EXISTING CONDITION AMD FUTURE MOUSING NEED FOR MAKURDI AS BENUE STATE CAPITAL (1976-2000)

M.Sc.(U.R.P.) Thesis

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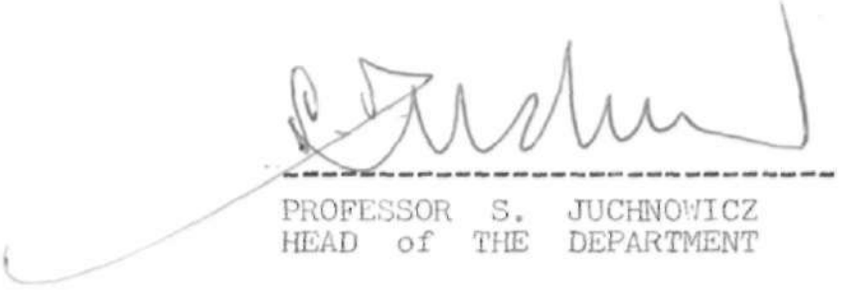
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C E R T I F I C A T E

This is to Certify that this thesis has been submitted in partial fulfilment of the requirements for the award of the degree of Master of Science, Urban and Regional Planning.

A P P R O V E D



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Z A R I A
JUNE, 1977

Dedicated to my wife (Ramatu) and child (Aminu)

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A housing need study may be undertaken.for different purposes, the purpose of this is to bring out the salient features of the existing situation both quantitatively and qualitatively of housing in Makurdi which was until its being made a state Capital was only a small divisional headquarter.

Makurdi had a population of about 54,000 in 1963 census and 79000 om 1976 (a 5% survey conducted in September, 1976), There was an influx of civil servants and other people to this settlement immediately it was made a state capital and this created a shortage both quantitatively and qualitatively. Most of the households in Makurdi prior to 1976 were those occupying their own housing units and even at the time of the survey most of the units were occupied by their owners except for the few civil servants occupying government quarters.

On its becoming a state capital, the existing houses became inadequate numerically and qualitatively. Most of the houses lack essential facilities like water, electricity, no good system of drainage and sewerage and the system of refuse disposal is poor and grossly inadequate. This is the most important cause of need because the civil servants who arrived here prefer better environment, aesthetically satisfying and houses with water and light. The building materials in most cases however are good and the units themselves are not old, a good number being less than twenty years old. There is not much overcrowding,

2.3 on the average.

Estimation of present and future need was then attempted "basing it on the existing situation. The estimate showed that most of the need in the future will arise from formation of new households and a little from obsolescence overcrowding is not significant because my standard for accepted occupancy ratio is 2 persons per livable room on the average.

Prom the estimation, a policy and programme with proposals have been drawn up for the first four years (1976-80) of the plan period. In all the period has been set into five phases i.e 1976-80, 80-85, 85-90, 90-95 and 95 - 2000. The policy mentions that the government should have a greater participation in housing and hence direct construction should cater for 24% of the total instead of the existing 4% while the private sector takes the rest 76% assisted by the government, this is in line with Federal government policy on housing. *An* atteimpt at costing was made and an estimate of N50,000, N150,000 and N8000 is expected to be the cost of high, middle and low income group units respectively. A further estimate of total cost due to direct construction is about N24 million, 206 hectares is needed to implement the first phase of 6346 units.

Finally a proposal to ensure a removal of the existing bottlenecks and difficulties in housing provision and to ensure a successful implementation of the policies and programmes for the plan period is drawn out. This study has been undertaken with the hope that its findings and proposals will be implemented.

EXISTING CONDITION AND FUTURE HOUSING NEED FOR MAKURDI AS BENUE STATE CAPITAL (1976-2000)

CHAPTER ONE

INTRODUCTION:

A study of housing in Makurdi as in many other towns in Nigeria is made difficult due to paucity or lack of data. No study of any type either social or economic done earlier could be made available and so most of the data used in this study is primary. The study of housing in Makurdi is peculiar. This is because it was just adivisional headquarter before February 1976, there were only very few civil servants who in most cases lived in the G.R.A. Not anticipating Makurdi would become a state capital and not expecting an influx of people as happened, allowances were not made to provide housing to provide potential need either by the public or private sector. Though the numerical shortage is not much, the qualitative shortage is overwhelming because of lack of essential facilities, services and amenities which these new comers value most. These civil servants and other businessmen and company executives coming in are not willing to occupy these houses which they consider substandard.

Aims and Objectives: The aim of the study is to look critically at the existing situation and to estimate future housing needs of Makurdi accordingly between 1976 and 2000 and then to draw up a programme for the first four years of the plan period and work

out policy guidelines.

Objectives:(1) To make an inventory of existing housing stock quantitatively and qualitatively concerning the adequacy and habitability of the housing stock.

(2) To identify the main factors constituting the housing need of Makurdi as it's status has been upgraded from a divisional headquarter to a state capital.

(3) To calculate and make projections for housing need according to these factors of housing need for the plan period (1976 - 2000).

(4) To draw up a housing programme for the first four years of the plan period (1976 - 1980). The programming will indicate housing delivery system, the type of units needed, the land requirement, facilities to be provided, role of the public and private sector and then costing.

(5) To work out policy guidelines.

The Scope of the study: The period covered in the study is between 1976 - 2000. Makurdi in this study refers to the built up area on both the northern and southern banks of River Benue defined administratively as Makurdi town. Attention is given to aspects constituting housing need and not demand. Projection is made of need arising from the different aspects as relieving of overcrowding, obsolescence and new household formation. Further projection is made of total

need, sizes of units and need of different Socio-economic groups. Programming is done only for the first four years (1976-2000) of the plan period and policy guidelines are given.

Limitations: The study has been limited by factors like finance, personnel and time coupled with the paucity of data mentioned earlier and lack of cooperation from some of the ministries which were supposed to have furnished the data.

The 5% sample may seem too small but considering the number of questions on the questionnaire, the distance to be coverd between one end of the town to the other while collecting the data, the small size of the number of interviewers and the arduous task of editing coupled with the coding of the completed questionnaires makes the number of questionnaires (746) justified.

The lack of a masterplan for Makurdi which should act as a guide to development has impared my ability to locate the residential areas - where the new additional housing units should be located. In that light this aspect has been ommitted from the scope of the work. The landuse proposal map prepared by the Town Planning division of the Ministry of Works, Land and Survey would have been a good guide in the attempt to locate the estimated additional units but in view of the fact that a Development Board (MCDB) has been set up and a masterplan is in the process of making, this may be rendered invalid.

These limitations not withstanding, efforts have been made to make the best use of the materials and resources available and hopefully this work will form a good background for further work on housing in Makurdi and even all over the state.

Methodology: (Method of data collection and analysis:

The primary source of data was the questionnaire survey. Data was collected on physical and socio-economic characteristics. The unit of survey is the house hold.

The survey was conducted in the month of September, 1976. The participants are members of staff of Town Planning Division of the Ministry of Works, Land and survey, Makurdi and Federal office of statistics, Makurdi.

A random sampling method was used*. Makurdi was divided into four zones on the basis of physical, social and economic considerations. The method of allocation of samples to zones is by R-proportional allocation[1]. On the whole 764 housing units were encountered and from this stock, there were 14920 households. 5% of the total number of households (746) was interviewed.

---

*A random sample is a sample that is unbiased and a representative cross-section of the body of the data, it is also a sample chosen in a random way when every possible sample has an equal chance of being picked.

1 Raj, D (1970) The design of sample surveys

The 746 households were allocated to zones by the above mentioned method

$$\text{i.e } nh = \frac{Nh}{N} \cdot n$$

where nh = Sample size of the zone

Nh = Total number of households in each zone.

N = Total number of households in all the four zones = 14920

n = general sample size = 746

Secondary data: This source of data was very limited because most of the information concerning housing was not available and most of other information like existing stock, rate of demolition, rate of conversion of residential to commercial uses etc were not generally available. Infact most of the data was still not in Makurdi because they had not yet been brought down from Jos. The number of civil servants deployed from Kwara state and former Benue/plateau states was obtained from the Ministry of economic development and Finance and Ministry of Works, Land and Survey, Makurdi. Data on Government Policy on Housing was obtained from the Federal Governments Third National Development Plan (1975-80) report and the state Governments declared policy on housing. The number of housing units to be built, the socio-economic group to be catered for and the cost is part of the state Government's declared policy.

Personal Observations: This was done in an attempt to find out the ages of buildings, the aesthetic appearance, the structure and habitability of dwellings, the environmental condition such as ventilation and

lighting and waste disposal. The landuse too was evaluated through this method.

Informal Interviews: This had to do with traders and businessmen selling building materials like cement, roofing materials, cement block and burnt brick block. It was also meant to reveal the cost of construction per Unit of different types of buildings and cost of development of plots.

Method of Analysis: Most of the data obtained from the questionnaire survey was analysed by the computer. The data obtained from the interview conducted informally was manually analysed and not computerised.

