centre and support for overseas exhibitions.

Although, the Korean conditions are quite different from what obtains in Nigeria, one or two lessons could be learn from it. It is important that any establishment of industries in rural areas for enhancing development, should consider the utilization of available raw materials there. The need for appropriate types of and scale of industries to be employed is also important.

2.53 The "Utundu Programme" - Tanzania

The emphasis of Tanzania's rural development strategy of the 1960s was mobilization of the productive capacity and improvement of the living standards of the rural folks. Almost all of them were believed to be wholly engaged in subsistence agriculture, but the supply of farm implements, craftsmen's tools and basic household utensils was not adequate.

All large scale manufactured farm implements we imported uptil 1970. So there was a general lack of large scale production of craftsmen's tools and basic households utensils and other essential handtools in many regions of the country. To find a solution to the situation, a programme for rural implement manufacturing was introduced. The concern was to tackle the question of supporting the rural blacksmiths and tinsmiths. The Swedish International Development Authority (SIDA) proposed then the establishment of village workshop clusters, so called "Utundu Industrial Development Village" with equipment and assistance from expatriate personnel, but it was not approved. Rather a redesigned "Utundu Programme" was launched to support the village crafts development.

The Utundu Programme was aimed at promoting small-scale manufacturing and repair of iron and steel items, namely farm implements, tools for other small industries and household utensils. The first phase of the programme was the consolidation of existing blacksmiths and tinsmiths groups rather than to expand them. The reason for this approach clearly was that, if the groups activities begin to be expanded too much ahead of infrastructural developments, what has been consolidated might be destroyed.

2.54 Nigeria's Position in Rural Industrialization

In Nigeria there has not been a formulated clear cut rural industrialization policy. Rather some of the general

policy statements on industries formulated in the 2nd, 3rd and 4th National Development Plans (NDP), have addressed some of the issues that are paculiar to rural industrialization process. These are policies of dispersal of industries all over the country; and of promotion of small-scale industries development. These two policy issues can be singled out as being in the direction of a sound rural industrialization strategy, yet a lot more needs to be done.

As some specific policy issues were pursued during the 2nd to the 4th NDPs some of the preceeding plans' policy areas were being reviewed during the periods. During the 4th NDP, in continuation with the policy of industrial dispersal therefore, several resource-based and agro-allied manufacturing industries were to be located in rural areas. This was among other things aimed at encouraging the development of cottage and rural industries owned and managed wholly by Nigerians and making available to indigenous industrialists, technical and financial assistance and other inducements.

The implementation of the development plans industrial policies were not without problems. As usual therefore, attempts were made in the 4th NDP (1981 - 85) to solve those observed in the 3rd NDP and other related ones to pave way for a better industrial development in the country. To this

end, more policy objectives were set in the plan. Some of these are:-

(a) To increase employment opportunities.

(b) To increase the contribution of small-scale industries to the total value added in the manufacturing sector.

(c) To remove institutional constraints and bottle-necks which constitute obstakles to industrialization.

(d) To promote more even dispersal of industries.

(e) To give maximum encouragement to private sector industries.

(f) To improve the price and quality competitiveness of Nigerian products etc (Nigeria, 4th NDP).

It can be observed that most of the policy measures beig taken by Government favour small-scale to large-scale urban based industries and modern businesses, as compared to smaller rural industries. This observation supports the claim by Chuta (1984) that "the overall economic policies, while favouring large scale capital intensive industries, either discriminate against rural small-scale industries or cannot be exploited by them owing to lack of accessibility." Therefore, there is need for distinct policies with the purpose of promoting cottage/small-scale industries in both rural and urban areas. These should also emphasise the role of such industries in the overall scheme of regional

development, rapid industrial transformation and sectoral balance.

Another observation is that Government in its 2nd to 4th NDPs (1970 - 1985) alluded to the desireability of industrial dispersal to promote even development. But this in actual sense refers to dispersal and even development among the States of the Federation. This assertion is clarified in the 4th NDP where it stated that "the existing 19 State structure provides an adequate basis for dispersal of industries" (Nigeria, 1980).

Hence a more purposeful interpretation, with genuine pursuit of even development should be sought to incorporate the rural areas as well. Most appropriately rather, clear rural industrialization policy objectives should be set out in the nation's industrial policies, and pursued as such. This will stop its being mixed with generalised policies of industrial development that are not favourig the real rural environments. Also, it will provide the avenue for assessing such rural based programmes successes or otherwise.

CHAPTER THREE

3.00 AN OVERVIEW OF THE STUDY AREA - KAURA L.G.A.

3.10 REGIONAL SETTING

Kaura L.G.A. of Kaduna State is located between latitudes of about 9030'N and 9046'N; and between longtitudes $8^{0}15'E$ and $8^{0}36'E$. It is bounded to the north by Zangon Kataf and Kauru LGAs and on the south by Jama'a LGA. It is also bounded to the west by Zangon Kataf and Jama'a LGAs and on the east by Plateau State. (Figures 4 and 5)

The LGA has an area of about 529 sq. km . It has its council headquarters at Kaura town in Maro'a chiefdom. It is composed mainly of 2 chiefdoms-Kagoro and Maro'a chiefdoms.

3.20 RELIEF AND DRAINAGE

The two main relief features here are the hills and plains.

i. The hills include the Kagoro/Attakar and Asuwom hills. These attain heights that average about 152m or 500 ft. above sea level. The Kagoro massif is the dominant reaching an average of about 200 ft above the surrounding plains.

ii. The plainland is distinctly defined as it descends sharply from these hill. But scattered within the plains are some isolated hills, inselbergs and laterite capped messas. Atop the Kagoro hill are some plains

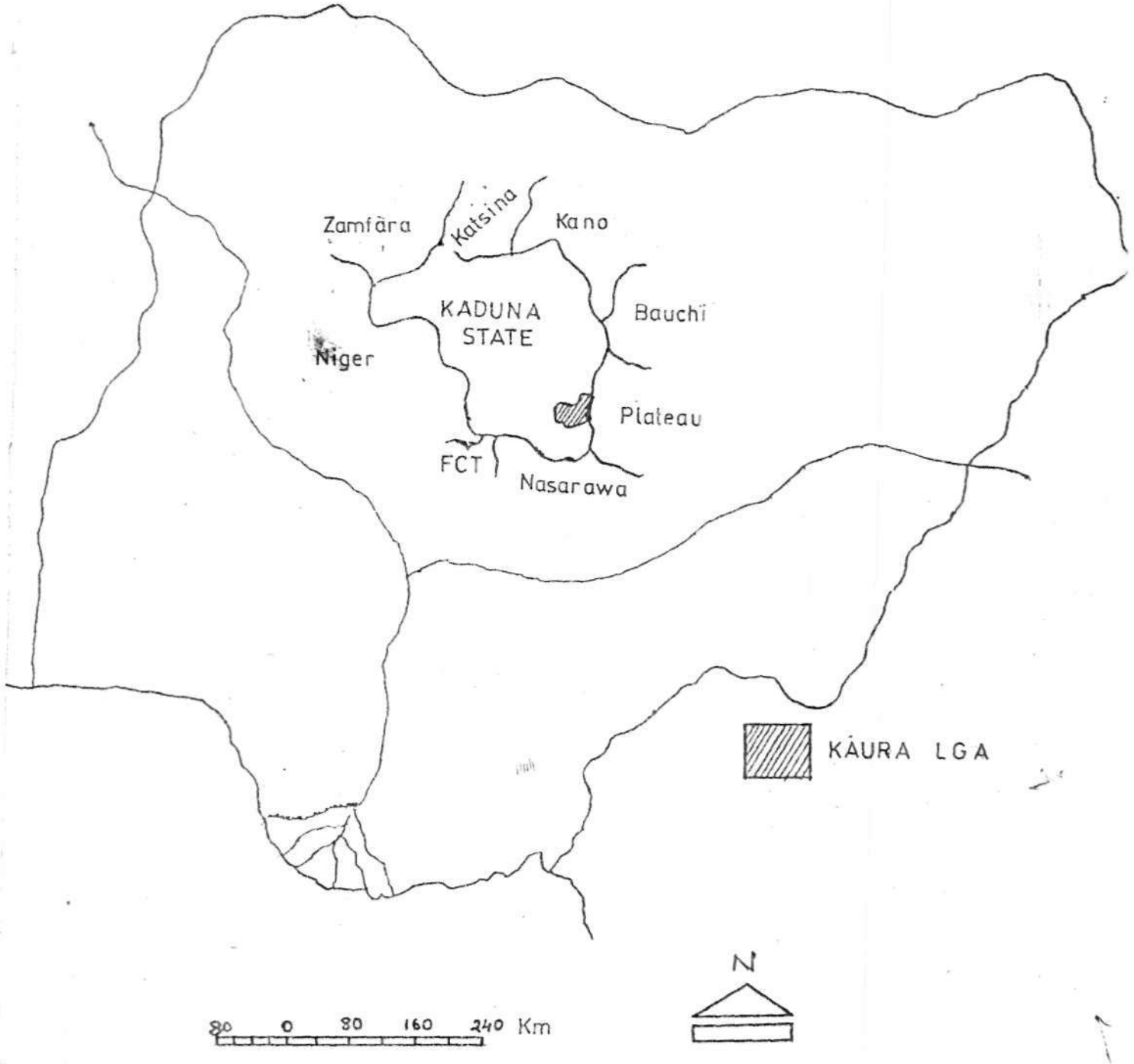
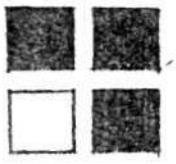


FIG. 4 NIGERIA: KAURA L.G.A. IN KADUNA STATE



YASHEN J.
M.SC. U.R.P.
1998/1999

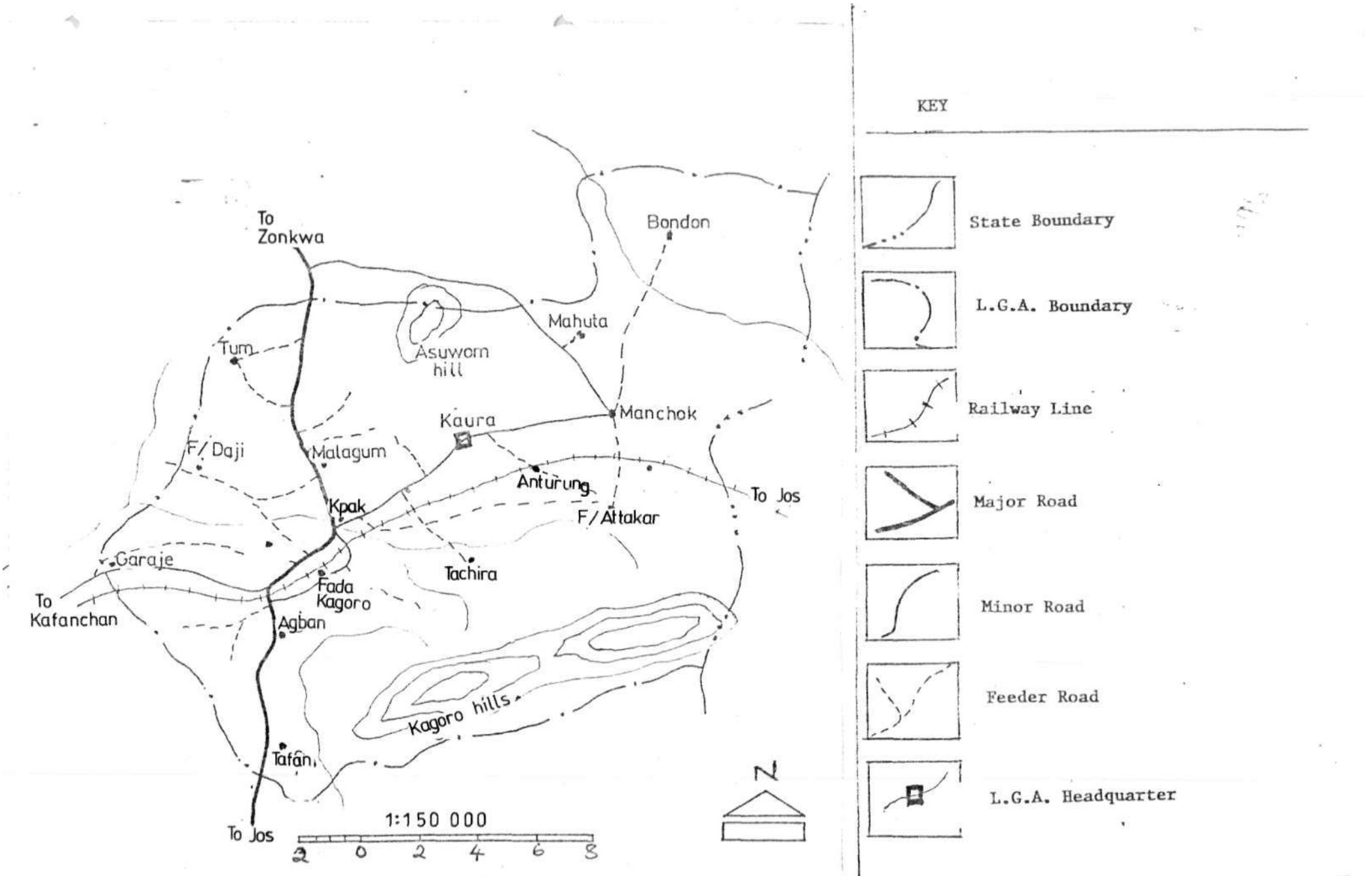


FIG. 5 KAURA L.G.A.

YASHEN J

M. SC. U.R.P.

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also, that enable some settements there to keep large farmlands.

The area is drained in the north by the river Kaduna and its tributaries which flow from the Jos Plateau and the Attakar/Kagoro range. The southern part is drained by two streams from the Kagoro hill. One flows westwards through Kafanchan as "River Wonderfull". The other is river Kagun. It also flows southwards. In addition there are some numerous seasonal streams scattered around the LGA. There exists amongst these, some three good source of natural spring waters that take there sources from the Attakar/Kagoro hills (Figure-2).

3.30 CLIMATE AND VEGETATION

The climate is subtropical with two distinct wet and dry seasons. these seasons are determined by the movement of the intertropical convergent zone. During the dry seasons, the dominant wind is the North-East trade. It is characterised by dry and dusty winds often giving rise to poor visibility. it is also refered to as "harmatta". Temperatures are usually lowest this time of the year. The dry season lasts from October to March.

During the rainy season, the dominant wind is the South-Westerly. This is the moist and rain bearing trade winds. It lasts between April and October. The area recieves an average of about 1000mm (60in) of rain annually.

The hotest months area March/April with average temperatures reaching 31^{0}C. While the coldest mouths are December/January usually the harmattan months. The average temperatures this period drop as low as about 18^{0}C.

The LGAs vegetation falls within the northern Guinea savannah. It is therfore predominantly grass and savannah woodland. The tree species attain heights of about 6.1m to 7.3m (20-24 ft). A great variety of economic trees are found here than is usual in the surrounding environs. these include locus bean, caccia etc. This can be attributed to the relatively higher amount of rainfall recieved annually, which is influenced by the relief effects of the Jos Plateau. There is a luxuriant growth of some particular species of grass on the Kagoro/Attakar hills. It is used for roofing.

3.40 HISTORY AND CULTURE

The area is inhabited by four (4) dialectical formations. These are the Moro'a (Asolio), Attakar, Kataf (Atyab) and the Kagoro (Aegworok). From documented sources like Smith and bonat, the historical origins of these people are thus postulated:

The Attakar group migrated along with the Kagoro into their present settlements from somewhere around the former Bauchi Province via tne Jos Plateau. The Moro'a are believed to have migrated into the area from the old Katsina

Privince. They are also believed to have suffered inter-tribal wars and historical metamorphosis into what remains of them today. But oral traditions say they once lived on the Bauchi Plateau farther to the east and they migrated to their present territory in the distant past. While the Kataf are believed to have settled in Kaura town, having fled in small parties from the Karigi (Karge) due to incessant slave raids from the Hausas.

Culture and tradition is uniform among the peoples in the area. Before the Fulani jihad of the early 19th. Century, the people were idol worshippers. They practiced what they called "dodo" and "bori" dances. But they had the belief in a supreme deity whom they refered to as "Guwazah" or "Guwazi" (i.e God).

The people believe in feasting during important occassions or festivals. Their major celeberations include weddings, Christmas and New Year days.

Power is centred on the Chief (Agwam). He liases closely with the various district heads of the village, who in turn are responsible for the various clan heads (Main Ungwanai).

3.50 POPULATION

The L.G.A's 1998 total population (projected) was 128,584. Kagoro had 77,117 and Maro'a had 51,467 people.

These estimates are based on the 1996 figures which also were projected from the 1991 National census figures. The projection was based on a growth rate of 3.2 percent per annum (Table 1 and Fig 6)

The area is predominantly rural, as only Fadan Kagoro and Kaura settlements may qualify as urban areas. This is on the grounds that Fadan Kagoro has a population of 17,389 which surpasses the recommended minimum population requirement for a settlement to qualify for an urban area. While Kaura qualifies by virture of its being the L.G.A. Council Headquarters.

