THE PROCESS OF PERI - URBAN LANDUSE CONVERSION AT OFFA TOWN, KWARA STATE, NIGERIA.

BY

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THB PROCESS OF PERI - URBAN LANDUSE CONVERSION AT OFFA TOWN, KWARA STATE, NIGERIA.

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Z A R I A

D E C L A R A T I O N

I do hereby declare that the work presented in this thesis for the degree of Master of Arts in Geography has not been presented either partially or wholly for any other degree nor is it concurrently being submitted for any other degree.

All quotations are indicated and the sources of the information are specifically acknowledged by means of references.

CANDIDATE

SUPERVISOR

This thesis entitled "THE PROCESS OF PERI-URBAN LANDUSE CONVERSION AT OFFA by MUHAMMAD JIBREEL ABDULLAHI meets the regulations governing the award of the degree of Master of Arts (Geography) of Ahmadu Bello University and is approved for its contribution to knowledge and literary presentation.

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NAME AND SIGNATURE MEMBER, SUPERVISORY COMMITTEE	DATE
NAME AND SIGNATURE MEMBER, SUPERVISORY COMMITTEE	DATE
NAME AND SIGNATURE HEAD OF DEPARTMENT	DATE
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D E D I C A T I O N

This thesis is dedicated to Ricikaat Olabisi Aduke (my wife), Muhammad Awwal and Muhammad Sanni (my sons) and Alimaat Sadiat (my daughter).

A C K N O W L E D G E M E N T

I wish to acknowledge my sincere gratitude to Dr. R. J Hyde my first Supervisor, and Dr. J. A. Ariyo, my second Supervisor, for their advice and co-operation during the period of this research despite my inability to make regular consultation due to financial difficulties. I also wish to thank Dr. J. M. Baba for his useful advice on post graduate matters.

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ABSTRACT.

This study was carried out to examine the process of land use conversion taking place at the rural-urban fringe of Offa from 1966 to 1986. It also examines the resultant effecs of land use changes and the extent to which the proportion of public utilities located in the urban centre and the fringe area respectively have changed over time.

Data obtained from samples of farming households, non-farming households, ground survey and industrialists were analysed in order to determine the problems of farming in fringe areas, residential development, industrial characteristics and the spatial distribution of public utilities.

Prom the data analysis, the following characteristics show statistically significant differences between urban centre and the rural urban fringe, and also between the uses of plots of land converted in the fringe areas.

(a) Residential land iuse as compared to other land use types in the process of peri-urban landuse conversion. Residential use is the greatest use to which land in the fringe area of Offa is converted.

(b) The volume of open space, internal reconstruction and infilling construction activities vary with distance from the urban centre, in terms of number of types of construction activities recorded in the urban centre and the rural-urban fringe. Internal reconstruction varies inversely with distance, while open space and infilling construction activities vary directly within the limit of certain distances from the urban centre.

(c) The volume of construction activitiea varies with distance and direction from the urban centre, with regards to the number of construction activities recorded along the different directions with distance from the urban centre

(d) The spatial distribution of public utilities and services recorded in the urban centre and the fringe areas. Most public utilities and services are located in the fringe areas.

Prom the above findings, it can be concluded that residential expansion is rapid in the process of landuse conversion in the fringe areas of Offa- The volume of construction activities vary with distance from the urban centre. While the lack of a definite trend in. the relationship between volume of construction activities and distance from the urban centre along Eriale-Offa-Ajasse route could be attributed to the problem of land ownership and boundary conflicts experienced between Offa - Ijagbo and Erinle, public utilities and educational institutions are mostly located in the rural-urban fringe of the town. Transportation routes have domonant influence on the direction of sprawl.

In view of the above findings, there is the need for the govememeat to reserve a 'green belt' around the urban centre for farming and recreational activities. Well improved intra-urban and suburban roads along different directions from the urban centre is necessary for the fringe to be easily accessible to the people and avoid over concentration in a few parts while land is under used in other parts of urban area.

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CHAPTER ONE

1.1 NATURE OF THE PROBLEM

The increase in urbanization and growth of urban areas has led to the need for increasing study of patterns and extent of conversion of rural land use to urban land use and the need for the preservation of rural land (Ajaegbu, 1970, Sada, 1970 [illegible]). As the Offa urban centre increases in size into the adjoining rural hinterland, rural land use is seen to merge gradually with the urban land use. This has increased the problems of the town's boundaries and the different socio-economic conflicts and problems associated with them.

There is usually competition for land at the rural-urban fringe, which in some cases results into physical aggression over the use and control of land by farmers. Due to the conversion of agricultural land to urban uses, farmers sometimes have to move farther away to establish new farms, thereby, bringing about boundary conflicts with nearby settlements of Ijagbo and Erinle. Related problems have also been found in the studies of many urban centres such as Umuahia, Aba, Ibeku and so on (Ajaegbu, 1970). The fringe areas are usually designated by characteristics land use associations (Fig. I.I.). The development change in terms of rate of land use conversion in the urban periphery is also not usually smooth (Fig. I.2).

The effect of the urban expansion according to Johnson (1974) is not limited to the physical loss of productivity of the surrounding agricultural area, but may lead to any of the following

1. emigration of the farmers to other rural areas.
2. rising value of agricultural land.
3. competition for land, markets and non-agricultural employment.

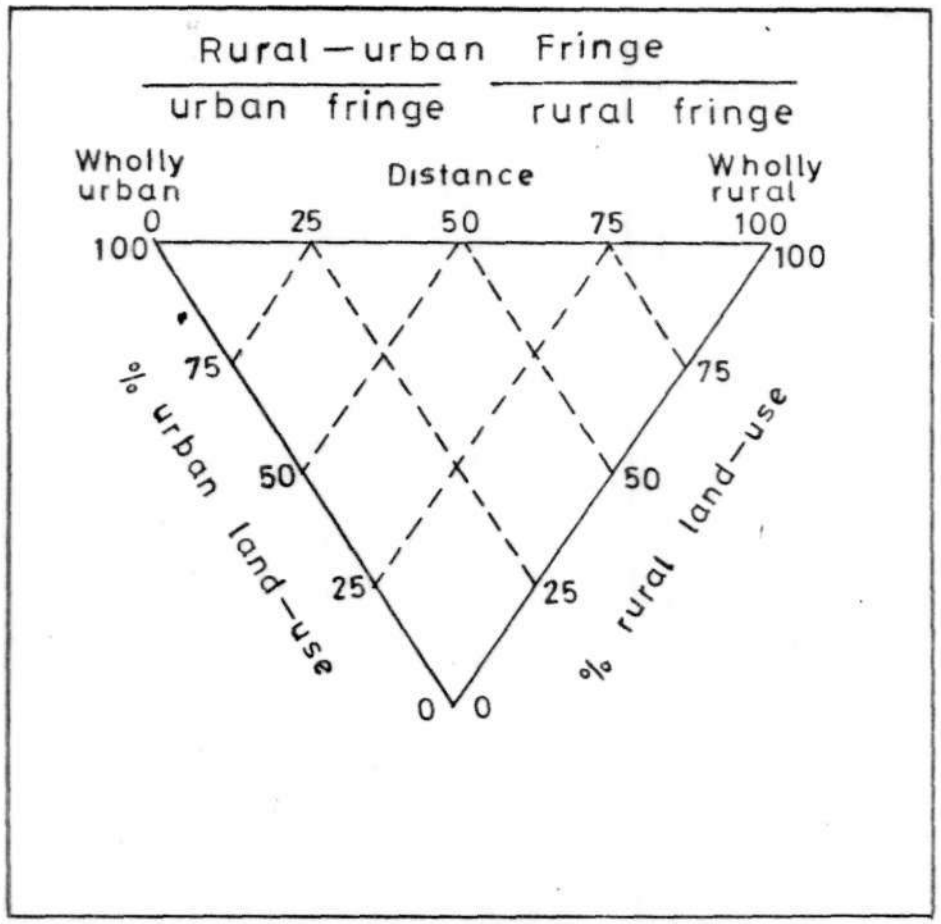
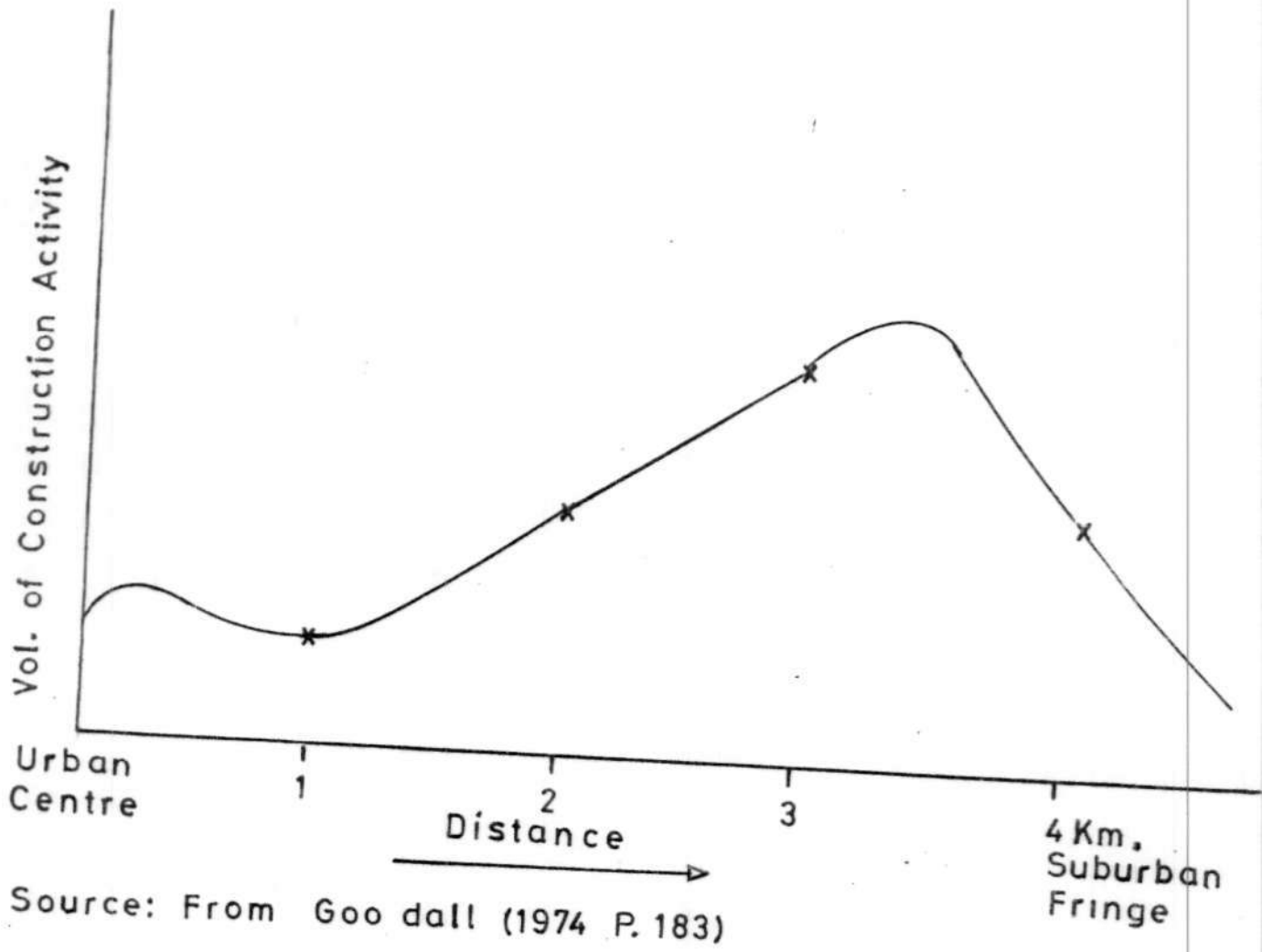


FIG. 1.1
Land-use in the rural—urban Fringe
(Based on Pryor (1968), P. 205)

Source: D. Thomas, 1974



Source: From Goo dall (1974 P. 183)

FIG. 1.2 VOLUME OF CONSTRUCTION ACTIVITY IN AN URBAN AREA RELATED TO DISTANCE FROM THE URBAN CENTRE

4. intensification of agricultural production.
5. Incorporation of rural settlements into the urban area or over spill of the urban population and urbanized areas into the adjoining rural areas.

The main aspects of land use dynamics at the rural-urban fringe, which need to be examined in the Nigerian context, are the loss of agricultural land, incorporation of rural settlements into the urban areas, the development of shanty settlements and the increasing value of peri-urban land use. The questions raised are many and diverse, but could be summarized as follows:

(a) What are the proportion of the various land uses such as commercial, residential, industrial and recreational uses ?

(b) How does land ownership affect the process of conversion of rural land to urban uses ?

The requirements of a rapidly expanding town like Offa for land for urban development clearly run counter to the needs of agriculture and recreational development. Infact, as Connell (1974) says: "There is considerable scope for research on the macro and micro-ecology of Suburbia, yet unless this is closely tied to the operation of the whole urban residential system it is unlikely to be particularly fruitful" (pp. 82 -83).

Due to the studies of many urban centres of various sizes, resultinginto the use of different terms to describe the features found in the rural-urban fringe, it is worthwhile to undertake a study of the fringe areas of Offa, a medium size urban centre which is noted for having land problem especially

boundary conflicts with nearby settlements. Considering the high population increase and density of Offa and its environs it is certain that land-use conversion will be a visible spatial process in the rural-urban fringe as the town expands.

1.2 Objectives

1. To examine and assess the process of land use conversion at the rural-urban fringe and the extent of the urban sprawl.
2. To assess the resultant effects of urban sprawl on the rural-urban fringe in terms of land use changes and the adjustment mechanism of people displaced by landuse changes.
3. To assess the extent to which the proportion of public utilities located in the urban centre and the fringe area respectively have changed over time.

1.3. Hypotheses

(a) That residential use is the greatest use to which land in the fringe area of Offa is converted.

(b) That the volume of construction activities vary with distance from the urban centre along different directions, in accordance with the findings of Goodall (1972).

(c) That internal reconstruction activities vary inversely with distance from the urban centre, while open area and infilling construction activities vary directly with distance from the urban centre.

1.4 Operational definition of Offa rural-urban fringe.

The rural-urban fringe of an expanding urban centre such as Offa, is not easy to define. There is also no theory as such for explanation of the relative location of the rural-urban fringe to the rural and urban zones (Aderogba, 1986). However, it is important to give a clear definition of Offa rural-urban fringe to put this study in a proper setting.

The definition also takes into consideration the irregular morphology of the built-up area of Offa.

While the outer limit of the study area is 6km from the urban centre, the rural-urban fringe is the space lying between the end of the built-up area of Offa and the end of the outer limit of the study area (6km from the urban centre). The outer limit of the study area is about 3km to the edge of the built-up area. This area is part of the Offa rural-urban fringe due to the location of some industries, institutions, recreational facilities, cementry, open praying ground and public utilities found in this area and also serving the urban centre.

Thus the space between this 3km which marks the end of study area and Offa end of built-up area is the operational definition of Offa-rural-urban fringe in this study which is the space into which Offa town is currently extending as the process of urban expansion increases (Fig. 1.3).

This zone has urban potential and the area could at anytime be partly assimilated into the Offa urban structure, and therefore qualifies to be termed Offa rural-urban fringe.

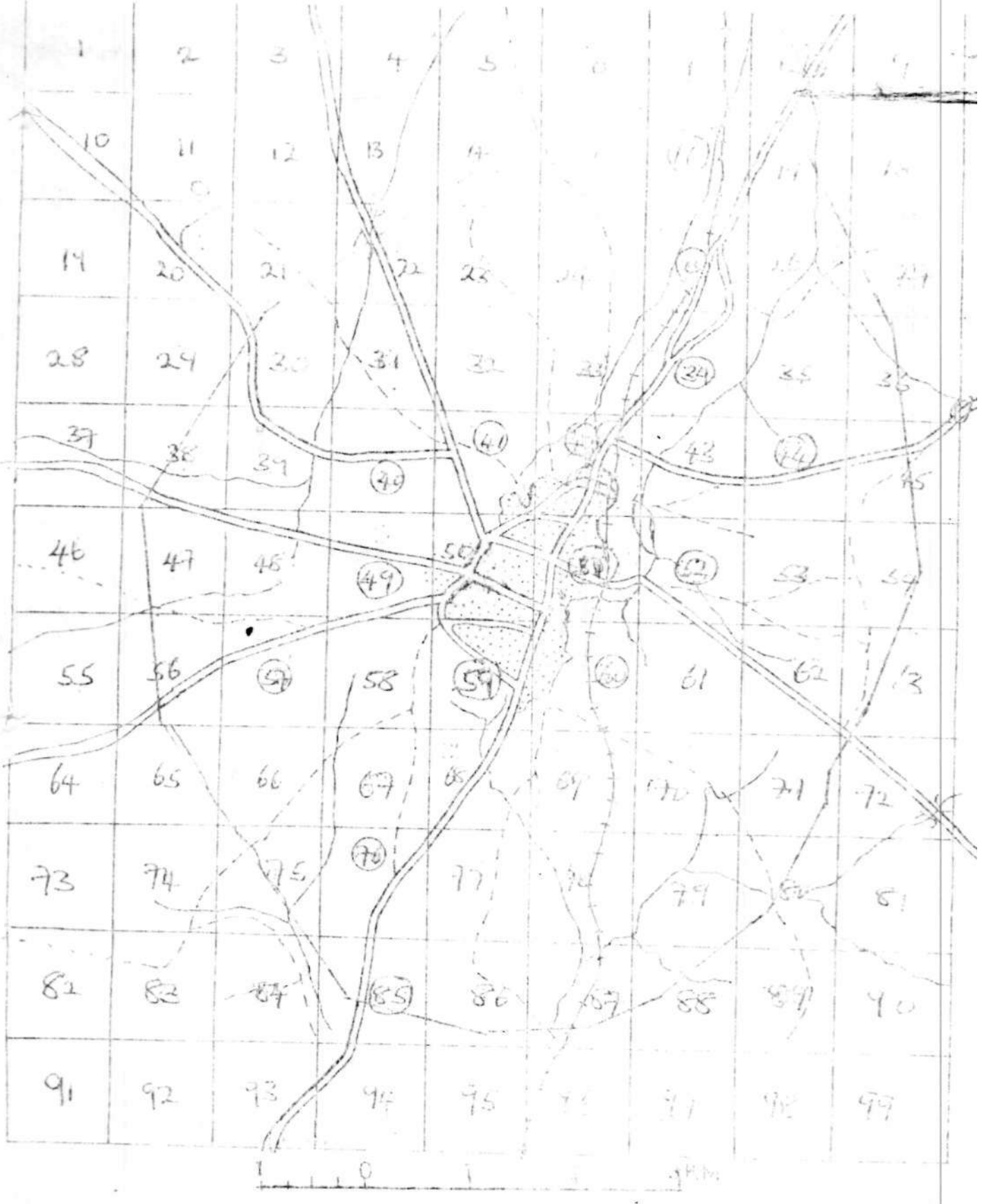
To be specific, the term Offa rural-urban fringe as applicable to this study does not only refer to the land at the outer periphery of Offa per-se, but it includes land located up to about 3km from the outer edge of the build-up area.

1.5. Methodology

1. Sources of data.

(a) Sampling procedure and sample size

Fig. 1.3 - OFFA - RURAL URBAN FRINGE



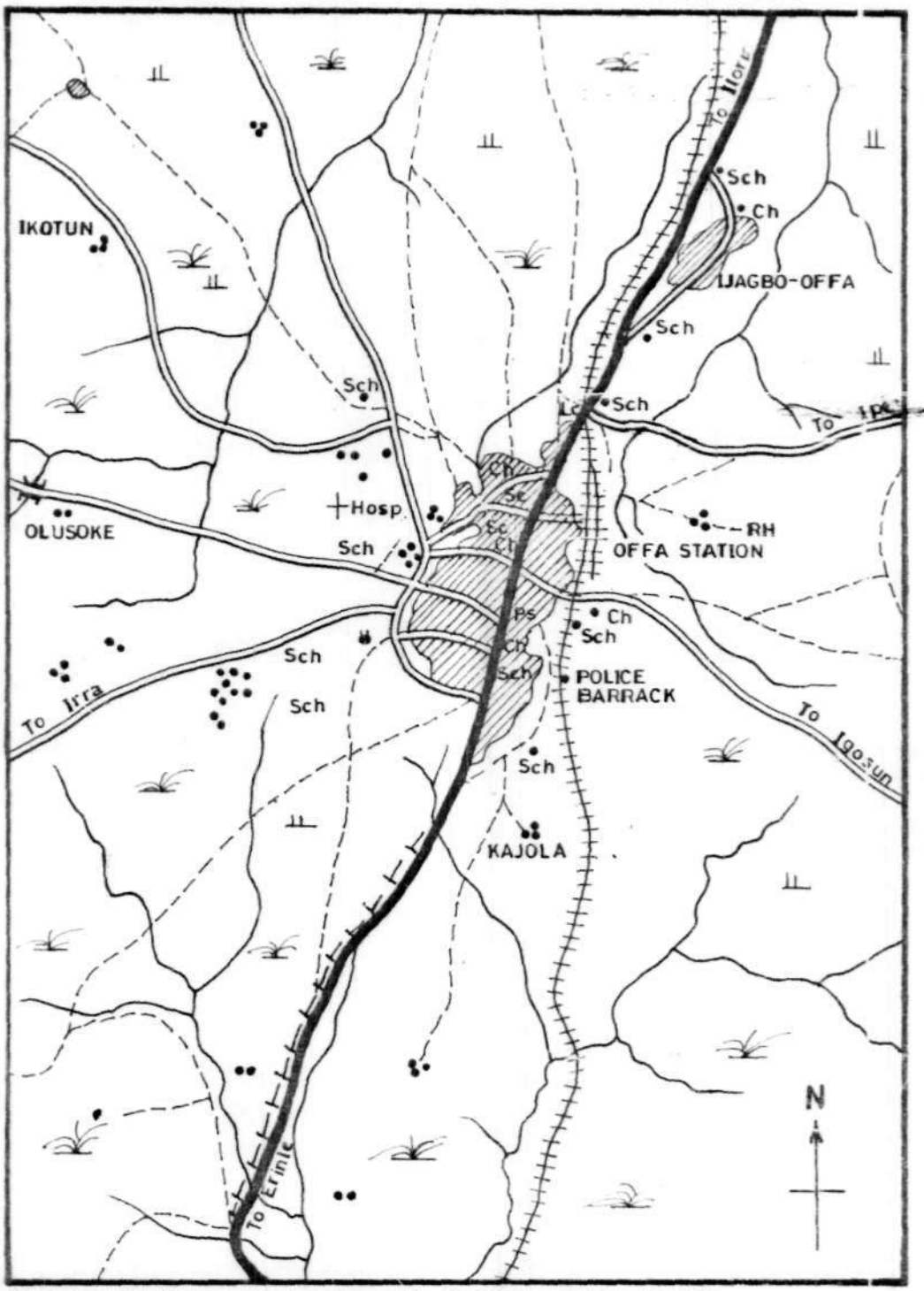
Source: Ministry of Lands and Survey, Ilorin

Chosen quadre

Built -up area

Offa - rural - urban fringe

FIG. 1.4 OFFA AND ITS ENVIRONS.



SOURCE: MINISTRY OF LANDS AND SURVEY, ILORIN (1966)

0 1 2 3 4 KM

KEY

- Built-up areas
- Isolate compounds
- Main roads
- Minor roads
- Foot paths
- Railway line
- Power line
- Rivers / Streams

- Ch Church
- Hosp. Hospital
- PS Police Station
- RH Rest House
- Sch School
- LC Level Crossing
- Light forest

The built-up area of Offa and its environs as at 1966 is shown on Fig.1.4 looking at Fig. 1.5, a grid of 9km by 11km is superimposed on the map divided into 99 squares of one sqkm each. 15 squares are purposively chosen at different distances from the urban centre. (The squares numbers are 16, 25, 34, 40, 41, 42, 44, 49, 51, 52, 57, 59, 60, 76 and 85). One of the squares is located in the centre of the town, while 7 are in the urban fringe and 7 in the rural fringe. The chosen quadrats were identified with the help of map of Offa and its environs as at 1966 and Offa sheets 10, 11, 14 and 15

Within the 15 squares purposively chosen, 150 farmers and 150 non-farming households are chosen for interview. * 10 farming and 10 non-farming households are selected from each of the chosen quardrats for interview. The industrial and commercial establishment need no sampling as all of them could easily be interviewed using the questionnaire B designed for this purpose

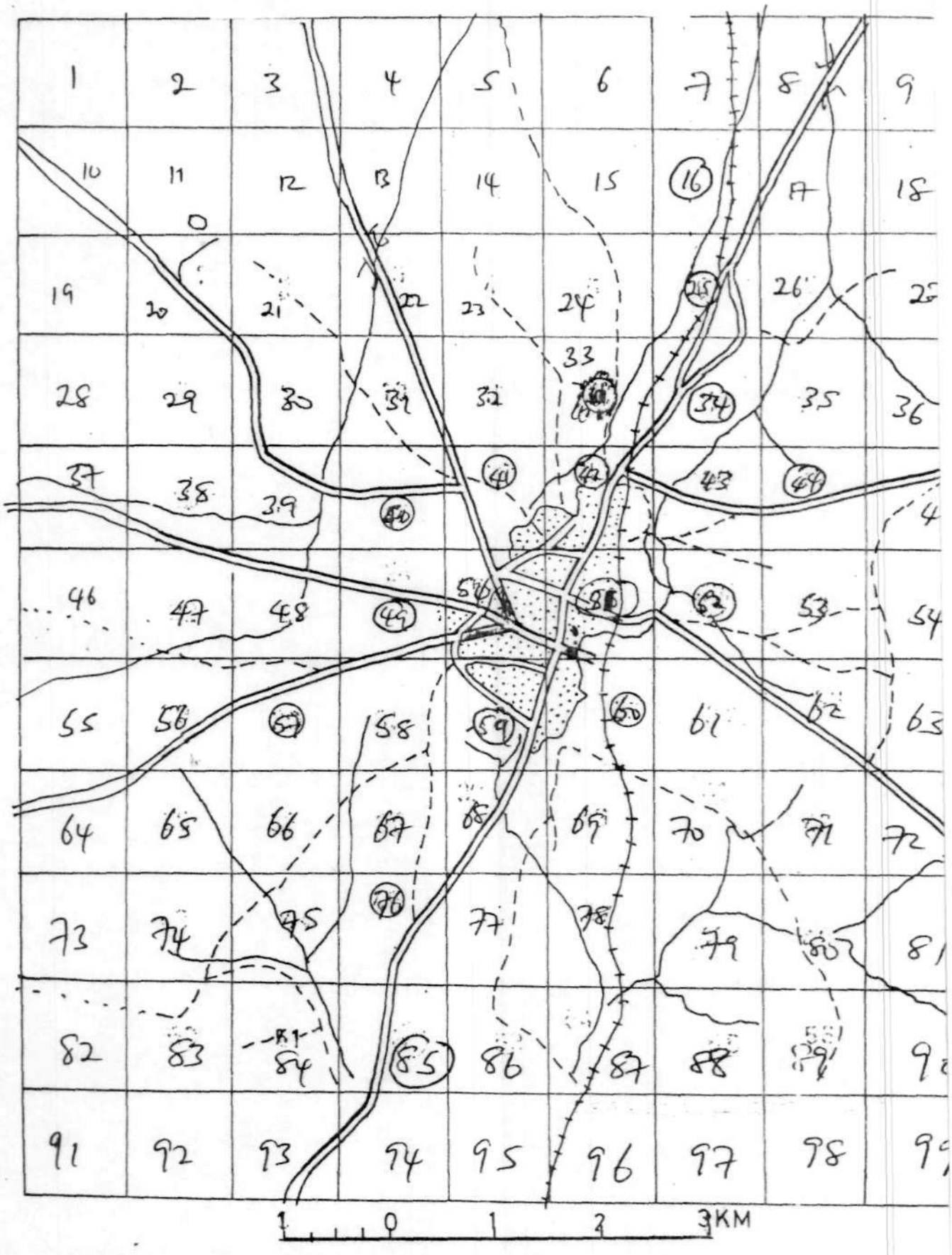
(b) Questionnaire Survey

A questionnaire survey was carried out covering 150 farming households and 150 non-farming households selected (10 from each of the 15 purposively chosen quadrats). Another set of questionnaire survey was conducted for 15 industrial establishments in the rural-urban fringe of the study area.

The questionnaires administered in each of 15 choosen quadrats are designed as follows:-

(a) Farming Household questionnaire: To obtain relevant information on types of crops grown, land value, land use conversion and the problems of farming at the fringe areas.

Fig. 1 - 5 - SAMPLE AREAS



Source: Ministry of Lands and Survey, Ilorin

(b) Non-farming Household questionnaire: To obtain information on occupation, journey pattern to work, ownership and the process of residential development at the fringe areas.

(c) Industrial/commercial establishment questionnaire: To obtain information on ownership, reasons for choice of site, land price, source of labour and the process of fringe land acquisition.

1.6 Statistical techniques used in data Analysis

The data collected was tabulated and the proportions of the different types of observations were found by using percentages.

Chi - sequare test was employed to find out if there is any statistically significant differences between the urban centre and the rural-urban fringe and between the different land use types.

The use of graphs was also employed to explain some findings in detail such as the volume and types of construction activities with distance from the urban centre.

1.7 Prelude to the survey.

Before the initiation of the field survey, the following preparations were made:

KASHIM IBRAHIM LIBRARY

(a) Pilot Survey

On two different occasions (3rd September, and 10th September, 1985), the study area, Offa was visited by the researcher to conduct a pilot survey. Quadrats 13 and 26 were chosen. Fifteen farming households and fifteen non-farming households were interviewed to test the prepared questionnaires and appropriate corrections and additions were made. It was during the pilot survey that the area defined

as the study area increased from 4km to 6km from the urban centre because of the location of some structures serving the urban centre at a distance of up to 6km from the centre. The number of quardrats chosen also increased from twelve to fifteen. The land-use transact along four directions also increased from 4km to 6km. Fig. 1.6.

(b) A list of the industries and major commercial establishments to be surveyed was compiled.

(c) Five research assistants with a minimum qualification of 'A' Level or OND were recruited and trained.

1.8. The survey - General.

An extensive land-use survey was conducted within each of the chosen quadrats in other to assess and examine the land-use changes taking place in the study area.

The following Ministries were contacted for Offa master plan, maps and published reports of the study areas.

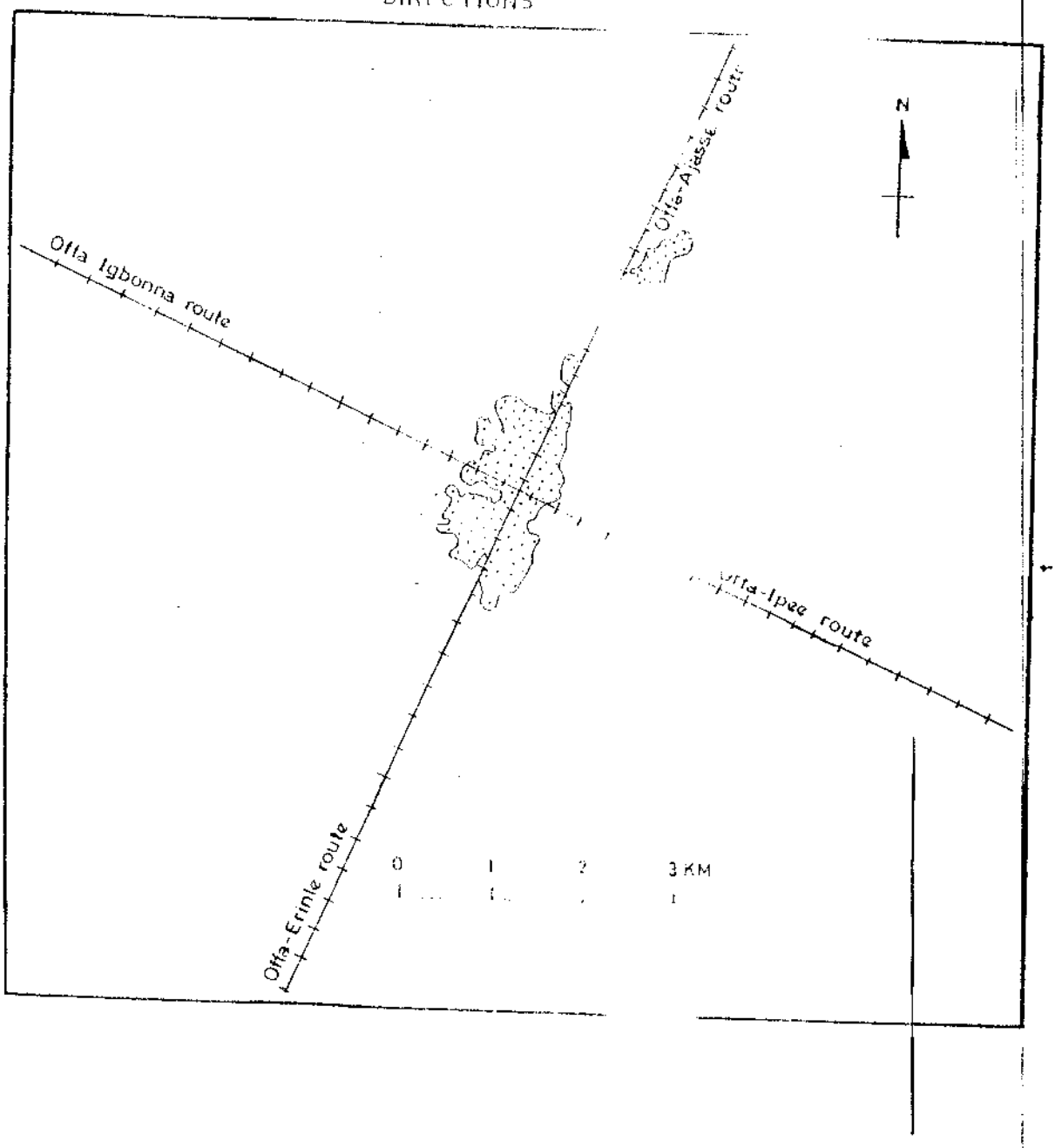
(i) Ministry of works, Land and Surveys, Ilorin - for Offa master plan 1974, Shairs and Partners; NIGERIA, 1:50,000, ILORIN SW 233, NIGERIA. 1:2400, OFFA sheets 10, 11, 14 and 15.

(ii) Town Planning Authority for consultations.

(iii) Ministry of Agriculture and Natural Resources. Map NIGERIA: 1:3,000,000. Mean Annual Rainfall and ILORIN PROVINCE 1:1,000,000.

Both natural and man-made features or conditions at the local level greatly helped in identifying, analysing and understanding the land-use changes and the resultant effects within the selected study area.

FIG. 1.6 LAND-USE TRANSECT IN FOUR DIRECTIONS



1.9 The actual field survey.

The field survey which began on 30th September, 1985 and ended on 19th February, 1986 consisted of the following:

1. 150 questionnaires each directed to farming and non-farming households randomly selected.
2. Questionnaires for fifteen industries.
3. Sketching and mapping of significant land-use changes and physical features.
4. Identification of land-use types along transportation routes, main roads, minor roads, railway line and foot paths.
5. Survey of public utilities and services, availability and location in the study area.
6. Survey of construction activities.

This survey was carried out for the purpose of determining the volume of construction activities with distance from the urban cente and along four different directions. It also give information on the types of construction activities taking place at different parts of the urban area.