Review of existing Literature. "Despite mans unprecedented progress in industry, education and the Sciences, provision ofadequate housing is still beyond the reach of most members of human race"[1]

The above quotation sums up the magnitude of the problems of housing all over the world. This problem is however more acute in some regions than in others, however tedious the problems may be, it is worth tackling because housing has profound influence on the health, welfare and productivity of the individual.

The need for a study of housing needs in Nigeria is obvious and probably long overdue as it is essential to have quantitative and qualitative data on housing for the formulation of a sound housing programme and policy. Such data are quite essential and relevant in ensuring that development plans either at the state or national level allocate adequate resources to housing sector.

A comprehensive study of housing need has so far been attempted only once in Nigeria and this was as far back as 1970 and 71. This study reveals alot of deficiencies both quanti-tatively and qualitatively about the housing situation in Nigeria though this was done in only eight cities.[2]

Most of the work done on housing need is general and not for specific towns or environments. Most of the United Nations work on housing need is either regional or national. However cognisance must be taken

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1. Abrams, C.(1964) - "Housing in the modern world" Page 1.

2. Federal Government"Third National Development Plan" Report (1975 - 80), Page 307.

of some studies on housing done earlier and proposals for the study put forward by these authors and organisations.

1. Glenn H. Beyer is of the opinion that housing need is made up of three elements, these are: A need to replace the large quantity of substandard housing now occupied, housing need to remove the existing shortage or deficit and housing need because of additional population increase, including both the Natural increase and migration.[3] He proposes this method for the underdeveloped countries.

2. Lowis Berger group(consulting Engineers and Economists) studying housing need and demand in Urban Development Council areas of the former South Eastern State now Cross River State thinks of housing need as refering to the requirement for shelter under condition of Socially defined minimum standards.

The proposed technique for the study of housing need is: To look at the total population increase through both natural increase and migration, looking for unacceptable units that need replacement and finally looking for overcrowding[4]

A United Nations publication on Housing in Africa states that needs are expressed objectively in terms of norms or standards which can be more or less arbitrary. For purposes of estimating needs, the publication proposed three main categories of requirement that

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3. Beyer, G.H.(1965)"Housing and Society", Page 558.

4. Berger, L. Group (consulting Engineers and economists)"A study of Housing need and demand in Urban development Council areas in the South Eastern State of Nigeria"- (December,1975) Page XVI.

must be distinguished. These are: Quantitative needs required to reduce or eliminate overcrowding, qualitative needs required to improve or replace insanitary or obsolete buildings and demographic needs due to increase in population and new house-hold formation[5].

4. A United Nations report on the seminar on housing statistics and programmes for Asia and the Far East thinks of techniques of housing needs study as constituting:

(a) Present housing needs

(i) Dwelling Units required to house private households and potential house-holds living in Unacceptable types of housing units or who are without shelter.

(ii) Dwellings required to provide separate housing for private households involuntarily doubled-up with other households.

(iii) Dwellings in need of replacement or repair.

(b) Future housing needs

(i) dwellings that will be required to house the estimated increase in the number of households.

(ii) Dwellings that will be required to reduce the density of occupation in dwellings to desired level by the end of the specified period.

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5. A United Nations Publication(September 1965) "Housing in Africa", Pages 108 - 113, 16, 169

(iii) Those that will require repairs and or maintenance to prevent them from falling below acceptable standard [6]

All these authors and publications are in agreement about the method or technique of finding out need but only differ in extent.

5. A report by a subcommittee of the Scottish Housing Advisory Committee published in 1972 in "Planning for Housing Needs; pointers toward a comprehensive approach" Pages 12 - 19. Writers of needs as made up of many dimensions arising from hidden needs, needs which are bot being met and needs which may arise in the future. According to the report, a study to reveal need should include; consideration of number of households in relative to the number of houses, quality and adequacy of houses and their environment, relationship between the size of the household and the housing unit. It further suggested the inclusion of studies on balance between different systems of tenure and location, type and cost of tenure and location, type and cost of existing houses.

This is a more detailed approach and it is more useful in making policies, programmes and proposals.

Definition of terms:

For better understanding some of the terms used in this work need definition and explanation.

---

6. United Nationa report on the Seminar on housing statistics and programmes for Asia and the Far East (copenhagen and Denmark, August 31st - September 15th, 1966) Pages 24-26

1. Housing - Many definitions have been given but only one of them is considred. It is defined as the residential environment, neighbourhood, micro district or physical structure that mankind uses for shelter and environs of that structure, including all necessary services, facilities, equipment and devices needed for the physical health and Social well being of the family and the individual.

2. Household - a group of individuals, related or otherwise, who swell together and share essential services. This group may occupy one or more rooms with either the exclusive use of the unit or sharing it with one or more households.

3. Dwelling - The total set of rooms occupied by a household.

4. Single person Household - Compriser the unattached persons who might share accommodation but make individual living arrangement.

5. Compound - An enclosure composing of one or more "housing units" occupied by one household or more than one household living independently of each other and using separate or share facilities.

6. Housing Unit - A room or a group of rooms providing accommodation for or intended for occupancy as separate living quarter for one household. A housing unit in a compound can have separate installed facilities for exclusive use by the household occupying the unit or common facilities installed in the compound to be shared by the different

households occupying the housing units within the compound.

7. Standard house - A house which had no defects or only slight defects which are normally corrected during the course of regular maintenance.

8. Substandard house - A house which needs more repair than will be provided in the course of regular maintenance or does not provides safe and adequate shelter. This includes deteriorating and dilapidated houses *.

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* See Zaria Housing study - H.Y. Bedawi

CHAPTER THREE

The Study Area:

Regional Setting - Makurdi is situated on both the southern and northern banks of river Benue at the point where the railway and road from the south converge on their way northwards to the northern part of the country*. A greater part of the town is on the southern bank where it originated. It lies almost on latitude 8°N and longitude 8°E. It has an elevation of below 1000 feet above sea level. It is at the defile on the river Benue and this makes it one of the possible sites for the construction of a dam.[1]

Makurdi has a sourthern guinea savannah type of vegetation. It is a transition zone between forest to the south and savannah to the north (a form of transition woodland as its climax vegetation. The forest has been degraded by bush fire and farming into open savannah woodland with grasses of 5 - 10 feet high and short-boled, broad-leaved trees up to 50 feet in height, there are some palms.

The soil is of the clabar type with low PH values, as low as 4.3 for the surface soils.

The Climatology: Makurdi has an annual rainfall of 40-60 inches* and has rain in all the months of the year except in January. The rainfall is 5-10 inches during the dry season (Novermber to March).

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* See chapter one-scope of the study.

1 Udo, R.K. (1970)-"Geographical Regions of Nigeria" Page 142.

* See map 2 showing the mean annual rainfall.