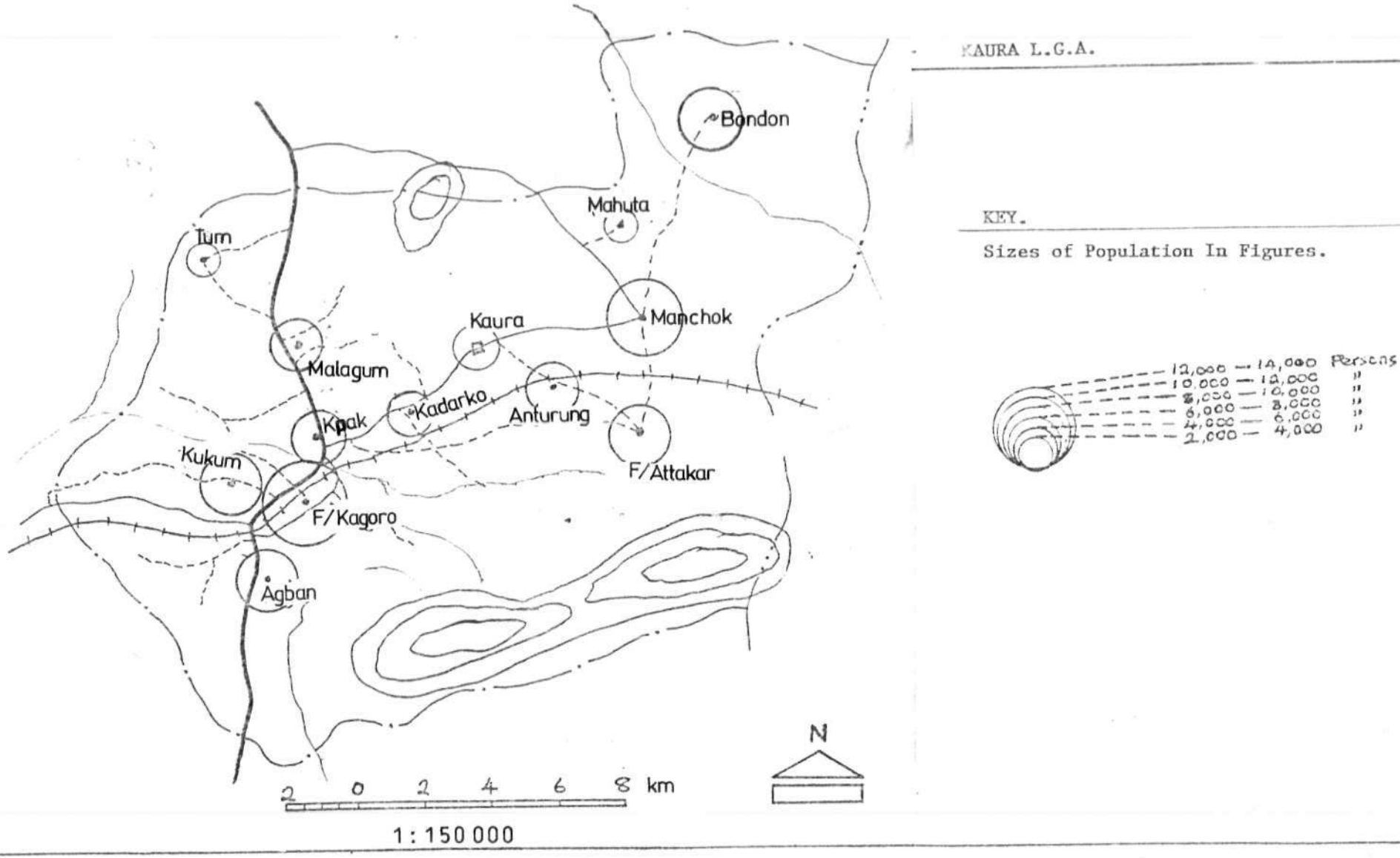


Fig. 6. Population Sizes of Settlements.

Source: National Population Commission

(Census 1991 Results)

TABLE-2: Kaura Local Government Area Settlements Population Figures for 1998 (Projected)

Serial Number	Settlement	1991	1996	1998
Kagoro		48,329	55,565	58,754
1.	Agban	7,407	8,516	9,005
2.	Attarkar	1,889	2,172	2,296
3.	Kadarko	3,513	4,038	4,270
4.	Kpak	6,002	6,901	7,297
5.	Fadan Kagoro	10,907	12,540	13,259
6.	Kukum	6,927	7,964	8,421
7.	Mafok	2,438	2,803	2,964
8.	Malagum	5,127	6,006	6,351
9.	Safio	1,628	1,872	1,979
10.	Tum	2,491	2,864	3,028
Moro'a		53,126	61,081	64,588
1.	Anturung	6,645	7,639	7,974
2.	Biniki	2,739	3,150	3,331
3.	Bondon	7,135	8,312	8,789
4.	Gizagwai	2,911	3,347	3,538
5.	Kajim	2,754	3,166	3,348
6.	Kaura	4,048	4,655	4,922
7.	Mafong	7,730	8,888	9,399
8.	Mahuta	2,557	2,939	3,107
9.	Manchok	8,949	10,278	10,867
10.	Matuak	2,568	2,927	3,095
11.	Zankan	5,100	5,862	6,199
Total		101,455	116,646	123,342

SOURCE: National Population Commission (Final Results of 1991 Population Census of Nigeria)

3.60 ECONOMIC BASE

3.61 Agriculture

The area naturally has a very good advantage of factors enhancing agricultural practices. The predominant occupation here therefore is farming. Cultivation is largely subsistence and is done mainly in the rainy season. While the harvest is in the dry season.



Citrus Fruits

Palm Produce

Sugarcane

Forest Reserve.

Fig. 7. KAURA L.G.A.: MAJOR AGRICULTURAL RESOURCES

Source: Kaduna State Agricualtural Development Project (KADP) Zonkwa.

Crops here include millet, guinea corn, rice, maize and hungarian rice (atcha) (see Fig. 3.4). In addition are root crops like cassava, cocoyam and yams. The cash crops produced here include groundnuts, sugar cane, citrus fruits and palm produce. Poles of reasonable heights can also be obtained here too, in the woods south east of the L.G.A. known as Nimbia forest.

3.62 Minning

There is a natural occurance of construction materials in great quantity here. For instance quarying for stone aggregate. This is quite accessible and can be used for building and road construction.

There is also abundance of red clay in the area. This can be utilized for burnt bricks. A burnt bricks industry would therefore be suitable for establishment here for the production of varieties of shapes and sizes of the commodity.

Pottery, the traditional art of the Attakar people, has been in practice here for several generations. And the products have been marketed to all the surrounding villages, towns and L.G.As. Due to the enormous potentials existing for pottery and ceramic industry there, the Kaduna State Government started constructing a ceramic industry in Fadan Attakar in 1989 but abandoned it a year later.

The area is also blessed with different types of precious stones. Some of these, the Ministry of Commerce

and Industry has confirmed, exist in commercial quantities especially at the foot of the Attakar hills. Some people have therefore taken to minning of precious stones there (illegally) as their occupation.

CHAPTER FOUR

4.00 CURRENT LEVEL OF INDUSTRIAL ACTIVITY IN KAURA L.G.A.

4.10 INTRODUCTION

The survey for this study was conducted in November (1998), that time of the year when most of the existing industrial activities in the area are fully operational. It is the period that most raw materials can be sourced with case, and when more hands are employable in the varieties of industrial activities in the region.

Majority of all the industries in the survey fall within the category of primary industries. These are basically processors of locally sourced agricultural and other resources. The few exceptions are in black smithing, metal construction and sewing industries. The industries can also be divided into cottage/artisan and service industries.

4.11 Cottage/Artisan Industries

These are industries whose mode of operation is basically traditional. They have little or no use of electric or motive energy. And the levels of their values of investment, together with the total nombers of workers is relatively low. Examples of such include cloth weaving and carving. They are mostly sited within family compounds. The family is used as source of workforce.

Some of these industries can also be categoriesed as service industries. This is because rather than just manufacturing or adding value to commodities, they are

involved in rendering of services. That is through repairs or even processing. And they are paid for it. For instance, carpentary and rice milling. (Carpenters are contacted for roofing of houses while farmers pay for bags of rice brought for unhusking and polishing).

4.20 TYPES OF INDUSTRIES

A total of 169 industries wre observed in the study area.out of these, only 127 were visited and did respond to the interview during the survey. The variety of types amounted to 11. The type that was most dominant was the milling industry. It had a total of 23 that is about 18.1% of the whole industrial activities there. This comprised of 8 rice mills and 15 flour mills. This was followed closely by the food processing industry with a total of 17 enterprises, representing 13.4 %. This is made up of bakeries and brewers of local bear numbering 4 and 13 respectively.

Blacksmithing, together with furniture making and sewing industries followed in that order. These also had total numbers of 15, 14 and 14 representing 11.8%, 11% and 11% respectively. Those with the lowest frequencies were metal construction, 3.2% (4) and traditional mud bricks making, 1.6% (2). A summary of all the industry and their distribution according to type is shown in Table 4.1. Some examples of the industries are also on plates1 to 5.



Plate 1. Carpentary workshop

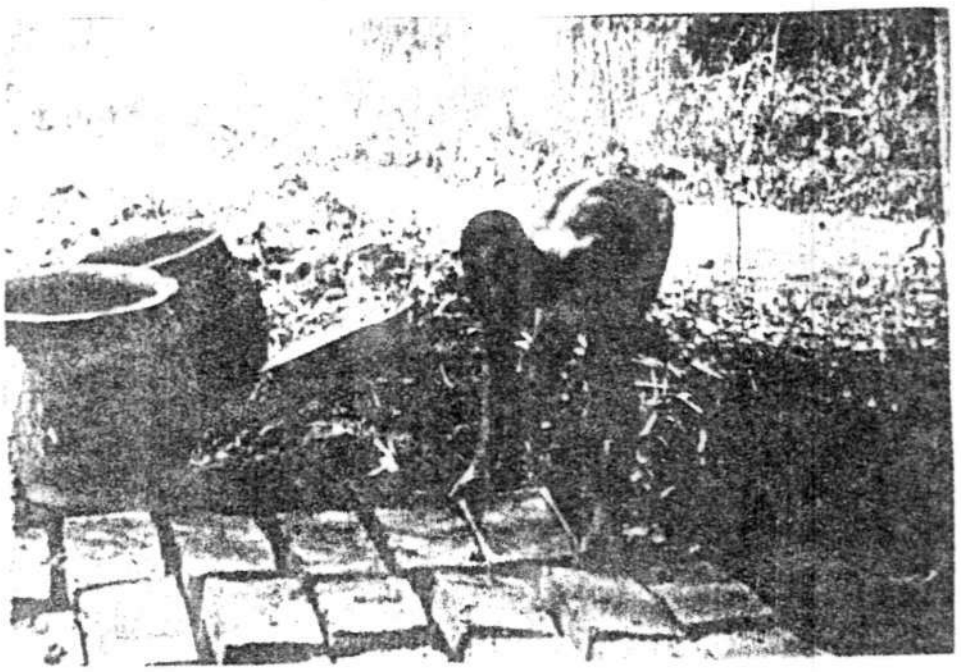


Plate 2. Traditional Bricks making

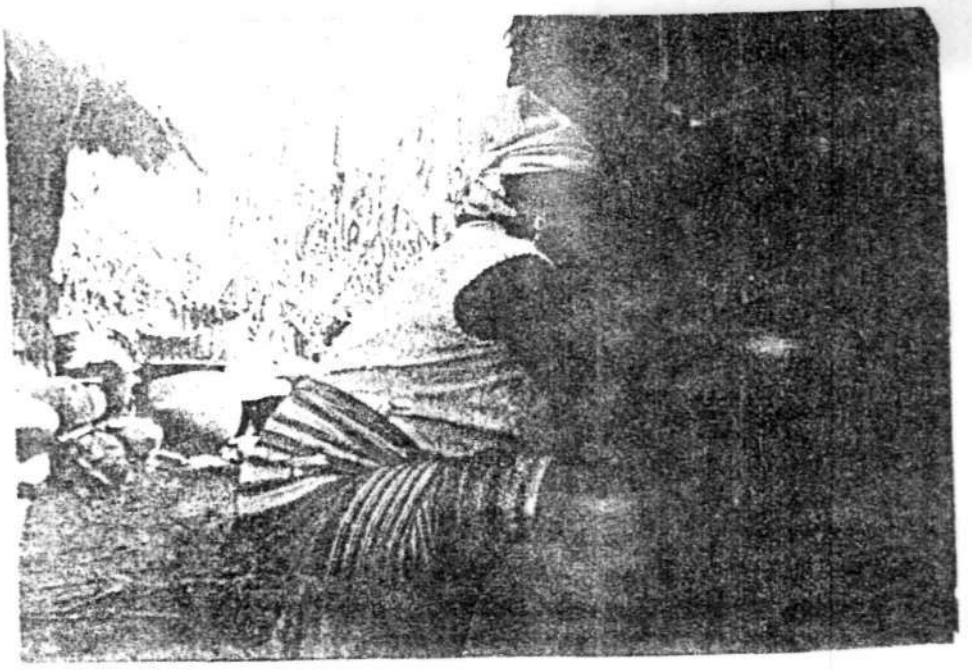


Plate 3 Processing of clay for pottery



Plate 4 Corn mill accommodated in a shed



Plate 5a. Blacksmith workshop amongst residences

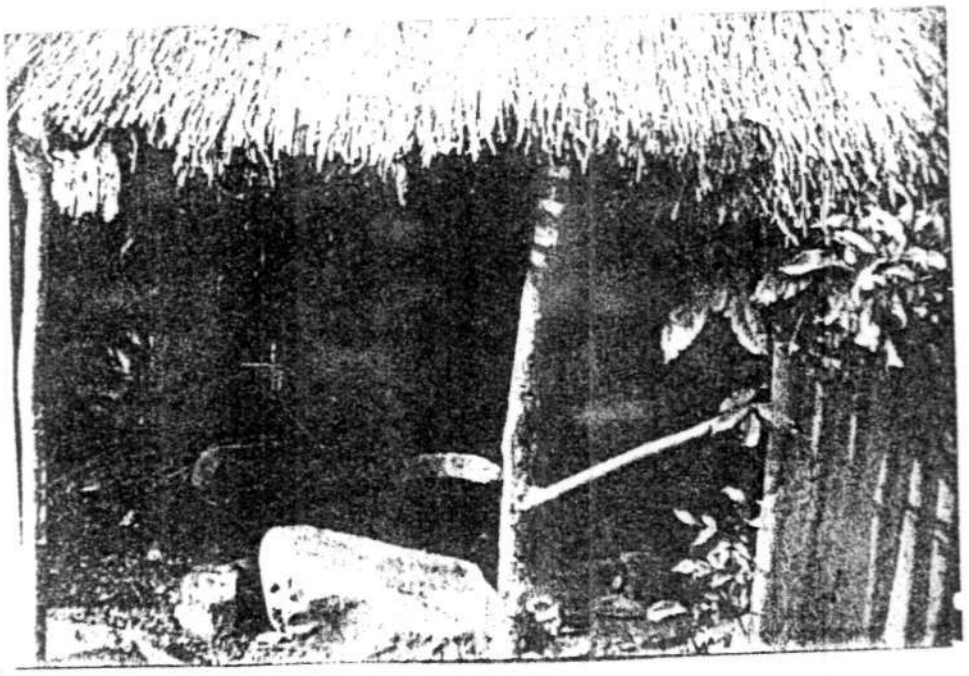


Plate 5b. Above workshop at closer range

TABLE-4.1: Distribution of Industrial Activities According to Types in Kaura Local Government Area

Serial Number	Industry	Number of Enterprises	Percentage of Distribution
1.	Blacksmith	15	11.8
2.	Flour Mills	15	11.8
3.	Rice Mills	8	6.3
4.	Furniture	14	11.0
5.	Sewing	14	11.0
6.	Brewing	13	10.2
7.	Bakery	4	3.2
8.	Clothe Weaving	10	7.9
9.	Carving	9	7.1
10.	Pottery	7	5.5
11.	Mat/Basket Making	7	5.5
12.	Concrete Brick	5	3.9
13.	Mud Bricks Making	2	1.6
14.	Metal Construction	4	3.2
Total		127	100.0

SOURCE: Field Survey, 1998

4.30 LOCATION AND ACCOMMODATION

4.31 Location

No particular industry type among the different types in the area seem to share any common charecteristic preference on points of location except the bricks making and metal construction industries. These two types, constituting about 3% of the whole, seem to prefer locating close to the main roads. The others, constituting about 97%, prefer locating either within or beside the owners' residences. Thus, they are mainly concentrated around the