1.10 Land -Use Survey.

An extensive land-use survey was carried out for each of the fifteen purposively chosen quadrats, covering the built-up area and its surroundings. It is aimed at identifying the type and intensity of each land-use with the help of maps during the survey.

Data obtained included the following:

(a) Identification on maps of all existing land-uses such as agricultural, residential, institutional, industrial, commercial, recreational and vacant land or bush.

(b) Assessment of area covered by industrial and large scale commercial land-uses. In addition, sketch maps were prepared to show the prevailing trend of land-use changes during the survey.

Important and typical land marks or physical and economic features and structures were photographed on a different date from 18th to 19th February, 1986.

1.11 Use of Offa topographical maps.

Cartographic evidence was used to provide a record of the morphology of Offa town and its environs. Overlaying of two or more maps compiled at different dates to give a preliminary indication of the extent and direction of changes in land-use. (1966 and 1974 and 1985).

1.12 Use of aerial photographs.

It was proposed that aerial photographs would be used in other to compare land-uses at different points in time with greater precision. However, the aerial photographs got are not up to date and also not at regular intervals. Thus maps and actual field surveys were used in showing the extent of land-use changes in the rural-urban fringe and to compare land under different categories of land-use at different periods of the study area.

1.13 Measurements and estimates.

Due to reluctance to give information on the area covered by some industries, personal stimates were made in some cases by counting regular steps taken along the directions Certain estimates or measurements of distances and areas were made during the survey of land-use conversion along the transpart routes.

1.14 Land-Use Classification

The following land use types are identified in the rural-urban fringe of the study area.

(a) Residential land-use - Land occupied by residential buildings.

(b) Industrial land-use - Land occupied by industrial establishment.

(c) Commercial land-use - Land occupied by commercial structures.

(d) Institutional land-use - Land occupied by schools and colleges (educational institutions).

(e) Recreational land-use - Land occupied by recreational facilities - such as sports field, parks excetra.

(f) Residential/Commercial land-use - Land occupied by structures used for residential and commercial purposes.

(g) Farm land - Land used for farming.

(h) Fallow land - Land left temporarily to fallow.

(i) Vacant land - Land with no visible structure-mostly found near built up areas as distinct from bush.

(j) Bush/Forest - Land occupied by bush. (Forested land).

1.15 Informal interview.

Informal interview was conducted involving mostly indigenes working with Local Government Secretariat and some old men for information on certain traditional land-uses such as the Moremi Square, Oba's palace and the history of Offa. This helped a lot in supplementing information got through published report and from questionaire survey.

1.16 Justification for selection of study area.

Offa, the headquarters of Oyun Local Government Area is about 56km from Ilorin and the town is one of the five major urban centres in Kwara State. The local government area's total population in 1985 projected from the 1963 census at a rate of 2.5 percent growth per annum, is about 196,017 (National population Commission, Ilorin). Out of this, about 126,458 are estimated to be in Offa township, making the town the third largest in Kwara State after Ilorin and Okene.

Offa township lies on a major road and it is also well-served with the railway and has an important railway station, apart from been an administrative and commercial centre. It is well known that there are frequent land conflicts between Offa and its rural hinterland areas as the urban centre continues to expand, especially along the main transportation routes. This provides substantial research possibilities.

CHAPTER TWO

THE STUDY AREA

2.1 Location of study area.

Offa town is located about 56km south-east of Ilorin in the kukuruku hills. It is the headquarters of Oyun Local Government Area. Fig. 2.1. It is located on latitude 8° 15'N and longitude 4° 45'E. (West Africa School Atlas P.73). The town lies near the southern boundary of kwara and Oyo States along the Ilorin - Oshogbo road.

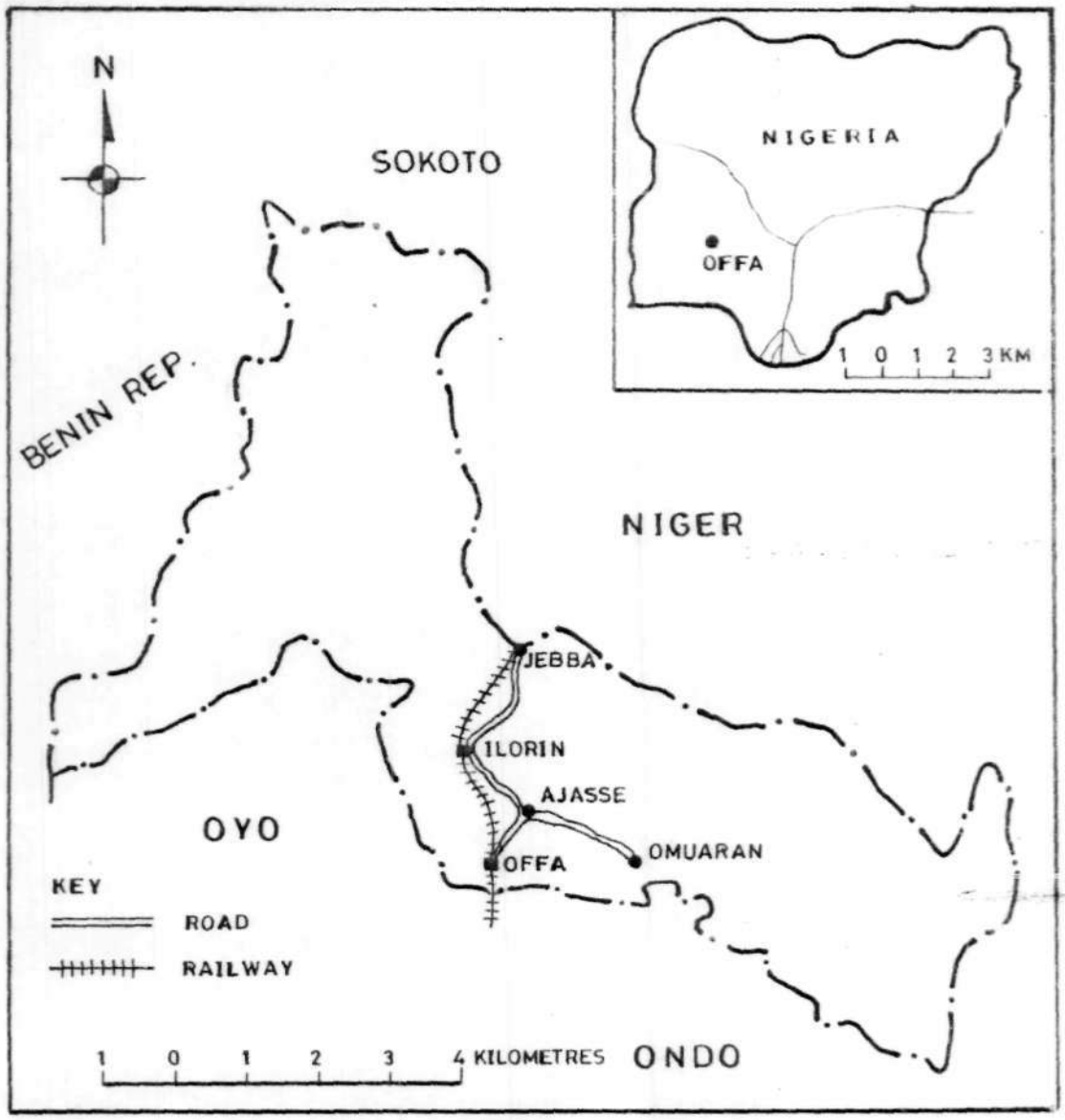
2.2 Study area -General.

Oyun division was created in 1972. The Local Government Area consists of three districts which are Offa, Oke-Ogun and Odo-Ogun districts. Oyun Local Government Area is the smallest in land area in the State, and it is also one of the most densely populated, with 443p/sqkm 1985 (Statistics division, Ilorin), Table 2.1. The local government area has an open, undulating landscape with occasional rocky out cro ps in the north-western part of the west of Ikotun and Igbonna. The area is well drained with gentle slopes varying between two and six percent (Ministry of Agriculture and Natural Resources, Ilorin).

2.3 Natural Characteristics.

Offa is located on the western highlands of Nigeria at an altitude of 425 metres on the watershed of the Southern boundaries of Kwara State. (Fig. 2.2). Numerous streams facilities natural drainage in the area. An embarkment 4km north east of Offa, on the river Oyun, forms a small and shallow reservoir covering an area of a bout 35 hectares. The Oyun, the main river in the local government area originates in the South-eastern hills and passes north-east of Offa to Ilorin where it

FIG.2.1 LOCATION OF STUDY AREA IN KWARA STATE



Source: Ministry of Lands and Survey, Ilorin.

FIG. 2.2 OFFA RELIEF AND DRAINAGE

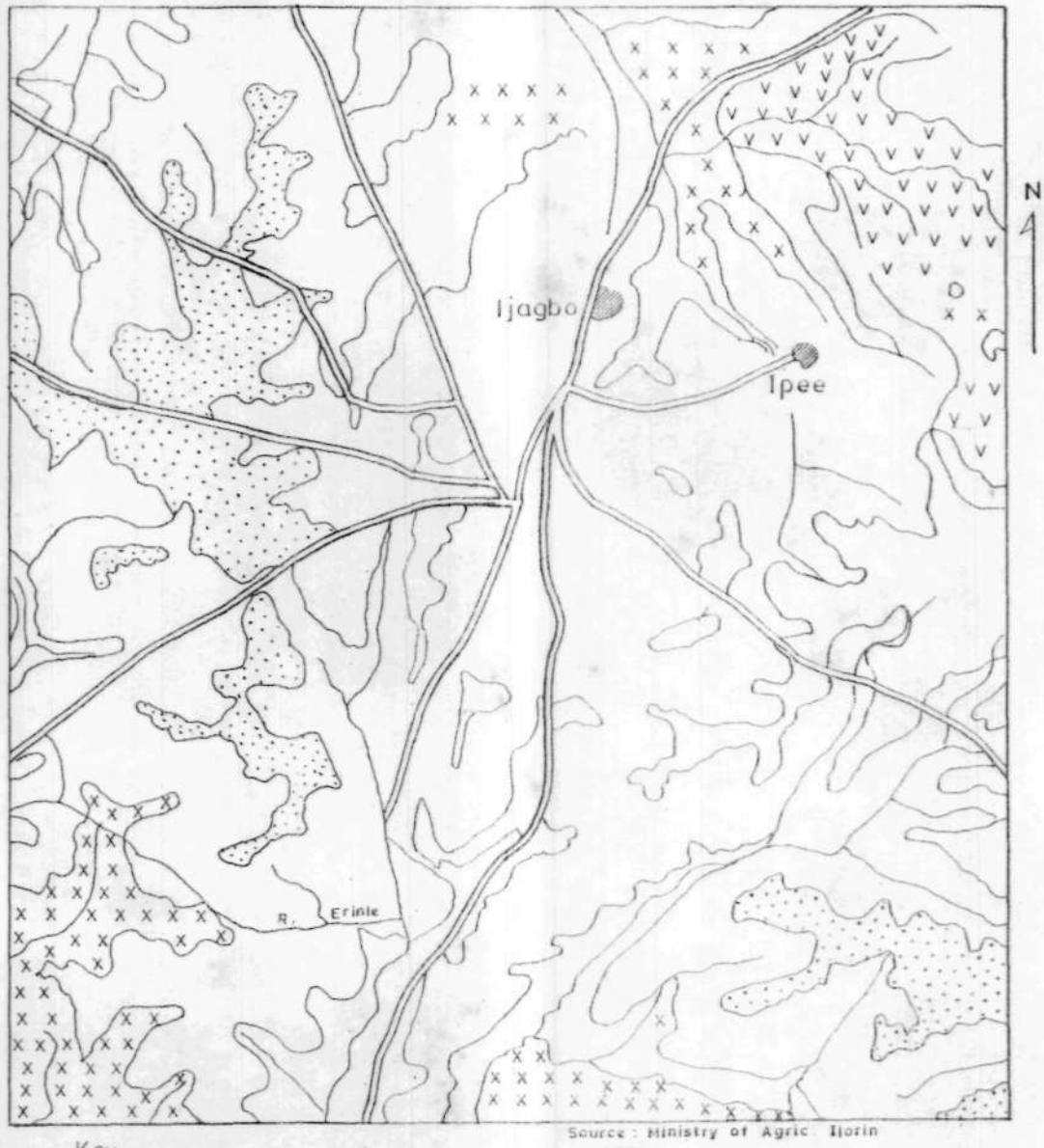


Table 2.1

LAND AREA AND POPULATION DENSITIES OF L.G.A.S IN KWARA STATE

L.G.A.	Area Sq.km.	Population Density	
		1963	1985
Asa	1,252	95	205
Borgu	28,698	4	7
Edu	4,890	23	49
Ifelodun	3,277	39	86
Ilorin	846	316	847
Irepodun	2,422	64	131
Kogi	4,480	20	45
Moro	3,304	36	71
Okehi	1,362	134	331
Okene	1,917	75	193
Oyi	7,270	25	63
Oyun	660	173	443
Total	60,388	28	67

Source: Statistics Division Ilorin, 1985-

joins the River Asa to form the River Oyun which flows into the Niger Basin, 120 kms north of Offa. To the south, many small streams form the Rivers Erinle and Otun which join the Oshun, the main river flowing southward to the Atlantics, 220km from Offa.

2.4 Climate.

Offa has two main seasons, the wet season from late April to October and the dry season from November to April. Each of these seasons is characterised by a specific type of prevailing wind:- The south-west and north-east trade winds respectively.

Offa lies in the tropical climate region. The dry season, with temperatures reaching up to 38°c, brings about drought conditions. The mean annual rainfall in Offa averages over 1000 mm. (Ministry of Agriculture, Ilorin 1974). Relative humidity in the west season exceeds 80% in the morning. In the dry season about 65%. Tornadoes usually indicate the end of the rainy season and sometimes destory crops and dwellings.

2.5 Soils and Vegetation.

Four distinct soil units have been identified (Ministry of Agriculture, Ilorin 1974).

(a) Areas of exposed metarmorphic and igneous rocks. Erosion, which is partly due to the general lack of vegetation, is very active in these areas, preventing the accumulation of soil and exposing the fresh rock surface to weathering. The areas of exposted rocks are suitable for construction and grazing.

(B) Soils of the forests.

These areas are small and isolated and are generally found in the lowlying plains. They are easily accessible unlike those of the thickly vegetated slopes of the sedimentary rock formation. The forests could be exploited for wood production and would be suitable for cultivation if trees were felled in certain areas.

(c) Soils of the Valleys.

These fine transported soils that have been deposited in the valleys. In some places, vegetation is dense due to the abundant ground water supplies. The soils of the valleys are suitable mostly for agriculture, but care should be taken to prevent flooding during the rainy season.

(d) Soils of the Flood plain.

The soils are an accumulation of clayey, fine - to - coarse-grained transported sediments and are liable to frequent inundation. Some of the higher-lying areas are cultivated and water supply is abundant. These soils could be used as raw materials for construction purposes. The area lies in the savanna wood-lands and is covered with scattered trees.

2.6 Historical Background.

The name, 'Offa' is derived from the Yoruba word for 'bow' and the traditional titles of its ruler, the 'Oloffa', means 'the owner of the bow'. There is no exact information regarding the age of the town. It is also commonly believed that the original settlers were Yoruba from either Ile-Ife or Oyo.

The town is divided into four major quarters known as Esa, Ojomu, Shawo and Balogun. Historical area include the

'Oloffa's palace, Idi-ogun and the Moremi square.

2.7 Economic Base.

The economy of Offa is based on agriculture, trade and services. It has the largest population concentration in the Local Goverment Area, the largest number of social and educational facilities and the largest network of public utilities. Accordingly, Offa is the focal point of economic growth in the Local Government Area. On the other hand, it lies almost half way between Ilorin and Oshogbo, both exerting a strong attraction as evidenced by out-migration from Offa to these towns.

Offa attracts a sizeable number of traders and shoppers from the rest of the Local Government Area and immediate Oyo State. There are three permanent markets in Offa. The main one is the daily Owode market and the other is the Oja-Oba night market, and the third is the Oyun Divisional market along Erinle road. There is also a traditional periodic market which operates every five days and is located at the Owode market.

The area produces a variety of food and cash crops. The area around Offa is the most intensively cultivated. Oyun division is the second main exporters of cocoa in Kwara State after Kabba division. Coffee constitutes the second main export crop, palm kernels and sheanuts are also exported in negligible quantities.

The food crops include cassava, yams, sweet potatoes, millet and guinea corn.

Offa also has good industrial prospects with the presence of some manufacturing industries of various scales such as Kwara Breweries, Okin Biscuits and Amukde Technical Company.

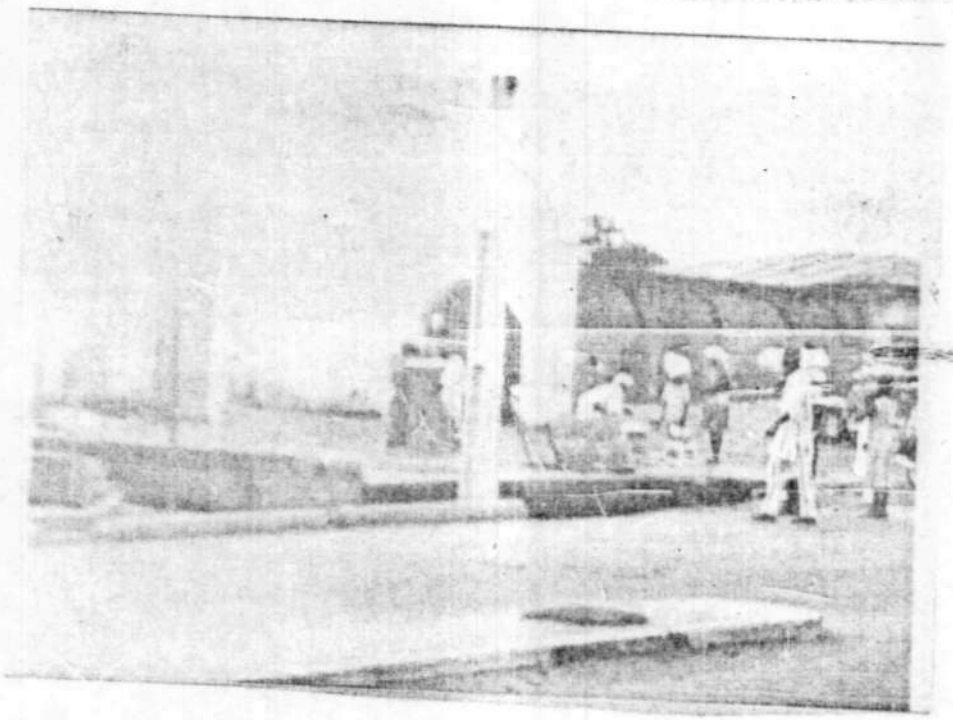
2.8 General growth of Offa town.

The growth of Offa can be understood by following the trend in the locational changes of the town centre and new development areas. The oldest centre is the area around the Oba's palace and the focus of new development was the northern part of the town towards Ijagbo. The oldest centre is cultural and political in structure, comprising of the Oba's palace, central mosque, Moremi square and night market. (Fig. 2.3 -Plate I).

However, due to increase in the development of transportation, social and commercial services, there is a gradual shift from the old centre towards the northern part of the town. The location of the railway station between the old centre and Ijagbo contributed to the creation of a new centre nearby. The new development area extends further north to Ijagbo towards Ajasse-Ipo boundary and also few areas to the south east and south west of Offa. The second centre thus comprises of the railway station, police station, bank, post office, Owode market and motor garage. Because of these important social and economic structures the area still dominates the other parts of the town in terms of volume of daily economic and social activities. (Fig. 2.4).

The growth of the town in the early stages was in the direction of the main roads northwards and southwards. Only schools were found located in the western and north-western parts of the town. However, the effects of land ownership constraints reduced greatly the growth of the town along the main Oshogbo- Ilorin road, especially southwards going to Erinle. This affects the expansion of residential units than industrial establishments. Thus there is a change in the spatial direction of growth towards the north west and western parts of the town. This has been helped by the development

Plate I



Oba's Palace Offa - First centre of town.

FIG. 2.3 OFFA CENTRAL ALONG ERINLE — AJASSE ROAD (NORTH)

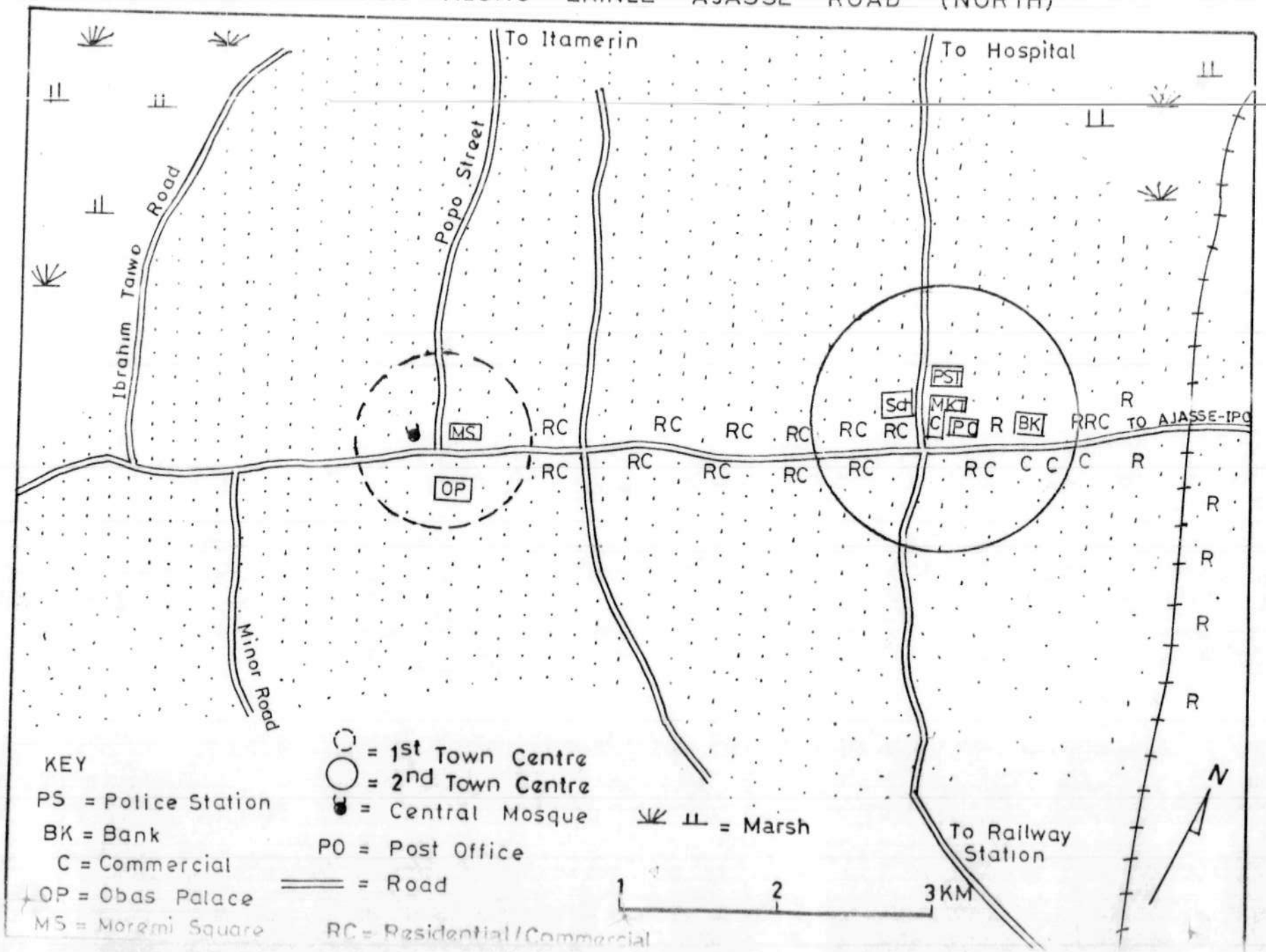
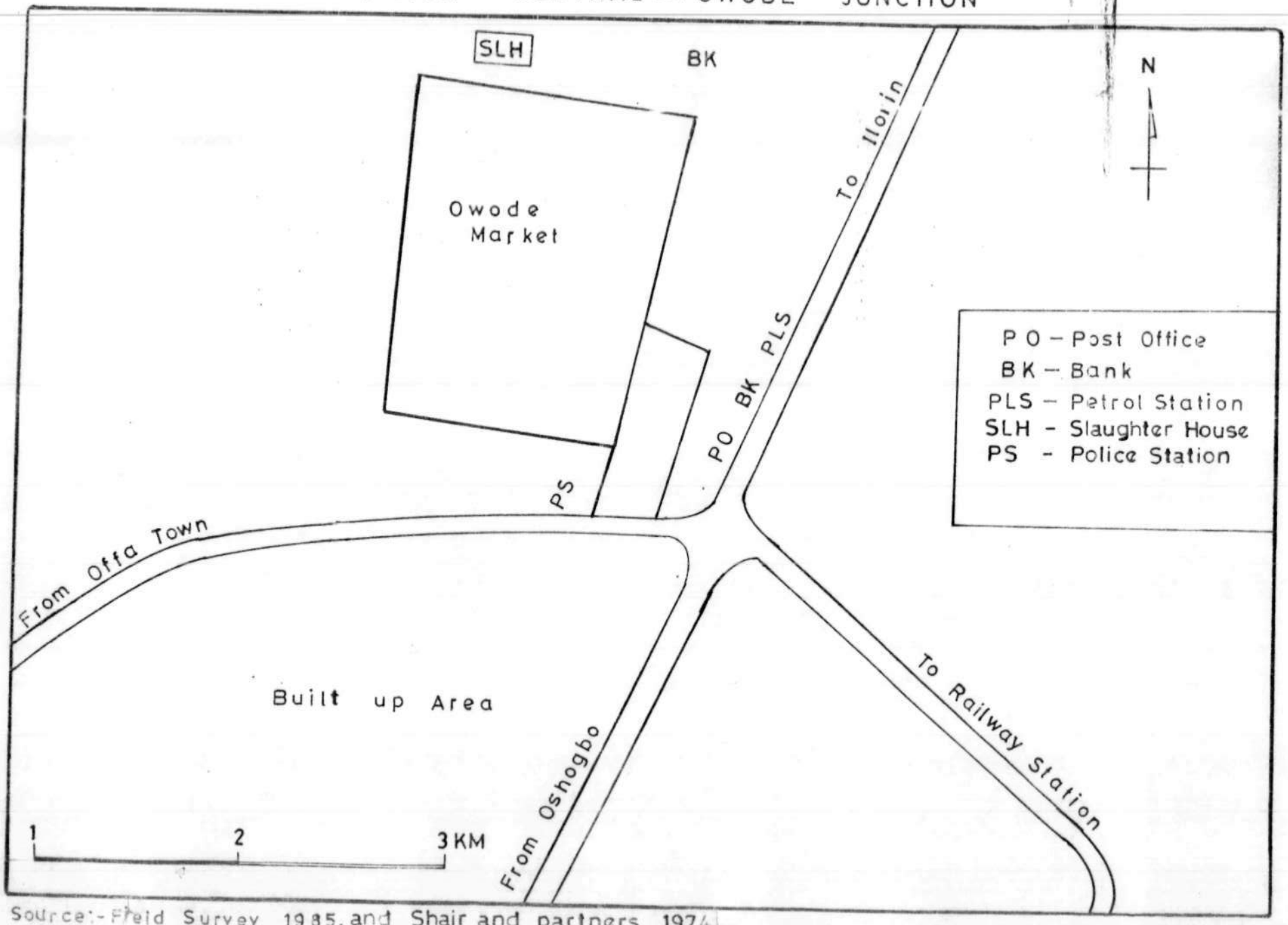


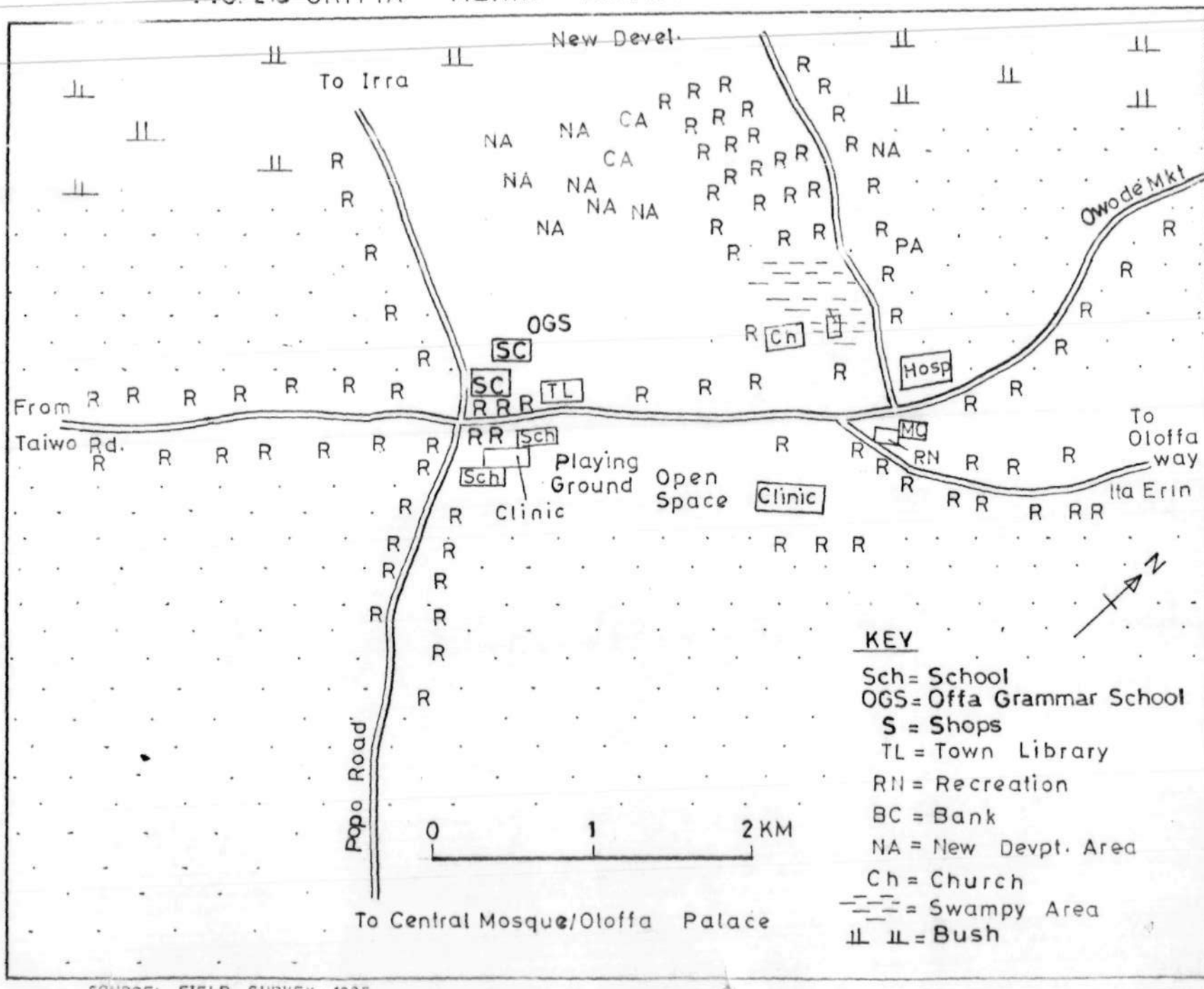
FIG. 2.4 OFFA CENTRAL — OWODE JUNCTION



Source:- Field Survey 1985, and Shair and partners 1974

of intra-urban roads. The area now recorded the highest number of roads, streets and modern residential structures. Institutions, Local Government Secretariat, Traditional Council Secretariat, government offices are also located in this area. This has resulted into a change in the new development centre from the main Oshogbo-Ilorin road towards the north-western part of the town after the orita-merin junction and after the General Hospital westward. Fig. 2.5.

FIG. 2.3 OFFA MERIN AREA.



SOURCE: FIELD SURVEY, 1985

CHAPTER THREE

LITERATURE REVIEW

3.1. Introduction.

The 19th and 20th Centuries have been marked by rapid urbanization and the interaction between urban and rural areas has intensified, (Ajaegbu, 1970). Urban centres in Nigeria are experiencing population explosion and at the same time urban activities are spilling into the countryside. An increased number of urban workers are seeking rural dwellings. The interaction between rural and urban areas is at its maximum at the outer-edge of the continuously built-up area, since here is located the undeveloped space into which a town or city expands by circumferential or radial growth (Johnson, 1974). This undeveloped space into which a town expands is the urban fringe.

A number of Scholars have written extensively on land-use of the rural-urban fringe. Many have also provided detailed descriptions of the fringes of particular towns or cities, while some have attempted to identify the general land-use characteristics of the urban fringe zones, others paid attention to more limited aspects of the rural-urban fringe (Johnson, 1974). For example, Rikkinen (1972) as quoted by Thomas (1974, p.22), has analysed the way in which ownership boundaries affect urban growth and land use change. Schnone and Klaff (1972) as quoted by Thomas (1974) have measured the speed of sub-urbanization over the last decade in the United States, comparing it with those of earlier decades. Whitehand (1976) has attempted to recognise the fringe belts of earlier periods in the present-day cities.

Included among these are also studies of Mortimore (1966), Sada (1970,), and Ajaegbu (1976, 1976), focusing on some towns and cities in Nigeria. These studies dealt with the way agricultural land use is organised or changes around urban centres, the problems of town boundaries, the development of shanty settlements at the peri-urban fringe and the need to give special attention to fringe areas in regional planning. "The literature is now both copious and diverse, much of it dating from the period 1945 - 60". (Thomas, 1974, p.22).

3.2. Definition of "Rural-urban Fringe".

The rural-urban fringe has been noted to be a part of the city that is very difficult to define physically and usually refers to the area in which sub-urban growth is taking place and where rural and urban landuses are mixed to form a transition zone between town and country (Johnson, 1974).

The actual or effective urban fringe is closely associated with the outer limits of the built-up area of an urban area. However, the larger conurbations formed as clusters of formerly separate towns growing together along main roads and railways, present a more complicated problem in definition. According to Thomas (1974) it is a zone of mixed landuse elements and characteristics in which rural activities and modes of life are in rapid retreat, and into which not only residential, but also industrial, commercial, educational, public services and other largely extensive urban uses of land are intruding.

In landuse and in an administrative sense, the fringe area is only partially assimilated into the growing urban complex. Since the area itself is one characterised by an incoherence of land use and of social patterns, it is not surprising that problems of definition have always beset studies of the fringe Thomas (1974).

According to some Scholars, Thomas (1974) and Golledge (1960) the rural-urban fringe is a physical entity with a particular land-use mix brought about by the spread of the urban centre, its functions and its population into the rural areas. While pahl (1965) regard the fringe as having distinctiveness by virtue of the rather special commuters which occupy it. To him, as quoted by Thomas (1974), "the rural-urban fringe is a social entity brought about by the influx of socially - segregated, economically-filtered, urban-oriented, mobile, middle-class families, intermix, but not inter-mingled; with a more socially diverse, static indigenous rural population." (pp.23-24).

However, though both standpoints are quite constrasting, there is one thing they both agreed on, and that is the fact that the rural-urban fringe is a problem area. This provides as Thomas (1974) says, substantial problems of definition and of analysis.