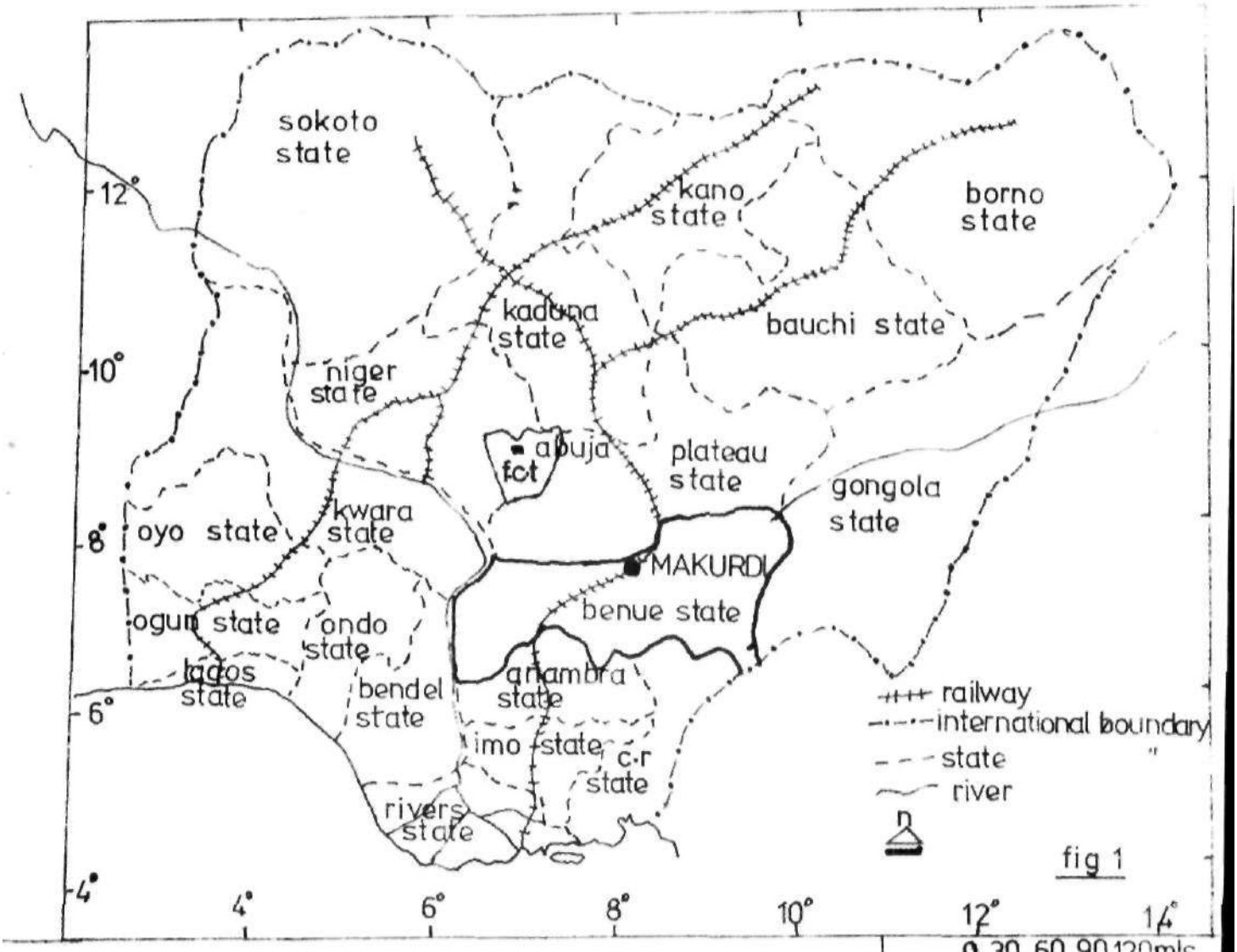


fig 1

LOCATION OF MAKURDI IN NIGERIA

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m.sc [ur. p] the
1976/77

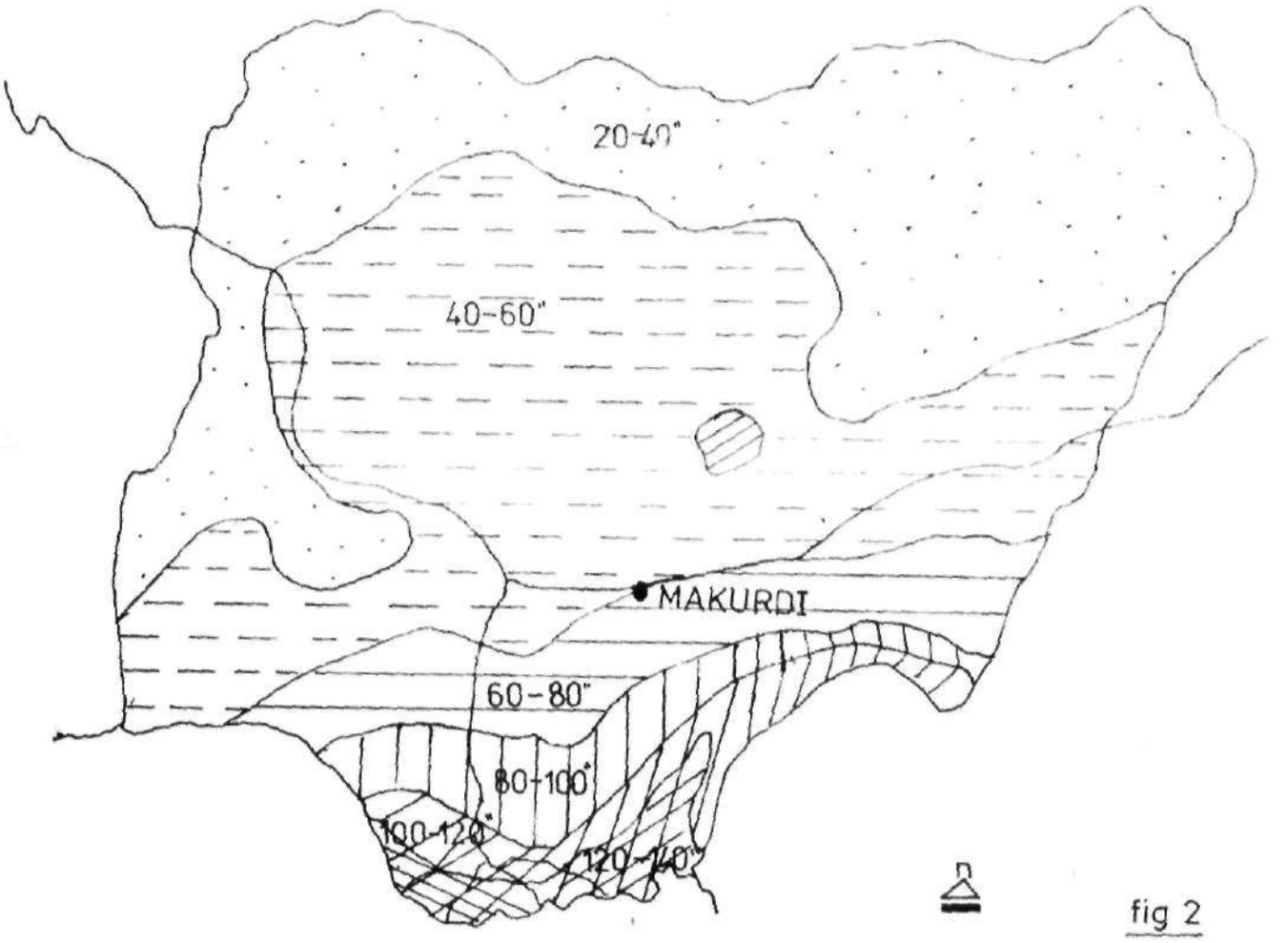


fig 2

MEAN ANNUAL RAINFALL FOR NIGERIA

0 30 60 90 120mls.

I u Ichaba,
m sc[ur.p]thesis.
1976/77

Makurdi has over 75% multipeak years as the rainfall regime.

The maximum temperatures range between 95% and 100°F * with daily means between 24°F and 28°F. Humidity is between 56% and 60% (mean annual) and a mean monthly of between 30% and 40% [2].

The Historical Background - Makurdi is a very recent settlement. It started only about 50 years ago. The construction of both the railway and the bridge in 1924 attracted labourers who came in search of employment. The improvement in communication facilities and the increasing population made the colonial government transfer the headquarters of Benue province from Abinsi to Makurdi.

The settlers of Makurdi before this time were the Tiv (though their settlement was not quite pronounced). These Tiv settlers vacated Makurdi due to the incoming of Europeans and other strangers to the town. In short there is no historical record of any prominent original inhabitants of Makurdi before the Europeans and other Nigerians arrived.

Prominent among these new arrivals (Europeans and Nigerians alike) was one Audu Afoda, a government messanger and interpreter who came from Ibi. He was an intelligent man and ranks high among the architects of modern Makurdi town. He used his linguistic advantage (able to speak Hausa, Tiv and rudimentary English) and having been working closely with the colonial administrators, he succeeded in making

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* See map 3 showing mean monthly temperatures.
2 Buchan, K.M. and Pugh, J.C. (1969) "Land and People in Nigeria", Pages 11-37.

himself the first known chief of Makurdi. Though not the chief until he died, he remained important in the affairs of Makurdi till he died in 1946.

Population - The population of Makurdi has been collected for only two census i.e 1952 and 1963. It was 16,713 in 1952 and 53,967 in the 1963 census *. This has been a very fast growth. The population is estimated at about 79,000 in 1976 through a survey conducted in September * 1976 and estimated at 431,900 by 2000.

Since the creation of Benue state and Makurdi became the capital it has achieved a tremendous administrative and Commercial growth.

The influx of civil servants has been equally matched by that of businessmen and Commercial firms. It has big administrative functions being a state capital as well as a divisional headquarter. It also has boatbuilding and fishing functions with a boat yeard producing vessels. It is a major port on the river Benue

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* See 1952, 1963 population census of Nigeria by Division and Districts - Ministry of Finance and economic Planning, Statistics section, Makurdi, Benue state.

* See Methodology, chapter one of this work.

CHAPTER FOUR

EXISTING HOUSING CONDITION.

As a prelude to a knowledge of housing need, the existing situation both quantitatively and qualitatively of the housing stock is fundamental. In determing the need of housing between 1976 and 2000, the existing situation of housing was assessed. An analysis of the existing housing stock in Makurdi showed that the shortage of housing is due to an interplay of a variety of factors such as demographic-new household formation, economic, technological and social. However the most outstanding of these factors is the influx of people into Makurdi and the lack of the most fundamental amenities like water, light, toilet facilities, bathroom, Kitchen facilities coupled with a deplorable environment. From the analysis it was further discovered that overcrowding is insignificant all over the city so also is the case of dilapidation as most of the buildings are not old and are built of durable materials.