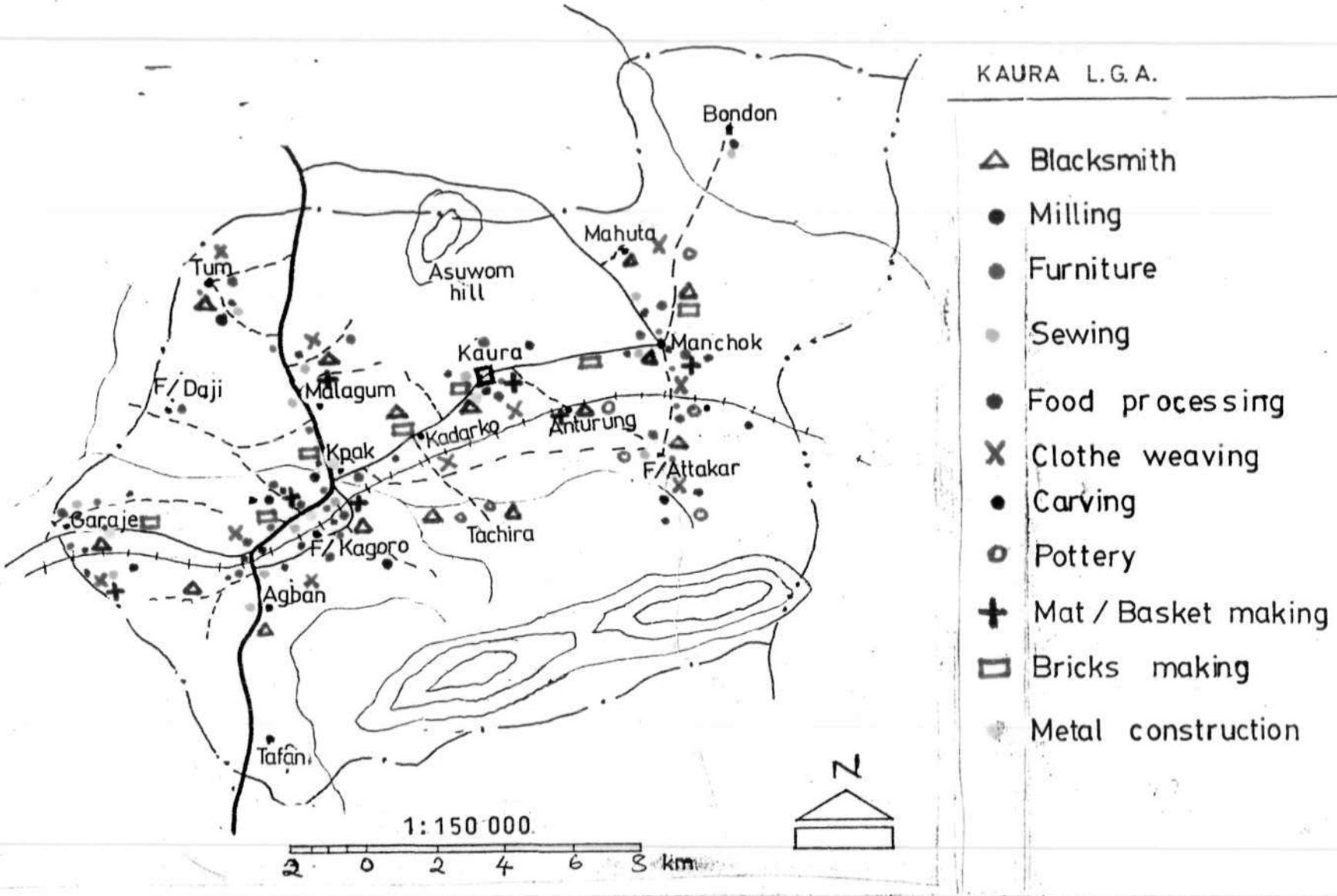


Fig. 8. Locations of Some Industrial Activities in L.G.A.

Source: Field Survey 1998

major settlements in the LGA (see Figure-8). This gives rise to development of mixed landuses especially of residential and industrial.

Carving, clothe weaving, blacksmithing and mats/basket making show the greatest tendency (100% each) towards locating within residences. They are followed by pottery and milling (more than 85% each) and food processing (about 65%) locating within the residences of the industrialists.

While furnitures and sewing industries prefer locating where opportunity to display their wares exists. That is along busy streets or within commercial areas.

4.32 Accommodation

One of the commonest characteristics of the industries here generally, is their poor state of accommodation and insufficient spaces. About 47% of the total industries are actually accommodated in permanent buildings. And less than half of these had floor spaces within range of 20-30 square meters. That is the size of 2 large rooms. Also, there is hardly any provision for expansion, storage and even parking. The remaining 53% are almost evenly spread between open spaces (Plate-2) and temporary zinc house/shades (Plates 4 and 5) for their accommodation (Figure-9a).

A break down of this according to industries shows that sewing and blacksmithing rank highest in being sheltered in permanent buildings ie 100% and 93% respectively. Food

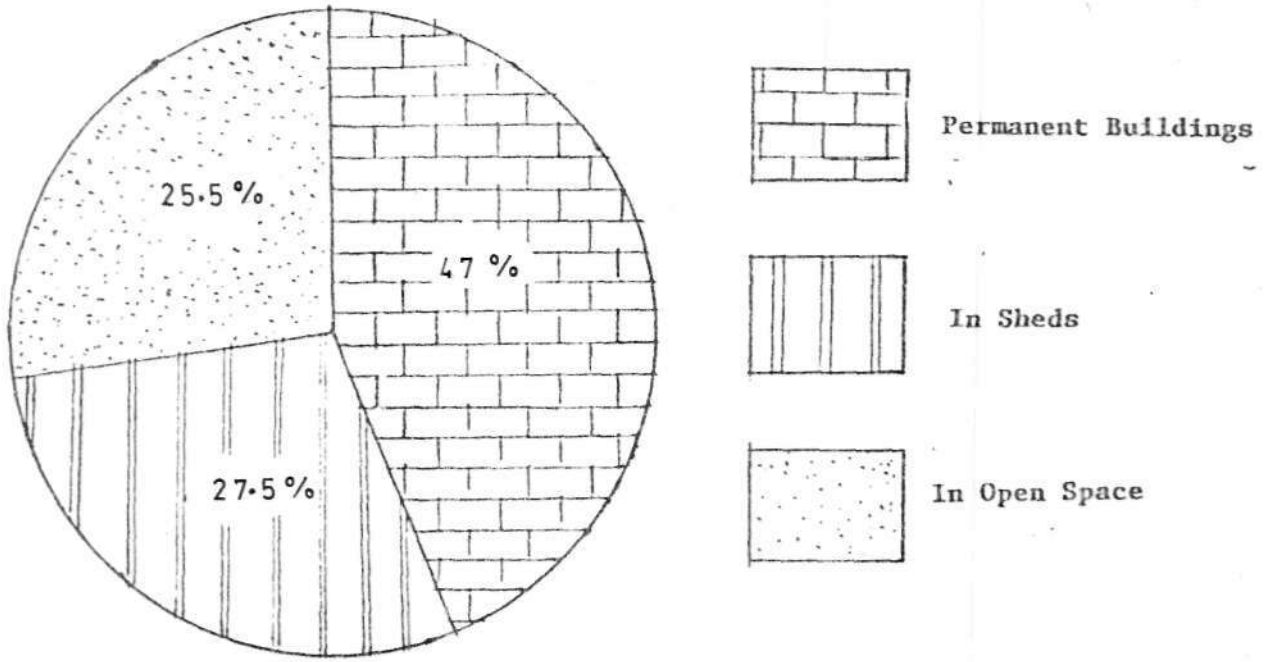


Fig. 9a. Types of Accomodation used for Industrial Activities.

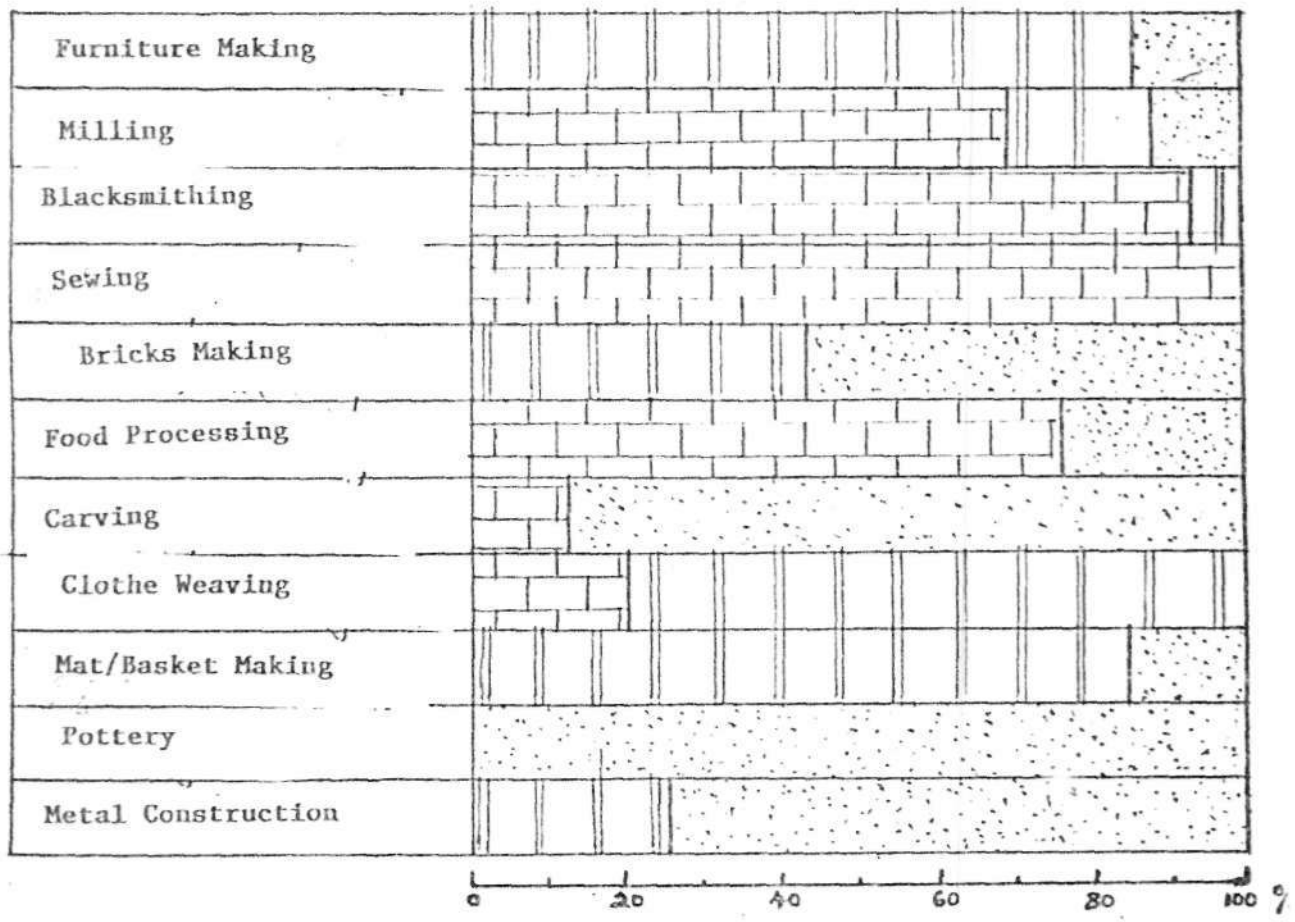


Fig. 9b. Types of Industrial Accomodation Per Type of Activity

Source: Field Survey, 1998

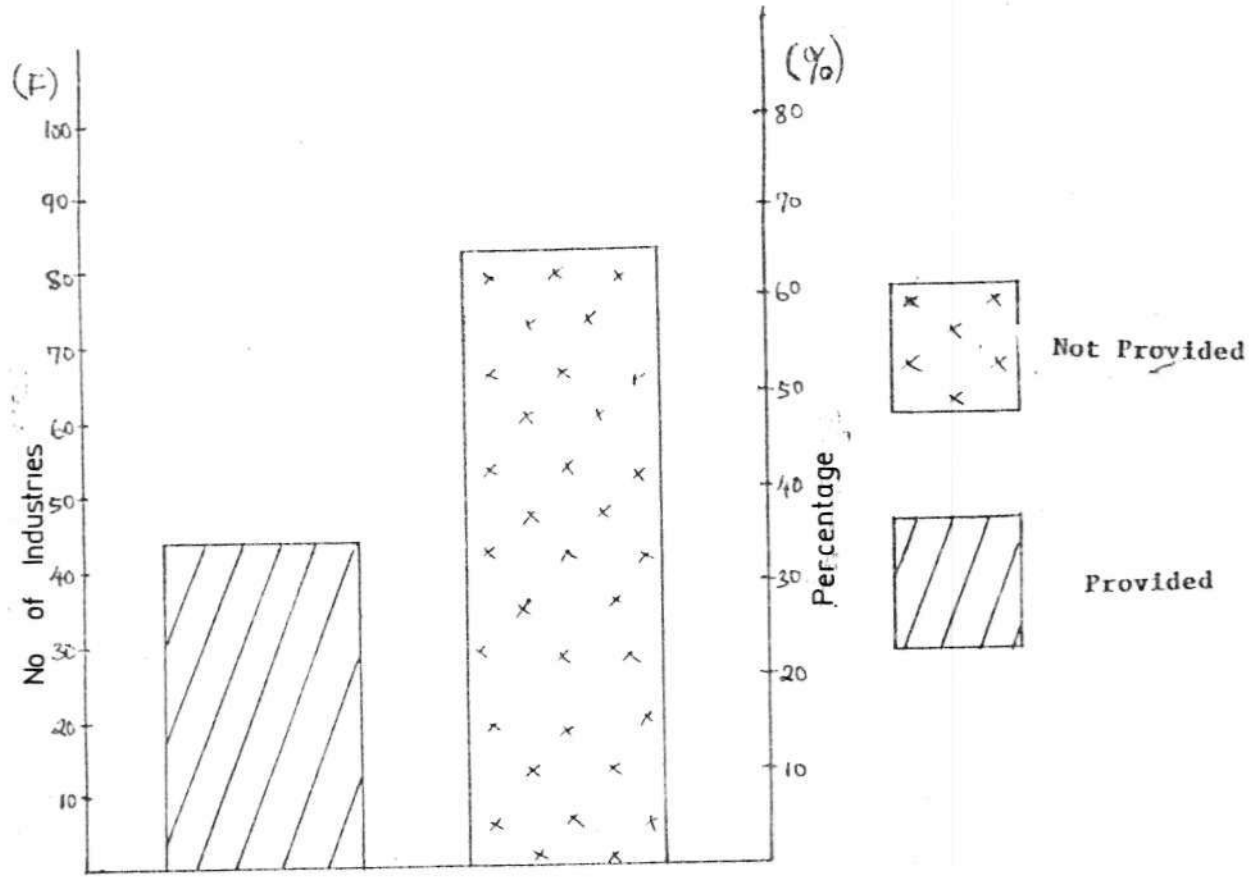


Fig. 10. Provision of Utilities (Water & Electricity)

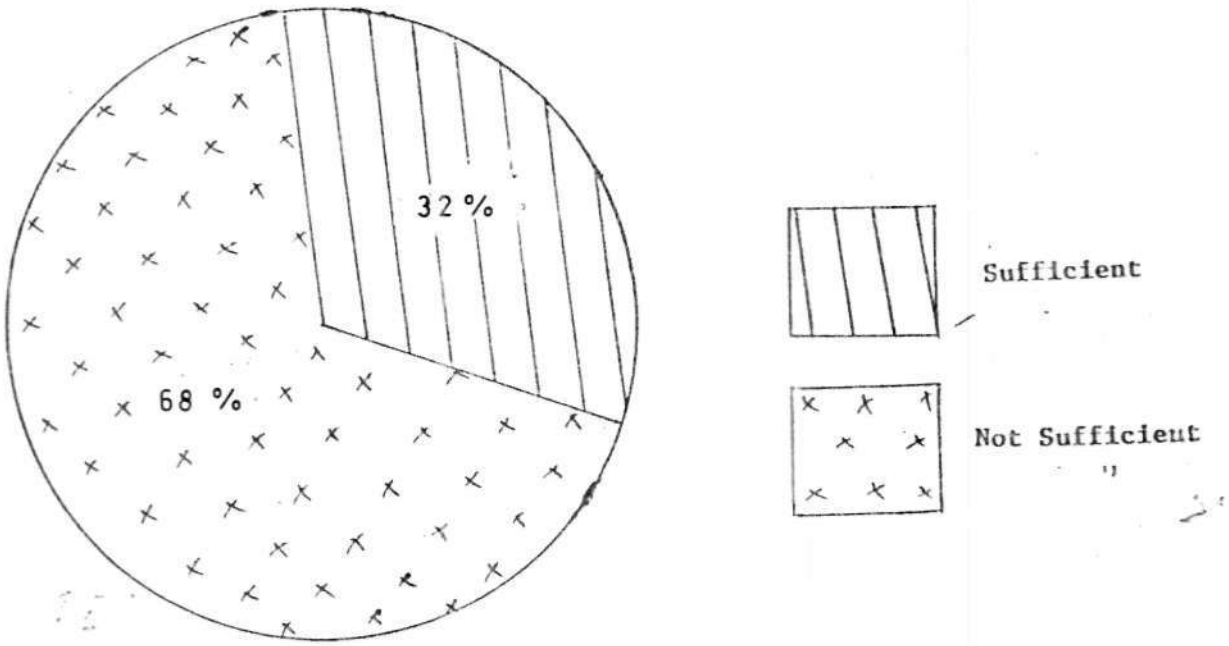


Fig 11. Adequacy of Electricity Supply

SOURCE: Field Survey, 1998

processing, and rice/corn mills are next in this category with 76% and 69% respectively, being inside buildings.