There is also a great problem arising from the meanings given to the words which denote the features of the fringe. This arises due to the great range in sizes of urban centres studied by the different scholars. A confusion of concepts thus arise from terms employed to differentiate the various parts of the rural-urban fringe such as suburbs, pseudo-suburbs,

inner and outer fringe areas, urban interface, rural non-farm, rural farm, true fringe and a partial fringe. However, in the context of this research, the rural-urban fringe can be divided into urban fringe and rural fringe depending on the percentage of rural land-use and the percentage of urban land-use. Thus the rural fringe is characterised by higher proportion of farmland as distinct from non-farm and vacant land, lower rate of land-use conversion, lower density of residential, commercial and industrial land-use and farther away from the urban centre. While the urban fringe is characterised by higher density of residential, commercial, industrial and vacant land as distinct from farmland; higher rate of land use conversion and nearer to the urban centre. However, this distinction is more of academic than practical, because of the difficulty of demarcating them on the actual field. Usually a distinction can be made between fringe belts on the basis of the age of the orginal plots.

Ajaegbu, (1976) stated that "An urban-rural region can be defined as a contiguous zone of effective interaction between an urban centre and its rural hinterland areas" (P.60). Therefore, it is a functional region, having a functional centre and a surrounding hinterland served by the centre. It can be regarded as an ecological community region" (Robson, 1969); since it is a system of inter-relationships between the centre and the hinterland areas.

In the context of this research, the rural-urban fringe can be defined as the immediate a rea surrounding an urban centre in which new urban development is taking place, replacing the dominant agricultural land use and which brings about various physical, social and economic processes within its

spatial setting which generally extends from the immediate edge of the built-up area of an urban centre into the rural land.

3.3 Characteristics of the rural-urban fringe.

The rural-urban fringe has many characteristics which makes the study of such areas very complex. Golledge (1960) set-up a series of propositions or hypotheses describing the features which he expected to have developed on the margins of urban centres. The rural-urban fringe, in his own view, possess seven major characteristics which are summarised below:-

(a) It has a constantly changing pattern of land occupance.

(b) Farms are small.

(c) Crop production is intensive.

(d) The population is mobile and distributed at low or moderate density.

(e) Residential expansion is rapid.

(f) The provision of services and public utilities is incomplete.

(g) Speculative subdivision and speculative buildings are common.

Out of the seven characteristics listed above; the changing pattern of land occupance is the least difficult feature to demonstrate. Population densities are usually low, although growth rates could be very high, contributed mostly by immigrants. There is also a process of changing commuting character of the fringe area as a result of the presence of urban oriented population having firm linkages with the centre and generating new travel pattern to work. Pahl (1965) suggests that fringe settlements are better understood as interlocking parts of a dispersed city. This is true because fringe settlements are joined to the city by transport routes and they

are dependent on each other.

It is also recognised that many public utilities serving the urban areas in Nigeria because of their space requirements are found located in the fringe areas. Radio transmitting stations, recreation land, water supply, airports, cemetries and disposal sites are therefore among the urban necessities found beyond the outer edge of the city. In addition to these uses, there are others which are necessary but unwanted in the city which it has been the practice of urban centres to force into the rural territory, such as slaughter houses, oil storage tanks, industrial estates and this is shown in Fig. 3.1.

3.4 The nature of urban sprawl.

The expansion of the urban fringe has been described as a spatial diffusion process (Morrill, 1965), Goodall (1972) says that the development follows an inverse probability distribution as to distance from the urban centre. Thus the chances of development are greatest for sites nearest to the built-up area as the urban centre expands, resulting into increasing demands been made upon rural land by urban uses.

The urban centres are seen to grow centrifugally with major transport routes having a dominant influence on the directions of physical expansion (Goodall, 1972). Increased total size of urban area has both intensive and extensive impacts. The physical process of urban growth involves the lateral expansion, infilling and internal re-organization of the existing built-up area. Infilling by the process of developing areas formerly by-passed.

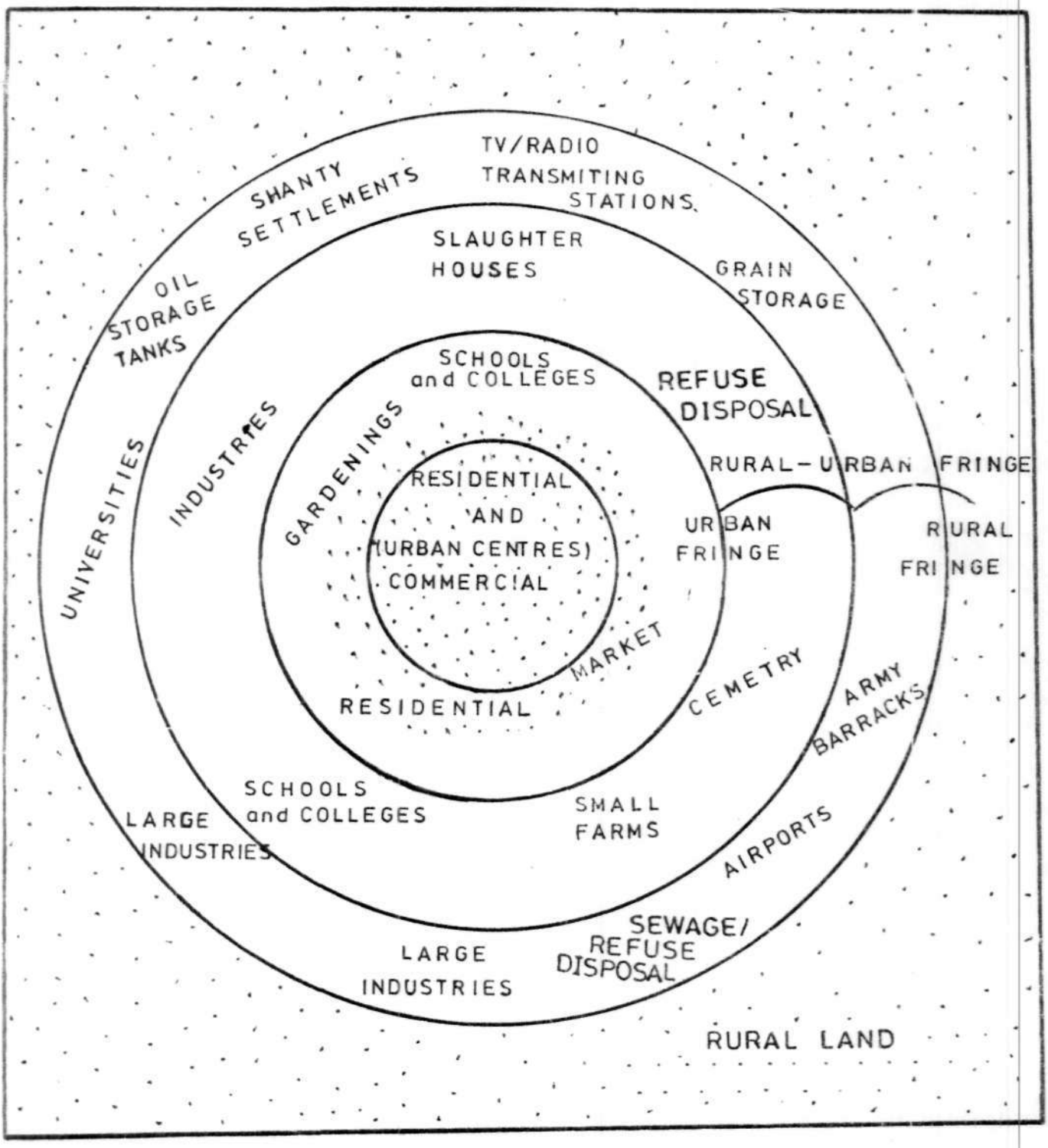


FIG.3-1 SCHEMATIC REPRESENTATION OF GENERAL LANDUSE CHARACTERISTICS AROUND AN URBAN CENTRE IN NIGERIA

The first wave of development in any peripheral zone is likely to be patchy, reflecting such factors as differences in access and amenity conditions and variations in the size of development. A major feature of outward expansion under the price mechanism is therefore, its tendency to discontinuity and this has been termed sprawl (Clawson, 1962). Ribbon development occurs when land on either side of a main road for considerable distance into the country side is coverted to urban use. Urban sprawl is thus a form of growth.

One particular feature of urban growth at the fringe of the city is that some of the social and economic factors that lie behind it are indicative of forces which will be relevant in other parts of the urban area when redevelopment becomes economically possible (Johnson, 1974). For example, high price of fringe land may cause redevelopment in the urban centre.

Sprawl occurs because it is economical in terms of the alternatives available to those firms and households deciding on rural-urban fringe locations. Close-in land is usually by-passed by new development because of the smaller size of available land parcels and the greater cost of acquiring sites with existing, often incompatible uses.

The amount of land needed per unit of time to accommodate the outward expansion of an urban area will depend on the size of the urban area, its rate of growth, the proportion of demand channelled into suburban preferences and the density of new development (Goodall, 1 972). Urban sprawl may therefore bring about an increase in the amount of land not used for any economic output at any given time,

contributed mostly by the role of land speculators. Growth does not affect all urban areas equally. With growth, an urban area may acquire new functions and expand old ones, so altering intra-urban and hinterland relationship; increasing the physical extent of the area and bringing the internal re-organization of activities.

The expansion of contiguous suburbs is an important feature of suburban growth. There is also the creation of second homes by a section of the urban population due to increase affluence and car ownership, resulting in the growth of dispersed urban residential fringe mostly in more distant areas of large urban centres. This is happening mostly in developed countries and few or more recently in some large urban centres in developing countries where the well-to-do individuals prefer to live in areas far away from the urban centre such as G.R.A. or other areas in the fringe areas of large towns and cities.

3.5. Agricultural land-use in the rural-urban fringe.

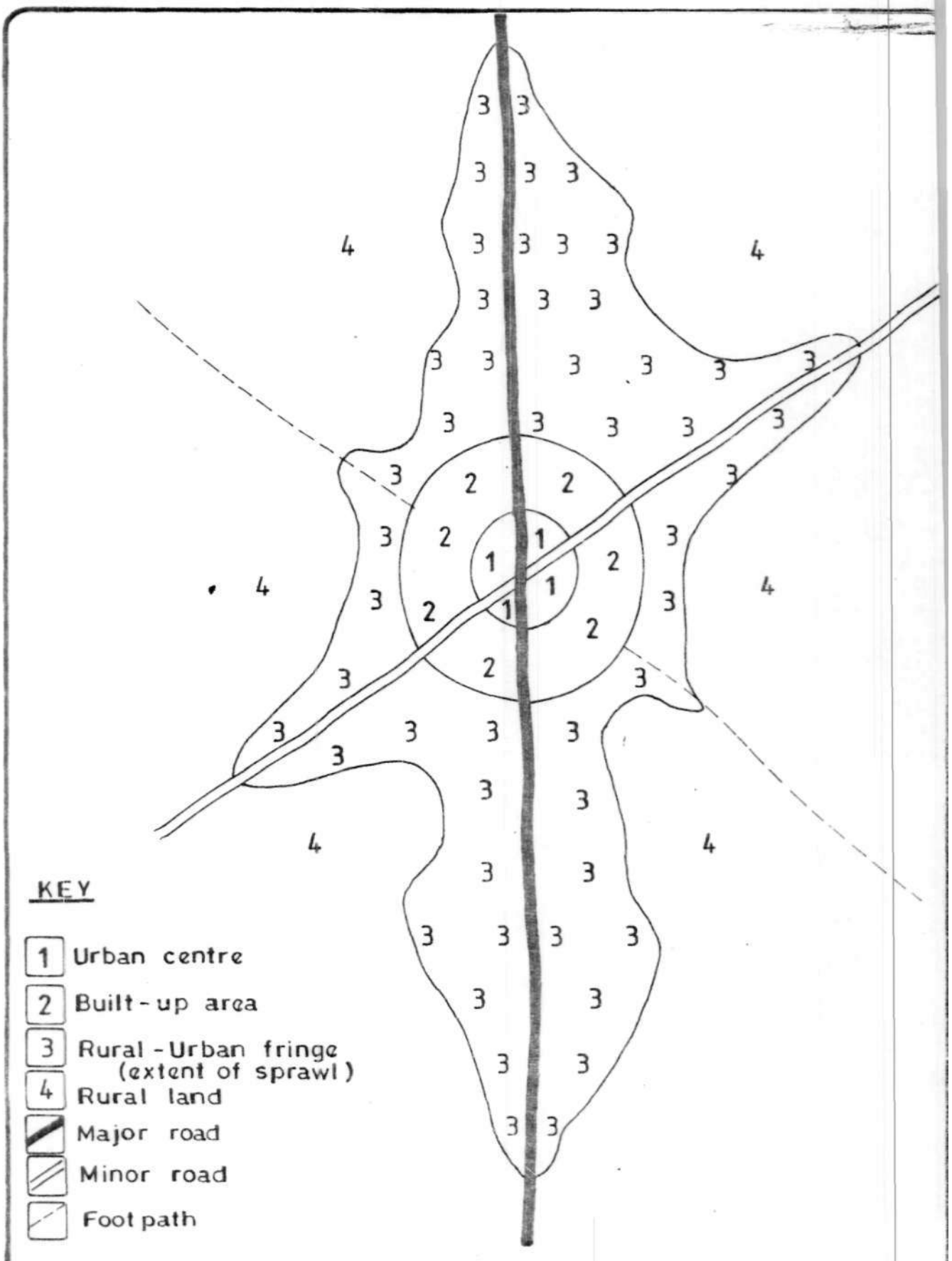
The identification of simple, agricultral zonal structure around towns such as those postulated by Von Thunen cannot hold for all areas. In many places the railways and roads have modified and transformed the simple structure into a complex one. It has been noted in Nigeria that whenever a railway or inter-urban highway enter an urban centre; residences, commercial establishments and industrial plants become strung out along their routes. Since these roads radiate in all directions whenever physical features allowed, the urban fringe tend to consist of rural territory pierced

by finger-like projections of urbanized land uses Fig.3.2. Between the arms of the star thus produced, agriculture and other non-urban land-uses continue, but in a more or less modified form (Johnson, 1974).

The nature of farming also varies with distance from the urban centre. The small fringe farms are usually highly specialised upon the production of perishable or semi-perishable market-garden crops which give a high return on invested capital and helped to cover the higher costs of production associated with proximity to the urban centre. The irregular and continuous conversion of agricultural land to urban uses is always a central theme. Double cropping and horticulture are common near the urban area, while in the outer country areas mixed farming predominates. (Prothero, 1957; Mortimore, 1969).

Agricultural area is easily fragmented by urban based uses. Agricultural land must be farmed intensively if agriculture is to compete equally with residential development. Specific types of agriculture, directly adapted to market demand and supply forces such as horticulture are usually found in the fringe areas. In the process of intensifying agriculture, indigenous farmers may put less into a farm than they remove, thereby causing reduced fertility of soils, a fall in productivity and a run down farming scene. Thus ..... there is also the combination of farm and off-farm employment. Some sub-urban and peri-urban villages are however, areas of intensive and innovative agriculture. Traditional methods of farming are being transformed and hiring of farm labour is very important to some extent in the peri-urban villages.

FIG. 3.2 HYPOTHETICAL REPRESENTATION OF EXTENT OF SPRAWL ALONG DIFFERENT TYPES OF TRANSPORT ROUTES IN AN URBAN CENTRE.



There is also a conspicuous number of urban and rural-based capitalist farmers who are taking the advantages of the urban food market to accumulate surpluses and using large amounts of hired labour and investing in land (Aderogba, 1986). This is related to their research in the densely populated areas around large towns in Hausaland. The hiring of farm labour is an important feature of the "complementarity of farm and non-farm work" and which also reveals the differences between the richer and poorer farmers in a peri-urban village (Swindell and Sutherland, 1985). The villages usually consist of heterogeneous population-people who are part-peasants, part-proletarians, traders and artisans. In such a situation, farm labour and non-farm "may be both conjuctive and competing categories within any one household (Swindell and Sutherland, 1985, P.9). And that the emergence of part-peasants and semi-capitalist farmers is related to the question of land sales which are increasing, and the emergence of 'land poor' if not 'landless' farmers.

The presence of relatively large scale capitalist farming emphasizes inequalities between the urban poor who shift between town employment and farm jobs and the richer employers who are acquiring farmland on the rural-urban fringe, taking advantage of the rising food prices in the urban markets. There is also a 'polarization' between the urban based farmers and the small peasant farmers in the fringe villages who are being squeezed by the bigger, richer urban farmers as they compete for both land and labour .

One could thus conclude that in some urban peripheries there are "emergent capitalist farmers and an agrarian proletariat" (Swindell and Sutherland, 1985, P.7).

3.6 Residential land-use in the rural-urban fringe.

Residential development is also an important feature in the rural-urban fringe. Some people are found to live in dispersed residential buildings especially near the villages or smaller towns located along transportation routes in the fringes of urban areas resulting into the development of commuter settlements in developed countries and the development of shanty settlements or industrial sattelites near large cities of developing countries.

"This village" development is only one of the forms of residential development associated with the modern urban fringe" (Johnson, 1974, P.8). The residential population of villages or smaller towns near large urban centres has been growing in various ways, such as the development of industrial satellites and the expansion of retailing and service centres.

The conversion of land from rural to urban uses is merely the first of an endless sequence of urban changes which a piece of land experiences. And according to Whitehand (1967) the fringe belt development can be divided into two phases. One of formation and one of modification. The formation phase is essentially during which rural land is acquired for urban use.

The modification phase is that following the inception of the first urban use and the incorporation of that use within the urban areas as a whole.

3.7. Manufacturing and commercial land-use in the rural-urban fringe.

Most general texts on urban geography acknowledge the significance of manufacturing for modern urban growth and make attempts to trace its structure and location patterns within and between cities. The problems of generalising about manufacturing patterns are compounded in the fringe zone.

Fringe areas are likely to possess space into which manufacturing firms can expand or re-organize production. The suburban manufacturing has lineal pattern and is primarily concerned with the production of goods for distribution beyond the immediate urban area. Such locations for manufacturing in the rural-urban fringe were originally made difficult by the problem of assemblying a labour force daily. However, the rise of private transport of various kinds has eased this problem, (especially taxis). These businesses that serve a national rather than a local urban market do not require to be so closely associated with the continuously built-up area of an individual city and can use the cheaper, more extensive sites available within the ambit of a large urban settlement, but not immediately adjoining it. Local firms serving the local urban market are also increasing in the rural-urban fringe such as bakery, cement block making, printing, etcetra.

The development of small-scale commercial centres such as shops, stalls, etcetra, is also increasing and suburban retailing also seem to be increasing and to operate more widely in recent times in more suburban areas especially along major roads. Thus there is general increase in the provision of the new suburbanites with local shopping facilities. The central area however, still remains more important in the supply of comparison shopping goods, for the suburbanization process in Nigeria has not reached the stage currently found in the developed nations.

3.8 The development of shanty settlements.

As the land in nearby villages are filled up, the improvement in transportation, increased wages and industrial development have caused increased decentrilization and the expansion of commuting into more distant rural areas especially when no new development of housing is allowed (Connell, 1974). As the urban sprawl processess move outward, there is the generalinflux of ex-urban migrants especially in the developed nations. This results into the development of dormitory settlements.

The settlements are swallowed by the growth of a large urban centre. Increased means of transportation has greatly reduced the time of travelling to urban centres for work. The degree of accessibility of rural settlement to the urban centre will affect the development of dormitory or metropolitan settlements.

According to Connel (1974) the following are true of most suburbs of developed countries with few characteristics related to that of very large urban centres of developing countries.

(a) That suburbs are likely to be dormitories especially in the developed countries.

(b) Far away from the central city mostly in the developed countries and in large cities of developing countries.

(c) Newer and more modern in outlook than the central city, in developed nations and mostly shanty in outlook in developing countries.

(d) Less dense than the central city in both developed and developing countries.

The morphological units of the settlements very near urban centres consist of the old village centre consisting of old houses, unplanned and narrow streets; government housing and the more recent modern housing mostly for commuters. These different morphological units of metropolitan villages are rarely present in equal spatial extent.

Around the urban centres of developing countries, there is a remarkable growth of shanty 'towns' or 'squatter settlements', which are occupied by the poorest in the society (Thomas, 1974, Sada, 1970 and Ajaegbu, 1976). They consist usually of temporary buildings which may later develop in to permanent ones. These are found mostly in the fringe areas on lands not sought after for urban uses. They are poorly provided with communication and other social services, though they enjoy the benefits of nearness to the urban centre.

Some view the settlements and the inhabitants as being at a transitional stage on the way to becoming fully absorbed into the urban life or settlement. Though the settlements are partly physically separated from the urban area, they are also dependent on it.

Relatively low housing density in areas which were formerlly rural are now engulfed by residential expansion and which may later become more dense. They are dependent upon the centre for employment, other services such as transportation, shopping, public utilities and some administrative functions. Generally, within a limited distance from the urban centres, there exist some kinds of villages that may be of very variable composition in terms of population as a result of some influences from the urban centres.

3.9 The problems of the rural-urban fringe.

Thomas (1974) remarked that "the inter-penetration of urban and rural land and of urban and rural society inevitably creates a competitive atmosphere in which conflicts of attitude and of interest appear" (P.26). The problems infact provide additional means of characterising the fringe areas of urban centres. Even though some of the features may also be found in other parts of the urban or rural areas, they are more pronounced within the rural-urban fringe than elsewhere.

Thomas (1974) identifies six broad categories of problems emerging in the rural-urban fringe which could be related to the Nigerian situation:-

(a) In unplanned fringe areas like most of the developing countries, there are usually problems related to 'scattered and piecemeal residential and commercial' development.

(b) The second problem related to the one above, include the inter-mixture of non-confirming land-uses to a rural setting, which find their way into the fringe areas for economic reasons.

(c) Also the problem of reservation of land for agriculture and making sure that it remains economically viable, since agriculture is known to be in a weak competitive position in the fringe areas of urban centres.

(d) Emphasis on concentration of residential and commercial land-uses, while recreation areas are rare.

(e) Lower level of service provision arising mostly from higher costs of services e.g. water supply and electricity compared to the urban centre.

(f) Also the socio-economic problem of intermixing of different social groups either with urban based or rural based ways of life and attitudes.

The rural-urban fringe is infact a problem area and rural-urban land conflicts could result into different kinds of conflicts and sometimes loss of live as seen in some cases in Nigeria.

3.10 Conclusion.

It has emerged from the foregoing discussion that the fringe areas of urban centres constitutes a problem area and it is necessary for it to be well studied and for appropriate solutions to be sought.

The areas are unplanned resulting in the development of areas within which different land-use types are juxtaposed and intermixed in no logical pattern.

The land in the fringe areas may be under-used in some places, while in other areas, competition may be so great so as to lead to shortage of land. In either case, both the environment and the indiscriminate conversion of land into different uses need to be safe-guarded. This would involve a much greater degree of planning control than is at present applicable in Nigeria.

The fringe belts in Nigeria are neglected in regional and national planning. And land use if well understood could in conjuction with economic and social factors, provide a simple and more reliable guide to the problems and character of the fringe zone and to the changes taking place therein.

CHAPTER FOUR

PHYSICAL COMPONENTS AND SPATIAL EXTENT OF LAND USE CONVERSION AT THE RURAL-URBAN FRINGE

4.1 Introduction.

The rural-urban fringe in terms of physical ~~extent is the~~ area adjoining the built-up area of an urban centre and into which the town or city expands as it grows outwards and extends into the rural land as explained by Sada 1970, Ajaegbu, 1970. The rural-urban fringe also interms of physical components consists of some urban based structures intermixed with farmland and many unwanted or extensive land-uses serving the urban centre, and where slums or shanty settlements easily develop as explained by Golledge 1960, Sada 1970.

In this chapter, variables to be discussed include the extent and nature of urban sprawl in the s tudy area, boundary changes and the different types of land-use identified such as industrial, commercial, agricultural, recreational, educational and residential land-uses in the rural urban fringe of Offa.

4.2. The extent and nature of urban sprawl in Offa.

The population of Offa has been rapidly increasing within the past twenty years 1966-1986 (126,458 in 1985 estimated projection from 1963 Census at 2.5 percent growth rate per annum (National Population Commission, Ilorin). This has necessitated the expansion of the area of land the town occupies for residential, commercial, industrial and educational purposes. As Sada 1972 pointed out, urban sprawl usually accompanies urban population explosion and has various spatial implications.

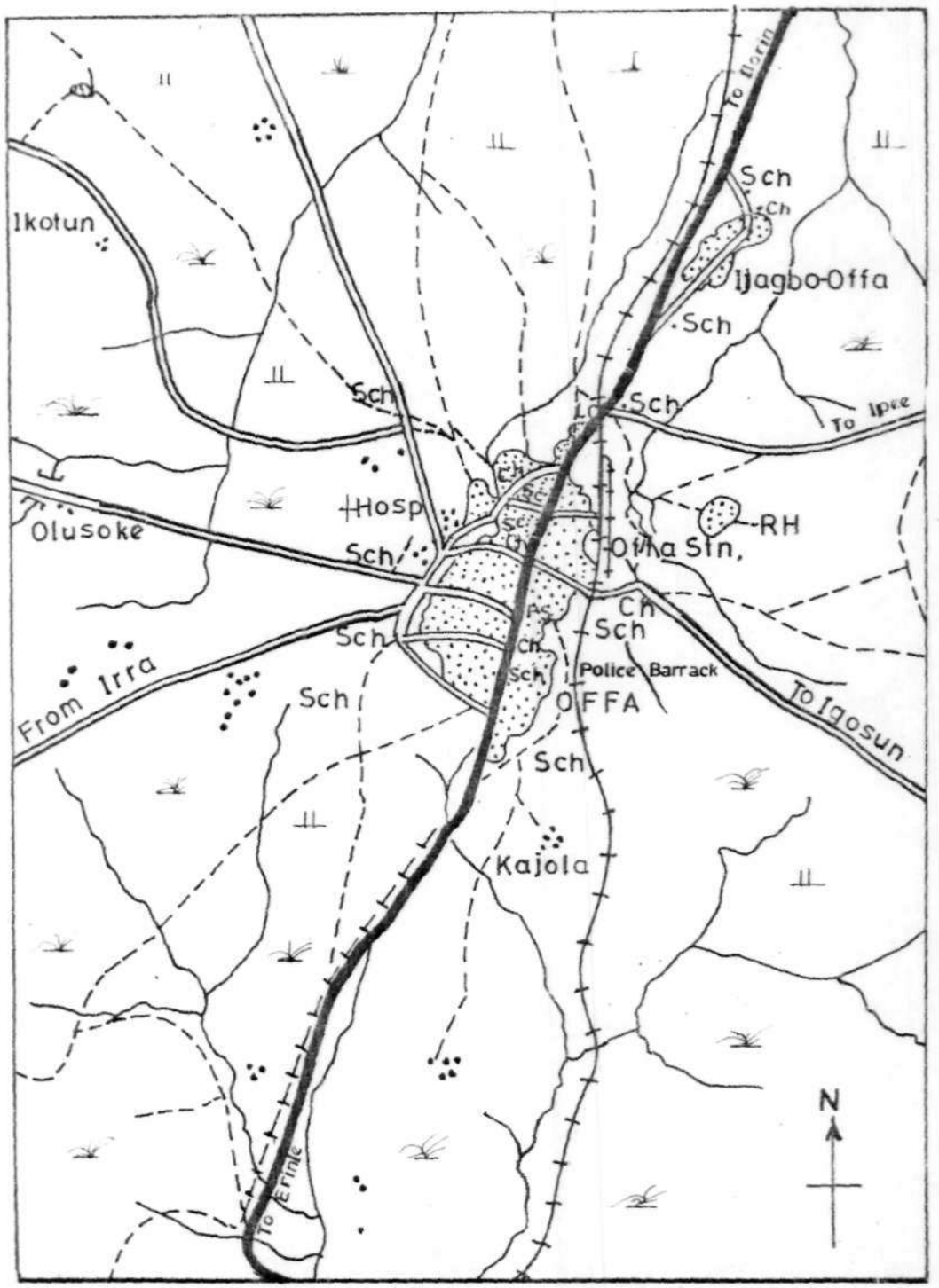
The tendency of the spr wal is highest in areas along the main Oshogbo - Offa - Ilorin road. This is what Clawson 1962 has termed 'ribbon development' when the land on either side of a main road for a considerable distance into the country-side is coverted to urban use.

The sprawl extends to a greater distance along the opposite directions of the main Oshogbo-Offa-Ilorin road to about a distance of 6km from the urban centre. Along Ipee/ Igosun roads to a smaller extent of a distance of about 2.5km from the urban centre. Also to about 6km along Offa-Irra/Igbonno roads, in the west and north-western parts of the town -Figs. 4.1, 4.2, and 4.3.

The outward expansion of Offa town into its rural hinterland has brought about the presence of plots of land not used for any economic output intermixed with other urban land-uses in the fringe areas. This occurs because nearby lands is usually by-passed here and there before infilling takes place. This tendency of outward expansion of a town in a discountinuous manner is a major feature of town growth which Clawson 1962 and Johnson 1974 termed urban sprawl.

It is only land ownership and boundary conflicts that limited the outward expansion of Offa town along the main Oshogbo-Offa-Ilorin road to a greater distance than it is at present. If these factors of land ownership and boundary conflicts are removed, the location of residences, industries, commercial structures and other urban land-uses would have been scattered more farther into the country side of Offa town. This has brought about a change in the direction of sprawl towards the west and north western parts of the town, Fig. 4.4

FIG. 4.1 OFFA AND ITS IMMEDIATE ENVIRONS (1966).



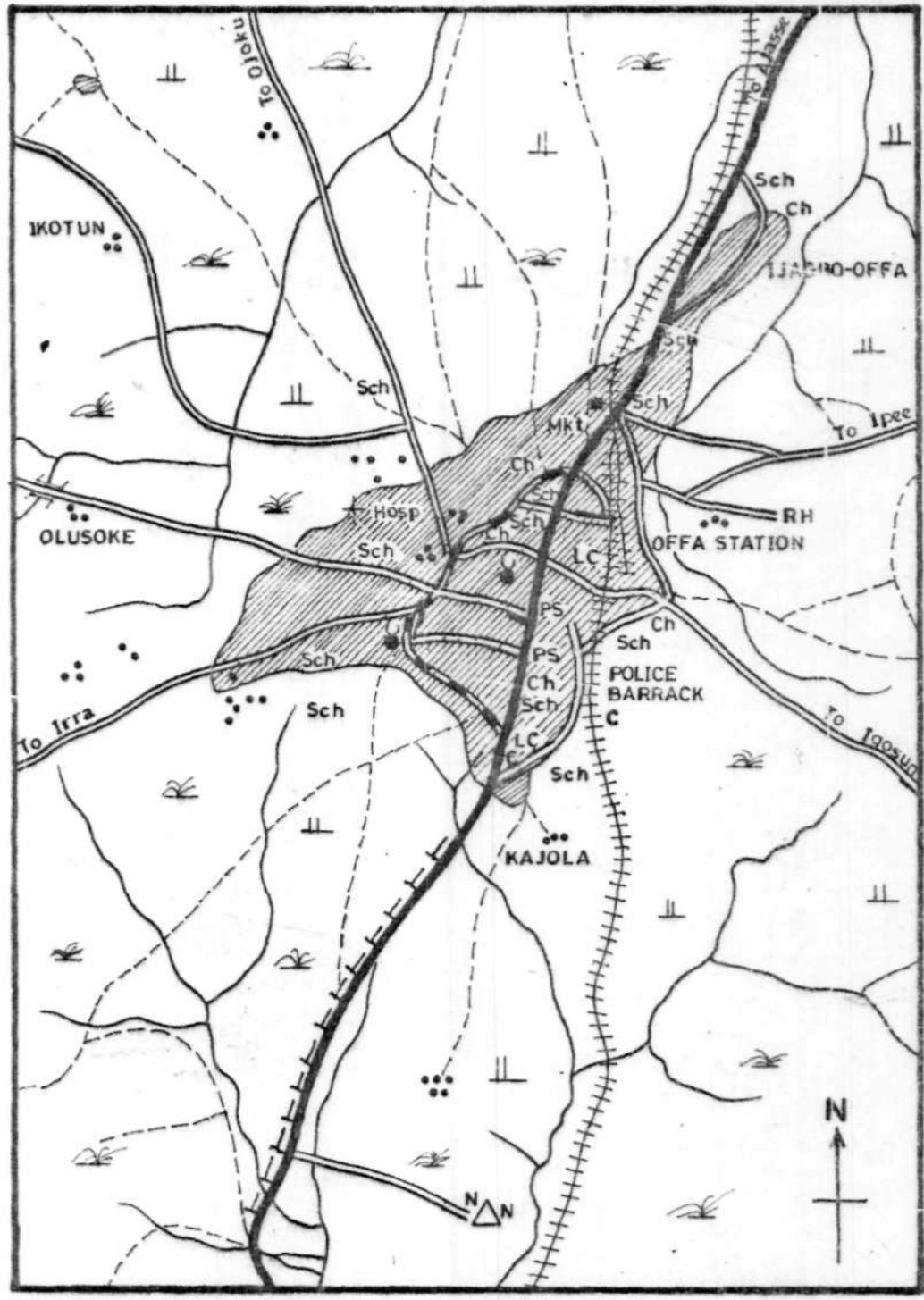
Source:- Min. of Lands and Survey, Ilorin

1 0 1 2 3 KM.

KEY

Built-up areas	Ch Church
Isolated compounds	Hosp Hospital
Main roads	PS Police Station
Minor roads	RH Rest House
Footpaths	Sc School
Railway line	LC Level Crossing
Power line	Light forest

FIG. 4.2 OFFA AND ITS IMMEDIATE ENVIRONS, 1975.