EXISTING PHYSICAL CONDITION OF HOUSING:

The physical condition of housing units in Makurdi is sound for the fact that most of the buildings are not old and the building materials are durable and permanent types. 54.6% of the buildings are constructed of concrete and burnt brick wall and asbestos and corrugated iron sheet roofs- 44.9% are between the ages of 0-10 years, and only 14.6% of the units are older than 30 years. Lack of amenities is one of the most important causes of housing problem in Makurdi.

households as many as 9 or about 45 people sharing a shower, a Kitchen or two bathrooms is not uncommon. Another cause is poor environment, refuse-dump is ubiquitous and little effort is made to remove it.

Existing Housing Type: There are three types of housing in Makurdi, these are the detached, semidetached and row, any of these could be of the compound form *. The detached type makes up 19% of the total stock in the survey, 14.3% is semidetached and the rest 66.7% is of the row type. This distribution is shown in the table below and the accompanying graph and figure 4. Plates 1 2 and 3 are detached, semidetached and row housing types respectively.

Table 4.1: Distribution of house types among the households:

Housetype	% of the housing type out of total surveyed.	% of households occupying the different units.
Detached	19.0%	19.0%
Semidetached	14.3%	10.9%
Row	66.7%	70.1%

Zone 3 (G.R.A.) is mostly of the detached type. It is infact 100% detached units. Most of the row is in zone 2 where 60% of the row type is found, detached units are also fairly common in zones 1 and 4 because of the round huts. One distinction between the detached units found in zone 3 and those found in zones 1 and 4 is that those of zone 1 and 4 are in most cases made into a compound form while that

* See chapter two-definition of terms.

EXISTING HOUSING TYPES [1976 survey]

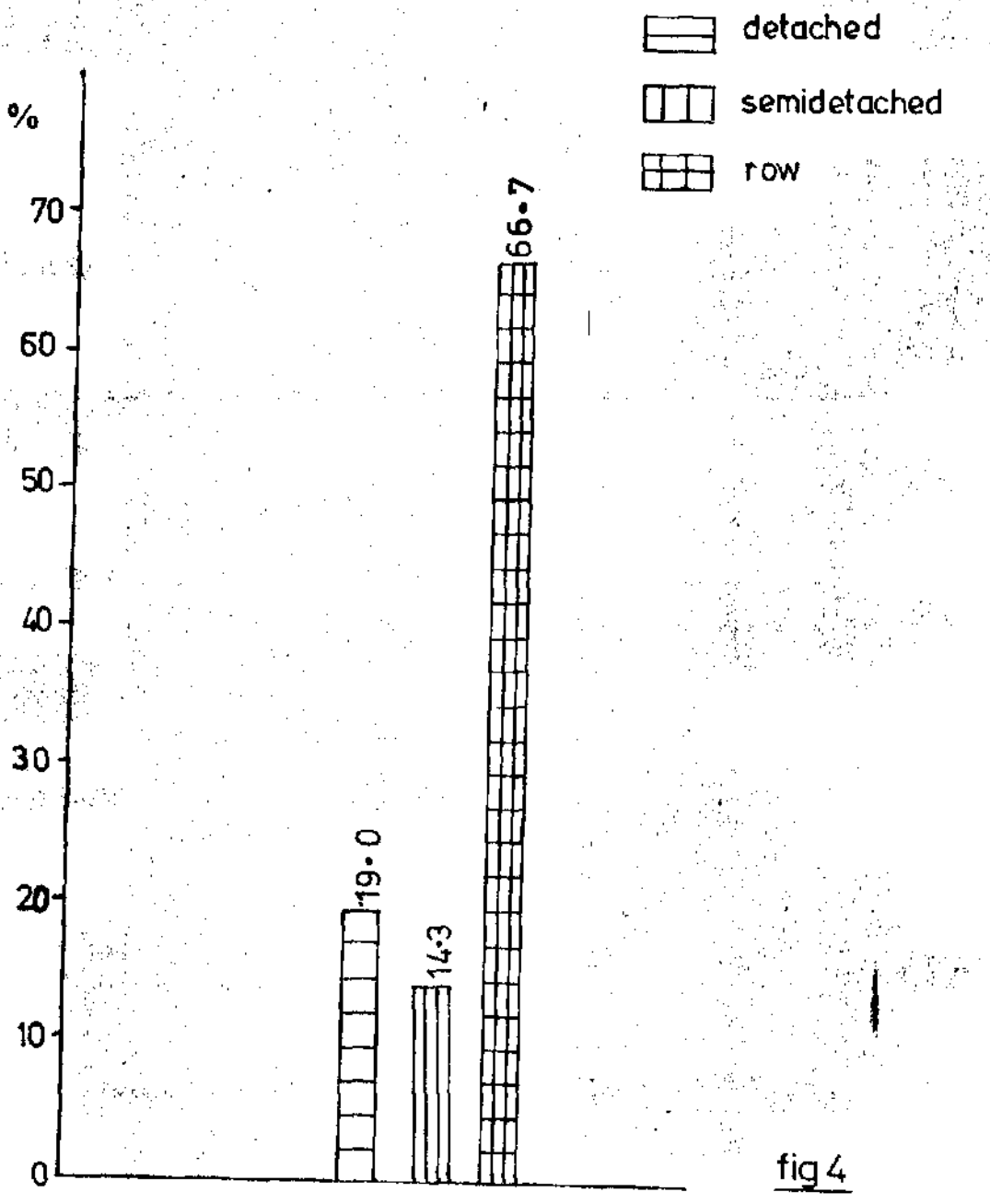


fig 4



Plate 1: A Detached type of building



Plate 2: A Semidetached type of building.



Plate 3: A Row type of building (State Government's eight - man quarter).

of zone 3 is not. Detached units predominate in the new units being constructed all over Makurdi so this may be a change in value for housetypes and it is expected to continue as revealed by the survey (43.-7%) expressed the wish to build and live in detached buildings. See map in the jacket.

Age and structure of Buildings:

As evidenced in the survey conducted 44.9% of the buildings were constructed in the last ten years and about 75% were built in the last 20 years. This is in consonance with the age and development of the town. Only an insignificant 3.6% are over 40 years and 0.8% is above 50 years. The 14.2% of the units which are above 30 years are located mostly in zones 2 and 3 with few in zones 1 and 4. This is suggestive of the relative ages of the zones. Zone 2 is the traditional core of the town and zone 3 is the G.R.A where the colonial administrators lived right from the origin of the town about 50 years ago. The other two zones are relatively more recent. The table below clearly shows the classification of the housing units corresponding to their age structure, see also figure 5.

Table 4.2: Classification of housing units according to age.

Age Group	% of Total Units surveyed.
Less than 5 years	19.3%
5 - 10 years	25.3%
11-20 years	30.3%
21-30 years	10.3%
31-40 years	10.6%
41-50 years	2.8%
50- years and above	0.8%