Furniture, clothe weaving and mat/basket waking have the greater percentages of these operating under sheds. They constitute an average of 83%. The survey also showed that pottery, carving, bericks making and metal construction are industries mostly operating in opon spaces. Those in the open spaces constitute an average of 80% for the four different types of activities (see Figure-9b)

Many of the industries occupy their present types of accommodation because, according to the indutrialists, they are not capable financially to rent or construct better ones. It is therefore not surprising that only a minor fraction (12%) of the industrialists admit to having satisfactory accommodation. While about 31% consider their locations as suitable also.

4.40 INFRASTRUCTURES

The study showed that 65% of the industries here lacked adequate basic utilities (Figure-10) that is water and eletricity. Out of the remaining 35% that admit to having satisfactory supply of these, about half of them actually do not utilise them in their production processes. These include blacksmith, clothe weaving, carving and mat/basket making.

The intensity of supply of utilities needed however varies with the types of industries. While some sewing and milling industries depend solely on availability of electricity, others like bricks making and brewing depend completely on water.

Only about 32% of the industrialists admitted their industries get sufficient electricity supply from NEPA (Figure-11). While sufficient water supply was acknowledgeably reaching about 48% of the industries only (Figure-12a). Generally, about 61% of the industries get their water supply from pipe borne, 24% from wells, and 15% from streams (Figure-12b). Now that the Manchok water project has been completed, pipe borne water will hopefully be in reliably sufficient supply to more enterprises soon.

For refuse disposal almost all the industries employed the use of open ditches to dispose of their wastes. This is mostly through burning. It is only the milling, metal construction and blacksmithing industries (31%) that do not burn their refuse at all. They allow the collected refuse to rust and burn themselves in the trenches. Almost all industries (about 94%) indicated they preferred a systematic means of waste collection and disposal from their industries.

Majority of the industries actually do not have defined drainage channels for draining of or channeling liquid

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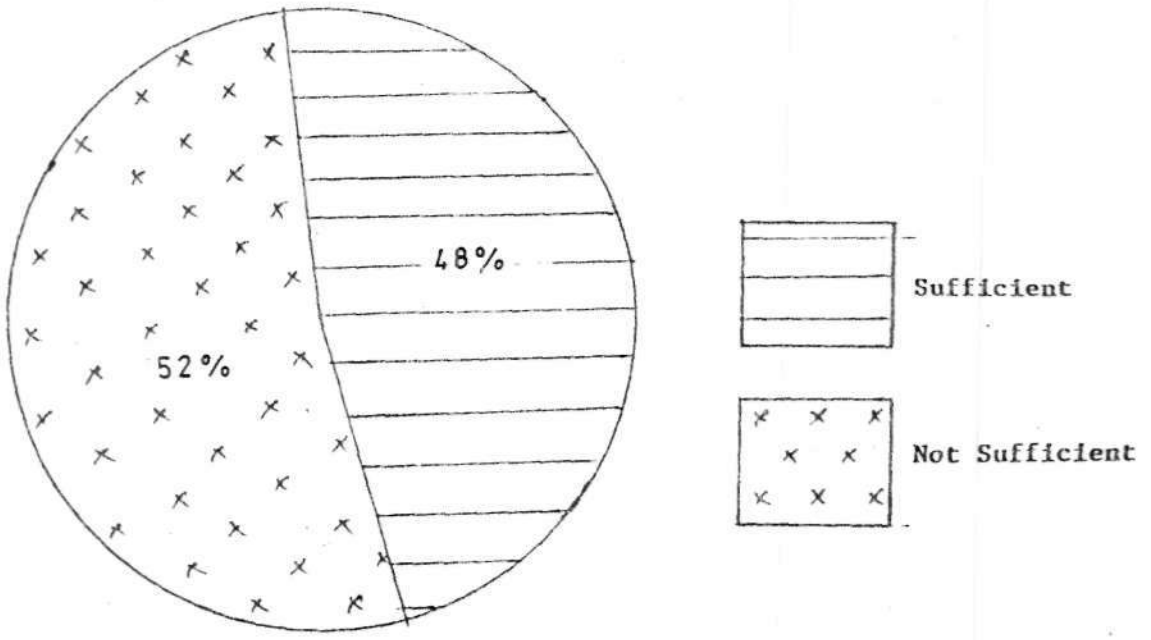


Fig 12a. Adequacy of Water Supply.

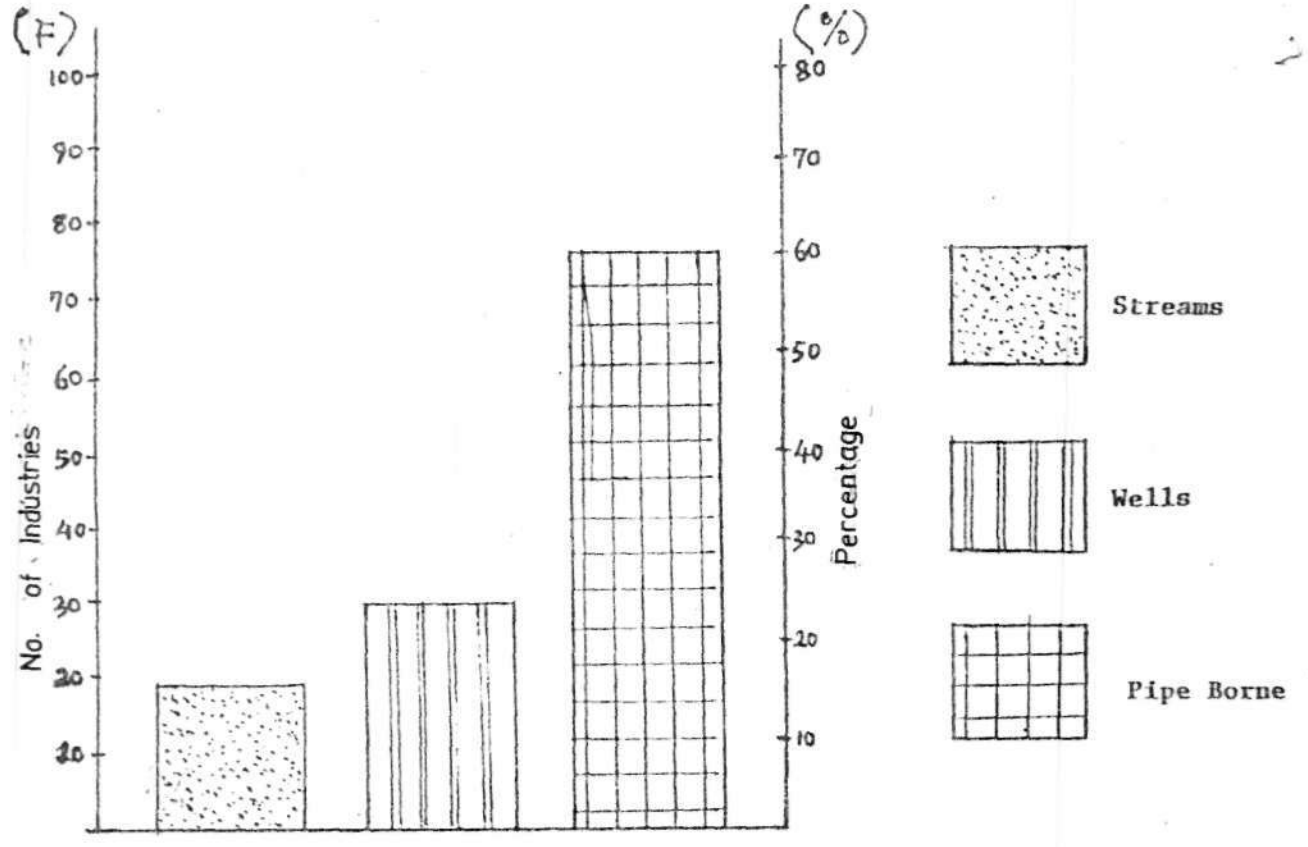


Fig 12b. Sources of Water Supply

wastes and surface run-offs. Only about 16% have some shallow gutters for this purpose. Yet some of these gutters are actually not draining or leading away from the premises.

4.50 LEVEL AND SOURCE OF CAPITAL INVESTMENTS

The industries here are characterised by an average low level of capital investment. The reason is that majority are operating at traditional cottage/artisan levels. Up to 54% of them have investment values of less than ₦20,000. The average in this level category is about ₦7,500. Examples of industry types and their respective averages are: blacksmith ₦5,000, carving ₦2,000, bakery ₦12,000. While only 13% have capital investment values of their industries put above ₦100,000. For example milling, metal construction and sewing industries had investment values of ₦350,000, ₦150,000 and ₦100,000 respectively. The remaining 33% have their investments valued between ₦20,000 and ₦100,000 (Figure-13). These include some metal construction ₦25,000, milling ₦80,000 and sewing industries ₦50,000.

The different levels of investment are not peculiar to particular types of industries. But rather they depend on the mode of production. Hence they cut across the different categories of industries. For example those with the highest levels of investments included bakeries, mills, metal construction and furniture industries. The investment

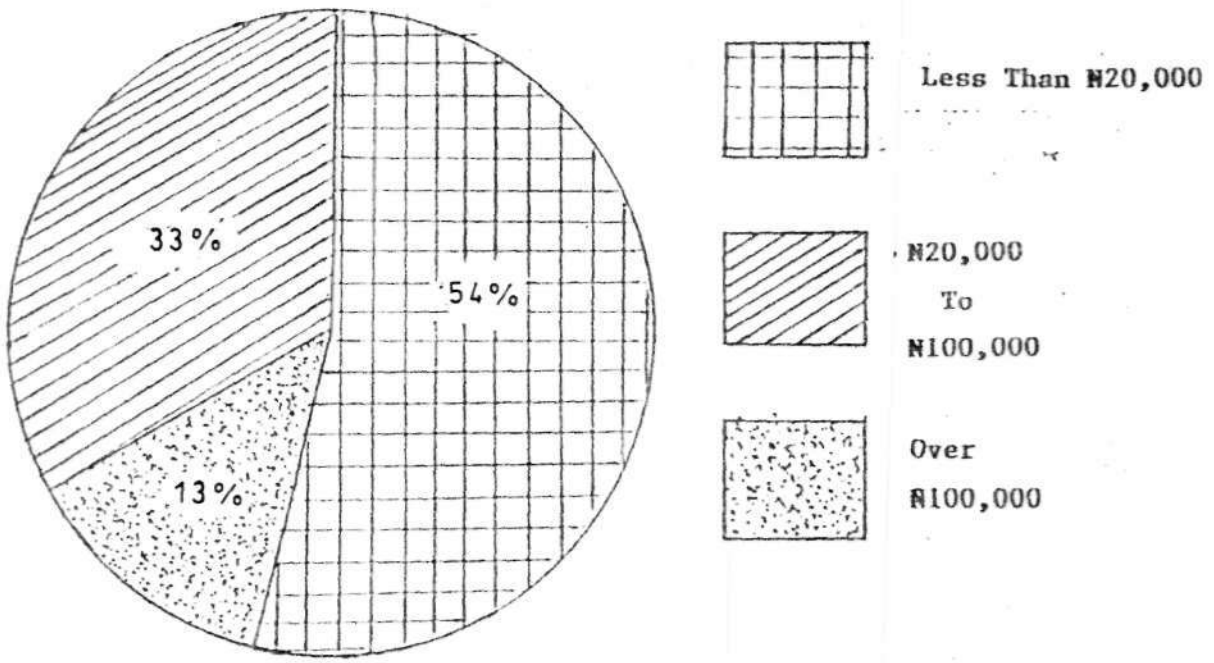


Fig 13. Levels of Financial Capital Investments.

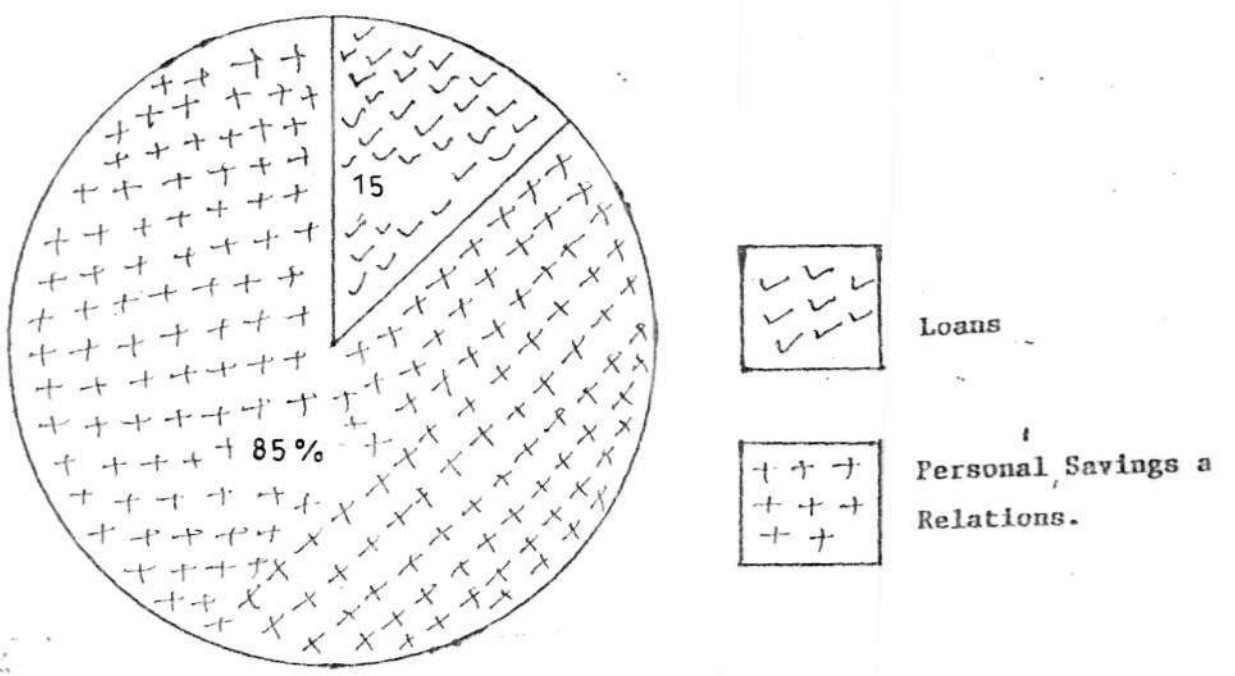


Fig 14. Sources of Capital for Investments.

values are as high as ₦0.5 million to ₦1.2 million. Yet some enterprises in this categories had values of capital investments as low as between ₦16,000 and ₦2,000.

Similarly, among those types with the lowest levels of investment, there are some with relatively high value levels. E.g clothe weaving has values varying from ₦15,000 to as high as ₦85,000; bricks making ranges from ₦3,5000 to ₦150,000 and sewing has a range of ₦9,000 to ₦300,000.

Among the different types of industries are those with both modern and traditional modes of operation. These have correspondingly high and low average levels of investment requirements. The low levels have created an advantage of allowing entry of entreprenuers into the sector fairly easy. At the same time, it has rendered the modes of operation more labour intensive than the modern sophisticated modes of operation.

These industries are also characterised by lack of access to institutional lending sources i.e banks or governments sources. The sources of capital finance for majority (87%) is largely private - that is personal savings, assistance or loans from relations and/or friends. Only a handful (13%) admitted to having gotten loans from banks (Figure-14).

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4.60 PERSONNEL

4.61 Number of Workers

A total of 369 workers have been found to be employed in all the 127 industries altogether. This includes 45 apprentices. The average number of workers per enterprise is thus 2.905.

Some establishments have much higher numbers of employees than others. For instance, milling, furniture and sewing have the most numbers of employees of 57 (i.e 15%), 53 (14%) and 43 (11%) respectively. While mat/basket making, pottery/carving and clothe weaving had 10, 14 and 12 employees respectively (see Table 4.2).