SOURCE: MINISTRY OF LANDS AND SURVEY, ILORIN

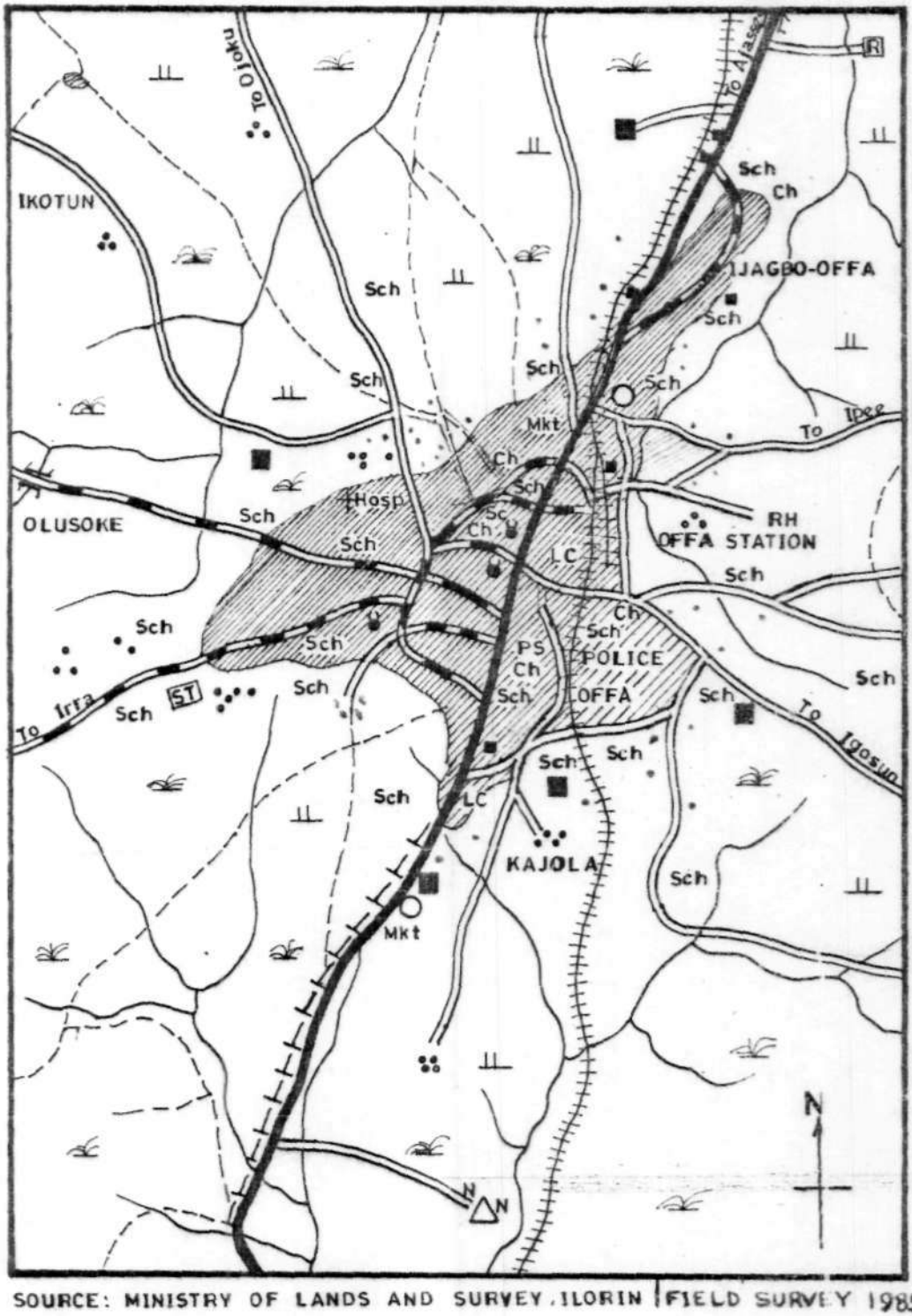
0 1 2 3 4 KM

KEY

- Built-up area
- Isolated compounds
- Main road
- Secondary road
- Minor road
- Foot path
- Railway line

C Cemetery
Ch Church
Hosp Hospital
PS Police Station
RH Rest House
Sch School
LC Level Crossing
Light forest
Mosque

FIG. 4.3. OFFA AND ITS IMMEDIATE ENVIRONS, 1985.



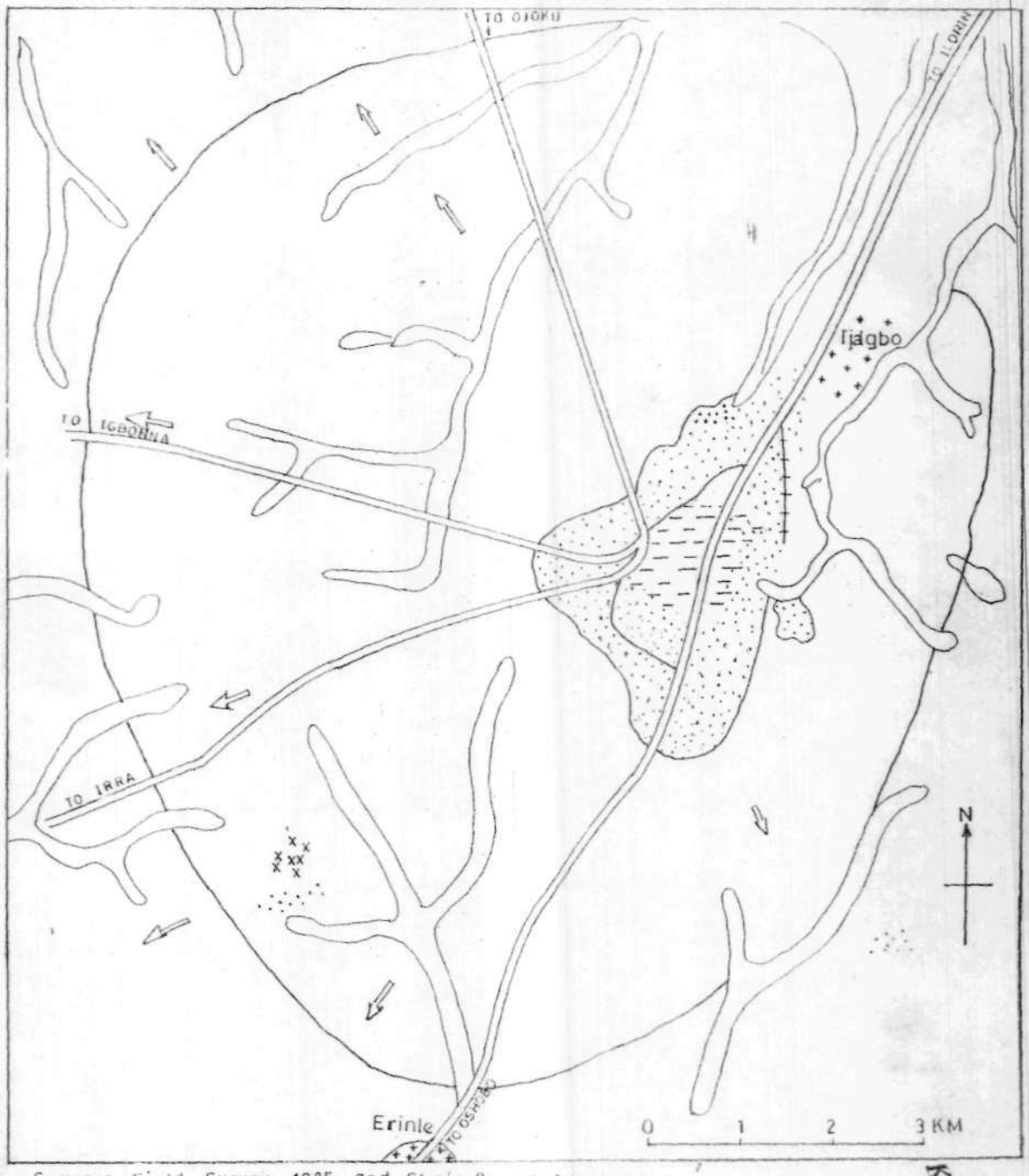
SOURCE: MINISTRY OF LANDS AND SURVEY, ILORIN | FIELD SURVEY 1985

0 1 2 3 4

Built-up area
Isolated compounds
Main road
Secondary road
Minor road
Foot path
Railway line

Mosque
Ch Church
C Cemetery
R Reservoir
Hosp Hospital
PS Police Station
RH Rest House
Sch School
LC Level Crossing
Light forest

FIG. 4.4 OFFA: SITE ANALYSIS – DIRECTION OF SPRAWL

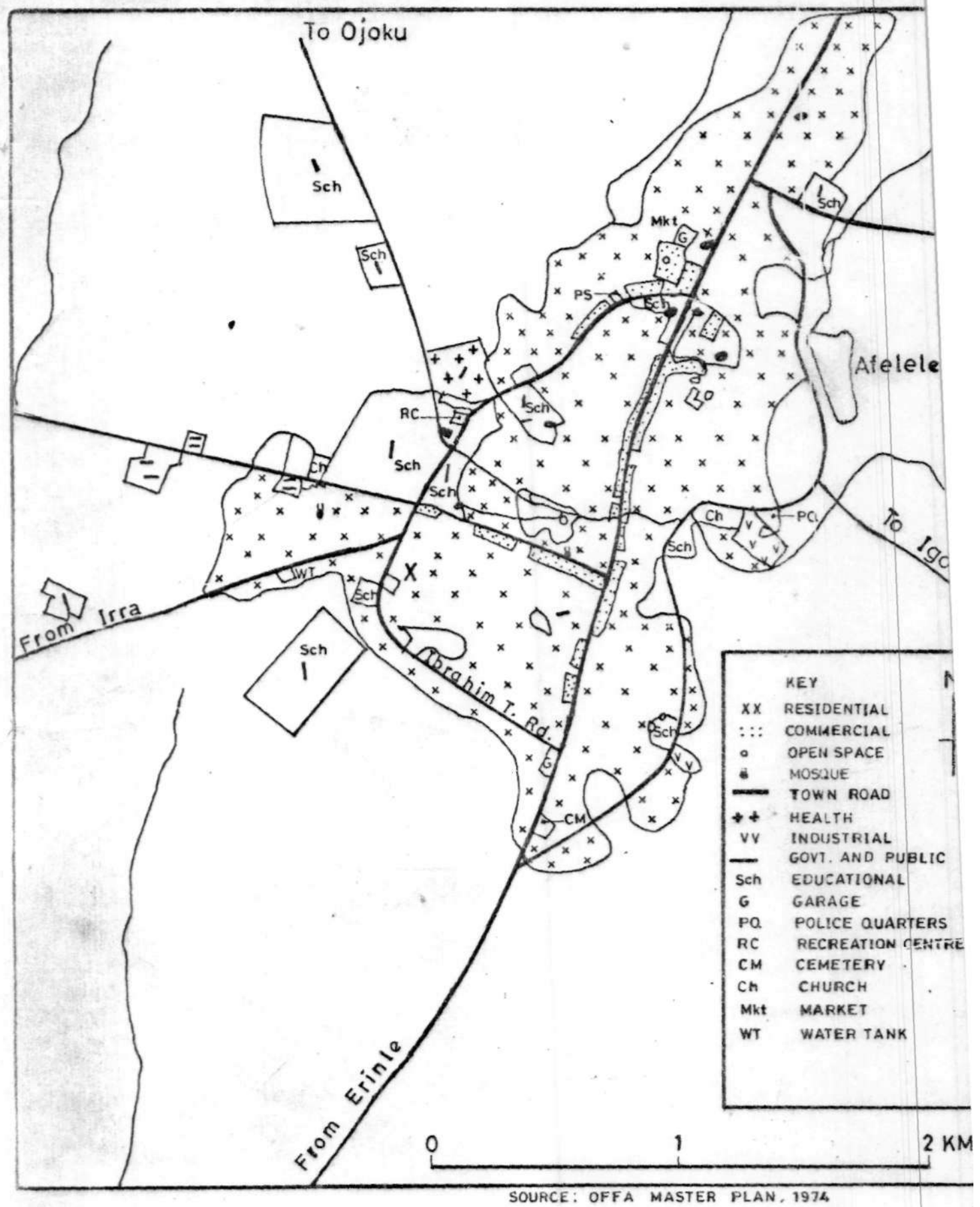


Source: Field Survey, 1985 and Shair & partners

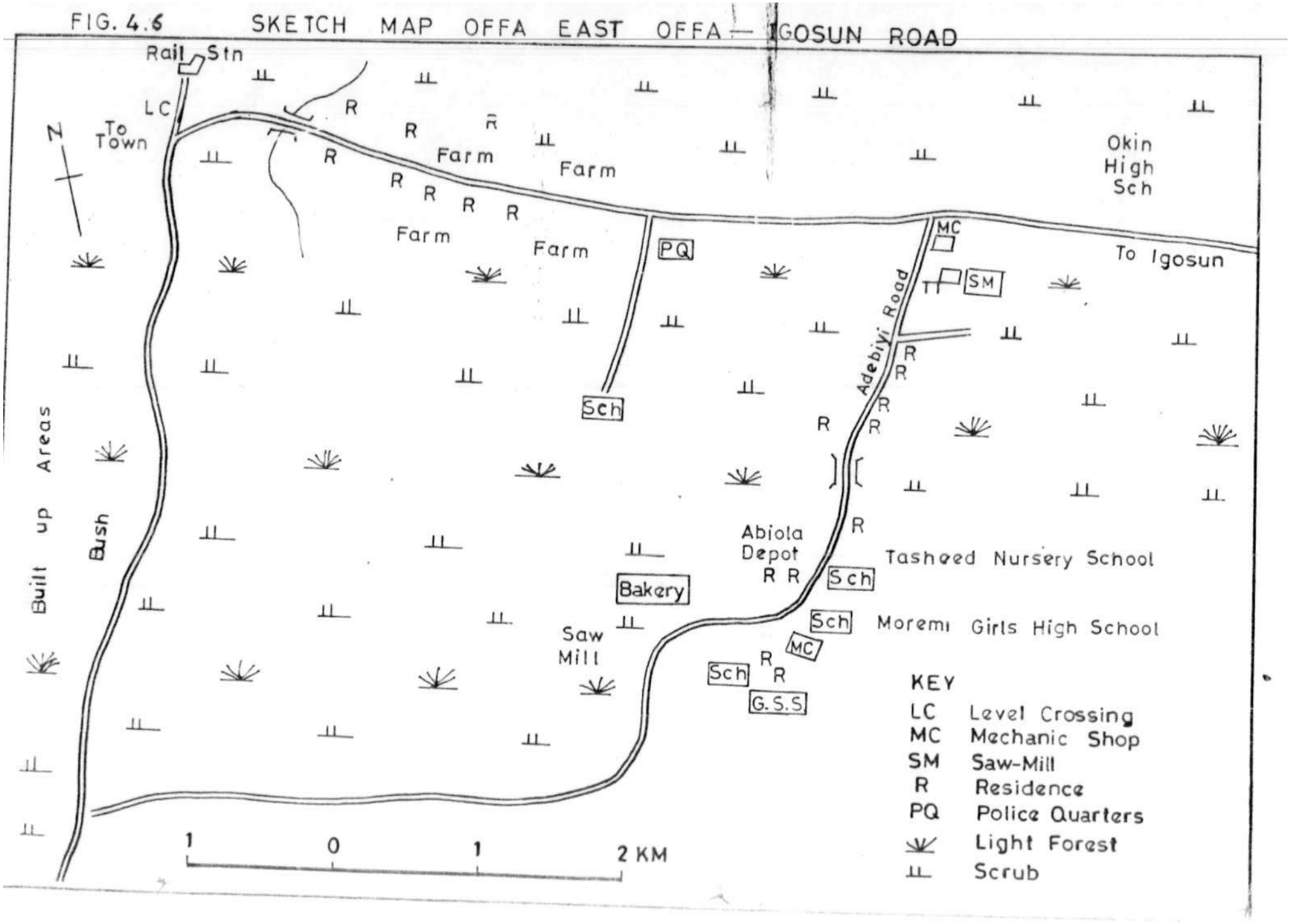
Built up areas
Forest Land
Direction of expansion
Old core
Natural Drainage
Areas for possible expansion
Satellite settlement

KASHIM IBRAHI

FIG. 4.5 EXISTING LAND-USE OFFA-1974



SOURCE: OFFA MASTER PLAN, 1974


FIG. 4.6 SKETCH MAP OFFA EAST OFFA — IGOSUN ROAD
Rail Stn
LC
To Town
N
R
Farm
Farm
Farm
Farm
Okin High Sch
MC
To Igosun
SM
PQ
Adebiyi Road
Sch
Built up Areas
Bush
Abiola Depot
Tasheed Nursery School
Bakery
Sch
Moremi Girls High School
Saw Mill
MC
Sch
G.S.S
KEY
LC Level Crossing
MC Mechanic Shop
SM Saw-Mill
R Residence
PQ Police Quarters
Light Forest
Scrub
1 0 1 2 KM

4.3 Accessibility and land-use conversion in the rural-urban fringe.

There are greater land-use changes in areas along the main roads than in areas far from the main roads. This explains the spatial structure of expansion of Offa along the two directions of the main roads (Offa-Oshogbo and Offa-Ajasse-Ipo roads). Looking at Fig. 4.5 .. .., it is clea rly seen that it is along the main roads that we have the greatest number of industrial establishment, and also residential and commercial concentration. This makes the sprawl a two-way direction along the main road that passess through the urban centre (Ilorin-Offa-Oshogbo road). Though other vacant areas of land such as the north-western and western Offa existed that were not used in the early stages of urban sprawl, until in recent times when intra-urban roads became developed in the areas.

The finding by Goodall (1974) and Connell, (1974) that major transport routes have dominant influence on the directions of physical expansion of towns holds true in the study of Offa town.

However, as the land along the Oshogbo-Ilorin road is being filled up, the factor of land ownership and boundary conflicts sets in, people are therefore forced to focus attention on developing other areas along minor roads, vacant or farmland far away from the main roads. For example, areas along Offa-Ig osun and Ipee roads; and also to some extent along Offa-Ikotun road are now being developed Fig.4.6.

This development has been helped greatly by the construction of well tarred township roads especially in the western and north-western parts of the town. This has brought about the springing up of residences, commercial structures, industries and institutions, e,g. Amukde Technical Co; School of Health, Government Secretariat, (Plate II). Traditional Council Secretariat, Clinics and so on. Fig. 4.7.

While along Offa-Ojoku minor (untarred) road, the land-use changes noticed are few, though of importance, these are one new petrol station, two large modern residential buildings and permanent site of Kwara School of Health, (see Fig.4.9). However, if the road had been tarred like the Offa-Irra road, there would have been more residential and commercial land-use changes. The area between Offa Ikotun/Ojoku and along Offa-Adeleke minor roads is a typical rural fringe. This includes the area immediately after the new Offa Specialist Hospital, and St. Clares School, with a few urban characteristics and greater rural characteristics with more farmland and vacant land, Fig. 4.8.

Thus to avoid overspill in only a few directions, it is necessary to develop roads in all directions in an urban area so that growth will be even to some extent in all directions.

The railway also transports both goods and passengers and the railway station has played an important role in the first change of the location of the centre of the town from the Oba's palace to the area where the railway station, Owode Market and post office are located.

Plate II



Oyun local government Secretariat in the fringe area.

FIG. 4.7 LOCAL GOVERNMENT SECRETARIAT AREA.

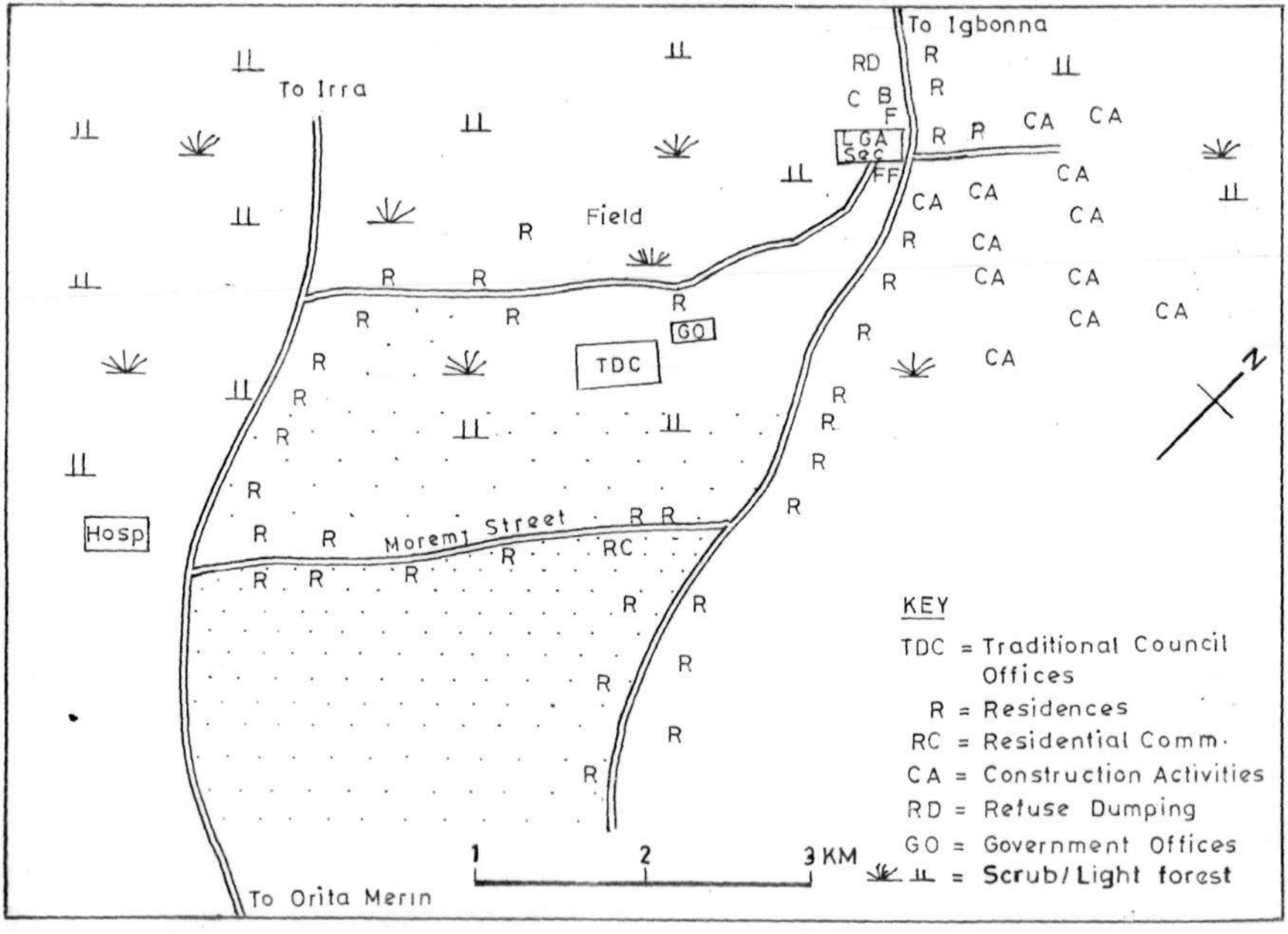
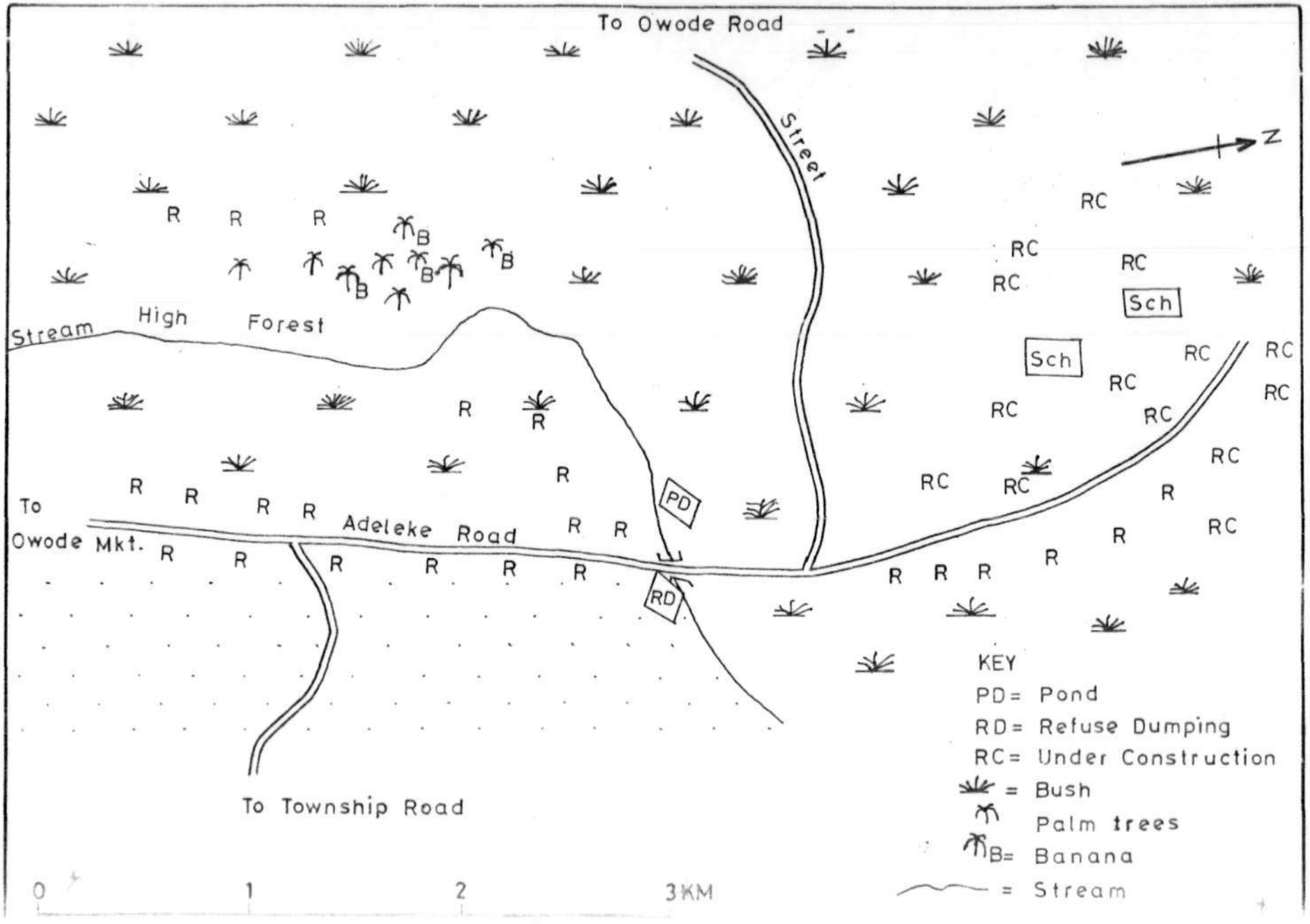


FIG. 4.8 ADELEKE ROAD — OFFA RURAL — URBAN FRINGE



Residential development in areas that are not easily accesible by roads such as Offa-Adebiyi road, Ojoku/Ikotun roads and Adeleke roads is greatly reduced. The few ones seen are very large residences belonging to well-to-do individuals and many educational institutions.

The pattern of transport routes in Offa has greatly influenced the spatial structure of the town and nature and direction of urban sprawl. The development of good intra-urban roads has made possible the location of industries, residences and offices in more distant places since it is easier to assemble a labour force daily by the increase in car ownerhip, taxi and buses.

Looking at the table below--------

TABLE 4.1

Non-farming household journey pattern to place of work

TYPE OF TRANSPORT USED	NO. OF RESPONDENTS	PERCENTAGE
On foot	13	8.7
Bicycle	20	13.3
Motor Cycle	38	25.3
Private Car	30	20
Taxi/Bus	49	32.7
TOTAL	150	100

Source field survey, 1985.

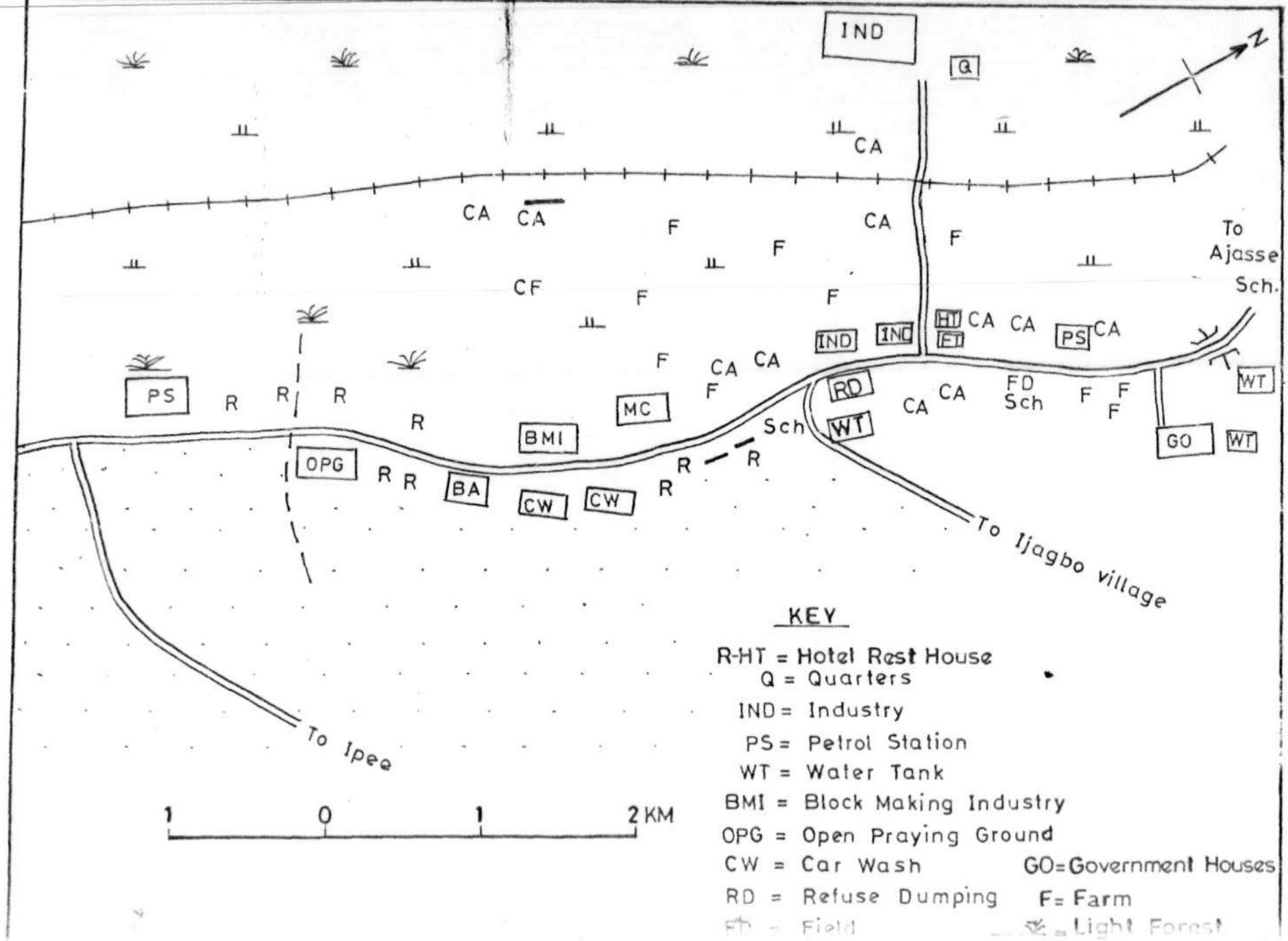
The proportion of respondents using taxi and bus to place of work is 32.7 percent compared to 8.7 percent going by foot. This is an indication of increasing number of taxi/bus due to the development of many intra-urban roads.

4.4 Boundary changes in the rural-urban fringe of Offa.

Town-village boundary is a temporary feature until the town fully absorbs the village into its urban physical structure, while town-town boundary is a changing feature until a permanent solution is sought, in situations where town settlements are located near each other. This statement is true for most urban centres and the surrounding settlements from the observation of studies of urban centres in Nigeria (Ajaegbu, 1970; Norman, 1967).

The first case is noticeable in the boundary changes that have occurred between Offa and Ijagbo. Before the location of the railway station and post office north of the town between Offa and Ijagbo, the two settlements were clearly separated. Later on, as the town centre 'moves' northwards the boundary between Offa and Ijagbo village becomes blurred. This results as more residences and commercial structures overspill into the immediate land surrounding Ijagbo village and even beyond on the western side of the major Ilorin-Oshogbo road. The present area occupied by the open praying ground between Offa and Ijagbo separated the two settlements before sprawl begins. Fig. 4.9. The area is now surrounded by residential and commercial land use developments. The boundary changes are further complicated by the development of industries further north of Offa along Ajasse-Ipo road and partially absorbing Ijagbo into the Offa urban structure. This is a typical relationship between a town and a nearby village located on a main road.

FIG. 4.9 OFFA — IJAGBO FRINGE

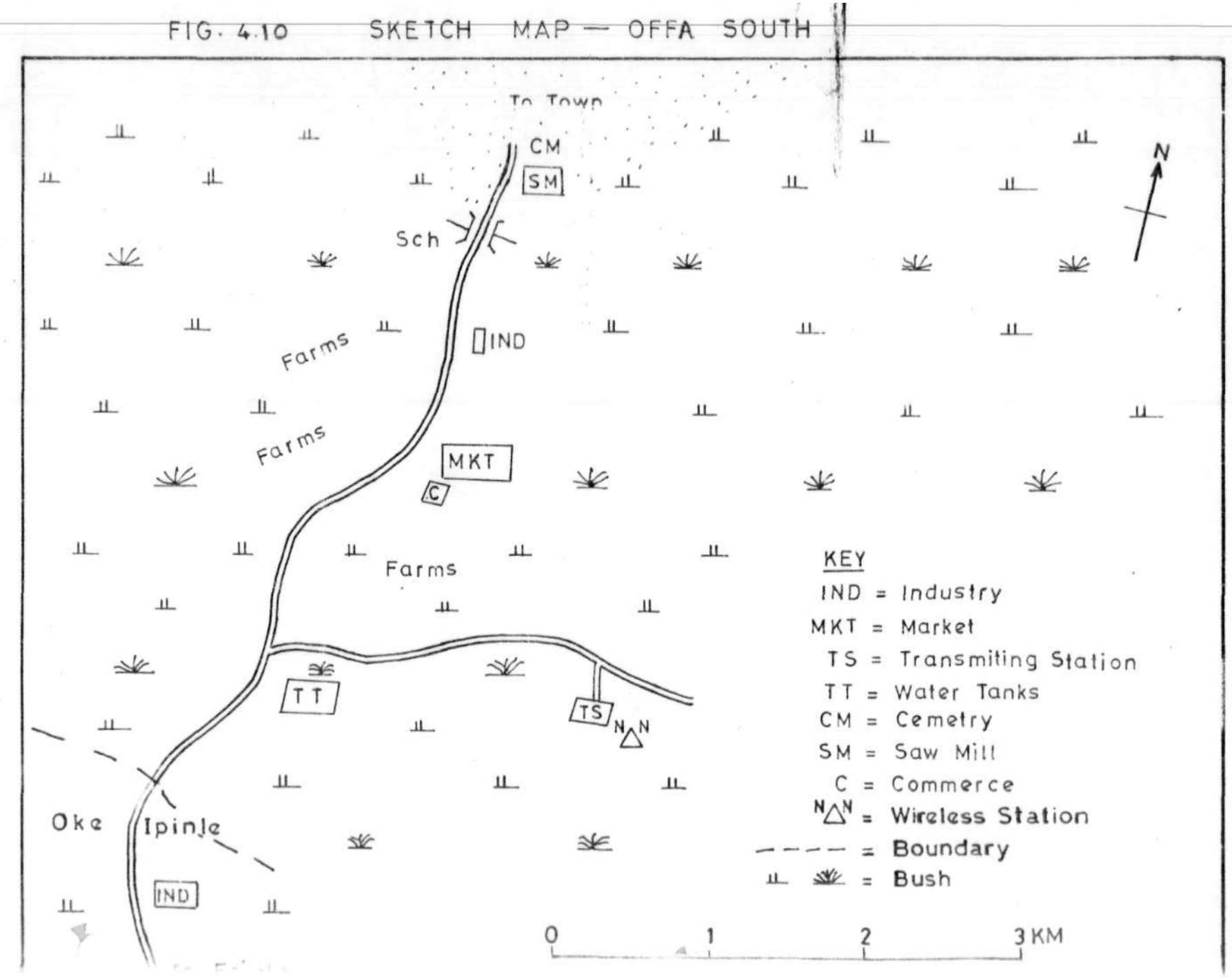


The second example is noticeable in the boundary changes between Offa and Erinle, a nearby emerging town in the Local Government Area south of Offa along Oshogbo road. There is no physical limitation to Offa's expansion along this route, but land ownership and boundary conflict is the strongest factor which made impossible the merging together of Offa and Erinle, as in the case of Ijagbo. Because of the seriousness of ownership conflicts, a permanent boundary was created by the government and a narrow green belt formed. This land ownership conflict is more serious between Erinle and Offa than between Offa and Ijagbo because of the larger size of Erinle, its many schools and a few large scale industries. Fig. 4.10.