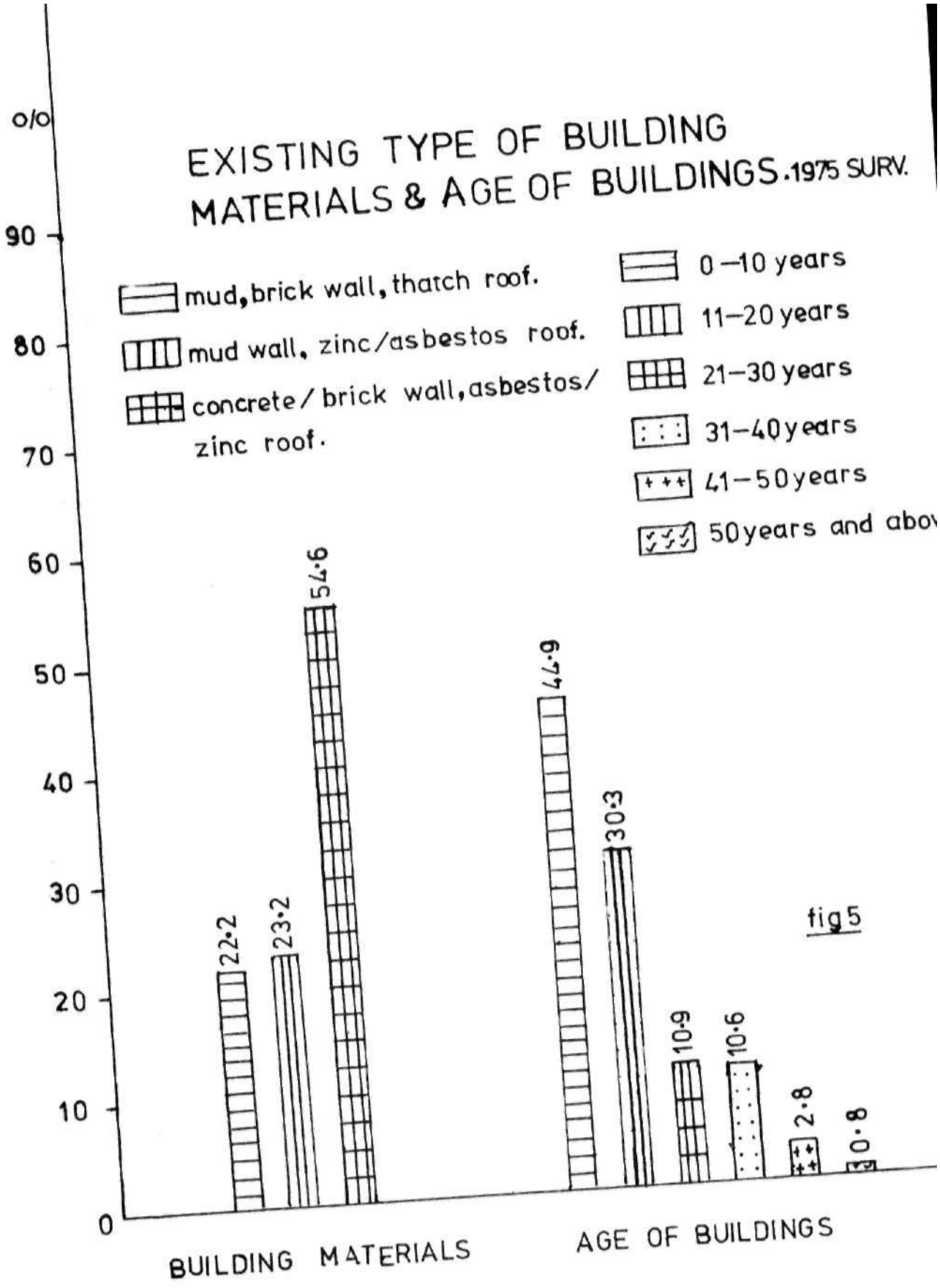

EXISTING TYPE OF BUILDING
MATERIALS & AGE OF BUILDINGS. 1975 SURV.
o/o
90
80
70
60
50
40
30
20
10
0
mud, brick wall, thatch roof.
mud wall, zinc/asbestos roof.
concrete / brick wall, asbestos/ zinc roof.
0–10 years
11–20 years
21–30 years
31–40 years
41–50 years
50 years and abo
22·2
23·2
54·6
47·9
30·3
10·9
10·6
2·8
0·8
BUILDING MATERIALS
AGE OF BUILDINGS

fig 5

As regards the building materials used, the existing housing stock has been classified into five categories. These are mudwall with thatch roof (17.8%), mud wall with corrugated iron sheet/asbestos roof (23.1%), concrete block wall with corrugated iron sheet/asbestos roof (39.1%), Baked brick wall with thatch roof (4%) and baked brick wasll with corrugated iron sheet/asbestos roof (15.4%). From this analysis it is clear that units of very durable material are in the greatest percentage i.e those with concrete block wall and corrugated iron sheet/asbestos roof and baked brick wall and corrugated iron sheet and asbestos roof combining to make 54.5%. Also mud wall with corrugated iron sheet/asbestos roof is durable because in most of the cases units built of mud are plastered with cement, this also forms 23.1% so that on the whole 77.6% are of very durable materials. Table 3.3 below gives the number and percentage of housing stock corresponding to each structure and building material type. Figure 6 gives a visual expression of it in sub-areas.

Table 4.3: Type of structure and Building materials.

Type of structure and building material.	% of total existing stock.
Mud wall, thatch roof	17.8%
Mud wall, Iron sheet/asbestos roof	23.2%
Concrete block wall, Iron sheet/asbestos roof	39.2%
Baked brick wall, thatch roof	4.2%
Baked brick wasll, Iron sheet/asbestos roof	15.6%

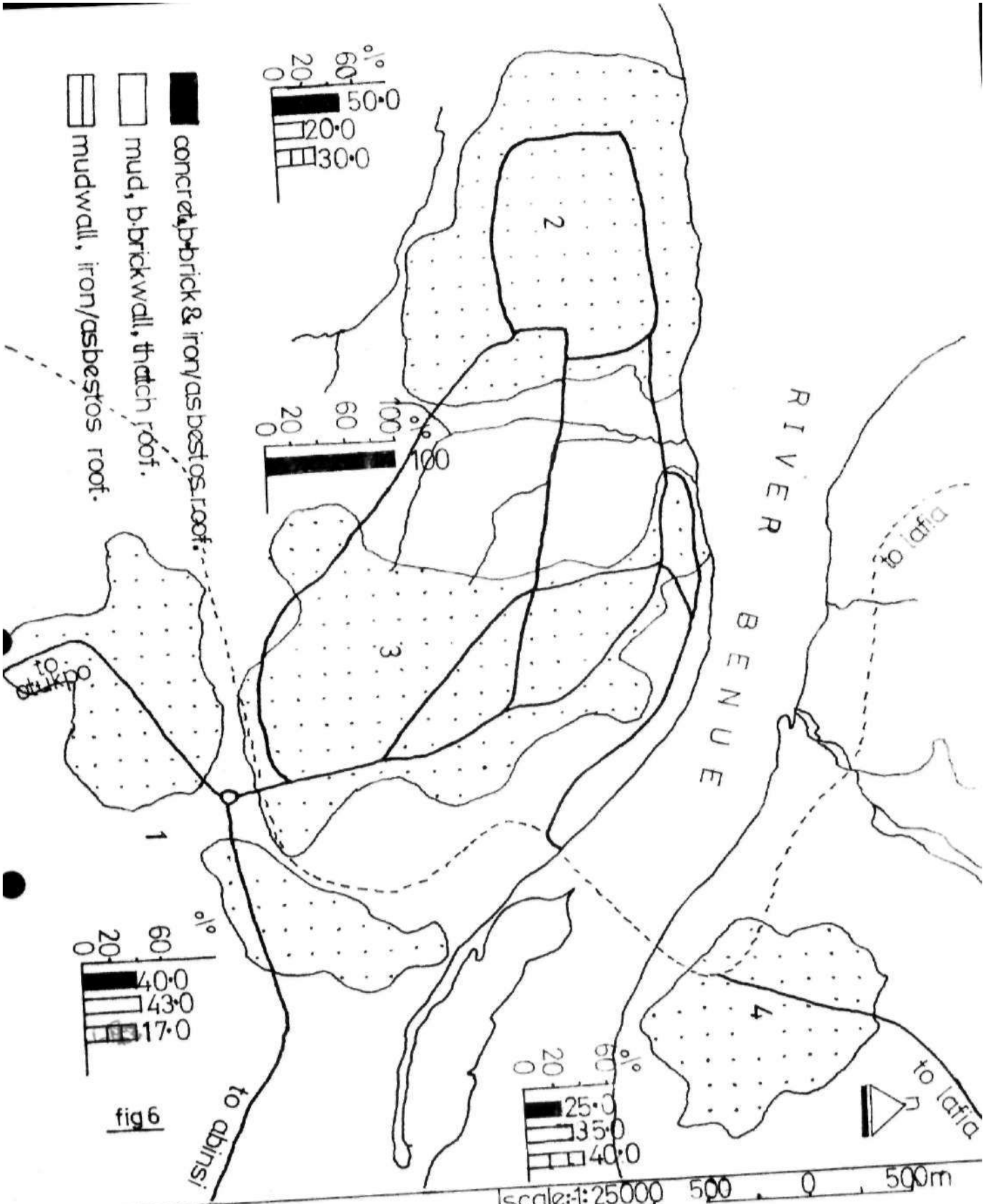


fig 6

SUB-AREA DISTRIBUTION OF BUILDING MATERIALS.

I.u.Ichaba,
m.sc.(u.r.p) thesis.
a.b.u, zaria 1976/77.

Mudwall and thatch roof is found mostly in the suburbs of all the zones except for zone 3 (G.R.A.). These used to be small settlements scattered around Makurdi town but the growth of the town is engulfing them; there are few of these structures in Makurdi town itself. The greatest concentration is zone 1 and to a lesser extent in zones 4 and 2. Mud wall, concrete wall, baked wall are common to all zones, these always go with corrugated iron sheet and Asbestos roof. The use of baked brick block is on the increase as it is both durable and cheap, concrete block is also increasingly being used and thatch roof accompanied by mud wall is declining. The increase in number of block making industries and new constructions observed confirms this assumption.

In giving a sub area analysis of the distribution of these structures the materials have been grouped into three. These are concrete and baked brick wall with asbestos and iron sheet roof, mud and baked brick wall with thatch roof and mud wall with iron sheet and asbestos roof. For concrete and burnt brick wall with asbestos/iron sheet roof we have 40% for zone 1, 50% for zone 2, 100% for zone 3 and 30% for zone 4, for mud and baked brick wall with thatch roof we have 42.3% for zone 1, 20.6% for zone 2, none in zone 3 and 37.1% in zone 4. For mud wall with iron sheet and asbestos roof it is 36.1% in zone 1, 29.6% in zone 2, none in zone 3 and 34.3% in zone 4, see figure 7. Plates 4 and 5 show burnt brick and mud wall with thatch roof. Refer to sub-area distribution of building material in the jacket.