TABLE-4.2: Number of Employees Per Type of Industry

Serial Number	Industry	Total Number of Employees	Average	Percentage of Total Employee
1.	Furniture	53	3.8	14.4
2.	Milling	57	2.5	15.4
3.	Blacksmithing	42	2.8	11.4
4.	Sewing	43	3.1	11.7
5.	Brewing	35	2.7	9.5
6.	Bakery	34	8.5	9.2
7.	Bricks Making	28	4.0	7.6
8.	Carving	14	1.5	3.8
9.	Clothe Weaving	12	1.2	3.2
10.	Mat/Basket Making	10	1.7	3.2
11.	Pottery	14	2.0	3.8
12.	Metal Construction	25	6.3	6.8
Total		369	2.905	100.0

SOURCE: Field Survey, 1998

But within each category of industry also there are wide ranges of numbers of workers with respect to individual enterprises. For example bakery had the largest range of 15 (i.e 17 - 2). It is followed by sewing with 10 (i.e 11 - 1); brewing 8 (9 - 1) and furniture 7 (9 - 2). While carving, mat/basket making and clothe weaving have ranges of 1 (2 - 1), 2(3 - 1) and 3(4 - 1).

The wide ranges in some categories was explained by the abilities of some enterprises to expand or increase their levels of production as a result of some financial assistance from varied sources. Therefore, despite the general low average of number of workers per enterprise (2.9), the proliferation tendency of the enterprises and their expansion tendencies suggest that substantial employmenet opportunities exist altogether in this sector in the L.G.A.

4.62 Educational Qualifications

The survey showed that most of the workers have had some formal education. As much as 91% of the workers indicated they had at least primary school education.

The breakdown showed that 39% possessed primary school certificates, 11% had Junior Secondary School, while 28% had passed through Senior Secondary School. Another 8% and 5% indicated they had Technical College and Post Secondary School training respectively (see Table 4.3 and Figure-15).

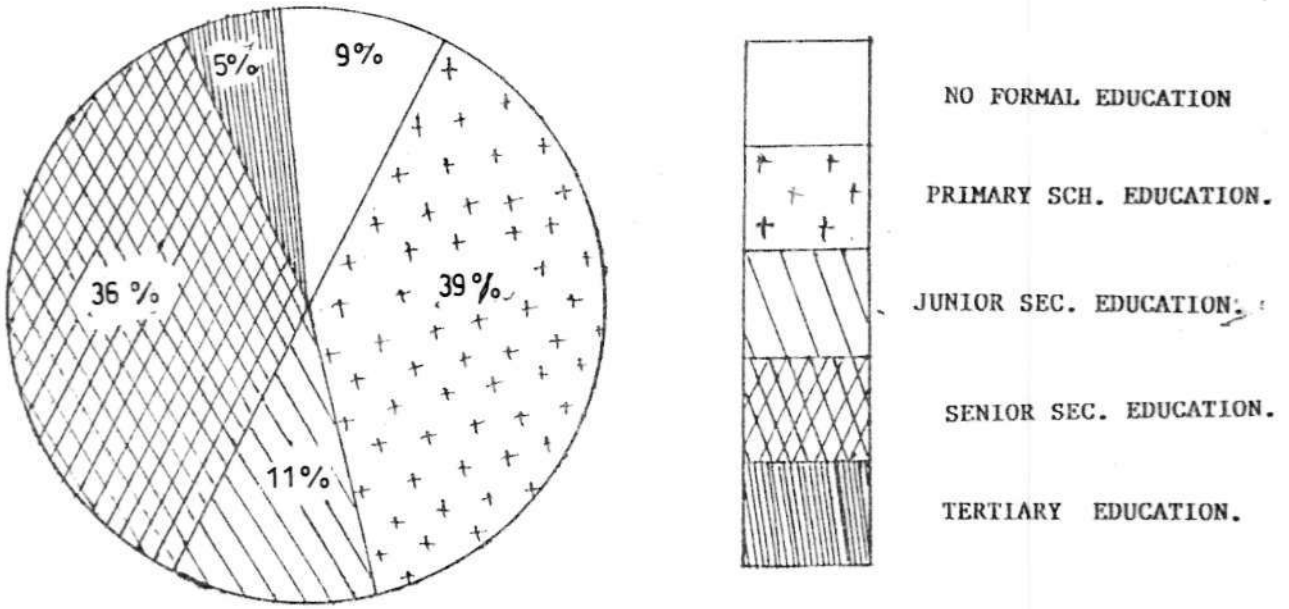


FIG. 15. EDUCATIONAL ATTAINMENT OF WORKERS.

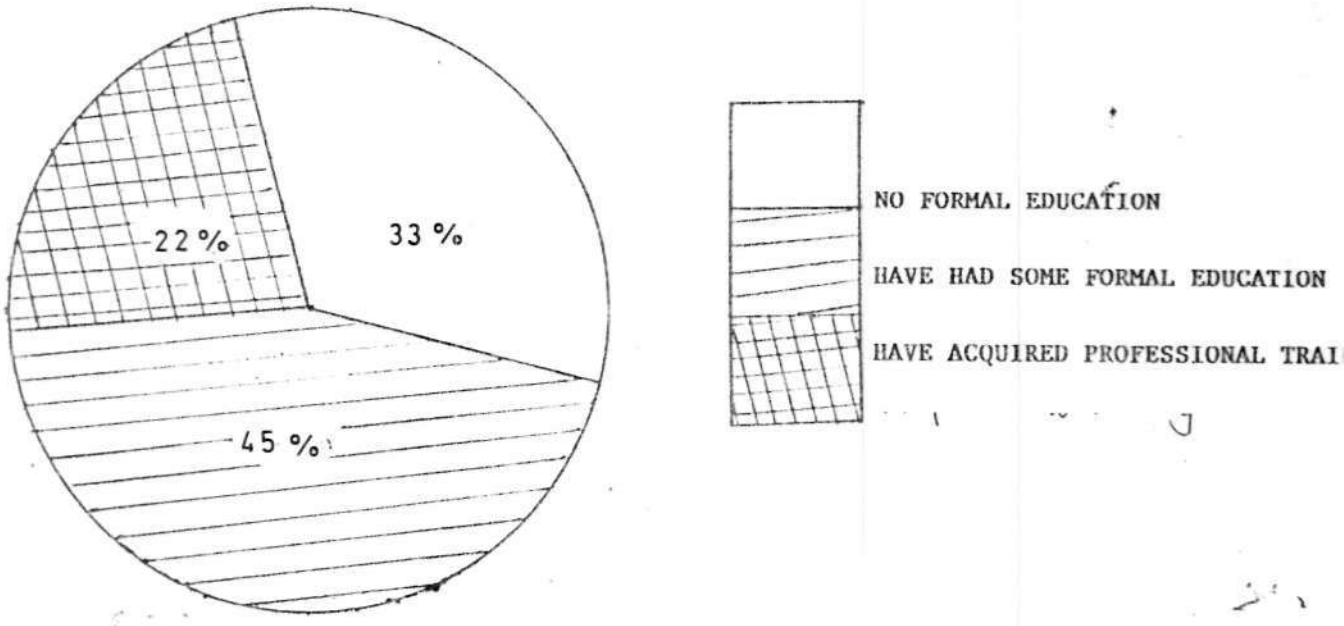


FIG. 16. EDUCATION BACK GROUNDS OF ENTREPRENUERS.

TABLE-4.2: Educational Qualifications of Workers

Serial Number	Type of Education	Number of Workers	Percentage of Total
1.	No Formal Education	33	9
2.	Primary School Education	144	39
3.	Junior Secondary Education	41	11
4.	Senior Secondary Education	133	36
5.	Tertiary Education	18	5
Total		369	100

SOURCE: Field Survey, 1998

Similarly, educational qualifications of the industrialists indicated about 33% had no formal education. And out of those (67%) who had, only 22% had additional professional training (see Figure-16). Some got their training from the National Directorate of Employment (NDE) and others from the Business Apprenticeship Training Centre (B.A.T.C). Some of these industrialists also undertake dual responsibilities of entrepreneurs and workers.

4.70 PROBLEMS AND PROSPECTS OF RURAL INDUSTRIAL DEVELOPMENT

This section looks at the problems that industrial activities in the area tend to create, and those they are also faced with in the L.G.A. It also enumerates the

prospects existing for the continuous development of the sector in the L.G.A.

4.71 Problems Facing the Industries' Development

From the survey, industrial activities here were found to be faced with some problems. Some of these problems are hampering their growth and effective performances. As a result, their overall development in the region is affected. These problems include those of finance, utilities/ facilities, transport, entrepreneurship and management and materials/tools.

(a) Problems of Finance

Most of the industrialists sources of capital investment came from personal savings and help from friends and relations (Figure-10). The amount that can be raised from these sources is usually limited. These industries, about 87% of the total, are mainly from the categories processing agricultural and forest resources and clay materials. Most of the activities therefore indicated they are faced with problems of lack of ability to acquire the materials needed to imrove their performances. They similarly are unable to employ more efficient and well trained staff neither can they attempt expanding the activity considering their financial status.

More than 95% of the industrialists indicated they needed financial assitance. These include both of those that have not had access to loans and those that have. They complained that institutional credit has remained inaccessible for them because banks consider them high risks for not having adequate security guarantees. Meanwhile the State Government's "Small Scale Industries Credit Scheme" has not been functional to assist them.

(b) Shortage of Infrastructure

About 55 per cent of the industries indicated they had need for improved electricity supply in their operations. Out of these percentage, 65 per cent are actually being supplied by the public source (N.E.P.A). Yet all of the enterprises claim they need constant electricity, including those that are already having access to it. They are claiming to have problems of electricity supply in the forms of non-sufficient and non-consistent supplies. The types of activities this affects include milling, sewing, metal construction, concrete bricks making furniture and baking industries.

There is also the problem of water supply which was generally admitted to, by more than 84 per cent of the industrial activities here. This applied to both of those utilising it in their operations and those who

did not. Those utilising it intheir operations constituted 42 per cent of the whole and included bricks making, pottery, bakeries, brewing and some milling industries. About 86 per cent of these indicated they had water supply problems in the form of non-dependability of source, i.e., inadequacy and irregularity of supplies. The main sources of water supply here are welis, streams and pipe borne sources. Despite these infrastructural problems, only about 31 per cent of the industrielists feel they can relocate to an industrial estate or somewhere with adequate provision of these infrastructures. To the remaining majority, the idea may be good, but the fear for the safety of their investments and the distances from home to the location will not let them move from their present locations.

(c) Transportation Problems

Due to their lack of private means of transportation, most of the industrialists are faced with one form of transportation related problem or the other. Their complaints were mainly on the costs of moving of both raw and processed materials to their destinations. For some also it was the unusually excess time it took in transporting them. About 60 per cent of the industrialists admitted having the problem

directly affecting their performances. Activities mainly affected by the directly are furniture, carving, mat/basket making, pottery, bricks making and metal construction.

The transportation of workers to and from work-places was also admitted to as a problem to some activities too. This they claimed denied them the services of some more skilled labour. While some industrialists said they feel the problem more in its limiting their access to more suitable markets or reaching out to more customers with relative ease.

(d) Management Problems

It was observed from the survey that all of the enterprises, except 1, did not have trained or specialised staff handling the various management aspects of their operations. The only exception was one concrete bricks making industry that had one manager trained in business administration. The reasons given for the lack of trained staff, was their (industrialists) inability to employ them or their lack of awareness of such staff's importance to the establishments, or both. Some of the industrialists in most cases therefore, performed the various management functions of personnel officer, accountant, marketing

and public relations officers all by themselves. This is regardless their ever being trained as such or not.

Such situations affect the enhancement of efficient management and good turnovers. Since management is the heart of any business, if it is inefficient, then the business cannot prosper. This problem therefore, is definitely affecting the growth and development of industrial activities in the Local Government Area.

(e) Problems of Raw Materials and Equipment

Raw materials and equipment/tools are the inputs in industrial production. Their adequate and efficient provision or not determines the industries' production capacities.

The problem of raw materials in the study area is in the area of procurement and transportation to the sites. Due to the industrialists lack of efficient transportation means, the rigours and costs of sourcing them exerts limitations on the quantities obtainable most times. This was found to be peculiar to furniture, carving, metal construction, concrete bricks making and baking industries.

The survey also showed that many of the industries (about 57 per cent) use traditional equipment (simple

hand tools) intheir production processes. This makes their production very slow, and their output levels remain relatively low. This affects blacksmithing, pottery bricks making and some furniture industries. Yet many among those using modern equipment indicated they are faced with problems of non-availability of servicing materials, and high costs of obtaining them where available this is because they are mostly imported materials.

(f) Marketing Problems

Most of the industries are involved in the production oflocally consumed items or services. Thus about 75 per cent of them indicated that the major markets for their products were within the immediate locality or local government area. The absence of established external markets for their products therefore, renders the industrial activities' growth and development here almost stagnant.

There is need therefore, to explore any opportunities existing for marketing their products outside the local government area or even outside the State. This would provide them the necessary incentives and encouragement to improve the standards and levels of their productivity.

4.72 PROBLEMS CREATED BY INDUSTRIES

These are conditions created by the industries which have adverse effects on the environment and inhabitants. These can be classified into - incompatible mixed landuses, waste disposal, noise and air pollution, and general deterioration of the environment.

(a) Incompatible Mixed Landuses

Most of the industries were found to be located within or beside residential houses/compounds while others located besides shops and farmlands. Therefore, their locational relationships and complementary services with themselves and other landuses were observed to be unplanned and uncoordinated (see Plates 1 and 5a). Industries so located were about 85 per cent of the total. The only exceptions here were the whole industries of bricks making and metal construction. While bakeries and milling industries were each having almost half of their types as exceptions here also.

The result is indiscriminate intermixing of landuses. It adverse consequences include noise, vibrations, fumes, and fire hazards in residential areas. This is very unlike when mixing of compatible landuses provide good advantages. For example, proximity to work-places and complementary services.

(b) Noise Pollution

Many of the industries found in the study area have one noise generation characteristic or the other. Those found to be associated with noise are milling, metal construction and power driven concrete bricks making industries.

Noise can have adverse effects on members of the society especially on the health of those working and/or those living very close to the sources of such noise. Beside, it can also be a nuisance to others too.

(c) Air Pollution

Some of the industrialists here use power generating plants that emit alot of fumes. This is common with bricks (concrete) making, mills and bakeries. The fumes from some of these, are atimes so thick that they polute the air and even the level of visibility for such moments.

Some industries also dispose of their wastes or refuse by burning. This also polutes the air from time to time. Those involved in such practices include furniture, sewing and mat/basket making industries. The smoke or fumes so released can be irritating to the eyes, for those staying or passing-by then. This can also render the air unsafe for people and animals to

inhale and even reduce the level of visibility for passers-byes from time to time.

(d) Waste Disposal

A lot of waste is being generated by the activities of these industries. These waste items come in both solid and liquid forms. The solid refuse include saw-dust and pieces of wood from furniture industries, pieces of clothing and wool from clothe weaving and sewing industries. There are also pieces of iron and metal sheets from blacksmithing and metal construction industries. While liquid wastes come from across the various types of industries, i.e., used fluids from power units/engines and water used for washing and other purposes.

The survey showed that the only means of collecting wastes by the industries was the use of open ditches/space. None of the industries employed the use of storage facilities to enable the refuse be taken to some distant location for disposal. The most common practice was an initial littering, and later gathering and dumping of waste in open ditches/spaces. These are sometimes burnt up. Sometimes some of these refuse is gathered and taken away by people for other uses. Yet sometimes they are dumped into the nearby bushes or gutters, or even splashed on the streets or the ground

within the premises. These variety of methods of refuse disposal itself constitutes problems.

(e) Environmental Degradation

Some of the practices by some of the industrialists in their methods of waste disposals have a very disturbing environmental impact. Liquid wastes splashed on the ground swithin or outside the premises of some milling and brewing enterprises, render the grounds in continuous states of wetness, and gradually getting darker in colour. Gradually therefore the landscape becomes displeasing to the eyes as it losses its natural quality and beauty.

There is also the depreciation of aesthetic values of the environment. It is brought about by the modes of advertisements of premises and products, adopted by some industrial activities. Varieties of signboards are placed on the roadsides with little regard for the roads' rights-of-way (R.O.W). This habit cuts across all types of activities. While a few others display their products in he open for passersbyes and prospective buyers to notice. By so doing, they also take up some of the roads' R.O.W. This was mainly found with the furniture and metal construction industries.

These adverts contribute also in making the environment aesthetically unsighting. They are atimes obstructions to

the smooth and effective view and use of the roads. Some also encroach on street pavements thereby reducing the R.O.Ws.

4.73 Prospects of Rural Industrial Activities' Development

Despite the various problems associated with the industries inthis region, various factors indicate bright prospects for their growth and development exist. In fact, for providing a wide range of goods and services that are effectively patronised, they have been able to sustain themselves to date. There is the tendency for them to even flourish and grow much more due to the following:

i. Good Communication Network

The location of the Local Government Area (Figure-1) is strategic, it offers the area good and easy access to other Local Government Areas both within and outside the State. This is through the major and minor roads, and the railway also. In addition, there are series of seasonal motorable roads that add to the high extent of the Local Government Area's good communication network (Figure-8).