The permanent boundary now lies about 200mm after the Oyun Divisional Market. This new boundary was by after protracted disputes between the two communities. Government industries and commercial establishments are now located on the rural-urban fringes of both towns and large scale farms are already being established in between the two towns. As a result, this green belt formed will always separate the two towns. Erinle as an emerging town also requires land for institutional, industrial and residential expansion and thus reduces the extent to which Offa can develop on land very close to Erinle town.

This boundary changes and conflicts between Offa and Erinle and Ijagbo which is also common in other parts of the country (Ajaegbu, 1970; Camara, 1969; Norman, 1974). Is a major feature of expanding towns located near each other because the nearer a settlement is to an expanding urban centre, the greater the problem of boundary changes and conflicts.

FIG. 4.10 SKETCH MAP — OFFA SOUTH



4.5 Areas of new development in the rural-urban fringe of Offa.

As Offa expand, along the main Oshogbo-Offa-Ilorin road, the resultant effects of land ownership and boundary conflicts and also distance from the urban centre brings about the location of industries, commercial establishments and especially new residential development in new areas. Thus there is a spatial change in the trend of industrial, commercial and residential concentration along Offa-Irra and Offa Ilemona roads in the western parts of the town.

The greatest areas of new development of land-use changes is the land stretching between Offa-Irra road and Offa-Igbonna road. Fig. 4.11., towards the north-western part of the General Hospital, including the Offa-Ikotun road. This area has been experiencing great land-use changes within the past fifteen years. Most of the buildings in this area, (over 65) percent are less than 10 years old. In this area, over 50 percent of the buildings are yet to be fully completed even though occupied in many cases. This area is experiencing the largest percentage of land-use conversion of agricultural land-use to urban land use in the rural-urban fringe of the study area. With the development of good tarred township roads in these a reas (Offa-Igbonna/Irra roads), joining others in the centre of the town and the south - west by-pass to Erinle (i.e. Ibrahim Taiwo Road); it has been possible to easily have access to the land in the west and north western parts of Offa town Fig. 4.12 and Fig. 4.13.

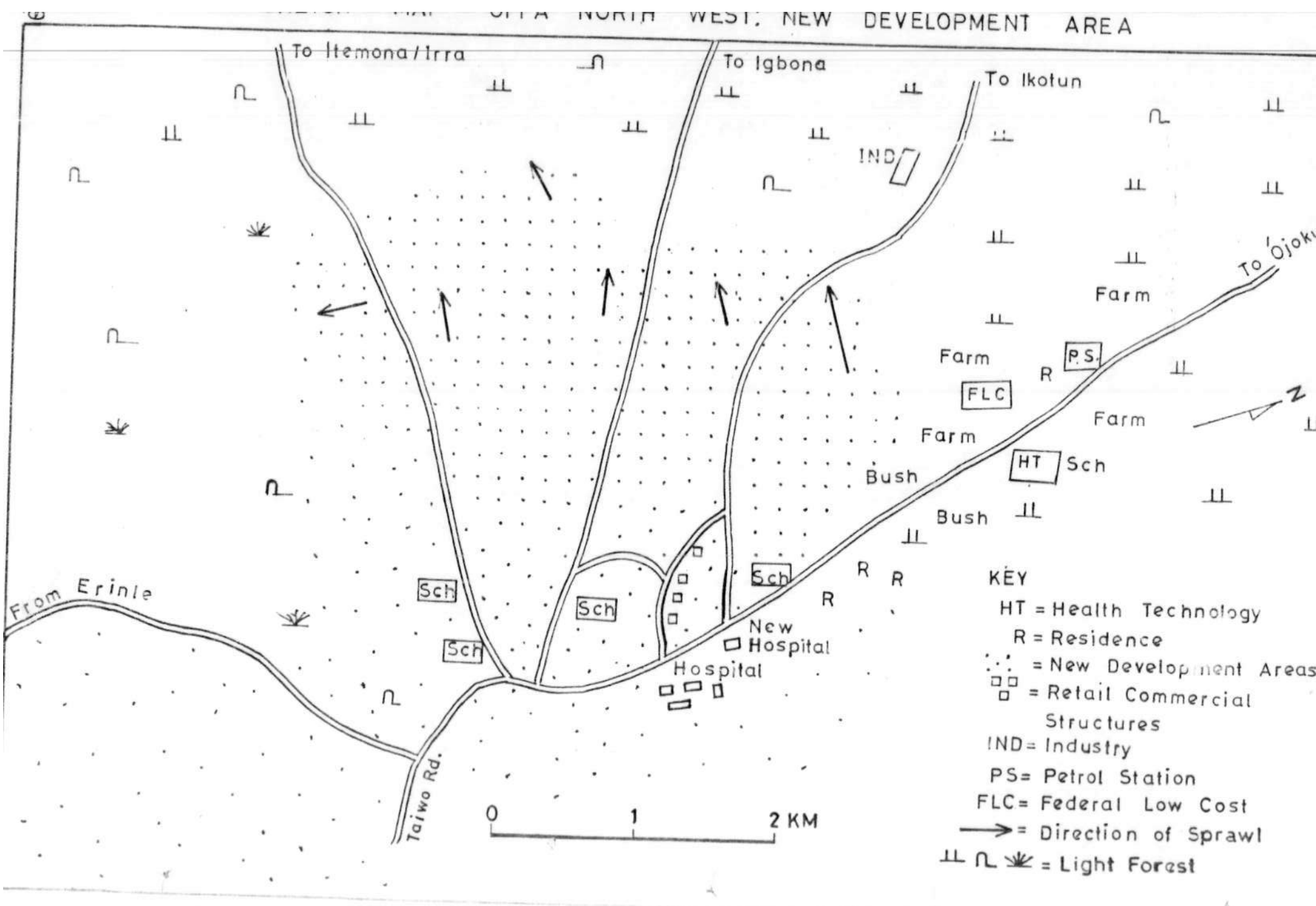

OTTA NORTH WEST: NEW DEVELOPMENT AREA
To Itemona/Irra
To Igbona
To Ikotun
To Ojoki
IND
Farm
Farm
P.S.
R
FLC
Farm
Farm
HT
Sch
Bush
Bush
Sch
Sch
Sch
Sch
R
R
R
From Erinle
New Hospital
Hospital
Taiwo Rd.
0
1
2 KM
KEY
HT = Health Technology
R = Residence
= New Development Areas
= Retail Commercial Structures
IND = Industry
PS = Petrol Station
FLC = Federal Low Cost
= Direction of Sprawl
= Light Forest

FIG. 4.12 IBRAHIM TAIWO ROAD FROM ORITA MERIN JUNCTION

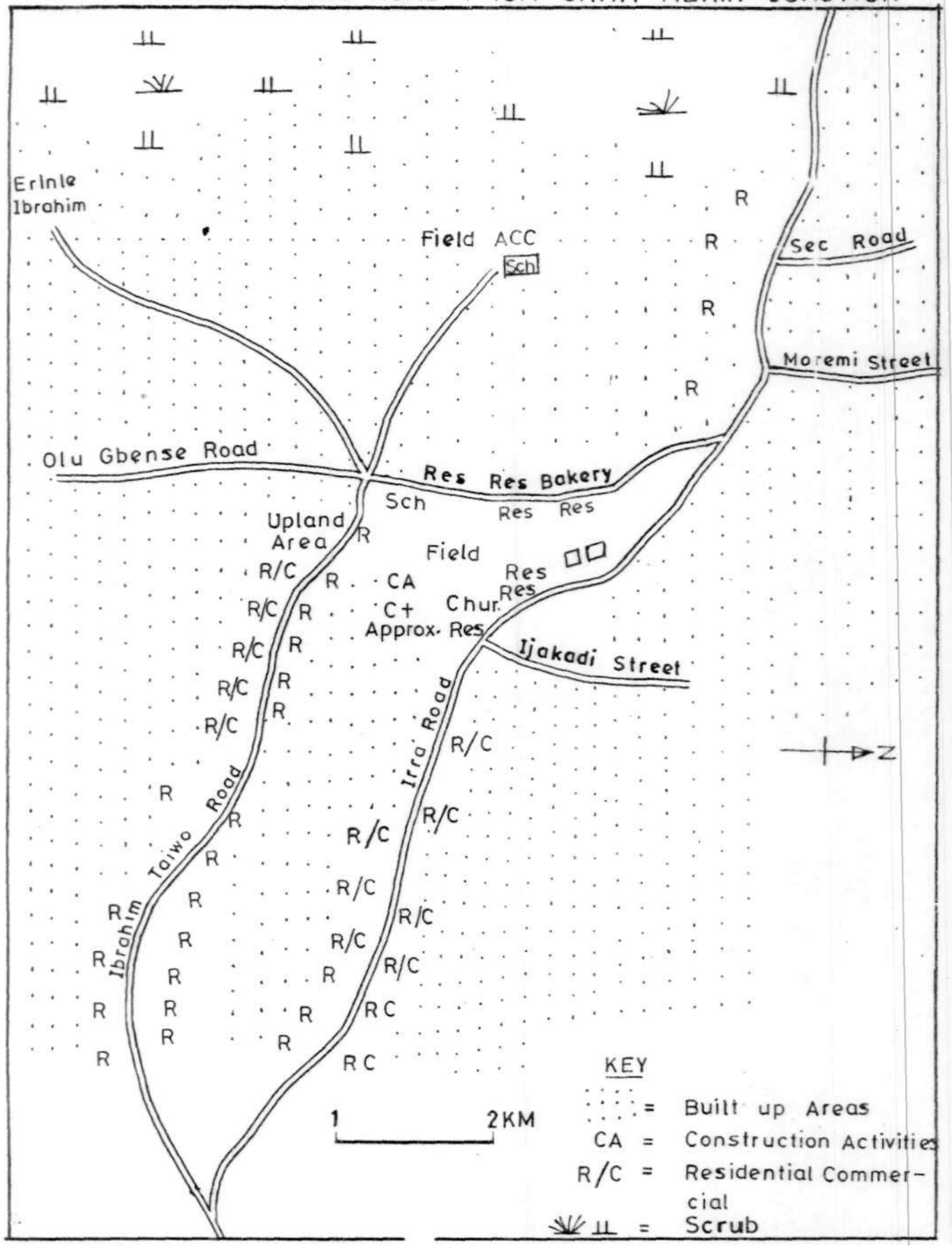
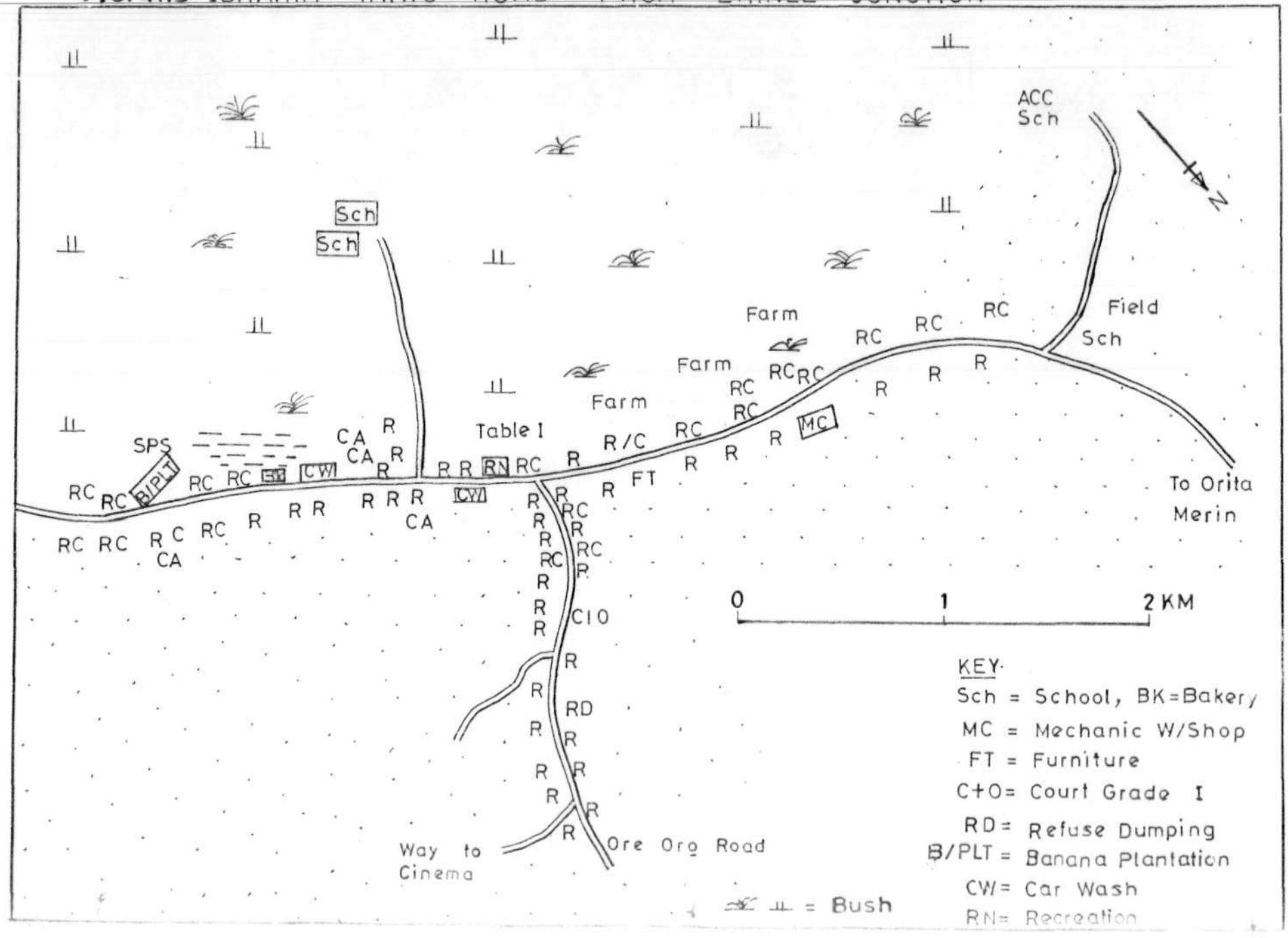


FIG. 4.13 IBRAHIM TAIWO ROAD FROM ERINLE JUNCTION

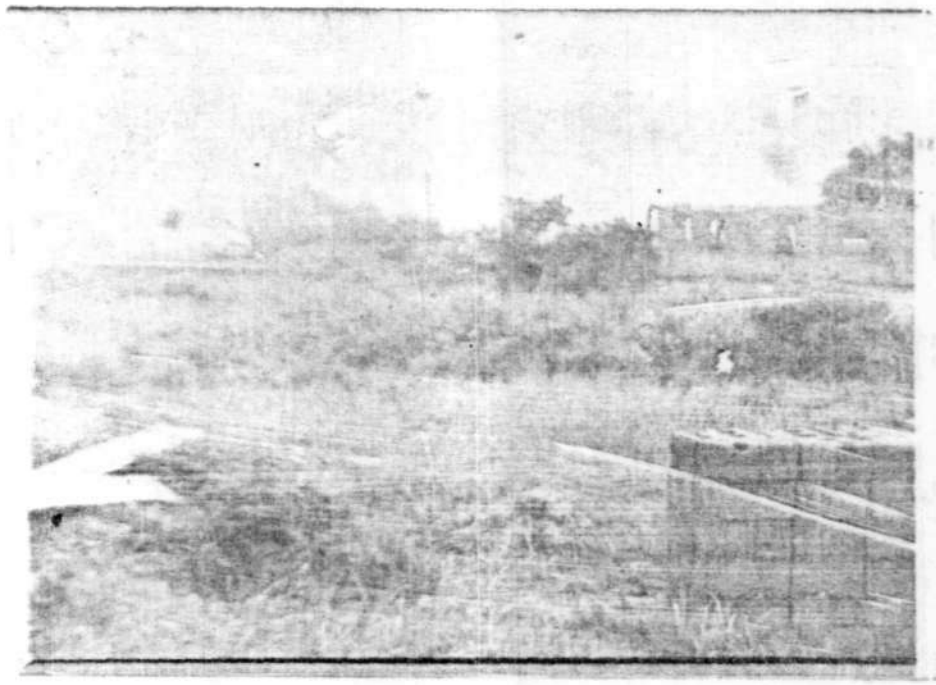


There has sprung - up commercial centres, shops, private clinics, institutions and even industries (e.g. Nail and Grinding Mill Industry between Offa - Ikotun road and Offa Igbonna road) in the western part of the town. However, residential development is the greatest land-use change noticed in this area. The houses are modern ones and mostly storey-buildings with shops facing the road or streets. The area is well planned with many streets unlike the unplanned congested centre of the town. The development in this area is however patchy, with many parcels of land left with no visisble structures, reflecting the characteristics of the first wave of development in any peripheral zone as explained by Goodall 1972, and Clawson 1962. This is usually as a result of such factors as differences in access to the land, financial condition of owners and suitability of site. Such plots of land are temporarily used for farming by the owners or another individual. In few cases the plots are left to grow weeds especially when the land is not suitable for farming or has not been allocated to any individual. Plate III.

This new development area north-west of the town, recorded the largest number of residential structures with backyard farms. Over 70% of the residential buildings are located in land previously used for farming.

The provision of public utilities and services such as water and electricity supplies is incomplete, mostly due to the high cost of provision of these services. This incomplete provision of public utilities and services is one of the major characteristics of the rural-urban fringe as postulated by Golledge (1960).

Plate III



Undeveloped plots in the new development area.

Block making industry is also important in this area and it is th most common industry in this area where construction activities and the demand for their products are highest in the rural-urban fringe of Offa. Plate IV. Another area of new residential development is the land east of the railway station in-between Afelele lake and the Government Residential Area. (G.R.A.) and along the sides of Offa-Ipee/ Igosun roads. Fig. 4.14. New residential structures under construction are seen in this area even on land liable to flooding. Along Offa-Igosun road and Offa-Adebiyi road, many schools are being established before and after the Igosun road Sawmill and around Abiola Bottling Company depot all in the far fringe areas. Farm lands are mostly seen converted to other urban uses. Very large residential structures are noticed in areas far from the roads, about 6km from the urban centre.

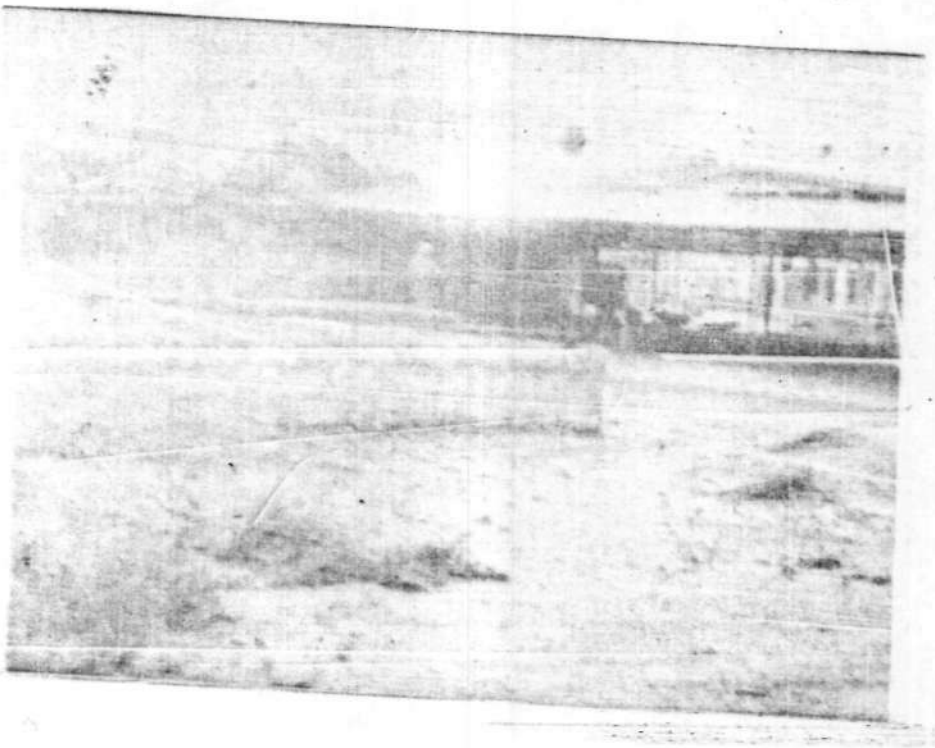
However, the western part of the town will continue to expand in the futre as there is evidence that the population of the area will continue to increase contributed mostly by immigrants. From the table below, greater number of respondents prefer living in the western part of the town.

TABLE 4.2

LOCATION PREFERENCES FOR HOUSING IN OFFA

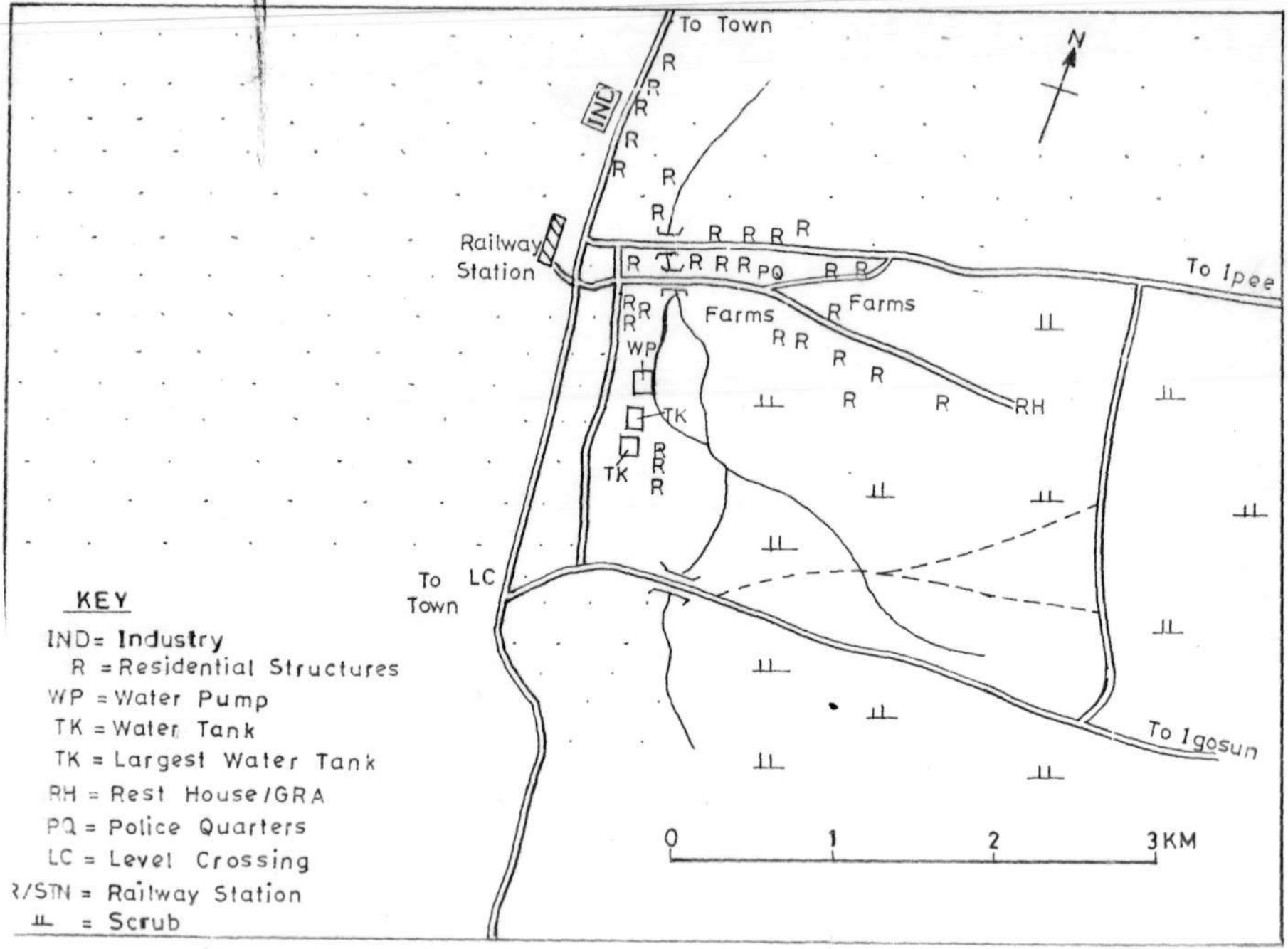
LOCATION PREFERRED	PERCENTAGE OF RESPONDENTS	
	1974	1985
On family land	11.43	6.1
North part of town	17.14	15
South	17.14	10.4
East	4.29	9.4
West	22.86	32.5
Outskirts of Offa	7.14	12.6
Centre of Town	4.29	3
Any part	15.71	10.5

Plate IV



Block industry in the new development area

FIG. 4.14 SKETCH MAP AFELELE AREA (OFFA EAST)



Source: Field Survey, 1985.

1974 Figures: Shairs and Partners, 1974.

22.86% and 32.5% of the respondents preferred location in the western part of the town in 1974 and 1985 respectively. This is an indication that residential development will be on the increase in the western part of the town.

4.6 Land-use conversion along main roads and railway lines.

There are no significant land-use changes along the railway line as compared to that along the minor and main roads in the study area. Thus the urban sprawl that is taking place is more depicted along the roads than the railway lines. Few land use conversion involving agricultural to residential land use however occur near the railway station. The few agricultural land use conversion to urban land use noticed far from the railway station, near the railway line include churches, cemetries, some schools and bakery along Offa-Erinle railway line south of the railway station (distance of about 50 to 300 metres from the railway line). Fig. 4.15 .

Along the northern direction of the railway station, (Offa - Ilorin line), some industries such as Okin Biscuits and Kwara Breweries are situated not far from the rail lines (distance of about 100 - 300 metres). Farms are found located between the industries and the railway lines. Fig. 4.16.

The percentage of vacant land or bush and farmland is greater and larger area of land than that along the railway line than the main roads. The landuse changes along the main roads are very significant and cover a greater and larger area of land than that along the railway lines.

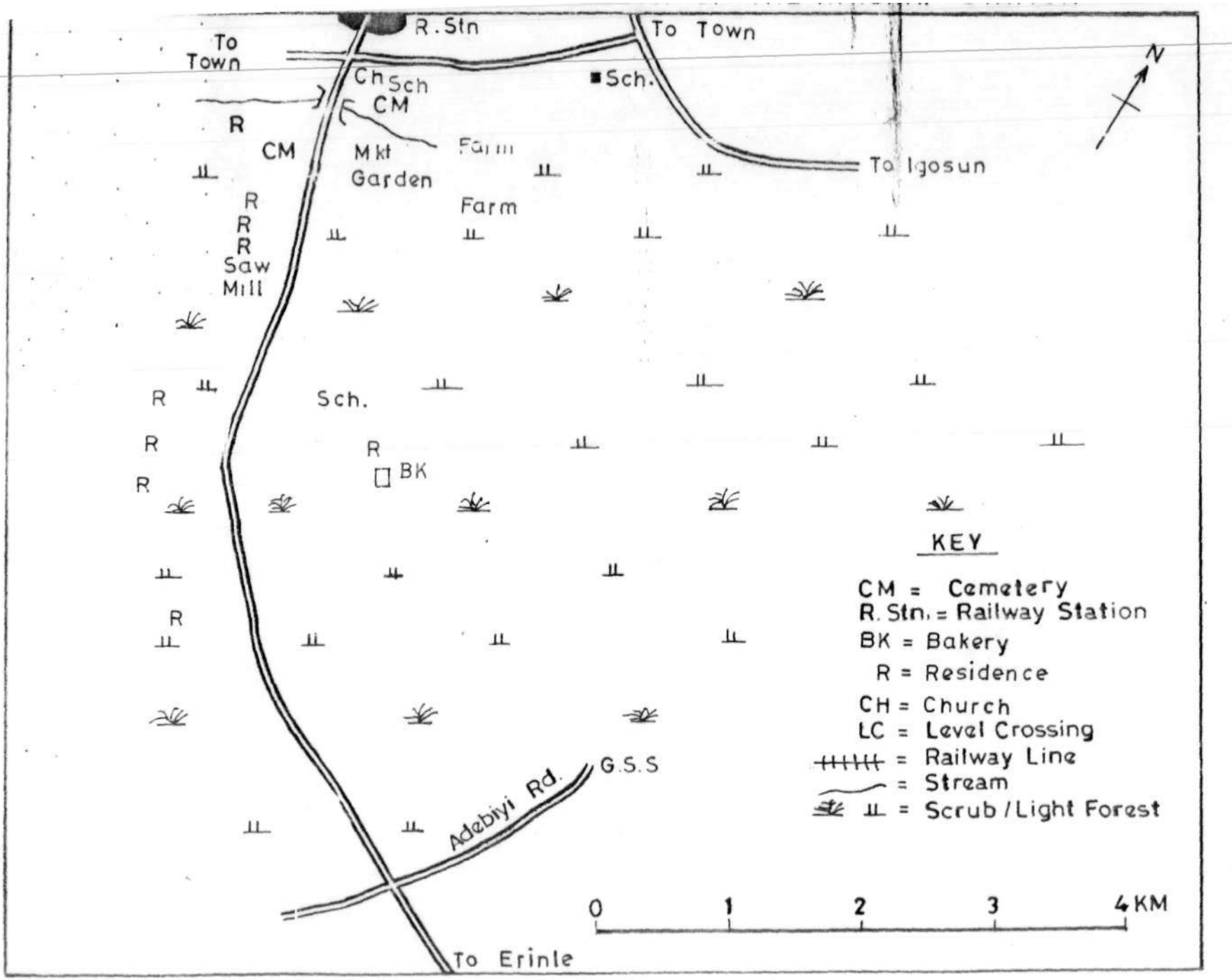
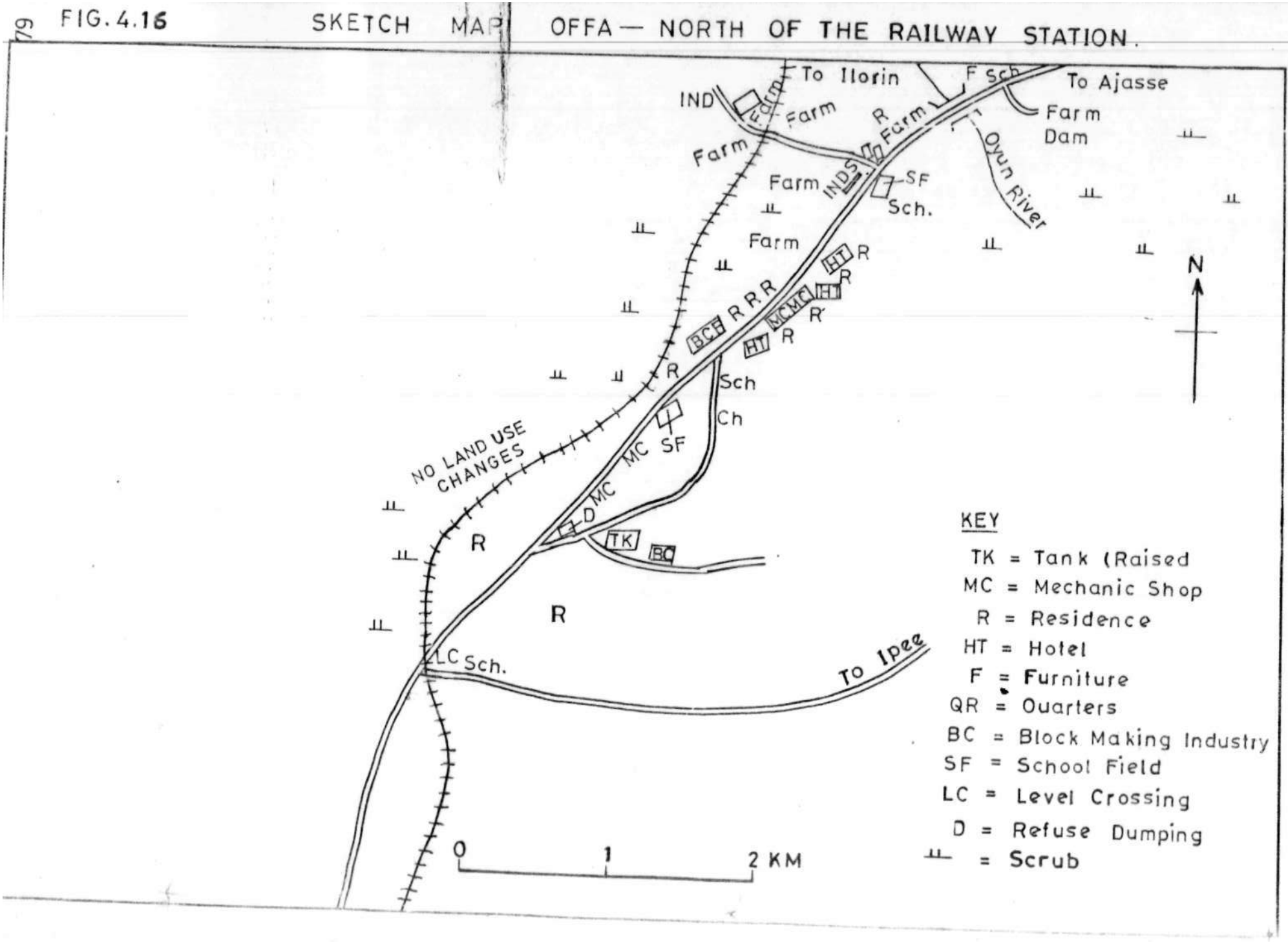

R.Stn
To Town
To Town
Ch
Sch
CM
Sch.
R
CM
Mkt Garden
Farm
Farm
To Igosun
R
R
R
Saw Mill
R
Sch.
R
R
R
BK
R
G.S.S
Adebiyi Rd.
To Erinle
N
KEY
CM = Cemetery
R. Stn. = Railway Station
BK = Bakery
R = Residence
CH = Church
LC = Level Crossing
= Railway Line
= Stream
= Scrub / Light Forest
0
1
2
3
4KM

FIG. 4.16 SKETCH MAP OFFA — NORTH OF THE RAILWAY STATION.



Residential development is the greatest landuse change noticed along the main roads with some industries, schools, recreation (sports field), and commercial structures. The landuse changes are almost equally on both sides of the roads, in a more or less continuous pattern. While along the railway lines, it appeared to be more patchy.

The residences and shops found near the roads are located facing the roads, while those along the railway lines do not necessarily face the rail lines. This suggests that the presence of the railway lines has little significance to the structures erected, while the roads are very important to the location of residences and shops especially in relation to accessibility.

4.7 Agricultural landuse in the rural-urban fringe of Offa.

Agricultural practice in the rural-urban fringe is sometimes a temporary affir especially in areas very near the built-up a reas of an expanding urban centre. Because as the town grow and expand, farms located near the urban centres are usually turned into urban uses such as residential, industrial, institutional and recreational.

From studies of the rural-urban fringe of Offa, it was found that the farms are not large and are fragmented and of different sizes and shapes corresponding to the propositions or hypotheses of Golledge (1960), describing the features he expected to develop in the rural-urban fringe. Farms are also found in-between buildings. The large scale farms noticed are few and mostly government owned. e.g Kwara Cassava Farms between Offa-Erinle and Offa - Ajasse-Ipo. Fig. 4.17 and Fig. 4.18.