Plate 4: A round hut built of burnt brick wall and thatched roof.



Plate 5: A Plastered mud wall and thatched roof building.



Plate 4: A round hut built of burnt brick wall and thatched roof.



Plate 5: A Plastered mud wall and thatched roof building.

For the sake of analysis the buildings are grouped into two major categories i.e standard and substandard *. These are further subdivided into subgroups. These subgroups are classified as types A,B,C,D and E.

Standard Housing Units have either no defect or have very little defects which are usually corrected during normal maintenance

Substandard housing units are those which need major repairs and also these are sometimes not safe for habitation. Dilapidated and deteriorating buildings are included in this group. Types A,B are standard and B,C, D and E are substandard.

From the study, it was revealed that 46.2% of the housing stock is considered standard and the rest 53.8% is substandard. Almost all this stock considered as substandard is deteriorating and 3% is dilapidated. This dilapidated stock is not safe for habitation and it will be more costly to rehabilitate than to replace.

Type A (very good): This is built of concrete block or baked brick wall, corrugated iron sheet or asbestos, it has water closet, all the five essential services and in sound condition. The age should be between 0 - 5 years.

Type B (good): Built of concrete block or baked brick with corrugated iron sheet or asbestos, aesthetically sound with water closet, at least four out of the five essential services including water and

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* See chapter two-definition of terms and Zaria Housing survey by H.Y. Bodawi.(1975)



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* See chapter two-definition of terms and Zaria Housing survey by H.Y. Bedawi.(1975)

electricity. It must not be more than 20 years and should be well-ventilated and lighted.

Type C (Fair): Built of concrete block, baked brick or mud wall with corrugated iron sheet or asbestos, needing minor repairs, minor deterioration, any type of toilet facility and at least three services out of the five essential ones. It should not be more than 30 years old.

Type D (Poor): Built with baked brick or mud wall with any type of roofing material. It should have at least two services, it is characterised by poor ventilation and lighting. It is between 31-50 years.

Type E (very poor, dialpidated): This is the lowest category. The house is no longer fit for use, no services at all.

The table following shows the percentage of housing under each category of the total stock and the estimated life span for the housing units in each category.

Table 4.4: Condition of the buildings and estimated life span attached to them.

Condition of building	% of the total housing stock	Estimated life span.
a standard:		
1. very good	15.5%	50 years
2. Good	30.7%	30 years
b Substandard:		
1 Fair	41.3%	20 years
2 poor	9.5%	5 years
3 Very poor, dilapidated	3.0%	Demolition right away

compounds are in most cases shared and even in some

VENTILATION AND LIGHTING IN HOUSING UNITS
[1976 survey]

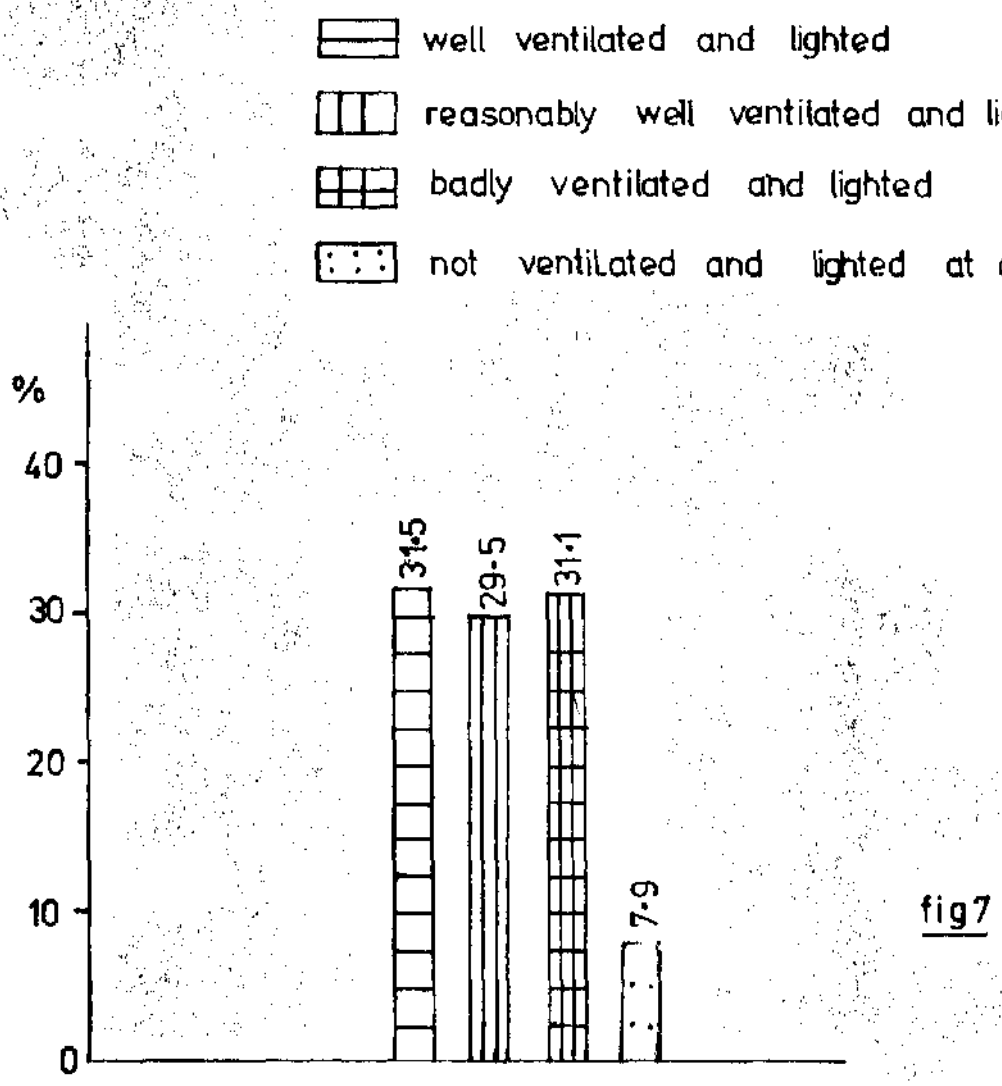


fig 7

cases, the essential facilities not exist.

(a) Water Supply- 38.0% of the households included in the survey use pipe borne water either privately, shared or communally. The rest 62.0% uses water from wells, streams and river Benue. 19.8% has an exclusive use of tap water and the rest of the households use pipe borne water either by sharing or communally. There is availability of pipe borne water in all of zone 3, there is none at all in zone 4 and very little in zone 1. About 60% of zone 2 has water supply. The graph and the table below illustrate the condition of water supply in Makurdi. See figures 8,9,and 10. Refer to map in the jacket.

Table 4.6: sources of domestic water.

source of water supply	number of households surveyed	% of total of source.
Pipe borne	284	38.0%
Well	375	50.3%
stream/river	87	11.7%

Table 4.7: Availability and use of domestic water.

Mode of Use	number of households surveyed	of total surveyed.
1. Exclusive	148	19.8%
2. Shared	161	21.6%
3. Communal	108	14.5%
4. None	329	44.1%

(b) Kitchen - Cooking facilities are in most cases not provided in the houses, from the survey it is evident that 12.0% of the units have no kitchen of any sort. Another 12% has an exclusive use and the rest 67.2% share kitchens. These kitchens are often

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VENTILATION AND LIGHTING IN HOUSING UNITS
(1976 survey)