This factor helps in easing the movements of goods and people within and with other surrounding Local Government Areas. The prospects for the development of bigger markets (internal and external) are therefore,

bright. This implies a boost to the growth and development of industrial activities here.

ii. Availability of Labour

There is a high level of population grow in the area (3.2 per cent). This implies a relatively high level of growth of number of students and holiday makers, and/or school leavers. This is helping to develop a fast growing trend of apprenticeship joining system of self employment in small-scale industries.

In addition, there are employable graduates of higher institutions of learning from the Local Government Area that are being turned out by the National Directorate of Employment (N.D.E) in Kaduna. While the Business Apprenticeship Training Centre (B.A.T.C) in Kagoro is annually training about 42 primary school leavers for employment in small-scale industries. The prospects of providing sufficient skilled labour here. thus, exists to boost the prospects of development of rural industrial activities in the Local Government Area.

iii. Availability of Raw Materials

The Local Government Area is known to be blessed with various mineral and agricultural resources (Figure-3.3) that can guarantee the establishment of industries here. The Ministry of Commerce and Industry's

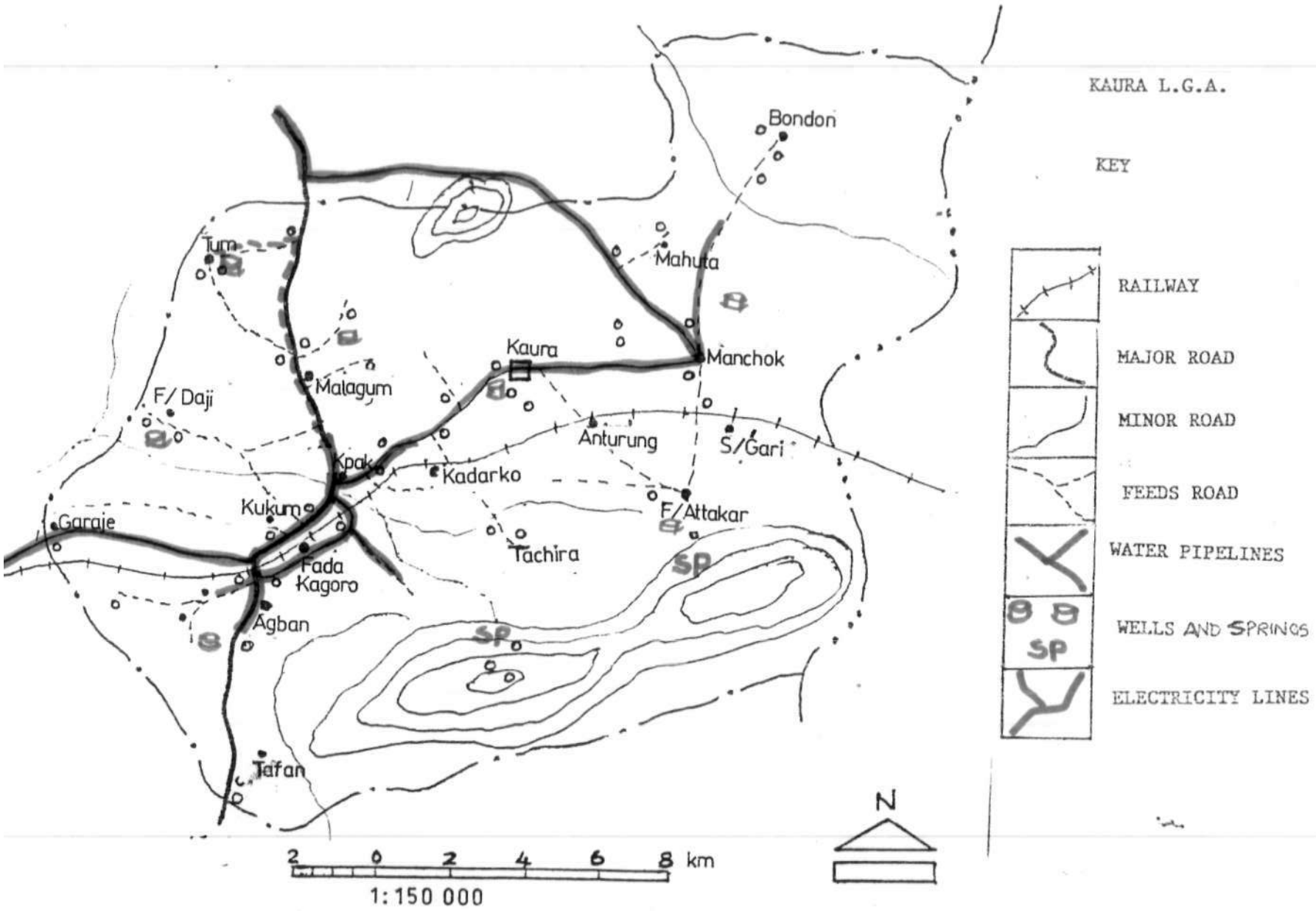


FIG. EXISTING ELECTRICITY / WATER SUPPLY AND COMMUNICATION NET WORKS.

SOURCE: FIELD SURVEY 1998.

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sponsored feasibility study, revealed that prospects for the establishment of industries here on the bases of such resources are high. For those producing fruit juice, starch, pottery and ceramics, and spring water packaging.

iv. Infrastructural Development

Due to the creation of the Local Government Area in 1992, the provision of key infrastructures (electricity, water and roads) started improving rapidly. The Federal Government's policy of connecting all L.G.A Council Headquarters to the National Grid for Supply of Electricity; and the State Government's "electrification of 90 towns" project have helped the process of supply of electricity to almost all the settlements in the Local Government Area (see Figure-16).

The Manchok water supply project has been completed and commissioned to improve the supply of pipe borne water to the area. Also the rehabilitation of some minor roads by both State and Local Governments here is working towards improving the communication network in the area. This general trend of continuous improvement inthe provision of utilities in the L.G.A. (Figure-16) implies good prospects for the growth and development of industrial activities here.

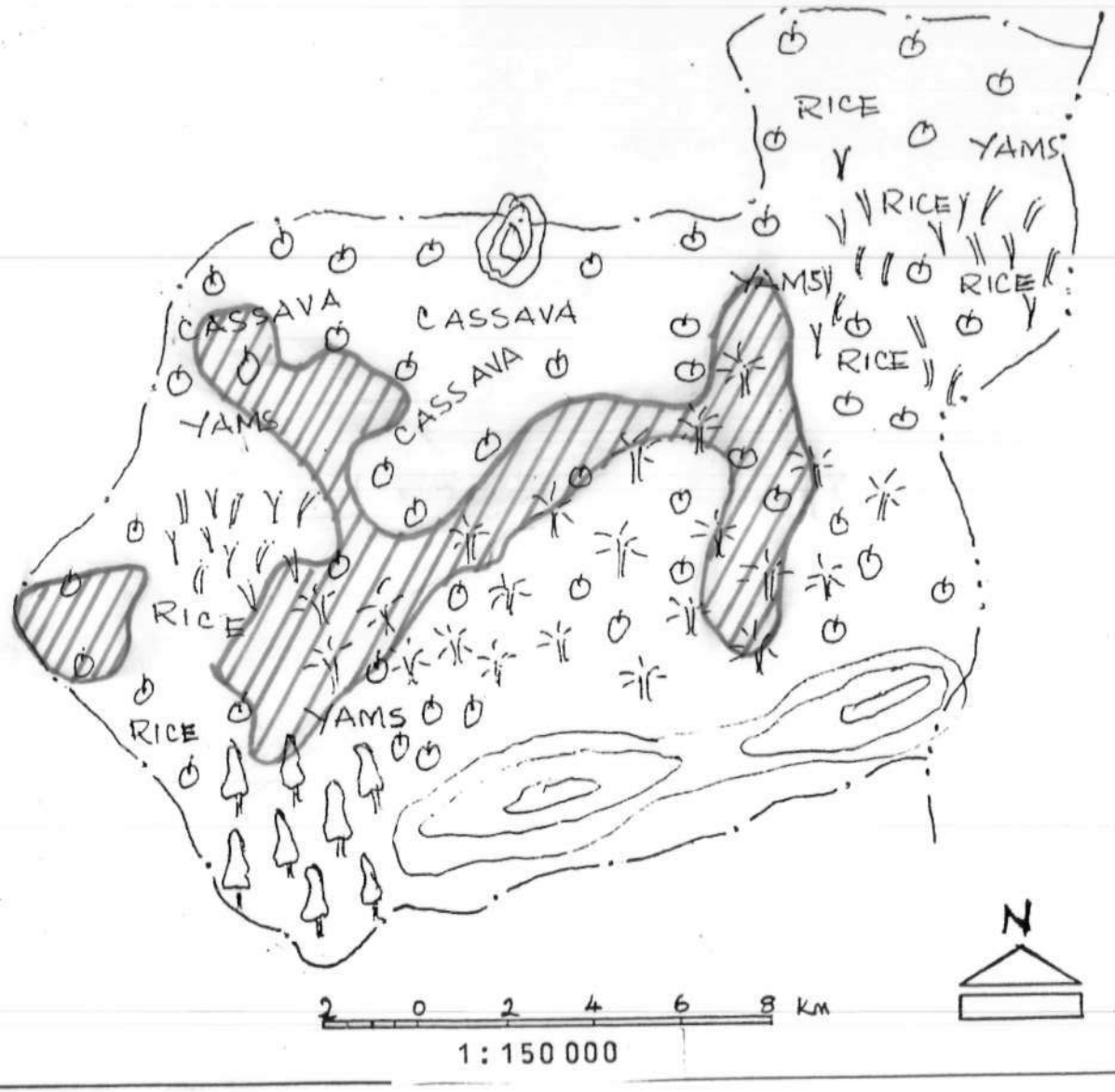
v. The Establishment of Industries in the L.G.A. by Government

The Federal Government in 1977 and 1998 promised to establish one small-scale industry in each Local Government Area of the Federation, as a step towards its nation-wide process of industrializing the rural areas, and providing rural dwellers gainful employment opportunities. Also, since the Kaduna State Government is continuing with its programme of statewide rural industrialization based on allocation of one project per Local Government Area, the indication is that industrial projects are expected to be established here soon. So the prospects of industrial activities' growth and development here are increasing.

vi. Prospects of Availability of Financial Assistance

The Small-Scale Industries Credit Scheme unit of the Ministry of Commerce and Industry still exists. This together with the Community Banks in the Local Government Area form a suitable avenue for providing financial aid to industrialists.

These institutions can seek the support of the Association of Small-Scale Industrialists in the State to coordinate and ensure easier and continuous access to institutional credit for industrialists. this definitely brings brighter prospects of industrial development here.



KAURA L. G. A.

KEY.

Citrus Fruits

Palm Produce

Sugarcane

Forest Reserve.

Areas of Industrial Activities' Concentration

Fig. 18 Locations of Raw Material Resources and Current Industrial Activities

4.74 Inferences

From the foregoing analysis of findings on industrial activities in the area, the following conclusions can be drawn as regards to planning implications:

(a) Entrepreneural capital and educational qualification requirements for entry into the sector is low. This accounts for their proliferation and inefficient management. It also results in inefficient performances.

(b) Industrialists choose to locate very close to their residences. That is within the owners residence or besides it, in the open or under the shed. The concern is the entreprises' security and distance of workplace from home with little or no regard to raw materials resources locations (fig 18). This has given rise to many working under unsuitable conditions and limited accessibility to wider markets.

(c) Many have the characteristic of operating in the open. This encourages the occupation of additional space such that parts of the streets R.O.Ws are encroached. This disrupts the free flow of pedestrian and vehicular traffic.

(d) Industrial activities are located haphazardly near residences. This leads to the development of mixing of non-compatible landuses. Consequently they generate nuisance, inconveniences and hazards for some users.

(e) The entreprenuers and workers have a general low level of educational attainment and a consequetial low level awareness too. This results in the following:

i. Low level of perception of qualitative accommodation. Hence the use of por undurable construction materials with little or no proper maintainance. This results in poor aesthetic quality and lower efficiency levels of production.

ii. Poor perception of environmental sanitation. This results in little or no care for cleaner environments, so waste disposal practices are crude and poor.

iii. Limited awareness about technological developments concerning equipments and modes of production. Growth of enterprises thus seems nill.

iv. Lack of awareness of available sources of institutional credit facilities and the need for trained management staff in the organisation. Problems of management therefore, take much time to be fully attended to.

(f) Based on the average number of employees per industry (2.9) all the industries can be classified cottage or small-scale.

CHAPTER FIVE

5.00 EVALUATION OF PLANNING STATEGEIES FOR RURAL DEVELOPMENT

The reviewed planning strategies for development planning are evaluated here for the purpose of selecting the most appropriate one for adoption. They were evaluated by some lecturers and other professionals in this field. The evaluation was based on the strategies effctiveness in enhancing the achievement of goals of rural industrialization in the area, their performances in other parts of the world and the socio-economic characteristics of the study area.

The evaluation ttechnique employed for the purpose of this study is the weighting matrix technique. Equal weights are assigned to all the set objectives that should be fulfilled by the strategies. The highest score by any of the strategies indicates it's effectiveness in fulfilling the objective if applied. The least score thus indicates that the strategy is ineffective in fulfilling the given objective.

The objectives drawn as a guide for the evaluation include:-

1. Promotion of rural industrialization.
2. Utilization of sub-regional natural resources.
3. Improvement of linkages within the study area.
4. Planned distribution of population and socio-economic activities.

5. Improved environmental conditions to achieve ecological balance.

6. Distribution of facilities and services such that both urban and rural dwellers have access to them.

7. Adaptability of the strategies to the local conditions of the L.G.A.

TABLE-5.1 Evaluation of Strategies for Rural Development Planning

Objectives		Central Place Theory	Growth Pole/ Centre	Polarised Activity Centre
1	Promotion of Rural Industrialization	1	2	3
2	Utilization of Sub-regional natural resources	2	3	2
3	Improvement of linkages within the study area	1	2	3
4	Planned distribution of population and socio-economic activities	1	3	2
5	Improved environmental conditions to achieve ecological balance	1	2	3
6	Distribution of facilities and services such that they are accessible to both urban and rural dwellers	1	2	3
7	Adaptability of the strategies to the local condition of the LGA.	2	2	3
TOTAL		9	17	18

5.10 DETAIL ANALYSIS OF EVALUATION

5.11 Promotion of Rural Industriazation

The central place theory has the least mark here becouse it is urban bias. It does not allow for the dispersion of economic activities but prefers to concentrate such activities in a single centre on the basis of economic of scale investments.

The growth pole strategy has the same handicap as the central place theory, since industrial growth is only directed to locations considered viable. It however outweighs the central place theory becouse of its complementary nature with its surrounding or complementary region. In the light of this, subsidiary industries are encouraged at the surrounding region.

The P.A.C offers a better alteernative in this area becouse its central focus is a group of village settements. consequently rural industrialization under the P.A.C. strategy will be achieved.

5.12 Utilization of Sub-Regional Natural Resources

When the central place theory is applied in rural development planning for the purpose of utilizing sub-regional natural resources, it may to some extent achieve the objective becouse centrality here does not necessarity mean geographic centrality. It rather implies optimal location for the utilization of resources both human and natural.

Similarly the P.A.C. also has almost the same potental for achieveing the said objective as the central place theory. The fault with the PAC in this direction however, is that polarization of activities within a certain geographic space may not necessarily mean that resource abound there. Polarization is sometimes the function of the characteristic tendency of humans to group togerther thus giving birth to economic and social polarization of activities.

For the purpose of sub-regional natural resources utilization, the growth pole/centre offer the best alternative, because the principle behind the operative mechanism is the identification of locations (settlements) with growth potentials. these potentials are usually the existing natural resources as well as human resources. It is on this regard that it has the highest score of three(3).

5.13 Improvement of Linkages Within the Study Area, and With Others Outside the Study Area

This refers to physical linkages (i.e road network), economic activity linkages and social linkages. The P.A.C. strategy offers the best alternative in these areas of fulfilment, because of its comprehensiveness and inbuilt mutualism between the settlements and their complementary regions.

The growth pole is second, for the basic fact that both economic, physical and social linkages will only be strong within the pole, but as one moves the strength of this

linkage may tend to fade out as distance increases away from the pole or centre.

The central pole theory offers the least achievement potential because the emphasis is the centralisation of activities consequently no conscious efforts will be made to link the central location with the subsidiary locations.

5.14 Planned Distribution of Population and Economic Activities

The growth pole/centre strategy is the most appropriate strategy becouae it directs resources to the appropriate locations and investment area. It also has the objective of opening up more locations for resource distribution. The fundamental objective of the strategy actually is to achieve a regional balance in development. Consequently is always a conscious plan to distribute population and socio-economic activities.

The PAC strategy is next in rank to the growth centre strategy in this area for the fact that the causes of polarization are most of the time not planned for. Rather activities polarise because of certain existing growth factors such as facilities, services and natural resources in a particular location. However the planned ordering of settlements into hierarchies is in a way an attempt to distribute population and activities, but the weakness here is that the plans only accentuate existing pattern, therefore no attempts are made to create new areas for exploitation.