FIG. 1.17 OFFA CENTRAL ALONG ERINLE — AJASSE ROAD (MIDDLE)

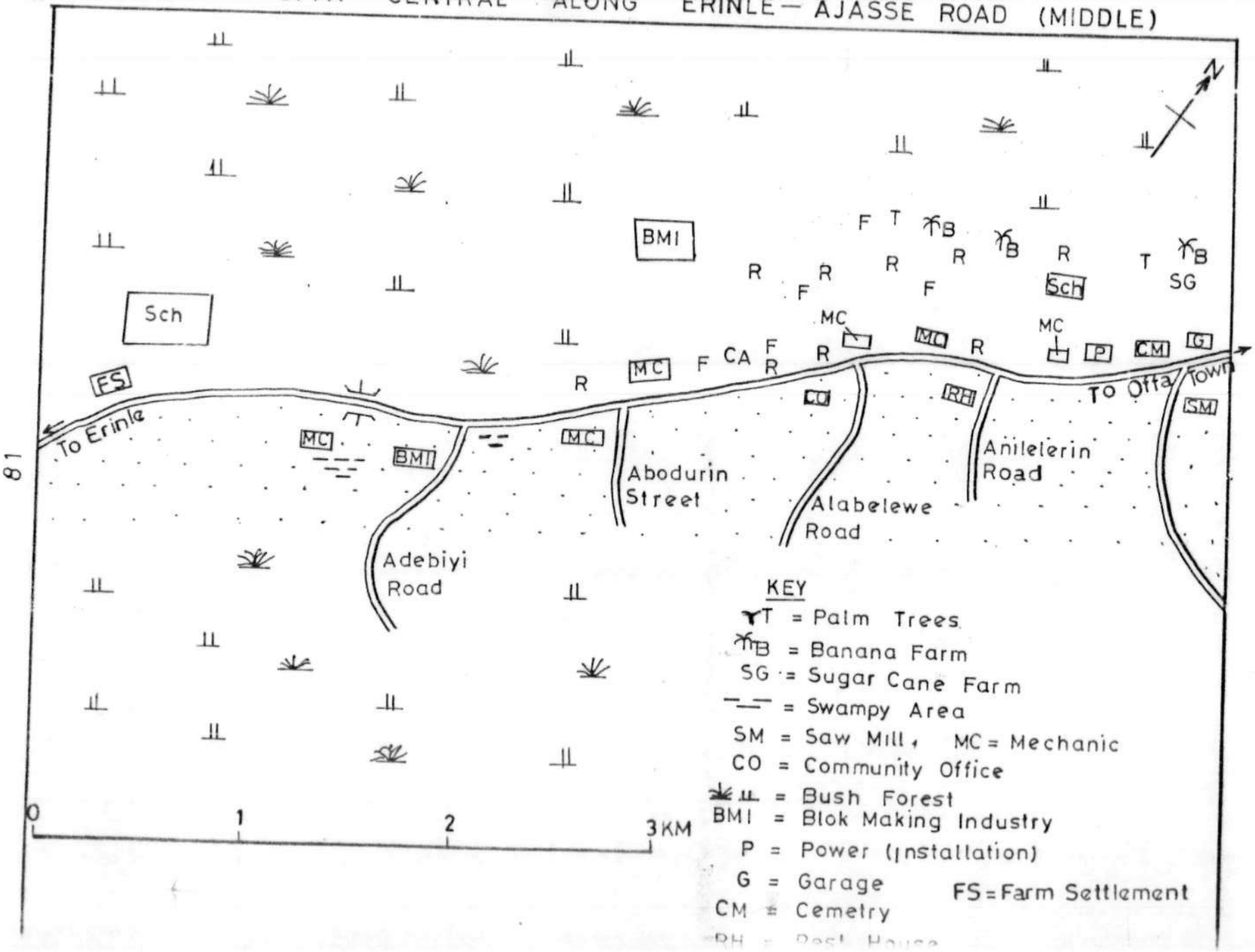
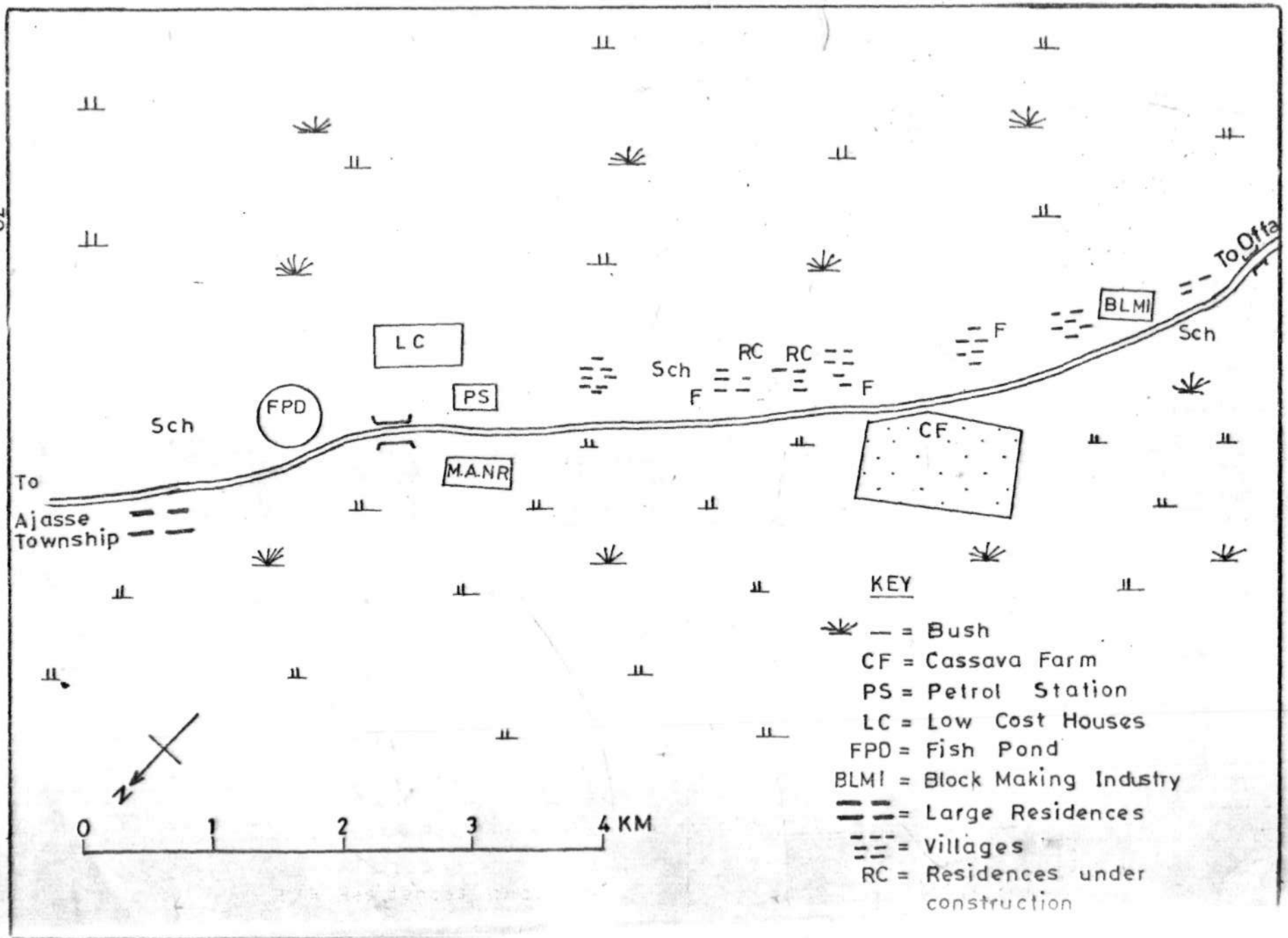


FIG. 4.18 RURAL VILLAGES AND IMPORTANT SPATIAL FEATURES ALONG OFFA — AJASSE ROAD



Another one which can be included is the proposed Nobis farm at Kabba Owode in the rural areas, which is expected to cover an area of about 200 hectares of produce raw material for the brewery industry.

Offa is situated on an open undulating land which is intensively farmed. Natural vegetation can only be found growing along the lower part of the nearby streams, while the upper part has been cleared and turned over to agricultural use. Garden-crops are grown in swampy areas near the railway line; near the brewery and south of the railway station going to Erinle and land adjacent to Ibrahim Taiwo Road towards Erinle.

Most farmlands in the rural urban fringe are plots of land proposed for residential development and thus farming is a temporary activity in such areas.

TABLE 4.3

Previous use of land acquired by farming and non-farming households.

PREVIOUS USE OF LAND	NO. OF HOUSEHOLDS				
	FARMING		NON-FARMING		
	NO.	%	NO	%	TOTAL
Farm land	82	50.9	69	53.9	151
Bush	41	25.5	38	29.7	79
Fallowland	38	23.6	21	16.4	58
TOTAL	161	100	128	100	289

Source: Field Survey, 1985

A large percentage of both farming and non-farming households have converted farmland to residential landuse. From table 4.3 above, 50.9% of the farming and non-farming households built their residential buildings on plots of land previously used for farming.

Due to the problems faced by farmers many are found to have off-farm employment, gradually becoming temporary or part-time farmers. Table 4.4 below shows that only 13.4 percent of the farming households interviewed have no occupation other than farming. While 86.6% of the farmers interviewed claimed to have off-farm employment.

TABLE 4.4

Percentage of respondents from farming household with off-farm employment.

TYPE OF EMPLOYMENT	NO. OF RESPONDENTS	PERCENTAGE
Government	38	25.3
Company	30	20
Trading/Retail	32	21.3
Local Crafts	30	20
None	20	13.4
T O T A L	150	100

Source: Field Survey, 1985.

This explains that there are people with rural-based and urban based occupations intermixed which corresponds with the findings of Thomas 1974, Aderogba, 1986, Swindell and Sutherland 1985, that there is a combination of farm and off-farm employment in the fringe areas.

The farmers do not usually have the opportunity to use their farmland for many years. Looking at Table 4.5 below, only 26.7% of the farmers have used their farmland for over 16 years.

TABLE 4.5

Length of time farmers have cultivated land in the rural-urban fringe

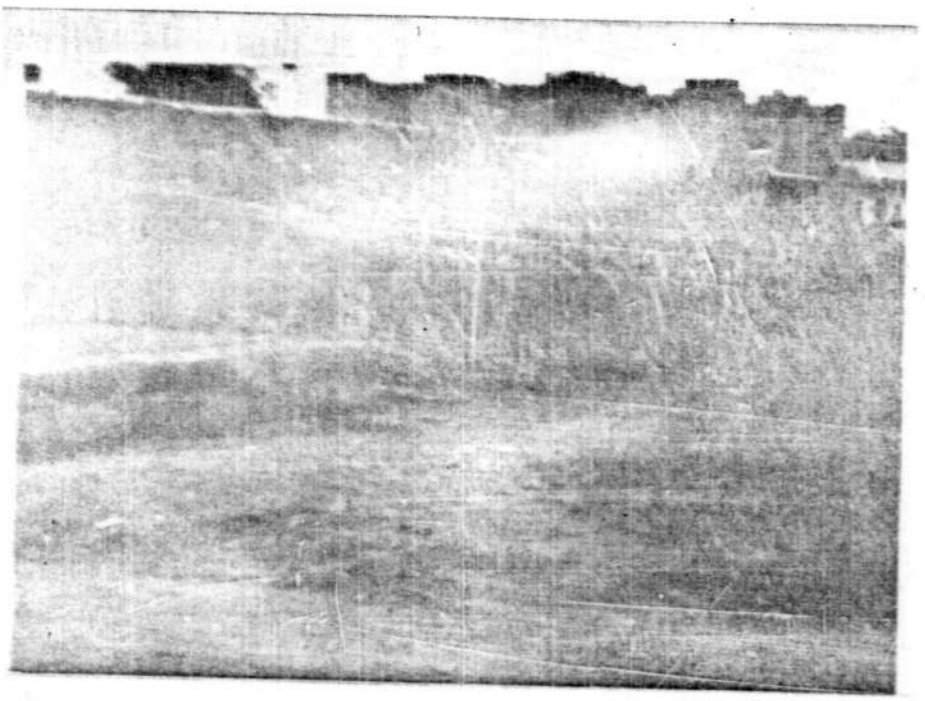
NUMBER OF YEARS	NO. OF RESPONDENTS	PERCENTAGE
1 - 5	23	15.3
6 - 10	43	28.7
11 - 15	29	19.3
16 - 20	28	18.7
Over 20	12	8
Not Known	15	10
T O T A L	150	100

Source: Field Survey, 1985.

The number of backyard farms increases with distance from the urban centre. In Table 4.6 below, out of the 143 backyard farms recorded, 24 are found between 4.1 and 5km from the urban centre (see Plate V and VI).

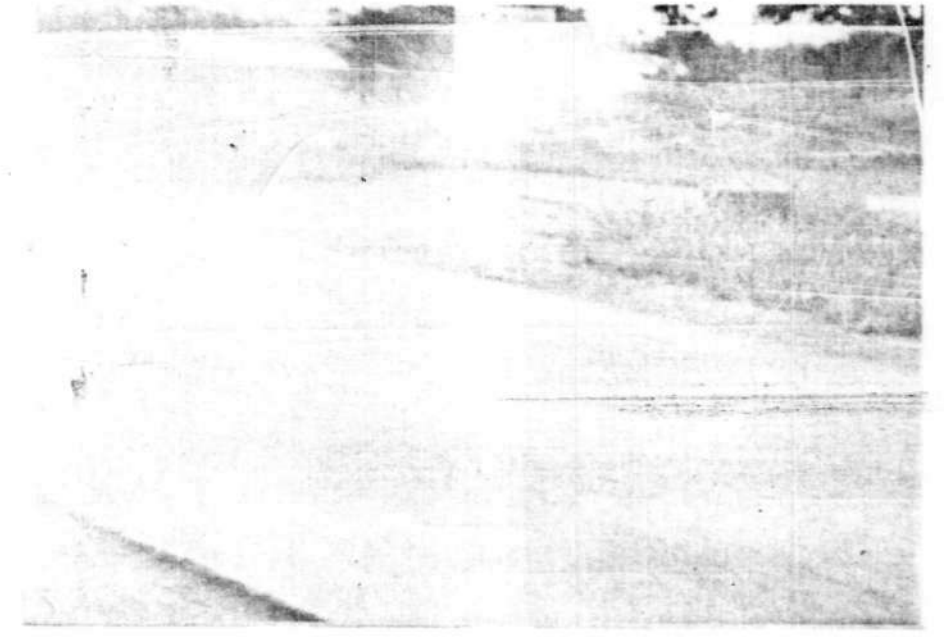
Backyard farming is common in the far fringe areas. The open spaces around houses in the rural-urban fringe are used temporarily for farming. The backyard farms are mostly found in the fringe areas where there is availability of land for such practice. The size of the backyard farms is also seen to increase with distance from the urban centre. Due to the availability of extensive rural land as explained by Munton 1974, backyard farms generally increase in size with distance from the built-up area. They are temporary features which decrease as the residential density of the areas increases. Thus they are mostly found in areas with low residential densities.

Plate V



Backyard farming in the new development area

Plate VI



Farm settlement along Offa - Erinle road

TABLE 4.6

Number of houses with backyard farms and distance from the urban centre

DISTANCE FROM URBAN CENTRE (KM)	NO. OF HOUSES WITH BACKYARD FARMS IN CATEGORY OF HOUSEHOLDS		
	F A R M I N G	NON-FARMING	TOTAL
0 - 2	-	-	-
2.1-3	9	15	24
3.1-4	20	17	37
4.1-5	13	31	44
5.1-6	16	22	38
TOTAL	58	85	143

Source: Field Survey, 1985

The fact that land-use conversion in the rural-urban fringe always involves the conversion of agricultural land into urban land-uses, is also found to be true in the Offa rural-urban fringe in relation to the past-use of plots of land acquired by farming and non-farming households for residential development.

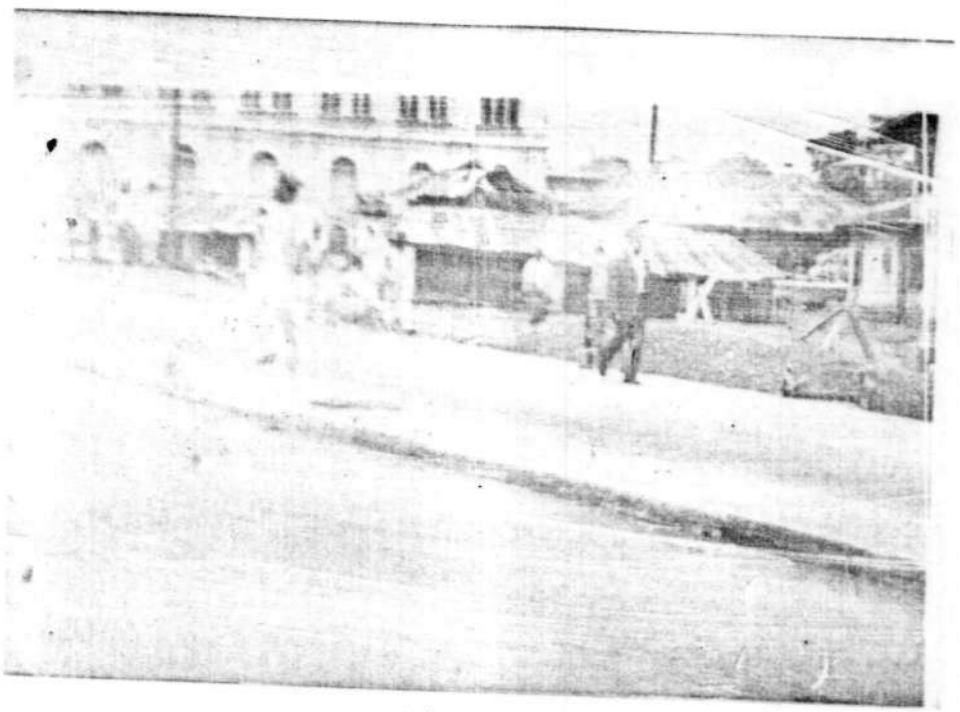
4.8 Commercial landuse in the rural-urban fringe.

Land-use changes involving the development of commercial establishments is greatly increasing in the rural-urban fringe of Offa, though the urban centre is till more important for commercial activities in terms of the number and variety of shops and market located in the urban centre. This is the case in many studies such as the findings of Johnson 1974 that the central area still remain more important in the supply of comparison shopping goods though there is an increase in the expansion of retailing and service centres in the fringe areas.

In the rural-urban fringe of Offa, shops, super-markets and other commercial structures are on the increase especially in areas near the newly constructed intra-urban roads. The newly constructed Oyun Divisional market along Offa-Erinle road is located in the rural-urban fringe. Fig.4.19 Within the residential areas in the rural-urban fringe of Offa, almost one quarter of the houses have a room set aside for shop or retail selling, (i.e. buildings near the streets).

There are three permanent markets in Offa. The major one is the daily Owode Market, and the others are Oja-Oba market and the new, modern Oyun Divisional Market. There is also a traditional periodic market which operates every five days, located in the Owode Market, Plates VII and VIII.

Plate VII



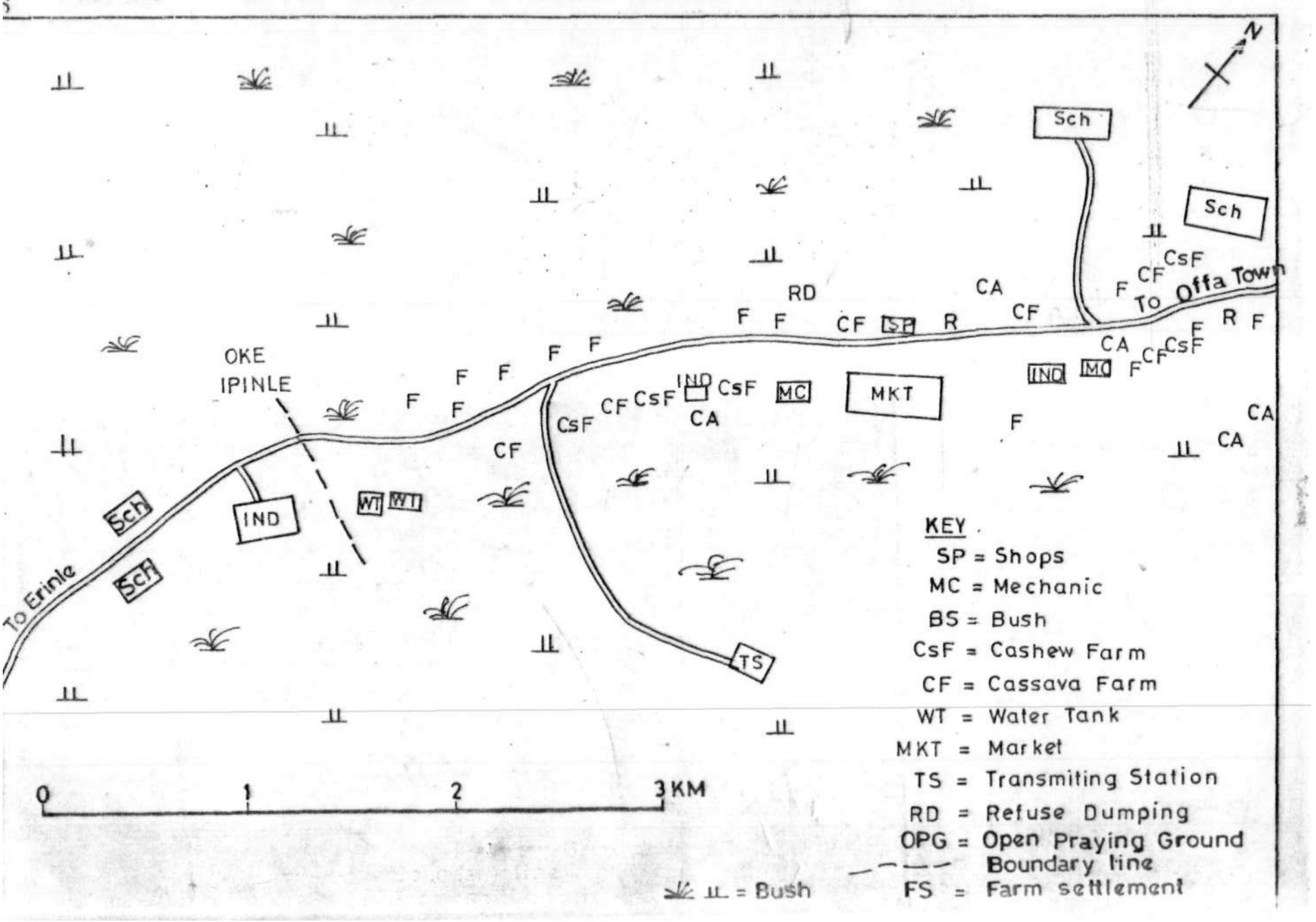
Moremi Square and central mosaque - Offa.

Plate VIII



New Oyun Divisional market.

FIG. 4.19 OFFA CENTRAL ALONG ERINLE ROAD (SOUTH)



The Oja-Oba market is located opposite the Oba's palace as is the case in most towns in Yorubaland. The market is located adjacent to the Jumaat Mosque. It represents the first original centre of the town. However, as the town gets bigger, a larger market known as Owode market was created between Offa and Ijagbo, at the northern edge of the town. It is a bigger market located near the motor park, post office, a bank and the railway station. The market which boasts of stocking all sorts of goods, serves a very large area.

The Oyun Divisional Market is the largest and is located in-between Offa and Erinle, partly to solve the conflict of land ownership between the two communities. This is the only market presently located in the rural-urban fringe. So the centre still plays an important role in commercial activities.

If the Oyun Divisional Market could function as the government desires, and judging from the increase in the number of shops and other commercial structures in the fringe areas, there is possibility that small scale retail activities, wholesales and if possible regional based market will be greatly increased in the near future. Because the new Oyun Divisional Market is desired by the government to serve a larger area than the Owode market. However, because of the landuse conflicts characteristics of the rural-urban fringe, the Oyun Divisional Market is presently not functioning properly as expected. This is further complicated when the indigenes of Offa want the market to be named Offa central market, a proposition greatly opposed by Erinle indigenes who are claiming the ownership of the land.

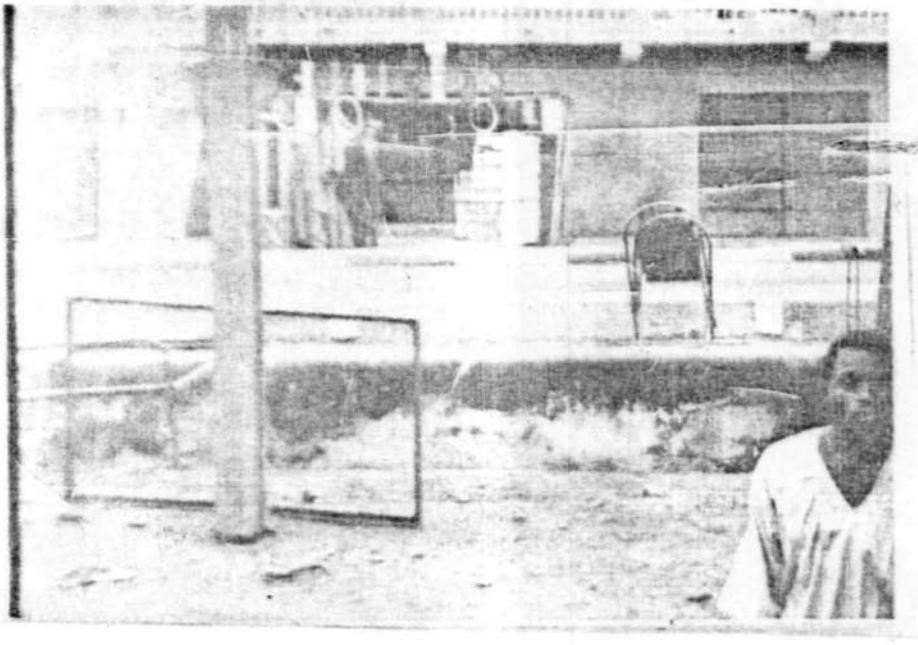
The areas occupied by the commercial landuses are usually small except the markets. The retail shops usually occupy small spaces and mostly located on same land as residential structures. This has been found to be common features of small scale commercial activities in the urban areas. This phenomenon was also observed by Dawson (1974) that most buildings used for retail activities are also needed for residential purposes especially the storey buildings (see Plate IX). The wholesales areas cover large areas such as the Depot near the railway station, opposite the Owode market, where different soft drinks are distributed. Another one is located far in the rural-urban fringe off Offa-Igosun road known as Abiola depot, along Adebiyi road.

4.9 Industrial land-use in the rural-urban fringe.

Large scale modern manufacturing industries are few in Offa, but the impact of the few ones found is significant in terms of land-use changes in particular areas of the rural-urban fringe. They are concentrated in a few areas of the rural-urban fringe. This fact has always been emphasized by scholars of urban geography Johnson 1974 and Wood 1974, that the centre of towns is usally for residential and commercial functions, while the industries are found located in the outskirts of the town. Plate X.

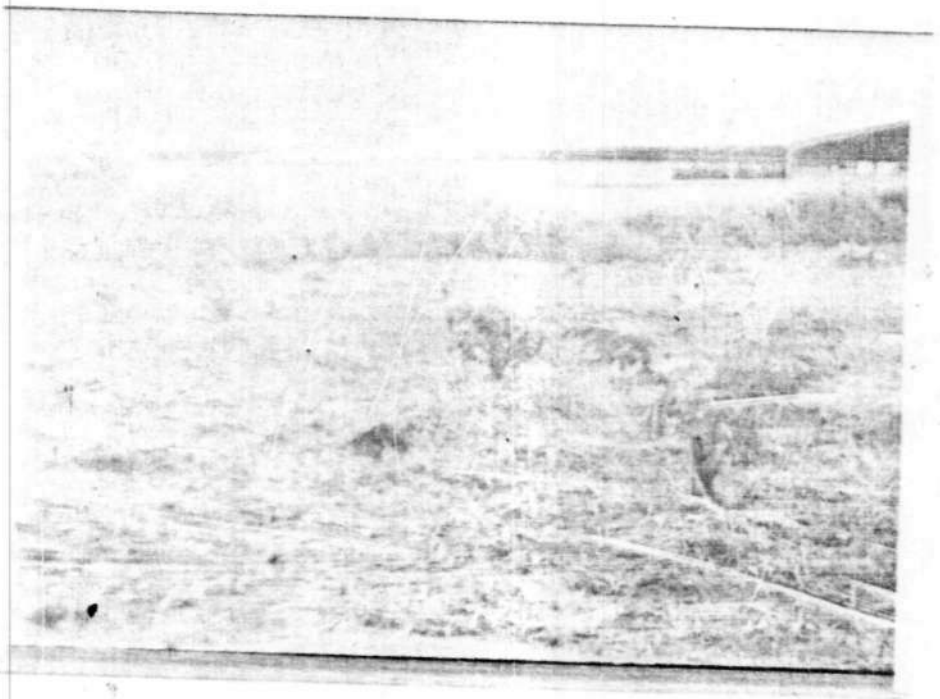
The land-use changes caused by industrial establishments is noticed on north-western part of the town, along Offa-Ikotun road where we have the Amukhude Technical Company. It is an areas of new residential and industrial development. It is located far away from the built-up area. There is a large area of land where other large-scale industries can locate. This will reduce to some extent the problem of land

Plate IX



Residential/Commercial structure in the urban centre.

Plate X



Industry in the rural-urban fringe and new open praying ground.

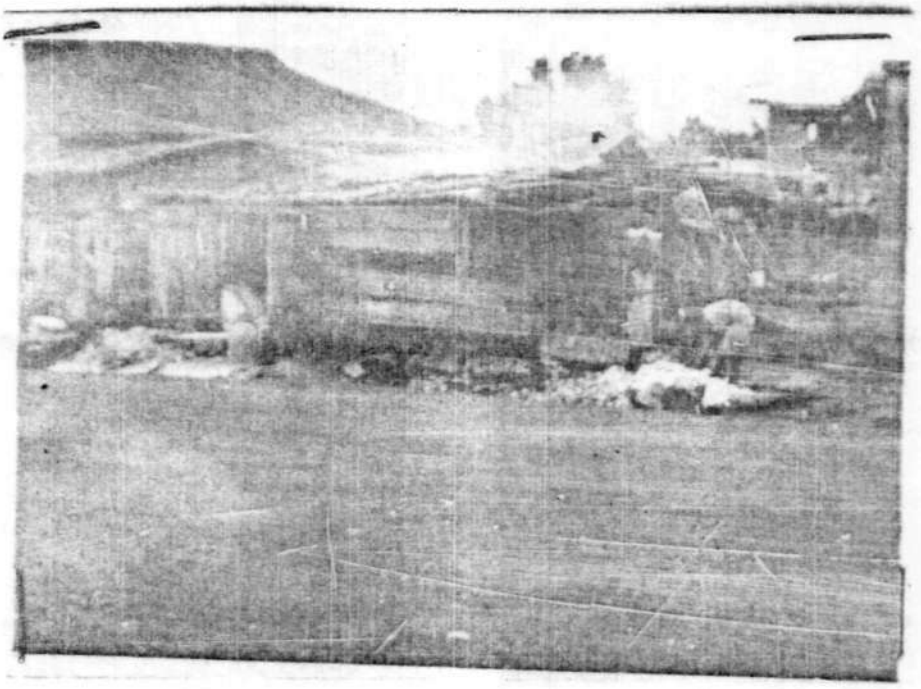
ownership and boundary conflicts.

The industrial land-use changes along Offa-Igosun road and south-eastwards of the town is mostly found to be concerned with sawmilling partly due to source of raw material which is from the south west forested land. They are located far away from the built-up areas. Only the Gari industry is located near the built-up area. (Plate XI).

The industries are generally important in terms of land-use changes considering the total area of land covered in the rural-urban fringe. The fact is also that most of the industries are located on land previously used for farming. Table 4.7 below shows that a great number of the industries are located along Offa-Ijagbo-Ajasse road. These locations are in quadrats 6 and 13, where Kwara Breweries, Mos and Kay Limited, Okin Foams, Okin Biscuits, Dumade Blocks and Jofans Constructions are located. This is as a result of the presence of a large area of land to locate and accessibility due to the nearness of the main Ilorin-Offa-Oshogbo road and also the railway line.

The industries are found located along the main transport routes as this will help them to easily assembly the heavy equipments, raw materials and the distribution of the final products. And as one of the characteristics of fringe industries, Wood 1974, says they produce goods for distribution beyond the immediate area.

Plate XI



Gari-Industry- Along Afelele road-Offa East.

TABLE 4.7

Characteristics of industries in the rural-urban fringe of Offa

NAME OF INDUSTRY	YEAR OF EST.	LOCATION QUADRAT NO.	ESTIMATED HECTARES ACQUIRED	USE OF LAND BEFORE ACQUISITION
Kwara Breweries	1979	16	0.15	Farming
Mos & Kay Ltd.	1980	16	0.5	Farming
Total Eng.	1984	94	0.5	Farming
Amukhude Comp.	1984	39	0.10	Farming
Okin Foams	1981	25	0.02	Farming
Okin Biscuits	1980	25	0.09	Farming
Alheri Sawmill	1980	60	0.02	Fallow land
Halelluya "	1975	85	0.015	Farming
Igosun Road "	n1968	62	0.02	Farming
Alarape Furniture	1979	42	1.005	Farming
Abiola Depot	1984	70	0.015	Farming
*Uncompleted Inds.	1985	76	1.03	Fallow land
Dumade Blocks	1981	33	1.005	B u s h
Jofans Const. Limited	1980	34	0.025	B u s h
Gari Making Inds.	1979	42	1.005	Vacant Land

Source: Field Survey, 1985.

*Industries not yet functioning at the time of the survey.

This is also the case in Offa as it is evident from Table .4.8 below that 33.3 percent of the (mostly large scale) industries have their market areas located outside Oyun Local Government area and only 20 percent of the industries have their market areas located within the fringe areas. Most of the industries also obtain their raw materials outside the local government area.

TABLE 4.8

Marketing areas of industries located in Rural-Urban fringe.

L O C A T I O N	NO. OF INDUSTRIES	PERCENTAGE
Offa Urban Centre	3	20
Oyun Local Govt. Area	4	26.7
Fringe Areas	3	20
Outside Oyun L.G.A.	5	33.3
T O T A L	15	100

Source: Field Survey, 1985

4.10 Residential development in the rural-urban Fringe of Offa.

Residential use is the greatest use to which land in the fringe of Offa is converted. Compared to the other landuse types, the conversion to residential uses increased from about 300 hectares in 1974 to over 500 hectares in 1985. There is also a considerable increase in the expansion of industrial landuse and also residential/commercial structures, insitutions while recreational facilities have not increased to any significant extent.

In the rural-urban fringe, there is usually enough space around the residences that could easily be used for fencing, backyard farming or the addition of more structures.

Accessibility is the greatest factor which controls the spatial distribution of residential land uses. Areas along the main roads have higher residential densities compared to the west and north-western areas of the town. While low residential densities are found in the south of Igbonno route, close to Owode market, east of the railway quarters

and north of the town near the brewery site. The railway station and quarters reduces the expansion of residential landuse in the east of the railway station and Afelele area also in the east is swampy. The south of Igbonna route and back of Owode market through Adeleke road are swampy and forested. While the land near the brewery site is very far from the urban centre and the land belongs mostly to government agencies and partly to Ijagbo village.