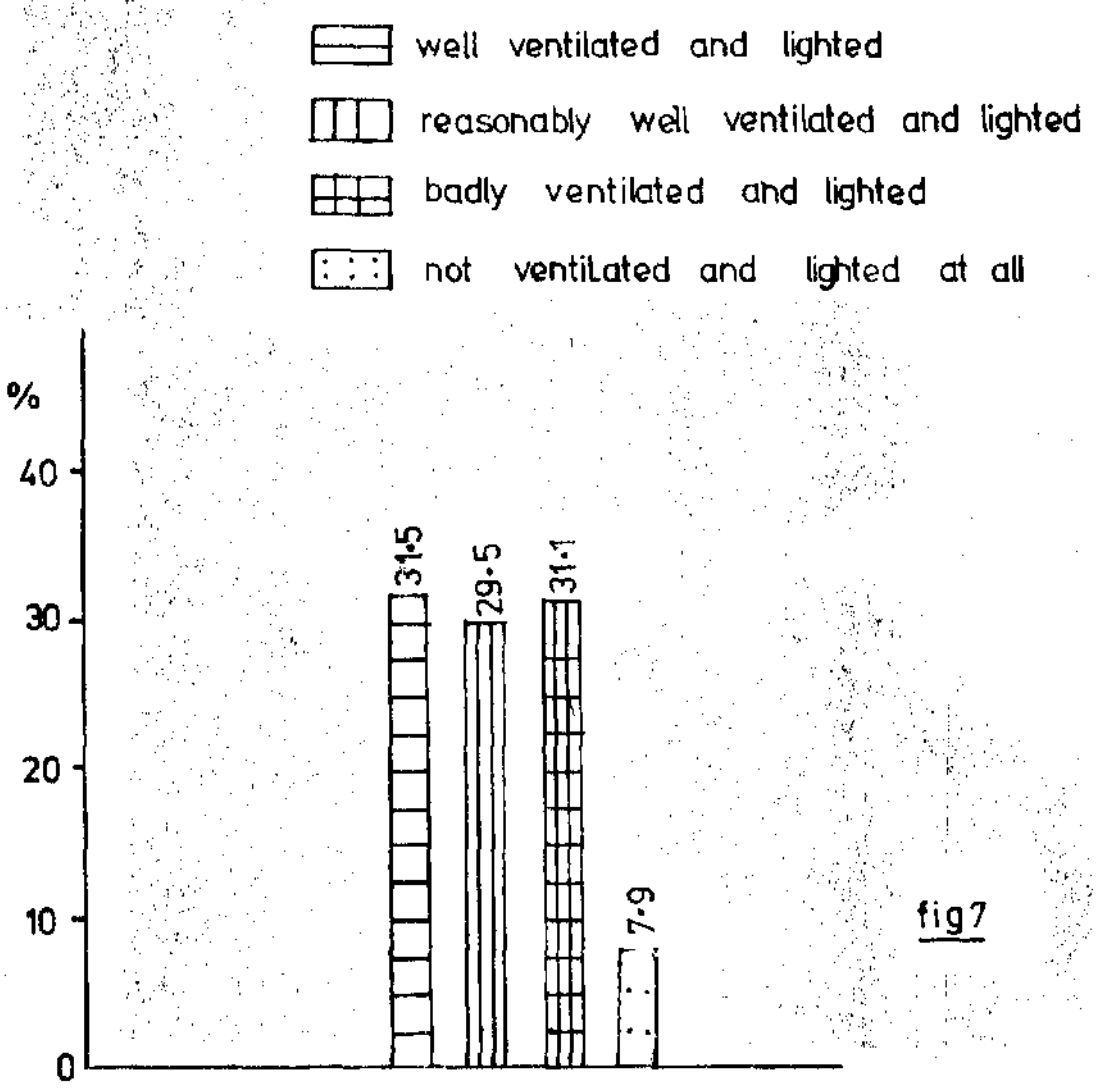


fig 7

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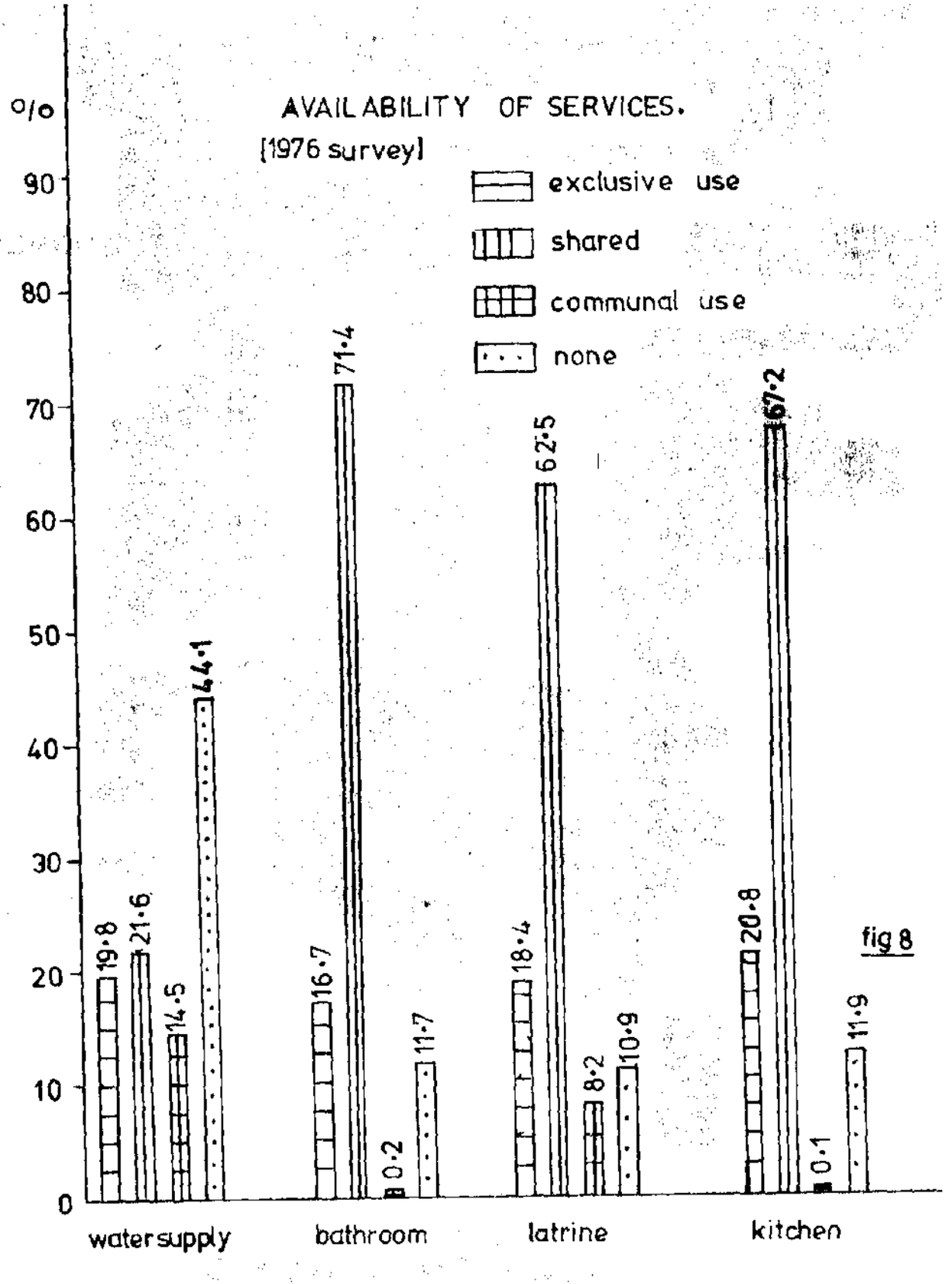

AVAILABILITY OF SERVICES.
[1976 survey]
exclusive use
shared
communal use
none
%
90
80
70
60
50
40
30
20
10
0
19·8
21·6
14·5
44·1
16·7
71·4
0·2
11·7
18·4
62·5
8·2
10·9
20·8
67·2
0·1
11·9
water supply
bathroom
latrine
kitchen