The central place theory is aganist the redistribution of population and activities becouse the operative mechanism is the concentration of activities in a favoured location.

5.15 Improved Environmental Conditions for Ecological Balance

For the attainment of ecological balance human activities and natural activities have to operate or exist in a complementary form. The central place theory, in this perspective therefore, does not offer this mutual coexistence, becouse the principle encourages the excessive exploitation of nature without a feedback.

The growth pole/centre strategy on the other hand offers a much better alternative than the central place, becouse it tends to equate the resources that abound in a place with the existing population, for the purpose of establishing the carrying capacity of the resources in this regard a balance will always be sought.

The PAC however appears to outweigh them all as it provides the best alternative in the fact that there is a conscious graduation of settlements for the purpose of achieving this ecological balance. Excessive population concentration in one place is discouraged by the planned distribution through the organised settlement hierarchies.

5.16 Distribution of Facilities and Services Such that Both Urban and Rural People have Access to Them

The P.A.C. strategy offers the best means for the distribution of facilities and services for easy access to both rural and urban dwellers, becouse facilities and services are provided in a graduated form to all settlement hierarchies. The strategy provides for an interlinkages of facilities and services between all settlements within a given region. The growth pole/centre strategy ranks second because there is the tendency that facilities and services will concentrate at the centre of the pole thus leaving the peripheral location unattended to. Nevertheless, it offers a good opportunity for fulfilment if excessive polarization is discouraged.

The central place theory is urban bias in the provision of facilities and services as such it cannot be seen to achieve the objective of equal distribution of facilities and services.

5.17 Adaptability or Flexibility of the Strategies

The PAC strategy is more flexible in application than the growth pole and the central place strategies. The PAC can be applied in any settlement pattern. The proposed spatial modes (Figures 3a to 3c) take care of the physiographic constraints that could be imposed in any location.

From the above analysis, the PAC strategy can be deduced the best alternative strategy for use or adoption in

planning for the LGA. The strategy scored a total of 18 marks therefore ranking highest, with the "growth pole/centre" closely following with 17 marks and the "central place" next with 9 marks. However it is worth stating that some of the good attributes of the growth pole/centre strategy will be adopted along with the PAC strategy in planning for the L.G.A.

5.20 PLANNING PROPOSALS FOR RURAL INDUSTRIALIZATION IN KAURA LOCAL GOVERNMENT AREA

5.21 General Policy Statement

The formulation of proposals for rural industrial activities development through policy statements need to at all times give consideration to the complex and intricate nature of rural problems, which are both social, economic and physical. The formulation of any rural industrial development planning policy that relegates the welfare of the rural dwellers as well as the environmental quality of the aspect of increased production of needed commodity will not bring the much needed rural development. Our rural industrialization programmes therefore, being important for rural development should consider our rural areas as part and parcel of the whole. Hence the erroneous concept that rural industrialization only means the inplantation of industrial enterprises in rural areas should be discarded.

Rational development planning strategy must not only concern itself with ways and means of achieving efficient

agricultural and industrial production, but should at the same time envisage communities that can assure a measure of social equality if a nation, state or LGA for that matter is to have unity and social stability, if it is to illicit a maximum of effort, ingeunity and loyalty from all of its citizens. The interests of the countryman should be the first concern in physical planning, and any attempt to reconstruct the countryside will fail if it dose not take into account all the circumstances of his life. On this basis therefore planning proposals should allow for flexibility wherein the peoples views, aspirations and needs are the guiding principles.

Rural industrialization meanwhile also offers good opportunity for involvement and participation in community affairs which have been considered to be an aspect of rural welfare too. Mosher (1969) noted that welfare can consist of only satisfactions felt by individual persons. Some of these satisfactions include the feeling of accomplishment in doing a job well, the feeling of achievement in having learned a new skill, the feeling of belonging and being accepted within a congenial group, in something one does not have to do sometimes as a spectator but sometimes as a participant. Most of this things can be achieved through community participation in development programmes that affect them.

Flexibility in planning proposals can only be ensured when full participation by citizens in development programmes is ensured. Flexibility is necessary becouse different communities have different problems and prospects for industrial development with the result that transplanting industry types or solutions from other parts of the world or even within the same country or state without giving due consideration to the prevailing situation of the given locality, may not be the best way of meeting the industrial development needs of the local people. Therefore by allowing the members of these rural communities to have some input in the development of industrial activities there, the planner places his skills at the service of local people and helps them to meet and to adopt to social change with minimum disruption. In the light of this, rural industrialization should be viewed as a concept to be defined by the states or the LGAs individually, based on the conditions prevailing therein.

Similarly, serious consideration should be given to the types of industries tht are most suitable for the area. For rural areas in general, themost appropriate type should be basically agro-based industries. This should be strongly integrated with the areas' existing industrial activities and available labour and material resources.

With these fundamental factors for effective rural industrial development planning in consideration, the polarised activity centre/growth pole stratrgies for rural development planning have been adopted and proposed for implementation in Kaura LGA. The PAC/growth pole strategies ensure flexibility in application and also provide a package of strategy that will ensure balance development. This package of strategy for development stands today as one of the most accomplished strategy for balanced development ever formulated.

5.30 PROPOSED SCHEDULE OF REQUIREMENTS FOR KAURA LGA UNDER THE RURAL INDUSTRIALIZATION SCHEME

5.31 Provision of Facilities and Services

These are important infrastructure that are necessary for the proper functioning of any industrial venture and therefore, are instrumental in determining the establishment or not of industrial ventures. They are therefore, proposed as necessary steps to encourage the growth and development of especialy the existing Cottage/Artisan activities in the Local Government Area (L.G.A), before the subsequent development of any new establishments there.

(a) Road Network: In any settlement set-up, people and goods have to be moved from one place to another no matter the mode of transportation. Raw materials also have to be brought to industries' premises while manufactured goods have to be marketed. Workers too

have to shuttle to and from industry sites. Road transportation is often the most suitable in this case due to its flexibility and economy.

The provision of this facility should be a priority in the study area as it will help also in redistributing populaton and services. The network should aim at linking different hierarchies of settlements together for the purpose of complementarity.

(b) Water Supply: Water supply is very important to almost all forms of industrial activity. The provision of water supply must be regarded as the "life wire" of any community's rural industrial activities development. So however suitable a settlement is for industrial activity to flourish, any shortage of water supply will cause severe disadvantages. What is proposed here therefore is the supply of portable water to those area without it. Especially now that the rural water supply scheme of the state is gradually gathering momentum.

(c) Rural Electricity: Electrification of the remote areas of the LGA is very important if the drive for rural industrialization is to be achieved. Electricity is essential for most forms of manufacture even if it is only for adequate lighting of premises. It is important therefore that electricity supple now available in some areas of the LGA be extented to reach those villages not served, like Dusai, Anturung, Tun,

Fadan Daji, etc. Some of such areas that consider it vital and are so desperate, should be encouraged to pursue it through communal effort to be supplemented by government.

(d) Market Facilities: Market centres in any rural economic landscape are very important. They act as locations for the exchange of needed goods as well as medium where new ideas are transmitted from one person to the other or between communities. They also provide an avenue where socialization is achieved. It is proposed therefore that appropriate and adequate facilities should be provided in the market centres in order to carter for these function they perform.

5.32 Provision of Industrial Promotion Centre

It is important that a body be put in place to undertake proper supervision of industrial estates and the services provided for industrial enterprises both within and outside the estates. It is therefore proposed that a "Rural Industrial Promotion Centre" (R.I.P.C) be established in the L.G.A. for this purpose. This will also be responsible for the execution of any Government sponsored grassroots industrial venture there.

This calls for the need to establish other parent boards at the Federal and State levels- "National Board for Rural Industrial Development" and the "Kaduna State Board for Rural Industrial Development". "The National Board will

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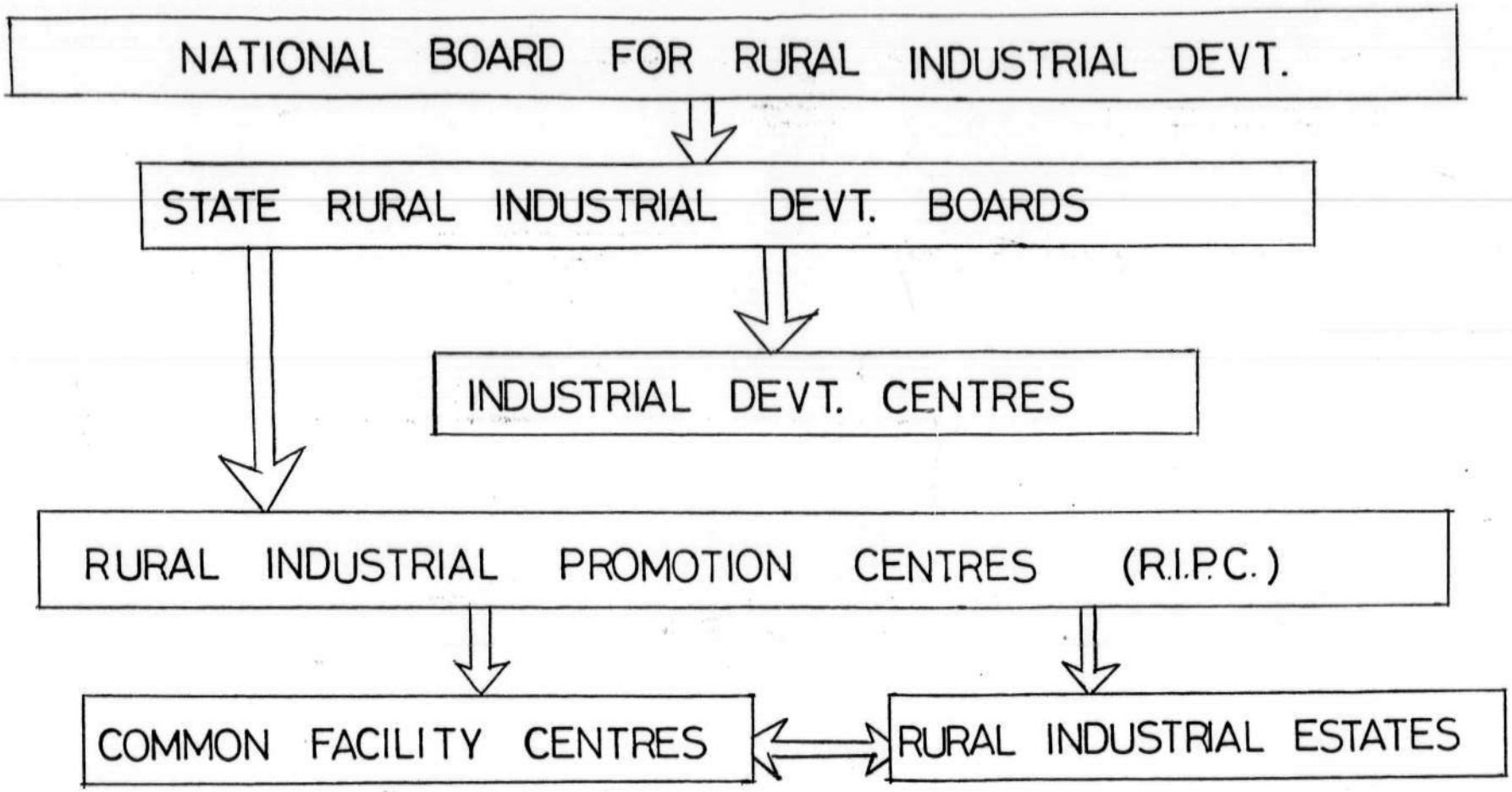


FIG. 19 STATUTORY BODIES INCHARGE OF RURAL INDUSTRIAL DEVELOPMENT PROGRAMMES.

FROM NATIONAL TO L. G. A. LEVELS.

be the supervising body to all State Boards, while the State boards, will each be responsible for the LGAs Rural industrial promotion centres (Figure-19).

The functions of the R.I.P.Cs will thus include:

(a) Being responsible for bringing industrial information and extension services nearer the rural industrialists. This is regarding new machineries, products and processes that may be coming from other States or international sources.

(b) The centre will be charged with condition of surveys and feasibility studies on raw materials and skilled labour in the area. They will also serve as links to any sub-contracting jobs to the industrialists and any prospective markets for their products.

(c) It will also be responsible for the overall supervision of all industrial estates, the "Common Facilities Centre, if any, and other enterprises in the study area. This is to ensure a strict adherance of the enterprises to some set minimum standards for both location/accommodation and modes of operation which will enhance the attainment of more conducive environments for better performances and development of the enterprises.

5.33 Provision of Industrial Estates

Following the provision of facilities, another proposed requirement for effective rural industrialization of the

area, is the establishment of industrial estates (and workshop clusters) in the Local Government Area (L.G.A) to facilitate a faster and healther growth of the sector. The type of activities to be operational there should largely be those based on natural resources and raw materials of the agro-type which are also sourced from the Local Government Area (L.G.A). The provision of industrial estates implies the preparation and design of layouts and the actual construction and installation of machineries (if possible) for the industrialists.

The U.N. (1970) views industrial estates as a "recent addition to the many techniques which have been successfully applied in order to encourage industrial development in the developing countries".

The concept of industrial estates is that the promotion and/or relocation of industrial activities can be aided through the provision of a tract of land that is subdivided and developed according to a comprehensive plan for use by the community industrial enterprises. The estate usually will provide factory buildings and/or sheds, internal roads and other necessary utilities, and possibly additional forms of assistance. The factories are prepared for sale or lease to potential industrialists at reasonable or subsidised rates.

The term traditionally applies to several hectares of land accommodating many industrial factory units of sizes

between 50 and 5000 square meters in floor area. But it could also be applied to less than a hectare of land with just a few workshops including one-man workshops. This smaller versions of the traditional industrial estate is sometimes refered to as "workshop clusters".

An industrial estate can also be classified as "rural", "semi urban" or "urban", according to its location. A rural industrial estate is a relative term and applies to an estate located in a rural region. Yet the actual site may in fact be urban, located in a rural area.

The idea of industrial estates was initially adopted by Britain, to help it develop it industrially backward areas, when it started it in the beginning of this century. Though it received relatively low acceptance prior to the second world war, the idea gradually has come to be an important tool for promoting regional industrialization by developing countries. One successful example is India.

Some ways that industrial estates could help in the rural industrial development process include:

i. Providing tenants the opportunity of working in well designed and maintained factory buildings. This greatly stimulates them to increased levels of efficiency and productivity.

ii. It saves industrialists some amounts of the financial investment requirements for acquiring land, imprving

sites and constructions and for the provision of utilities. It also helps save valuable time used in deciding whether to locate or not and when to start actual production.

iii. They can be used as ralying centres for various activities like training programmes and demonstrations and to render advisory services to other industrialists. It could alo serve for the provision of common facilities and maintenance services benefiting especially those not within the estate and part-times.

iv. The industrial estate serves as centre for role model industrial activities. This comes in forms of machinery, modes of production and set standards for other industrialists in the region. In addition, they serve as sources or means for job sub-contracting and links to external markets for the regions products.

v. They contribute to the rapid development of the regions industrial activities by helping to remove or reduce the risk of loss in periods of unproductivity due to factory fold-ups or unwarranted non-functionings.

vi. In cases where industrial estates provide excess land for future expansion, the land often creates more attractive sites for the siting of other bigger (large-scale) industries. Such industries usually may have more employment capacities and forward and/or backward

integration. This finally results in aiding the development of the sector and the region generally.

5.40 IDENTIFICATION OF PAC AND GROWTH PROMISING AREAS

Based on the small size of the study area, three settlement hierarchies of the settlement are proposed for spatial planning under the PAC/Growth Pole strategies. However, these are not necessarily in the same order, and are not employing the same units of demarcation of the limits of the basic units, as prescribed by the theories. The smallest basic unit from the PAC is the village which is 8km by 8km; the second being 24km by 24km and the PAC being the first is 72km by 72km.

The hierarchies proposed for Kaura LGA are the medium or small size PAC which two locations are proposed-Kagoro and Manchok. The second hierarchy is the R-PAC, that is the village area headquarters. The third is the village which is the village or rural settlements being the smallest units. Under this hierarchical ordering, the following settlements have been classified accordingly based on their existing facilities, services, growth potentials such as population and natural resources, etc. (Figures 7, 8 and 17).

(a) The sub-regional centres being the equivalent of small/medium PAC: Fadan Kogoro and Manchok.