However, a few new residential developments are found on the eastern part of the town on the bank of Afelele lake. The residential structures far from the main roads are few, occupy a larger area and mostly belong to well-to-do individuals who possess the necessary mobility to be able to afford such distant locations.

Most of the construction activities surveyed from the urban centre to the rural-urban fringe are residential structures representing about 70% of the construction activities recorded. Though the availability of enough land for farming in the fringe areas is usually emphasised, of equal importance is the availability of land for residential, industrial, recreational and insitutional developments.

The impact of residential development could be well understoood by looking at Table 4.10 and 4.11 below

TABLE 4.9

Percentage of construction activities in terms of different land uses

LAND USE TYPES	NO. OF CONSTRUCTION ACTIVITIES	PERCENTAGE
Residential	334	55.33
Industrial	8	1.33
Commercial	50	8.29
Institutions	6	0.99
Recreation	4	0.66
Residential/Commercial	154	25.54
	47	7.79

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Source: Field Survey, 1985.

Out of the construction activities recorded, 55.33% are for residential development, 25.54% for residential/commercial development. Residential land use is also the highest along the four major transects surveyed.

TABLE 4.10

Relationship between types of construction activities and different directions.

TYPES OF CONSTRUCTION ACTIVITIES IN TERMS OF LAND USE	DIRECTIONS				
	A	B	C	D	TOTAL
Residential	77	55	165	37	334
Industrial	2	2	3	1	8
Commercial	15	6	22	7	50
Institution/Recreation	1	1	5	3	10
Residential/Commercial	35	31	58	30	154
Not Known	11	7	24	5	47
T O T A L	141	102	277	83	603

Source: Field Survey, 1985.

N.B.

A = Offa - Ajasse transect
B = Offa - Erinle transect
C = Offa - Igbonna/Irra transect
D = Offa - Ipee/Igbsun transect.

Thus along the four transects, residential and commercial land uses are the most common types of construction activities in the rural-urban fringe of the study area.

There is also the evidence that residential and commercial development will continue to expand in the rural-urban fringe of Offa. From table 4.12 below, out of the vacant plots acquired by farming and non-farming households, 48.2 percent and 68.9 percent respectively, have proposed the plots for residential development.

TABLE 4.11

Proposed use of vacant plots acquired by farming and non-farming households

PROPOSED USES OF VACANT PLOTS	CATEGORY OF HOUSEHOLDS NON FARMING		FARMING		TOTAL
	NO.	%	NO.	%	
Residential	31	68.9	13	48.2	44
Espansion	7	15.6	4	14.8	11
Commercial	4	8.9	2	7.4	6
Farming	2	4.4	8	29.6	10
Institution	1	2.2	-	-	1
T O T A L	45	100	27	100	27

Source: Field Survey, 1985

TABLE 4.12

Chi-square contigency Table: Uses of plots recently acquired by farming and non-farming households.

PRESENT LAND USE	CATEGORY OF HOUSEHOLDS FARMING	NON-FARMING	ROW TOTAL
Farmland	21	2	23
Residence	51	72	123
Sold (not Known)	15	11	26
Comm/Rec/Inst.	11	26	36
Column Total	98	111	209

Source: Field Survey, 1985.

Calculated Chi-Square = 22.9524
Table Chi-Square value = 11.3449
Level of Significance = .01
Degree of freedom = 3

From the table above, it is evident that the working hypotheses that residential use is the greatest use land in the fringe area is been conveted, holds true for both farming and non-farming households in the use of plots of land they recently acquired. This shows the impact of residential landuse in the process of peri-urban landuse conversion in the study area. As a whole, one of Golledge's 1960, propositions that residential expansion is rapid in the fringe areas holds true in the rural-urban fringe of Offa.

4.11 Recreational and institutional development in the rural-urban fringe of Offa

Recreational land-use is very scarce and mostly found in school premises playground. Lake Afelele also provides recreational opportunities and fishing (see plate XII and XIII).

Educational institutions are also well developed in recent years. Both institutional and recreational land-uses are mostly to be foundin the rural-urban fringe and few are located in the centre of the town. Schools located in the centre of the town have inadequate space for expansion and recreational activities, while those located in the rural-urban fringe have enough land for recreational purposes and erection of more structures.

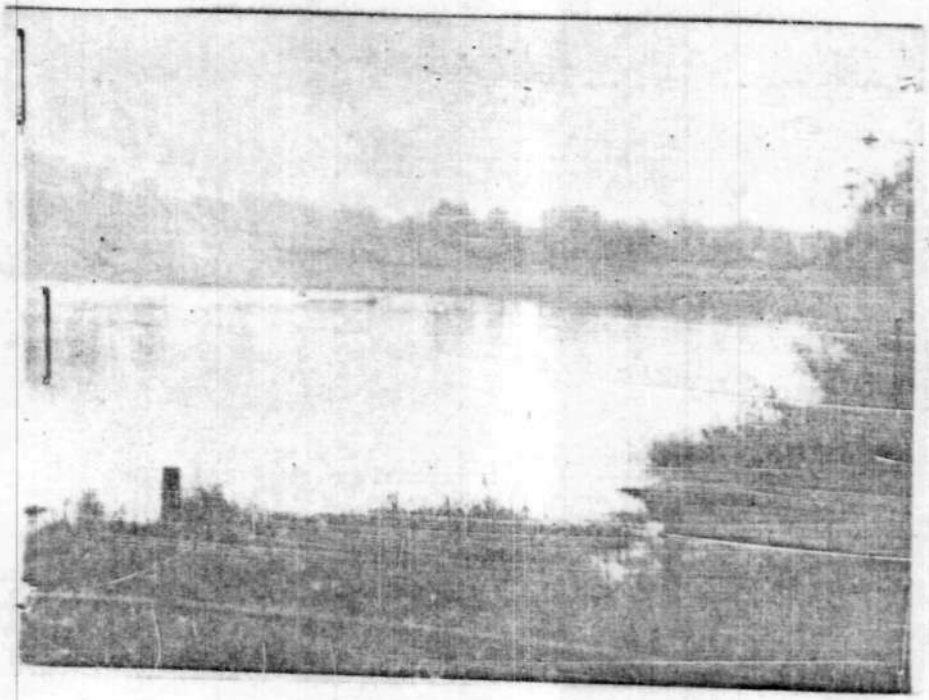
In 1974, there were eleven primary schools, four post primary schools in Offa. At present there are thirteen Secondary Schools in Offa, and one Post Secondary School, Twenty-one are located in the rural-urban fringe.

Plate XII



Recreation centre at the urban centre.

Plate XIII



Afe lele Lake - Offa -east.

TABLE 4.13

Proportion of educational institutions located in the rural-urban fringe and urban centre.

EDUCATIONAL INSTITUTIONS	LOCATION			
	URBAN CENTRE		RURAL-URBAN FRINGE	
	NO.	%	NO.	%
Primary Schools	3	60	9	42.8
Colleges	2	40	11	52.5
Higher Institutions	-	-	1	4.7
TOTAL	3	100	21	100

Source: Field Surcey, 1985

There is no township stadium in Offa and though the desire and plan to build one was conveived a long time ago, the problem of land ownership and boundary conflicts in the proposed area made it impossible. It is now proposed to be located along Offa-Irra road on Latinwo's farm.

Recreational facilities are lacking in the fringe areas as supported by Thomas 1974 refering to the characteristics of the rural-urban fringe and that the emphasis is on residential and industrial development.

CHAPTER FIVE

SOCIO - PHYSICAL PROCESSES IN THE RURAL-URBAN FRINGE

5.1 Introduction

The rural-urban fringe in terms of social processes is an area where urban based and rural based populations are intermixed with differences in occupation, income, residential development and so on; resulting into the presence of people with urban-based and rural based occupations and ways of life intermixed as viewed by Pahl 1965, Swindell and Sutherland (1985). The rural-urban fringe in terms of physical process, is also a zone where mixing of different land uses is a continuous process and where urban based land uses are competing with or replacing farmland leading to boundary or land-ownership conflicts as related to the definitions of Johnson (1974), Thomas (1974) and Colledge (1960).

Thus in this chapter, the variables to be discussed include the adjustment mechanism of people displaced by land use conversion, land ownership and boundary conflicts and the spatial distribution of public utilities.

5.2 Construction activities with distance from the urban centre.

Construction activities varies with distance from the urban centre, in all directions. Generally, construction activities is also greater in the rural-urban fringe than the urban centre which corresponds with the finding of Goodall, 1972.

There are two main aspects to be discussed thus:

(a) Construction activities versus distance

(b) Construction activities versus direction.

5.2.1 Construction activities and distance from the urban centre.

In relation to the suggestions by Goodall (1972) that the physical process of urban growth involves the lateral expansion, infilling and internal reorganization of existing built-up area, the findings in this study on construction activities could be divided on the same basis into three, viz: open-space construction, infilling and internal reconstruction respectively. Types of construction activities is also found to differ with distance from the urban centre in the study area as shown in table 5.1. Data obtained in respect of the types of construction activities with distance from the urban centre are graphically presented in Fig. 5.1

TABLE 5.1

Chi-square contigency Table:
Types of construction activities
and distance from the urban centre.

Distance from urban Centre (km)	Types of construction activities			
	Infilling	Open Area	Internal Reconstruction	Total
0 - 2	6	-	34	40
2.1 - 3	11	2	76	89
3.1 - 4	149	18	34	201
4.1 - 5	20	178	-	198
5.1 - 6	1	74	-	75

Source: Field survey, 1985.

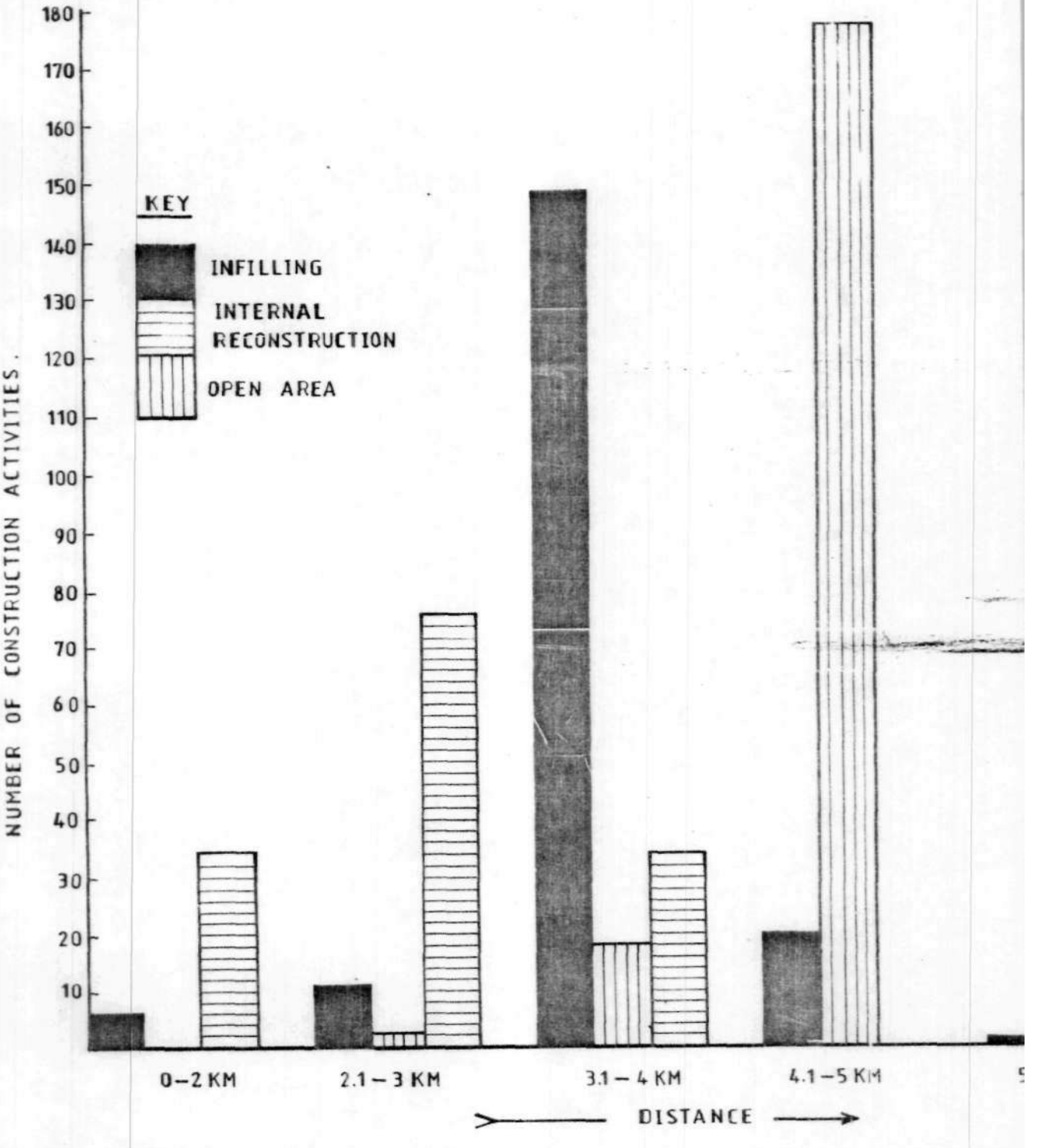


Fig. 5.1 Types of construction activities with distance from the

Calculated chi -square value: 704. 187*

Degree of freedom: 8

Level of significance: 0.01

Subjecting the data on Table 5.1 to chi-square analysis, the calculated chi-square value was 707 . 187 as compared to the theoritical chi-square value of 20.090 at the 0.01 level of significance and 8 degrees of freedom. This is further evidence that the hypothesis that there is a significant difference in the volume of types of construction activities at different distances from the urban centre holds true.

The area from the urban centre to about 3km is noted for most of the internal reconstruction activities. While the infilling and open-area construction activities are concentrated at about 3 - 4km and 4 - 6km respectively from the urban centre. However, the zones or distances over lap and not of equal distance in all areas judging from the shape of the town. This indicates that the working hypothesis only holds true for all types of construction activities within the limit of certain distances.

5.2.2. Internal Reconstruction activities.

This is seen withing the urban centre. It extends from the centre to about 1 to 2km, of the built-up area. Construction activities here involve the demolition of old structures and construction, of new ones. This involves mostly road construction, residential and commercial structures. The new houses are mostly storey buildings with the ground floor used for commercial activities and the upper part for residence.

This is due to the desire of the urban centre dwellers to build new houses and in cases where the individual have no access to land in the fringe areas the next alternative is to re-construct the old house. In some cases individuals have access to rural land and at the same time reconstruct the old family house located within the urban centre. These are the resultant effects of access to land, distance and the land ownership and boundary conflicts.

5.2.3. Infilling construction activities.

This is seen in the rural-urban fringe about 2½ km from the urban centre. The construction activities involve the development of plots of land by-passed as the urban centre grows outwards. These plots of land are all allocated to individuals or government agent, but not yet fully developed. There are already permanent old structures around so the areas is different from the new development (open-space) areas. Infilling is a continuous process and extends over a very large area. It is the most common activity from the immediate edge of the built-up area to the rural land.

5.2.4. Open-space construction activities

This is seen in the rural-urban fringe and nearer to the rural land, about 4 to 6km from the urban centre. The construction activities here involve construction on open land, mostly used for farming. Thus it is more pronounced in the far fringe areas than the land near the built-up area. The construction activity is not uniform, but parcels of land lie here and there either used for farming or left to grow weeds. This is noticed mostly between the Offa-Ilemona/Irra roads.

Generally, infilling and open-space construction activities increase gradually as one moves away from the urban centre and reaching a peak in the rural-urban fringe and decreases gradually as one approaches the rural land due to distance. While internal reconstruction reduces with distance from the urban centre.

The construction activities also involves mostly residential structures and some industrial, institutional and recreational land-uses.

5.3 Construction activities and direction from the urban centre.

Construction activities also vary depending on the direction from the urban centre. The four directions surveyed vary in terms of number and types of construction activities, Fig. 5.2.

In terms of number of construction activities, the land-use transect along the western direction of Offa-Irra and Offa-Igbonno roads recorded the highest number or volume of construction activities (46% of total construction activities recorded). These constructions are mostly residential and institutional.

TABLE 5.2

Relationship between volume of construction activities and different directions

DIRECTIONS	VOLUME OF CONST. ACTIVITIES	PERCENTAGE
Igosun/Ipee Transect	83	13.7
Irra/Igbonna Transect	227	46
Erinle Road Transect	102	17
Ajasse-Ipo Road Transect	141	22.3
T O T A L	603	100

* Source: Field Survey, 1985

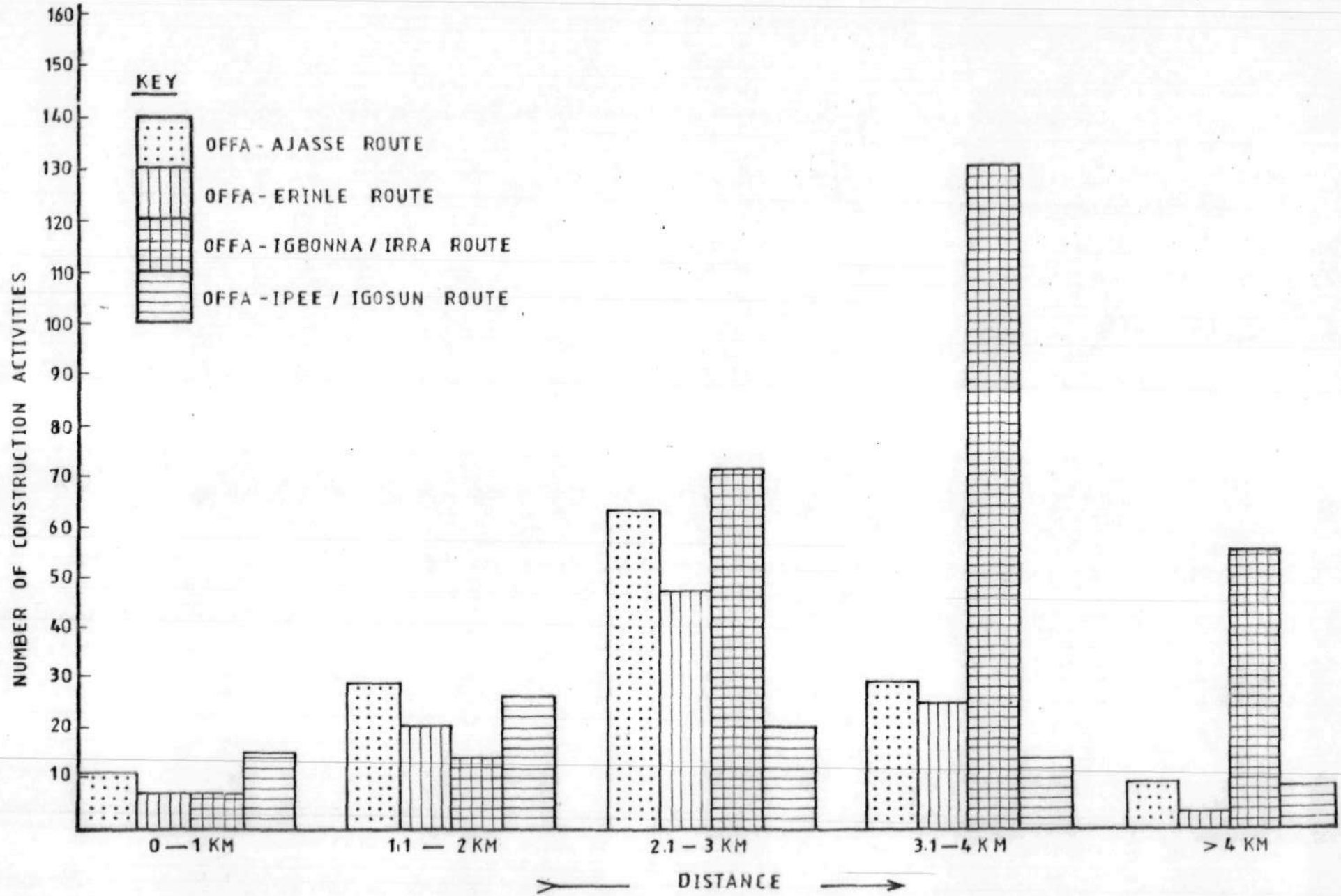


Fig. 5.2 Volume of construction activities by distance and direction from the Urban cen

(Scale 1 cm represents 10 construction activities)

Along Offa-Ajasse road where the second highest construction activities occurred, features involved, include hotels, residential and commercial structures. The construction activities along Offa-Erinle road is lower than that of Offa-Irra/Igbonno minor roads in the western part of the town. Mostly residential, industrial and commercial construction activities are found along Offa-Erinle route, while the construction activities are residential and institutional along Offa-Igosun/Ipee route. Construction activities along Offa-Ajasse road represents 23.3%, Offa-Igosun/Ipee roads 13.7%, Offa-Erinle road 17%, Offa -Igbonna/Irra roads 46%. From Fig 5.2, the pattern of construction activities along the four major transport arteries differs in the relation between volume of construction activities and distance from the urban centre.

TABLE 5.3

Chi-square contigency Table:
Volume of construction activities by distance and direction from the urban centre.

DISTANCE (KM)	VOLUME OF CONSTRUCTION ACTIVITIES				ROW TOTAL
	A	B	C	D	
0 - 1	11	7	7	15	40
1.1 - 2	29	20	14	26	89
2.1 - 3	63	47	71	20	201
3.1 - 4	29	25	130	14	198
4	9	3	55	8	75
COLUMN TOTAL	141	102	277	83	603

Source: Field Survey, 1985.

* A = Offa-Ajasse-Ipo route
B = Offa-Erinle route
C = Offa-Igbonna/Irra route
D = Offa-Ipee/Igosun route

The volume of construction activities increases to about 2 - 3km along Offa-Ajasse, and Offa-Erinle routes, but along Offa-Igbonno/Irra route, it increases to about 3 - 4 km from the urban centre before decreasing.

Along Offa-Ipee/Igosun route, there is a decreasing volume of construction activities, possibly as a result of the barrier created by the railway station and quarters and the swampy nature of the land coupled with lack of a main road. Thus there is a change in the concentration of development along the main Oshogbo-Offa-Ajasse-Ipo route as the western and north western parts of the town are opened up with new intra-urban roads.

The possibility of some association existing between distance from Offa and construction activities was further examined by subjecting the data in Table 5.3 to the chi-square test. The raw Chi-square from Table 5.3 was 159.09 as compared to the theoritical Chi-square value of 26.22 at the 0.01 level of significance with 12 degrees of freedom. This therefore affirms the hypothesis that there is a significant difference between the four major transport arteries in the volume of construction activities at different distances from the urban centre. The volume of construction activities is highest between a distance of 2.5km to 4km from the urban centre. This is the rural-urban fringe.

It is noted that infilling, open-area and internal reconstruction activities are mostly concerned with residential structures, as depicted in table 5.5 below.

TABLE 5.4

Relationship between types of construction activities and land use types

LAND USE TYPE	CATEGORY OF CONST. ACTIVITIES			
	INFILLING	OPEN-SPACE AREA	INT. RECONST.	TOTAL
Residential	74	182	78	334
Industrial	2	6	-	8
Commercial	21	11	18	50
Institutional	-	5	1	6
Recreation	1	2	1	4
Residential/ Commercial	77	32	45	154
Not Known	12	34	1	47

Source: Field Survey, 1985.

Because of the nearnesss of Erinle and Ajasse-Ipo construction activities decreases as one approaches the rural land, then starts increasing after some distance from the end of the rural-urban fringe of Offa and reaching a peak in the rural-urban fringe of the nearby towns of Erinle and Ajasse-Ipo; and decreasing as one approaches the town centres. There is thus double peaks in the construction activities recorded along Offa-Erinle and Offa-Ajasse-Ipo transects.

5.4 Adjustment mechanism of people displaced by land-use changes in the rural-urban fringe of Offa.

Most of the people displaced by land use conversion in the fringe are farmers and some non-farming households located in the rural-urban fringe. The farmers displaced recently in the rural-urban fringe of Offa are mostly those who have farms located in the new development area in-between Offa-Irra/Igbonno roads, those north of Offa opposite Ijagbo and those along Erinle road and Igosun/Ipee roads to some extent.

The farmers displaced usually move to new areas farther away from the urban centre as is the case in the studies of many urban centres in Nigeria, such as Umuahia, Aba, Ibeku (Ajaegbu, 1970). Most of the in-migrants found in the rural-urban fringe of the study area are from Offa town.

Table 5.6 below shows that most of the non-farming household migrants are from the rural areas of Offa town, representing 46.7 percent of the non-farming household migrants, while the farming households migrants are mostly from the Offa town, representing 47.4 percent of the farming household migrants.

TABLE 5.5
Origin of rural-urban fringe migrants

PLACE OF ORIGIN	NO. OF RESPONDENTS BY HOUSEHOLDS			
	F A R M I N G		NON - FARMING	
	NO.	%	NO.	%
Offa Town	27	47.4	21	28
Rural Areas of Oyun L.G.A.	13	22.8	35	46.7
Outside Oyun LGA	17	29.8	19	25.3
T O T A L	57	100	75	100

Source: Field Survey, 1985.

A large number of the farming household who are migrants are those that have come from the urban centre in search of land to farm. They are mostly those farmers that have been dispossessed of their farmlands, while most of the non-farming households migrants who are from the rural areas of Oyun Local Government Areas have come to seek for employment in the industries located in the rural-urban fringe. In table 5.7 below, 36.8% of the farming household migrants, migrated to the fringe areas for farming reasons. And 26.7% - 46.7% of the non-farming households migrated to the fringe areas

for employment and residential reasons respectively.

TABLE 5.6

Reassons for migration of the farming and non-farming households migrants, to the rural-urban fringe

REASONS FOR MIGRATION	CATEGORY OF HOUSEHOLDS WHO ARE MIGRANTS			
	F A R M I N G		NON-FARMING	
	NO.	%	NO.	%
Residential	12	21.5	35	46.7
Employment	9	15.8	20	26.7
Transport routes	5	8.8	16	21.3
Farming	21	36.8	-	-
Family reasons	10	17.5	4	5.3
T O T A L	57	100	75	100

Source: Field Survey, 1985.

The movement is usually towards Offa-Irra/Igbonno roads where most farmers used land temporarily for farming pending the time the individual or rightful owner would want to develop it. Residential land-use is the greatest use to which farmlands were converted in the rural-urban fringe. Fig. 5.3 and Fig.5.4.

There is evidence of shortage of land for farming in some areas within the immediate environs of Offa, and this results, in some cases, into farmland disputes between Offa and Erinle.

Some of the farmers compensated for the compulsory acquisition of their land have either used the money to establish new farms elsewhere or intensify agriculture on on the remaining land, while a greater percentage have used the money for non-agricultural enterprise and residential dev elopment. Another group displaced by industries maintain

FIG. 5.3 EXTENT OF RURAL-URBAN FRINGE ALONG OFFA - IRRA ROAD.

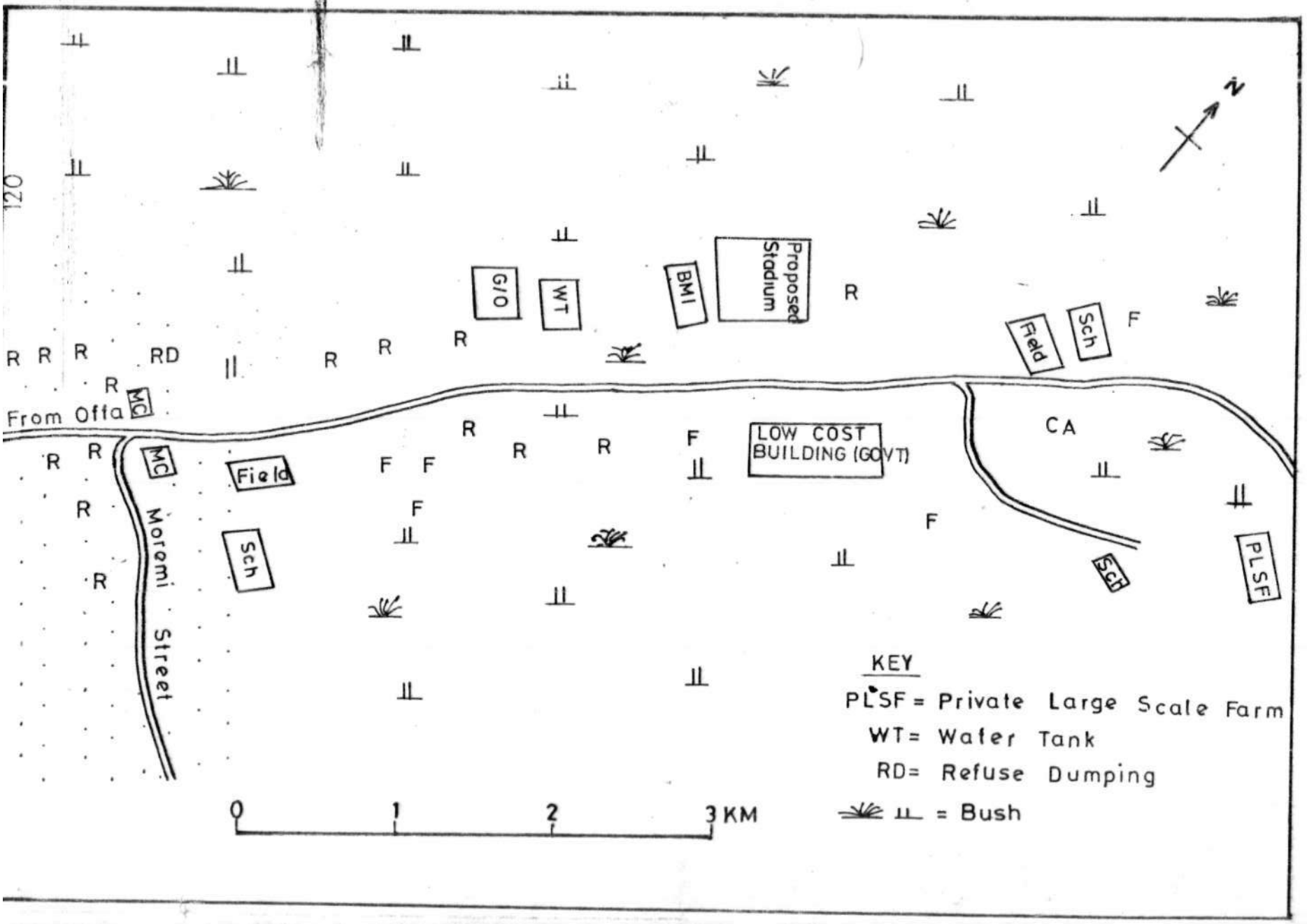
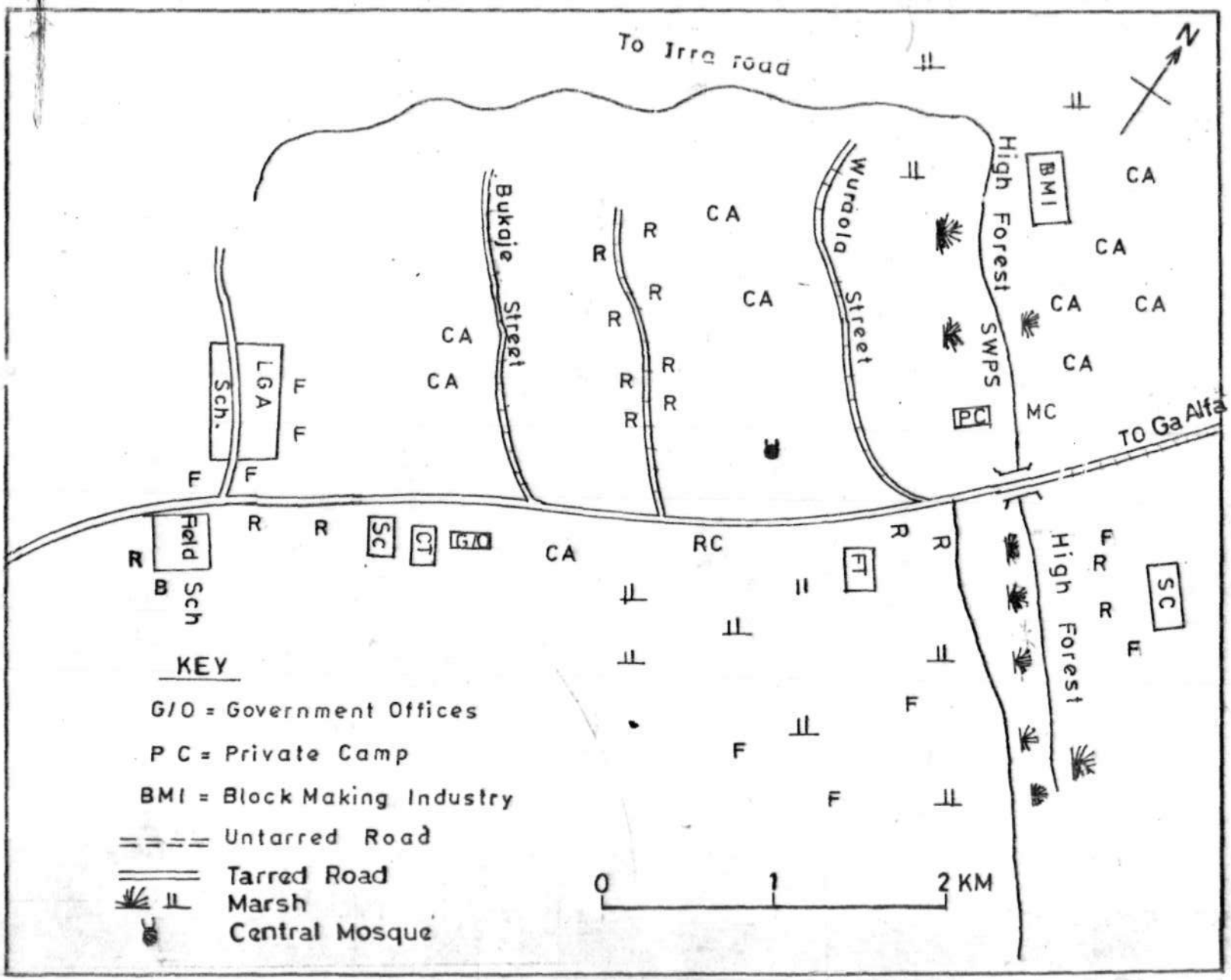


FIG. 5.4 EXTENT OF THE RURAL-URBAN FRINGE ALONG OFFA-IGBONNA ROAD.



a small farm near the industries and at the same time seek employment with the nearby industries. In time, they become part-time farmers.

From the table 5.8 below, 50 percent and 65.5 percent of the farming and non-farming households respectively use their land compensation money for residential development, while only 20 percent of the farming households use the money for farming.

TABLE 5.7

Use of land compensation money by farming and non-farming households

USE TO WHICH COMPENSATION IS PUT	CATEGORY OF HOUSEHOLDS				ROW TOTAL
	FARMING		NON-FARMING		
	NO.	%	NO.	%	
Residential	20	50	21	65.6	41
Farming	8	20	-	-	8
Commercial	12	30	11	34.4	23
COLUMN TOTAL	40	100	32	100	72

Source: Field Survey, 1985.

The few non-farming households that have lost their land did so mostly as a result of government re-construction activities starting from the centre of the town e.g. Road construction, refuse dumping and building of schools and hospitals e.t.c.

The money for compensation is mostly used for constructing new houses also within the rural-urban fringe and in some ways turning another farmland into residential land-use. Few of them also used the money to open retail shops and other commercial businesses.