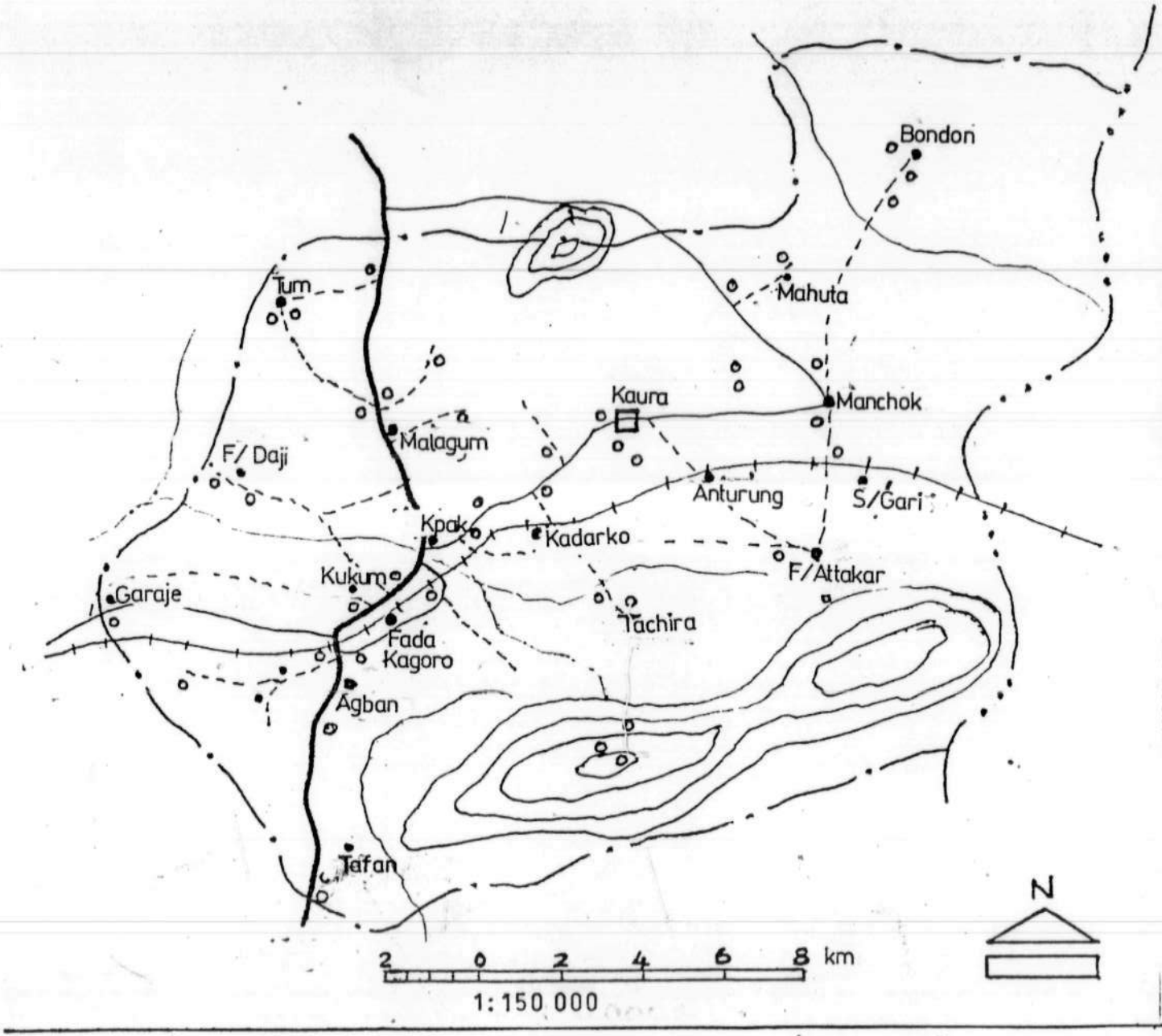
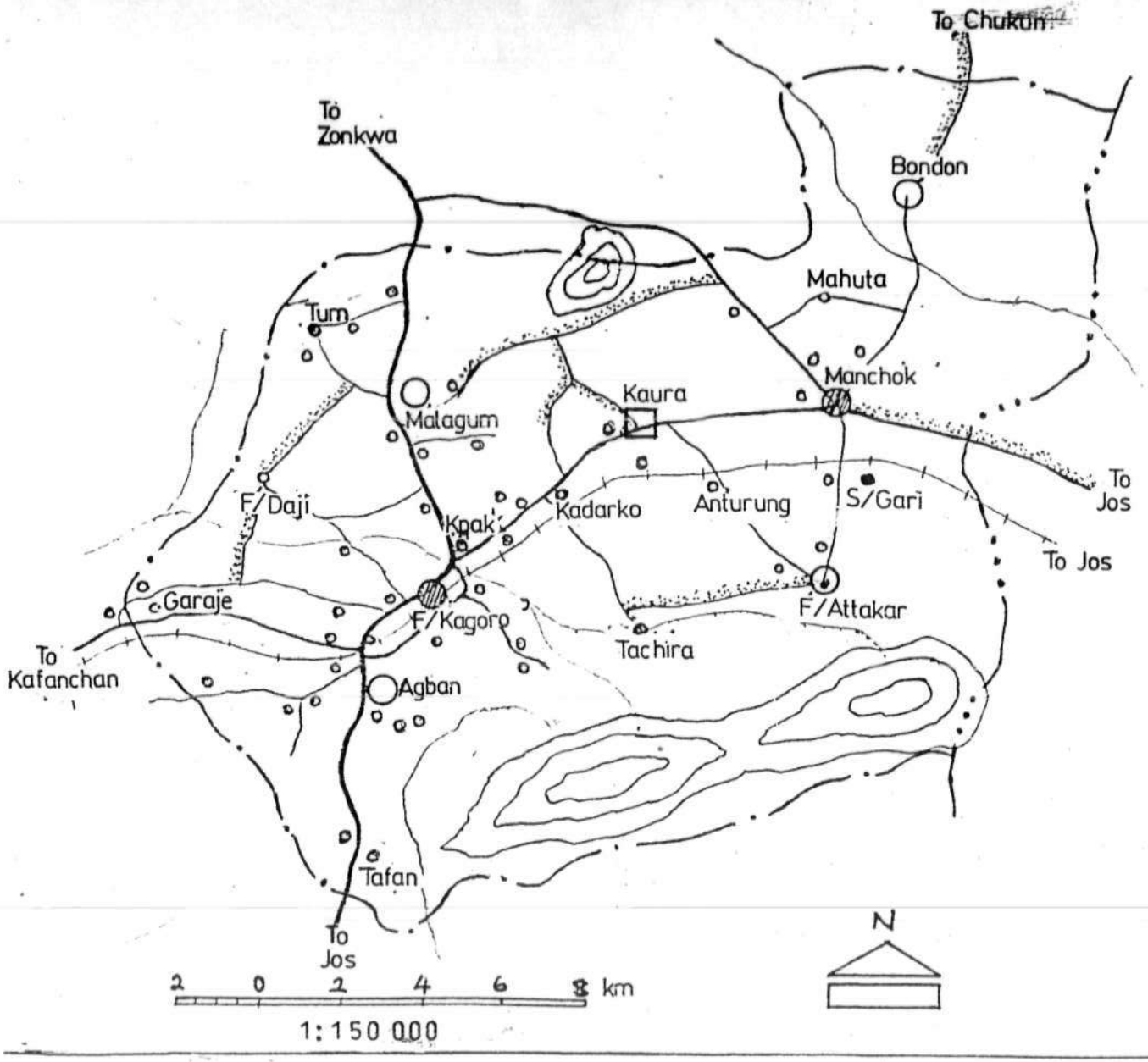


Fig. 20 Existing Settlement's Hierarchies and Road Network.

KASHIM IBRAHIM LIBRARY



KAURA L.G.A.

KEY.

- L.G.A. Headquarter (RIPC)
- Sub-Regional Centre (Small/Medium
- Village Centre (R-PAC)
- Village/Rural Settlement
- Federal Highway
- Secondary (State) Road
- Rural Feeder Road
- Proposed Road
- Railway

Fig. 21 Proposed Settlement Hierarchies and Road Network.

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(b) The Village area headquarters or the equivalent of R-PAC: Malagun, Mahuta, Fadan-Attakar and Agban.

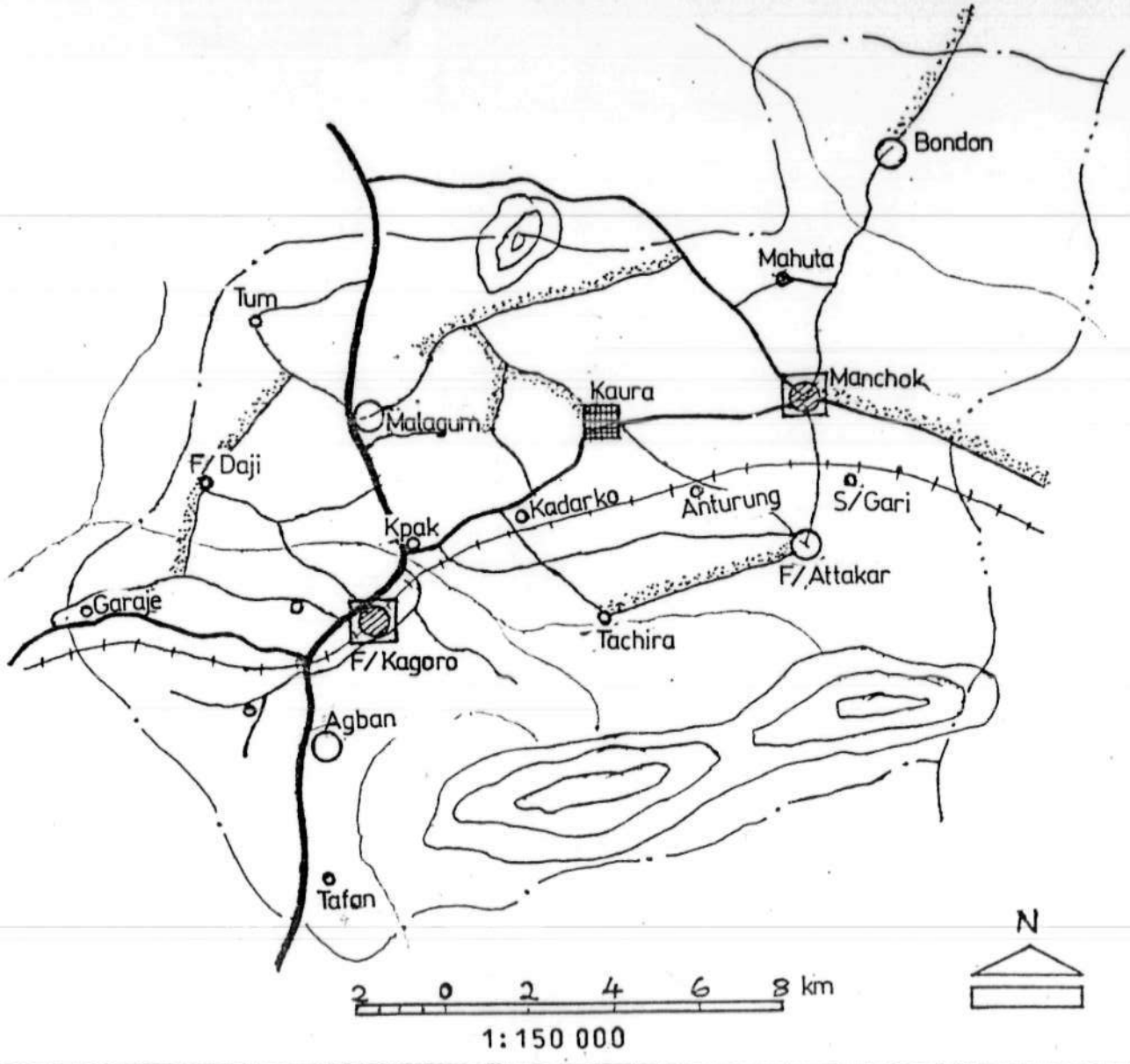
(c) The Villages or Rural Settlements: all other settlements not actually included in the list already (Figure 20 and 21).

The growth poles that can be identified along with this are Jos-Kaduna highway corridor and the North East-South West (Kafanchan-Manchok) road axis. The emerging development pattern tends to fit properly into the proposed "model-Spatial variation" Linear development of PAC (Figure-3a).

5.50 PROPOSED SETTLEMENT HIERARCHIES AND FUNCTIONS ASSIGNED

The three basic hierarchies of settlements proposed for the LGA under the PAC/Growth pole strategies (5.40) are being assigned particular projects on the bases of these hierarchies.

The sub-regional centres, being the equivalent of medium or small PAC is proposed for Fadan Kagoro and Manchok and will be assigned a rural industrial estate each and standard market facilities. The estates should compose of activities directly relating to the locality, and are sourcing their raw materials from there. Preferably, they should be agricultural processing activities. The second hierarchy settlements also will be assigned the development of facilities and services: water and electricity supply,



KAURA L.G.A.

KEY

L.G.A. HEADQUARTER (RIPC)

FUNCTION - ADMINISTRATIVE AND MON
COMMON FACILITIES CENTRE.

SUB - REGIONAL CENTRE. (SMALL PAC

FUNCTION -INDUSTRIAL ESTATE, MARK
AND COMMON FACILITIES CENTRE.

VILLAGE CENTRE. (R - PAC)
FUNCTIONS - INFRASTRUCTURES, WORKS
CLUSTERS AND MARKET FACILITIES.

VILLAGE / RURAL SETTLEMENT

FUNCTIONS- INFRASTRUTURAL FACILITIES

AGRIC. PRODUCE COLLECTION/ SALES CEN

FIG. 22 PROPOSED SETTLEMENTS HIERARCHIES AND FUNCTIONS ASSIGNED THEM.

motorable roads and rural markets, and a rural workshop cluster each (Figure-22).

Those of the third hierarchy are the rural settlements or surrounding villages. These have been proposed the provision of facilities and services to them i.e road network, water and electricity supply and a rural agricultural products collection, storage and sales centre.

In the same vien, the body proposed to oversee all the programmes here (R.I.P.C) is proposed to be sited at the L.G.A. Council Headquarters in Kaura. This is to function as an administrative centre and a "Common Facilities Centre" for the L.G.A.

5.60 IMPLEMENTATION OF POLICIES AND PROGRAMMES

The implementation of policies and programmes for rural industrialization requires that some priority ones be implemented first before others. This is because the proper functioning of some of these depend on the pre-existence of others. In addition, some factors would usually act as constraints to the pursuance of the programmes simulataneously, such as finance and manpower. On the bases of these, the proposed method of implementation of the policies and programmes here is that of "phasing."

In order that financial and manpower constraints be avoided, different sectors of the society, i.e private entrepreneurs, Government (public) and the communities need

to be assigned specific programmes under the supervision of a central monitoring body - the R.I.P.C.

The proposed provision of facilities and services to the settlements should be first to be undertaken. This does not imply that all settlements get everything at once and at same time. Rather, the provision of different types of facilities and services at the same time but varying in locations as some communities may offer different needs for consideration first.

5.61 Proposed Financing System for the Implementation

The initial financiing of the proposals for the rural industrialization of Kaura L.G.A. is expected to be principally from the Federal and State Ministries of Industry. While some of the facilities' provision is to be funded by the State Ministries of Water Resources and Rural Development, and that of Works and Transport.

The rural communities should be mobilised to provide some of the community facilities and services through self help projects that are within means. It is expected that private individuals would be encouraged to help in the financing of certain programmes.

5.62 Proposed Phases of Projects' Implementation

The most important project that needs immediate implementation is the provision of facilities and services. These are serious determinants of the successful take-off

and sustainance of all industrial activities. These are electricity and water supply, roads network and market facilities.

The second phase is the establishment of rural industrial promotion centres in the L.G.A. This will now work to ensure the suitable choice of location of industrial estates and also supervise their establishment. After the establishment of the promotion centre, the industrial estate layout is the next priority item to be carried out. This includes the demarcation of plots and the provision of services within the site.

The development of the plots, installation of machinery and eventual occupation/operation is to be undertaken as the last phase. This should involve both Government and private agencies or persons. Private developers involved should be given some time span of about 6 months within which to finish their constructions or else surrender their allocations which could then be issued again to other interested parties.

5.70 CONCLUSION

The development of rural industrial activities of any region is an important step for the region's overall industrialization process to succeed. But industrial planning and development policies by Government have not been comprehensive enough to encourage their growth and

development in many rural areas like Kaura L.G.A. Provision for their effective take-offs and sustainance is rarely being planned for in most cases. Thus such projects tend to cease to function even after their completion. There is the need therefore for the Governments to define the concept of rural industrialization based on the areas' prevailing conditions. Most importantly there is need to provide all the elements needed to make the programme involve the community members and ensure its continuous sustainance under the care of government and communities.

For this sector to make any meaningful contribution to the industrial and socio-economic development of the region and the state in general, the State Government needs to establish the Boards for Rural Industrial Development along with the Zonal/Rural Industrial Promotion Centres. These will help manage and/or coordinate all programmes for the promotion of rural industral development throughout the L.G.As in the State.

The State Government should also make provisions for the establishment of categories of industrial estates across the State. This will serve as a means of dispersing of industrial activities in the State; and also serve as centres of growth of industrial activities for the areas they are sited.

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