Vacant land not presently used for any purpose by the industries is also used by those working there for temporary farming around the industrial premises.

The most important problem of adjustment lies with the farming households because the farmers loose not only the land but, as Thomas (1974) said, also gone with the land is their occupation and source of income. And in the case of Offa and its immediate environs, vacant land for agricultural practice is not easily accessible especially along Offa-Erinle and Offa-Ipee and Ijagbo roads.

5.5 Spatial distribution of public utilities and services.

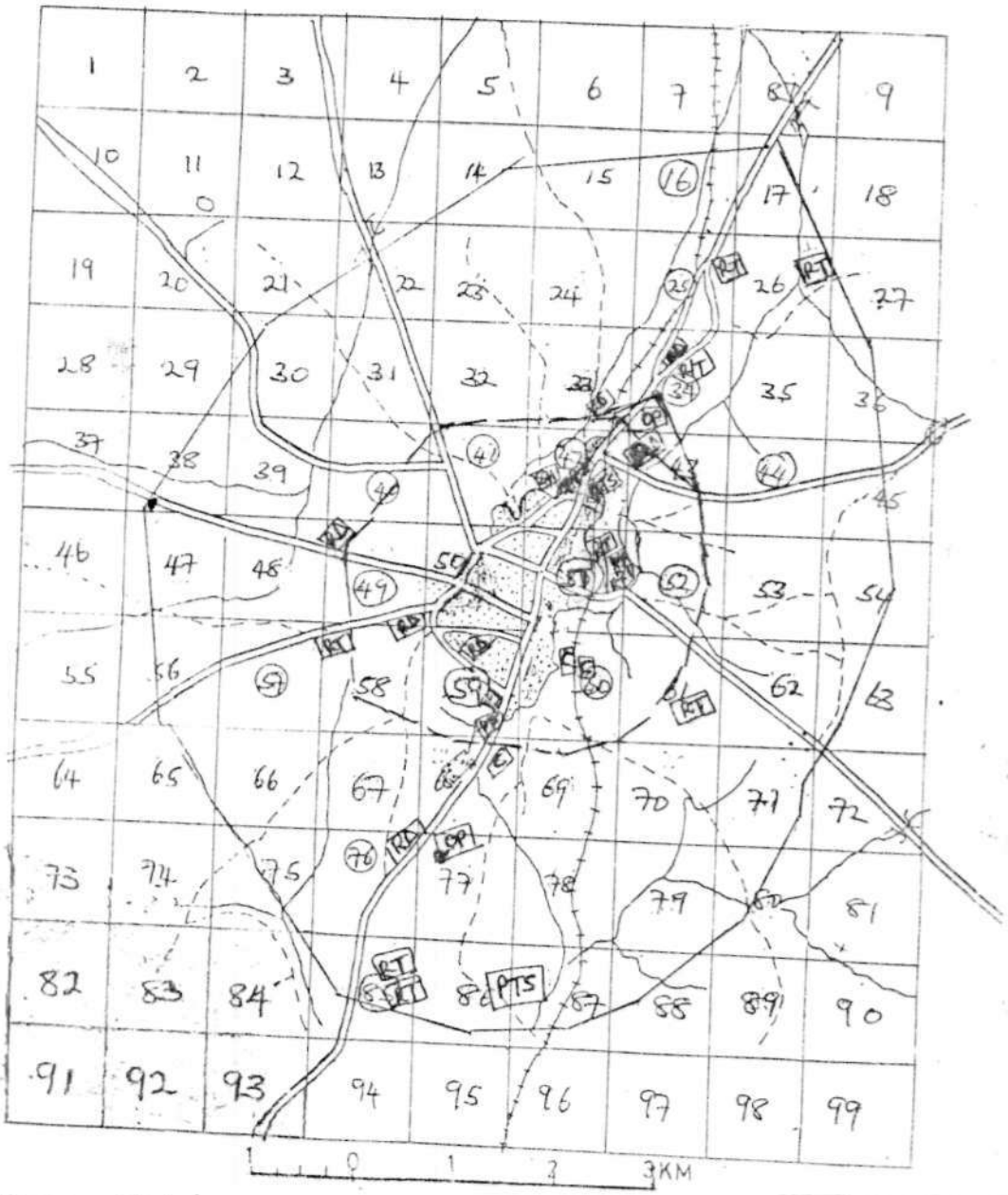
The distribution of public utilities and services varies depending on the type. Some that are located in the urban centre include power and telecommunications transmitting stations due to the presence of post office and NEPA stations in the urban centre and also some water tanks and few refuse dumping sites. While the rest are found mostly in the fringe areas as is the case in the fringe of most urban centres because most of them require a large area of land which may not be easily available within the urban centre such as open praying ground, water reservior, [illegible] and others unwanted in the urban centre such as cemetry, refuse dumping and slaughter houses (see Fig. 5.5).

TABLE 5.8

Spatial distribution of public utilities.

	LOCATION/DISTANCE(KM)			TOTAL
	0 - 2	2 - 4	4 - 6	
Power/Transmitting Station	1	1	2	4
Reservoir/Tanks	4	3	4	11
Slaughter Houses	-	1	-	1
Open praying ground	-	1	1	2
Refuse Dumping	1	3	3	7
Cemetry	-	3	1	4
T O T A L	6	12	11	29

Fig. 5.5 - SPATIAL DISTRIBUTION OF PUBLIC UTILITIES AND SERVICES.



Source: Ministry of Lands and Survey, Ilorin

⊕ - Chosen quadrats

◯ — Offa - rural - urban fringe ⣿ — Built-up areas

— Limit of urban fringe

KEY:

RD	-	Refuse Dumping
C	-	Cemetry
OP	-	Open praying ground
PTS	-	Power/Transmitting Station
RT	-	Tanks/Reservoir
SH	-	Slaughter House

Public utilities such as cemetery, refuse dumps and water reservoir and tanks are found in the rural-urban fringe. Plates XIV, XV, XVI, and XVII . Slaughter house is also located in the fringe areas but nearer to the built-up area.

Water reservoir and telecommunication stations are found in more distant areas of the rural-urban fringe than any other public utility and services. Postal services are located in the centre of the town and social welfare clinics. Less than 1% of the number of households have telephone in Offa town.

A small reservoir formed by a dam across the River Oyun situated about six kilometres north-east of Offa provides drinking water.

TABLE 5.9

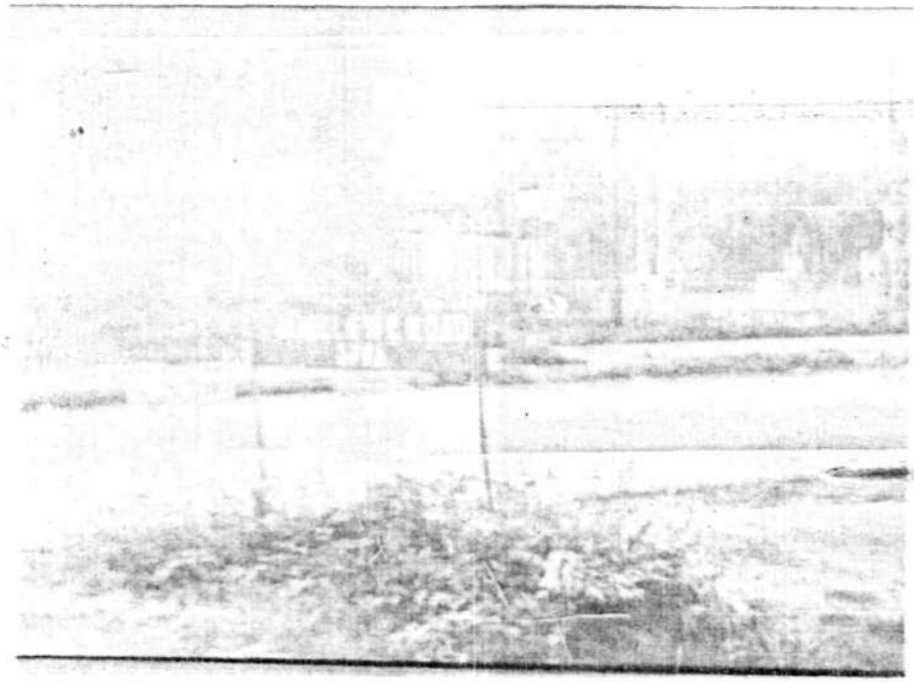
Ava ilability of water supply and electricity with distance from the urban centre

DISTANCE (KM)	HAVE WATER/ ELECTRICITY	HAVE ELECTRICITY ONLY	HAVE WATER ONLY	NONE	TOTAL
0 - 2	26	1	1	2	30
2.1-4	52	2	1	5	68
4.1-6	45	8	2	5	60
4.1-6	45				
TOTAL	123	11	4	12	150

Source: Field Survey, 1985.

Over 80% of the residential units have access to piped borne water. The areas with problems are the new development areas in the rural-urban fringe where the cost of construction sometimes delay the provision of pipe water and electricity. Most of the residential units hav e electricity supplied by NEPA.

Plate XIV



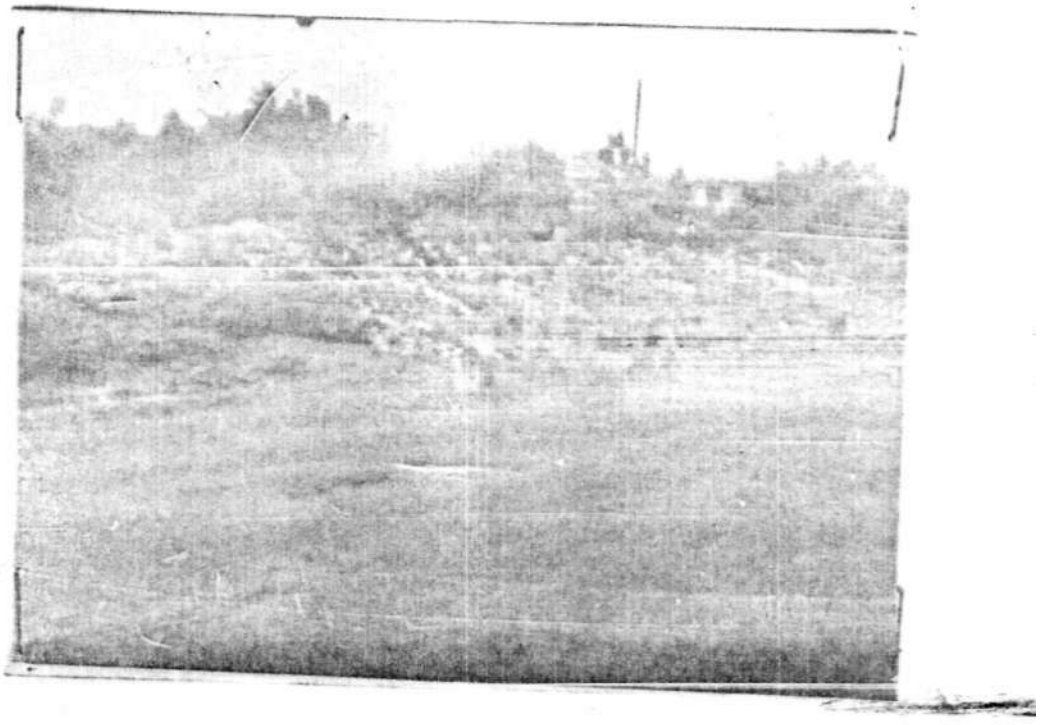
NEPA Power Installation in the rural-urban fringe.

Plate XV



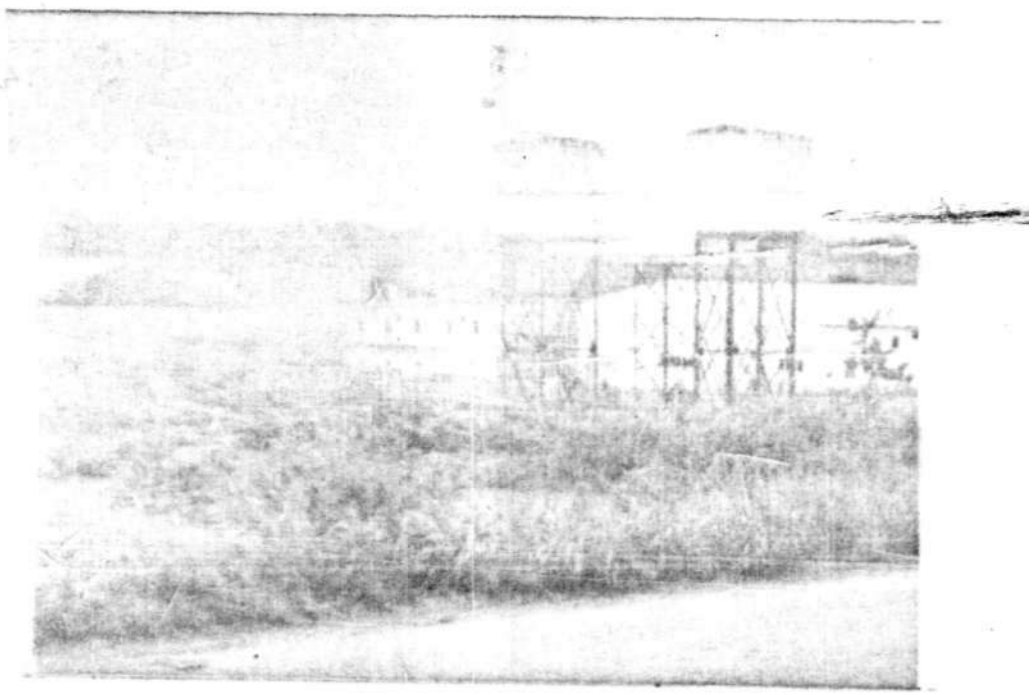
Slaughter house at the back of Owode market.

Plate XVI



Refuse Dump along Afelele road.

Plate XVII



Water tanks and an Industry at the fringe areas of Erinle. (To the left is the boundary between Offa and Erinle).

The proposition that the provision of the public utilities and services is incomplete in the rural-urban fringe by Golledge (1960) is true for most areas in the rural-urban fringe of Offa especially the far fringe areas due to the higher cost of provision of these services.

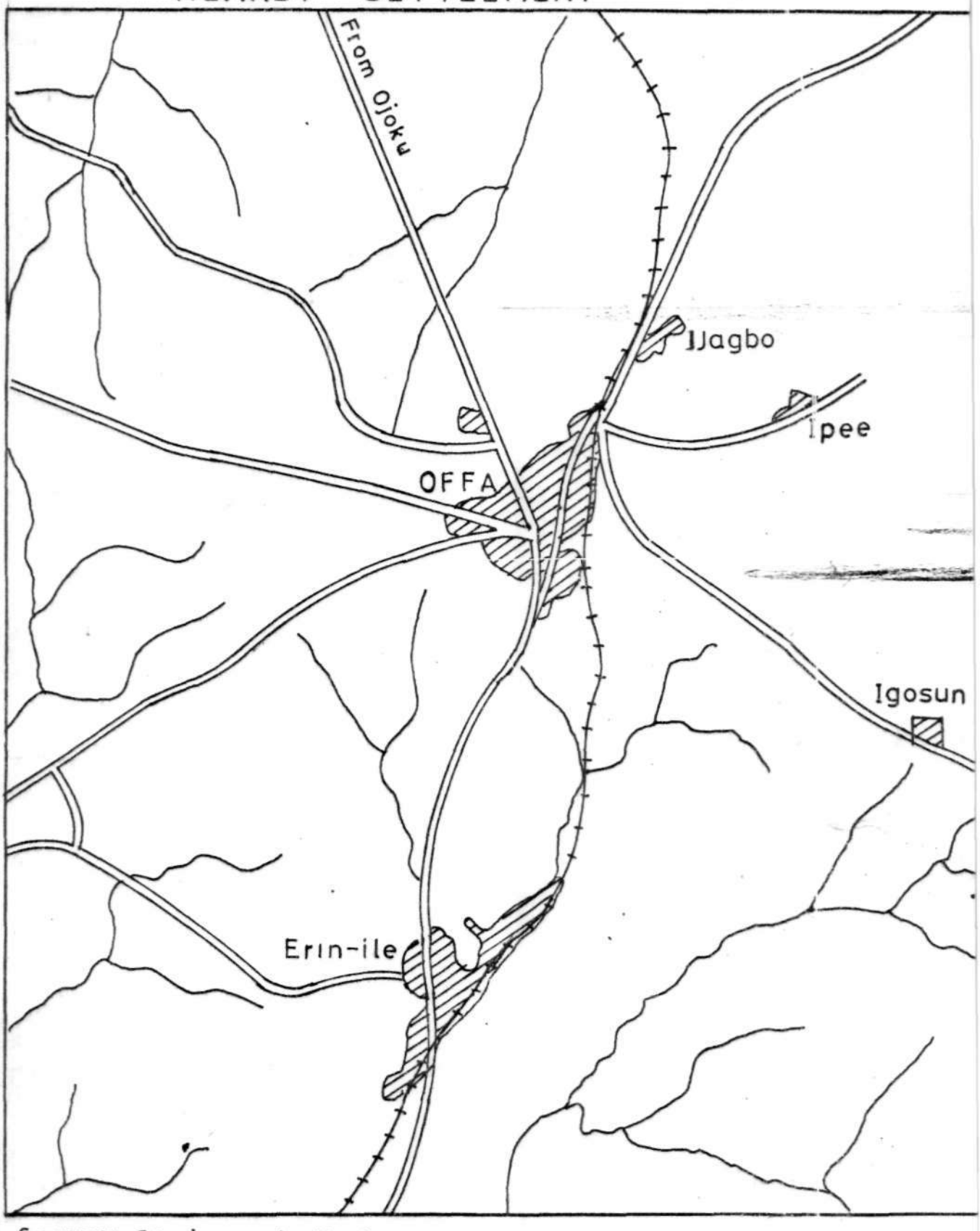
5.6 Land ownerships and boundary conflicts and the process of land use conversion in the rural-urban fringe of Offa.

The problems posed by land ownership and boundary conflicts in the process of land use conversion in the rural-urban fringe of Offa could be well understood by the study of land use changes along the different directions from the urban centre. The land along Offa-Erinle and along Offa-Ajasse-Ipo roads are no more witnessing great land use changes as it was in the past years. The great land use changes recorded are those due to government action e.g. The new Oyun Divisional Market which is not functioning well at present as planned.

Erinle town is larger than Ijagbo and as such poses a greater land ownership and boundary conflicts than Ijagbo which is being partly absorbed by Offa town. But immediately after the northern bridge towards Ajasse, land ownership and boundary conflicts increase to a significant extent.

Along Offa-Irra/Igbonna roads, there are great land use changes mostly residential. The villages of Irra and Igbonna are farther from Offa town than Erinle and Ijagbo, thus land ownership and boundary conflict is insignificant in this area unlike Offa-Erinle and Offa-Ijagbo/Ajasse-Ipo(see Fig. 5.6).

FIG. 5.6 OFFA TRANSPORTATION ROUTES AND NEARBY SETTLEMENT



Source: Shair and Partners

1 0 1 2 3 Kilometres

KEY

Existing devept/ settlement

Railway

Roads

Rivers & Strear

Land ownership and boundary conflicts is also less along Offa-Igosun and Ipee roads. The Government Residential Area on the eastern Offa near Ipee reduces the problem to some extent though Ipee village is very near and Ipee village could be absorbed in the near future.

From the above, there are two main factors which affect the problems of land ownership around an urban centre: viz: Distance and size of nearby settlements.

(a) Distance - The nearer the nearby settlements to an expanding urban centre, the greater the problem of land ownership and boundary conflicts in the process of urban expansion.

(b) Size - The larger the size of nearby settlements of an expanding urban centre, the greater the problems of land ownership and boundary conflicts as both will tend to expand into the rural land though with different degrees.

From the above statements, when big towns are located near each other, problems of land ownership and boundary conflicts could easily result, while the smaller settlements or villages are usually absorbed partly or wholly into the urban area, physically and socially sometimes as shanty settlements, industrial satellite and so on e.g. Ijagbo and Erinle. This is an important phenomena widely identified in studies of many urban centres Ajaegbu (1970) and Sada (1970).

Due to the land ownership and boundary conflicts, about 100 hectares of land is avoided for urban purposes along Offa-Erinle road (Plate XVIII).

Plate XVIII



Government reserved land between Offa and Erinle - Oke - Ipinle.

5.7 Land shortage in the rural-urban fringe.

There is evidence of shortage of land for farming and residential development in some areas within the immediate environs of Offa town and this has resulted into land disputes especially between Offa and Erinle. Looking at Table 5.10 below, most of the respondents who claimed to have experienced shortage of land are those located along Offa-Ajasse and Off-Erinle routes. The respondents along Offa-Igbonna/Irra and Offa-Ipee/Igosun routes do not experience shortage of land to any significant extent.

TABLE 5.10

Proportion of respondents who have experienced shortage of land in the rural-urban fringe.

Category of respondents by direction

Land shortage	A	B	C	D	TOTAL farming	A	B	C	D	TOTAL Non-farmi
Have experienced	41	53	17	23	134	38	49	2	26	115
Do not experience	1	-	12	3	16	5	-	22	8	35
Total	42	53	29	26	150	43	49	24	34	150

Source: Field Survey, 1985.

Key-

A - Offa - Ajasse route
B - Offa - Erinle route
C - Offa - Igbonna/Irra route
D - Offa - Ipee/Igosun route.

A few of the respondents also claimed to have vacant plots. In table 5.12 below, more respondents from non-farming house-holds have vacant plots than the farming house holds. This shows further evidence of lack of enough extra land for farming activities.

TABLE 5.11

Availability of vacant plots by farming and non-farming house holds.

	CATEGORY OF HOUSEHOLDS			
	F A R M I N G		NON- FARMING	
AVAILABILITY	NO.	%	NO.	%
Have vacant plots	27	18	45	30
Do not have vacant plots plots	133	82	105	70
Total	150	100	150	100

Source; Field Survey, 1985.

Only 18% of the farming household and 30% of the non-farming household claimed to have vacant plots.

While there is shortage of land in certain areas such as Offa-Erinle road, Offa-Ijagbo and Offa-Ipee roads; land is also found to b e underused in other areas such as Offa-Ikotun and Offa-Ojoku roads, which are farther away from the urban centre and only connected with minor roads. Land shortage for residential and agricultural development to some extent is limited to areas very near other settlements such as land between Offa and nearby settlements of Ijagbo, Erinle and Ipee. Most plots of land in these areas are already allocated to individuals, government agents or for the development of other projects.

5.8 The problems of the rural-urban fringe.

Thomas (1974) remarked that "the inter-penetration of urban and rural land and of urban and rural society in evitably creates a competitive atmosphere in which conflicts of attitude and of interest appear" (P.26). In Table 5.13 below, the non-farming and farming households claimed to have mostly residential and farmland problems.

TABLE 5.12

Types of fringe land-use problem experienced by farming and non-farming households.

TYPES OF PROBLEMS	CATEGORY OF HOUSEHOLDS				
	F A R M I N G		NON-FARMING		
	NO.	%	NO.	%	TOTAL
Farmland conflicts	26	44.8	2	3.9	28
Residential expansion/ Development	3	5.2	14	27.4	17
Land-Ownership/Boundary conflicts	9	15.5	13	25.5	22
Shortage of public utilities	17	29.3	11	21.6	28
Shortage of Social amenities	3	5.2	11	21.6	14
T O T A L	58	100	51	100	109

Source: Field Survey, 1985.

(a) There is the problem of indiscriminate use of land in the fringe areas and the juxta position of incompatible land use.

(b) There is also the problem of lower level of service provision especially in the new development areas mostly due to the fact that a large percentage of the buildings are still under construction and coupled with the higher cost of provision of these services as a result of distance. However, the rural-urban fringe of Offa is well served with public utilities such as water supply and electricity.

(c) The rural-urban fringe farmlands are fragmented and private owned large scale farming in the fringe areas are very few. As already discussed, most of the land-use conversion that occur whether industrial, commercial or residential, are located on land previously used for farming. Some farmers thereby have to move further to establish new farms or reduce farm size.

(d) Another problem is the land ownership and boundary conflicts between Offa and Erinle, and Ijagbo/Ajasse-Ipo settlements. This has led to conflicts at various times especially between Offa and Erinle. This also reduces present or future residential and industrial landuse conversion along Offa-Erinle road and after the bridge north of the brewery site along Offa-Ajasse-Ipo road, except in the fringe areas of Erinle or Ajasse-Ipo themselves where other major industries such as Total Nigeria Engineering Limited and some large residential structures are located.

CHAPTER SIX

6.1 Summary of findings.

The findings from the data analysis could be summarized as follows:-

1. Transportation routes have dominant influence on the direction of sprawl.
2. Greater land use changes recorded along the main roads than the railway lines.
3. Greater number of public utilities located in the rural-urban fringe than the urban centre.
4. Land ownership conflicts restricts the spatial extent of sprawl along Erinle-Offa-Ajasse roads.
5. The number and size of backyard farms increases with distance from the urban centre.
6. The direction of sprawl is dominantly towards the north-western and western parts of the town.
7. Residential use is the greatest use land in the rural-urban fringe is converted.
8. Open space and infilling construction activities recorded increase with distance from the urban centre, while internal reconstruction decreases with distance from the urban centre.

6.2 Conclusion.

Peri-urban land use conversion is a process which begins as a town starts expanding into the surrounding hinterland usually used for farming. Thus land use conversion involves the retreating agricultural land use and the in-coming industrial, commercial and residential land uses. The fringe areas of Offa which are intensively cultivated are being intruded upon by residential, commercial, industrial and institutional land uses. The residential land use is the greatest land use competitor with farmland in the fringe areas.

The process of peri-urban land use conversion can be understoood by observing the constant mixing of different land uses, especially parcels of farmland nearby industries and residences in the rural-urban fringe. This is one of the problems Thomas (1974) expected to find in the rural-urban fringe. Farmers are the most affected group in the process of peri-urban land use conversion at Offa.
The process of peri-urban land use conversion is mostly noticeable in the present areas where new development of residential, industrial and commercial establishments are taking place, especially the north-western part of Offa town. Plots of land easily accessible are noticed to be converted first in the rural-urban fringe, corresponding with the findings of Ajaegbu (1970), Norman (1967), Johnson (1974), that areas nearby the built-up areas are first converted to urban uses. The conversion is also patchy with undeveloped plots of land here and there.

6.3. Recommendations and Suggestions.

1. It has been constantly recommended by scholars of urban geography that it is important to create a 'reserved space' or 'green belt' around the urban centre (Bada, 1970). This will provide space for farming, recreation and other pursuits which requires a rural setting close to the town's edge. This will also give a more stable and cleaner division between urban and rural land and prevent unsightly urban sprawl and boundary conflicts especially along Offa-Erinle and Offa-Ijagbo roads.

2. The indiscriminate use of land as emphasised by Thomas 1974, need to be prevented to reduce the mixing of incoherent land-use in the rural-urban fringe. The size of plots allocated in the fringe areas especially residential plots also needs to be reduced to prevent acute shortage in the future.

3. Well planned intra-urban roads need to be developed along different directions to reduce the problems of accessibility in parts of the rural-urban fringe and to make the urban sprawl more even, especially the north west, Offa-Ikotun/Ojoku roads and Offa-Ipee/Igosun roads east of Offa.

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APPENDIX I

QUESTIONAIRE A

RURAL-URBAN FRINGE FARMING HOUSEHOLD SURVEY

1. Location of respondent's residence:

   (a) Quadrat Number _____

   (b) Name of Village (if a ny) _____

   (c) Dista nce from town centre _____

   (d) Distanne from nearest motorable road _____

2. How many plots of land do you have ?

   (a) In this locality _____

   (b) Elsewhere (if any) _____

   (c) If you answered (b), where are these other plots located ? _____

3. (a) How long have you been living a t your present residence ? _____ years.

   (b) Where did you live before coming here ?

   _____(if applicable).

   (c) Why did you come here ? (if applicable).

4. How long have you been farming here ? _____ years.

5. Give the following information on each of your farm plots.

(a) PLOT NO.	(b) LOCATION (QUADRAT NO)	(c) HOW MANY YRS FARMING THIS PLOT	(d) CROPS GROWN LAST YEAR	(e) ANY CHANGE IN USE IN LAST 5 YEARS
1.				Yes/No
2.				Yes/No
3.				Yes/No
4.				Yes/No
5.				Yes/No

6. If yes to question 5 (e), give details of change(s)

PLOT NO.	CHANGE(S) IN LAND-USE
1.	
2.	
3.	
4.	
5.	

7. What were your plots used for before you started farming them

PLOT NO	PREVIOUS USE (IF KNOWN)
1.	
2.	
3.	
4.	
5.	

8. (a) Has your farm holding decreased in size in the last ten years ? ( ) YES ( ) NO.

(b) If yes, give the following information.

No. of plots lost _____

Method of disposal _____

Price obtained _____

Present use(s) of the land _____

(c) What have you used the compensation money for ?

(a) To intensify production ( )
(b) To obtain new farmland ( )
(c) Non-gricultural enterprise ( )
(d) Others (specify)_____ ( )

9. Where do you sell your products ?

_____

10. How do you get to the market ?

F o o t	( )
Bicycle	( )
Motor cycle	( )
Private car	( )
Taxi/Bus	( ))
Other (Specify)	( )

11. Where do you usually buy the following items ? (If applicab

Staple foods _____

Provisons/beverages _____

Clothing _____

Furniture _____

Agric. tools/mats. _____

12. Household size:

	MALE	FEMALE
No. of Adults		
No. of Children		

13. How do you improve soil fertility ?

TYPE	QUANTITY	PRICE
Modern fertilizer		
Local Manure		
N O N E		

14. (a) Do you have other occupation(s) apart from farming ?

Yes ( ) NO ( )

(b) If yes, (specify) _____

15. Do you have any piece of land not presently used ?

Yes ( ) No ( )

(b) If yes , why ? _____

(c)

LOCATION (QUADRAT NO.)	PROPOSED USE	EXPECTED TIME OF DEVELOPMENT

16. (a) Do you experience any shortage of land ?
Yes ( ) No ( )
(b) If yes, explain _____

_____

17. Do you have water supply and electricity ?
(a) Water supply ( )
(b) Electricity ( )
(c) Both ( )
(d) None ( )

18. How often do you visit the urban centre ?
(a) Weekly ( ) (b) Daily ( )
(c) Monthly( ) (d) Yearly( )

19. Comment briefly on the problem of land for farming at the rural-urban fringe of Offa.

_____

_____

_____

_____

_____

APPENDIX II

QUESTIONAIRE B

RURAL-URBAN FRINGE NON-FARMING HOUSEHOLD SURVEY

1. Location of respondent's residence:

   (a) Quadrat number _____

   (b) Name of village (if any) _____

   (c) Distance from town centre _____

   (d) Distance from nearest motorable road _____

2. (a) How long have you been living at your present residence ? _____ years.

   (b) Where did you live before coming here ?
   _____(if applicable).

   (c) Why did you come here ? (if applicable):
   _____

3. (a) Occupation(s) _____

   (b) Is your working place far or near ?
   ( ) Near ( ) Far

   (c) How do you get to your working place ?

F o o t	( )
Bicycle	( )
Motor cycle	( )
Private car	( )
Taxi/Bus	( )
Others (Specify)	( )

4. Do you have water supply and electricity ?

   (a) Water-supply (b) Electricity (c) Both (d) None
   ( ) ( ) ( ) ( )

5. Where do you usually buy the following items ? (if applicable)

   Staple foods _____

   Provisions/Beverage _____

   Clothing _____

   Furniture _____

   Shoes _____

6. Household size:

	MALE	FEMALE
No. of Adults		
No. of Children		

7. (a) Are you a land-lord or a tenant ? _____

(b) If a tenant, rent per month ₦ _____

(c) If a landlord, supply the following information.

TYPE OF BUILDING	LOCATION (QUADRAT NO.)	DATE OF CONSTRUCTION	ESTIMATED COST OF CONSTRUCTION

8. If you are not living in the above house, where do you live ? (if applicable) _____

9. (a) How did you obtain the land ? _____

(b) If purchased, price ₦ _____

(c) What was the land used for before the erection of the building ? _____

10. Why did you choose present site ? _____

(a) Nearness to road (b) Nearness to market.

(c) Nearness to working place (d) Shortage of land

(e) Others (specify) _____

11. Do you have any plot of land not presently used :-

Yes ( ) No ( )

(b) If yes, supply the following information.

PLOT NO.	LOCATION (QUADRAT NO.)	PROPOSED USE	EXPECTED TIME OF DEVELOPMENT

12. (a) Have you sold land beofre ? ( ) yes ( ) no

(b) If yes, to whom ? ( ) Government

( ) Private agent.

(c)

LOCATION QUADRAT NO.	PRESENT USE	PAST USE	TO WHOM SOLD

13. (a) Are you engaged in farming ? ( ) yes ( ) No

(b) If yes, supply the following information.

PLOT NO	LOCATION QUADRAT NUMBER	CROP(S) GROWN	PAST USE OF PLOT
1			
2			
3			

(c) Where do you sell your products ?

_____

14. (a) Do you experience any land problem ( ) yes ( ) No.

(b) If yes, explain _____

_____

15. How often do you visit the urban centre ?

(a) Daily (b) Weekly (c) Monthly (d) Yearly

(e) Others (specify) _____

16. Briefly comment on the problem of land at the rural-urban fringe and housing development.

_____

_____

_____

_____

APPENDIX III

QUESTIONARIRE C

INDUSTRIAL AND COMMERCIAL ESTABLISHMENT AT RURAL-URBAN FRINGE

1. Name of industry/commercial establishment _____

_____

2. Location:
   (a) Quadrat Number _____
   (b) Name of villa ge (if any) _____
   (c) Distance from town centre _____
   (d) Year of establishment _____

3. (a) Why choose present location ? (Give details)

_____

_____

   (b) Have you located elsewhere before ? ( ) yes ( ) No.
   (Give reasons for changes): _____

_____

   (c) What was the land used for before acquisation ?

_____

   (d) How much paid for compensation, ₦_____

4. (a) Products _____
   (b) Where do you sell your products ? _____

5. (a) Source of labour: _____
   (b) Category of labour number employed salary/wages/year.

_____

_____

_____

6. (a) Where do most of your workers live ?
   (a) Urba n centre (b) Fringe areas (c) Villages
   (d) Others (Specify) _____
   (b) Do you have staff quarters ? ( ) yes ( ) No.
   (c) If yes, where located ? _____

_____

7. (a) Are you engaged in farming ? ( ) yes ( ) No.
   (b) If yes, give details _____

_____

8. Do you have any problem on land for expansion ?

( ) yes ( ) No

9. Where do you obtain your raw materials ?

10. Do you have any piece of land not presently used ?

( ) yes ( ) No

(b) If yes, supply the following information

LOCATION (QUADRAT NO.)	SIZE	PROPOSED USE	EXPECTED TIME OF DEVELOPMENT

11. Briefly discuss the problems of land for industrial/ commercial establishment at the rural urban fringe.

APPENDIX IV

SURVEY OF CONSTRUCTION ACTIVITIES WITH DISTANCE FROM THE URBAN CENTRE

DISTANCE (KM)	TYPE/NO. OF CONSTRUCTION ACTIVITIES IN PROGRESS		
	IN-FILLING	OPEN-SPACE	INTERNAL RECONSTRUCTION
0 - 1 km			
1.1-2 km			
2.1-3 km			
3.1-4 km			
4.1-5 km			
5.1-6 km			

KASHI