fig 8

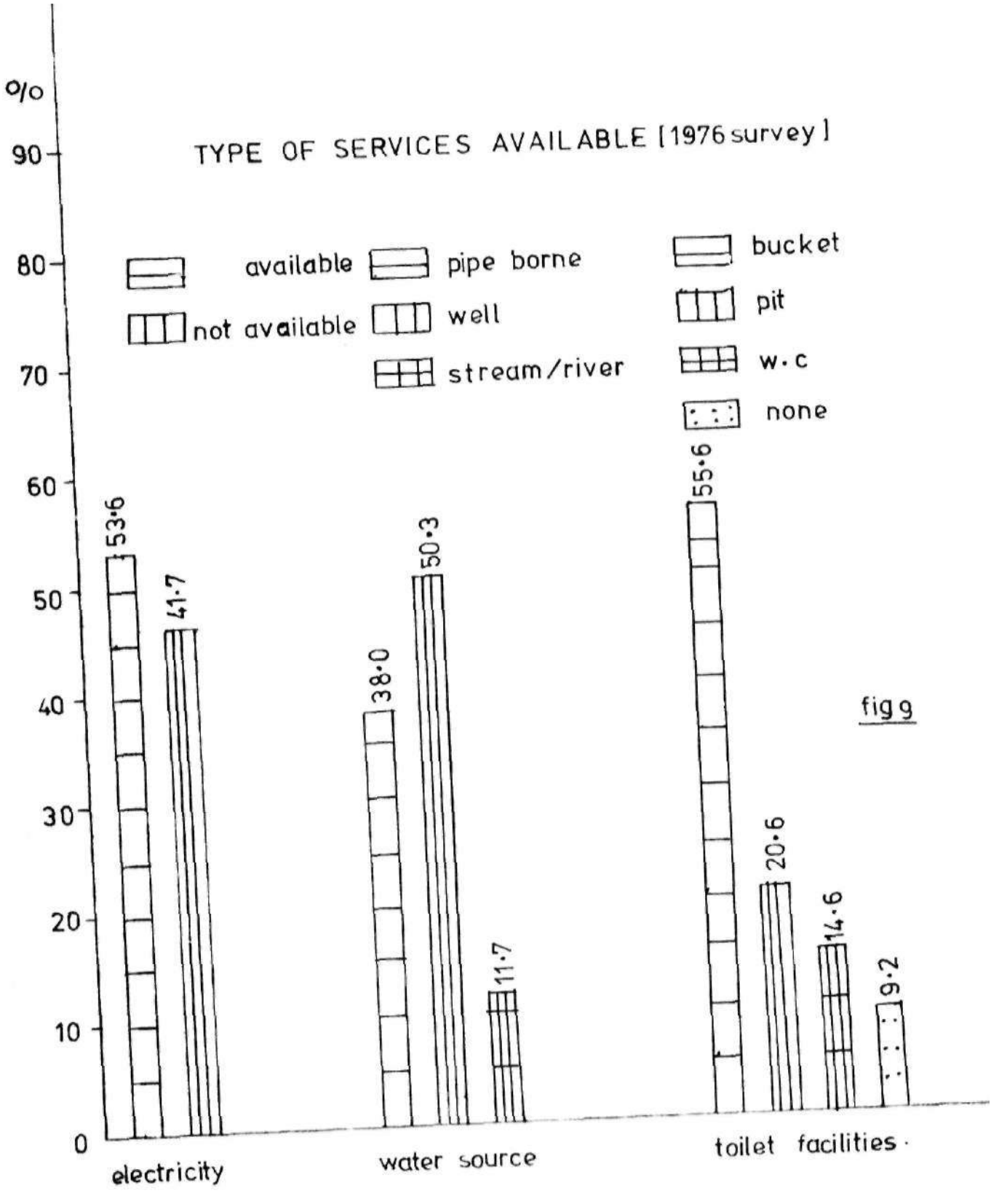

%
TYPE OF SERVICES AVAILABLE [1976 survey]
available
not available
pipe borne
well
stream/river
bucket
pit
w.c
none
90
80
70
60
50
40
30
20
10
0
53·6
41·7
38·0
50·3
11·7
55·6
20·6
14·6
9·2
electricity
water source
toilet facilities

fig 9

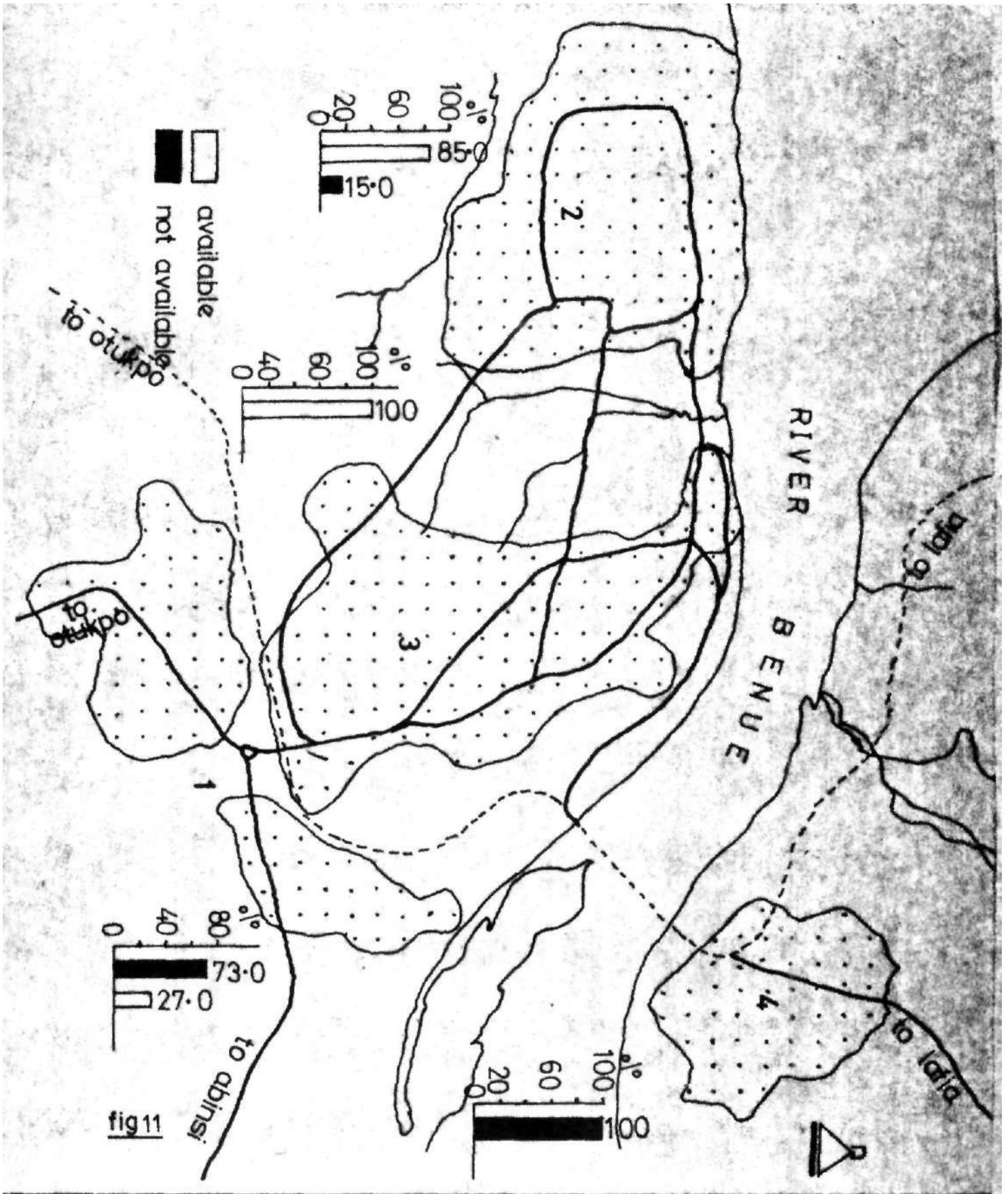


fig 11

SUB AREA DISTRIBUTION OF ELECTRICITY

Scale-1:25000

250 0 250 500 750m

I.u.Ichaba,
m.sc.(u.r.p)thesis.
a.b.u, zaria. 1976/77

outside the main building, made of worse materials than the main building, usually of less durable materials and very unkempt and unhygienic. The kitchens in most cases are inadequate because of the large number of people using it.

One thing revealed in the survey is that some households who occupy units with kitchens do not always use them, they prefer cooking in the open air in the courtyard or verandah and house frontage in the case of small households, sometimes cooking is done in the living rooms among the small households.

53.7% of the households use wood in cooking and this may explain the preference for cooking in courtyard to cooking in kitchen because the smoke omitted from the wood could be very unpleasant. 39.0% use kerosine - this is mostly among the small households who prefer cooking on the verandah or in the living rooms. Another 6.1% uses gas cookers and the rest 1.2% uses electric cookers. Households in the last two categories have private kitchens in which cooking is done. The following table is an illustration of the findings about kitchen facilities.

Table 4.8: Availability of kitchen facilities.

Mode of use	number of household	% of total household surveyed
1. Private	155	20.8%
2. Shared	501	67.2%
3. None	90	12%

(c) Bathrooms - Most of the bathrooms in the surveyed compounds are of temporary materials in the compound. Some are poles to which pieces of cloth are tied during bath. Not much attention is given to the provision of bathrooms. All houses in zone 3 have got showers and are privately used but they are hard to come by in other zones. There is none in zone 4 because there is no pipe borne water. 16.7% of households has an exclusive use or private use of bathrooms, another 71.4% share bathrooms and the rest 11.9% has no bathrooms of any sort.

Table 4.9: Availability and use of bathrooms.

See figure 11

Availability and Type of use	number of households in the survey	% of total households surveyed
1. Private	124	16.7%
2. Shared	533	71.4%
3. None	89	11.9%

(d) Latrines - 18.4% of the households have private latrines, 62.5% are sharing and the remaining 8.2% and 10.9% are used communally and have none respectively. Most of the compounds which share latrines have about 7-8 households (35-40) persons to about 2 latrines. The survey further revealed that the most widely used type of latrine is the bucket type which constitutes 55.6% of the total. This is one of the causes of the poor environment in Makurdi. The content of these buckets are not removed regularly, this results in offensive odour and very ugly sights with vultures occasionally perching around the latrines.

Zone 3 has no other type of latrine apart from the water closet (W.C.) system. Bucket system predominates in all the other zones but water closet system is fast being introduced into some of the existing buildings and the units under construction. Pit latrines account for 20.6% of the total while W.C has 14.6%. Compounds without any form of latrine makes 9.2%.

One of the dangers of the prevalence of bucket and pit latrines is that they pollute the wells, which is the main source of water supply at the moment. This is aggravated because of the water retaining nature of the soil in Makurdi. The table showing the type of toilet facilities is below.-

Table 4.10: Type of toilet facilities.

Type of Toilet facilities	number of households in the survey	% of total surveyed
1. Bucket	415	55.6%
2. Pit	154	20.6%
3. Water closet (W.C.)	109	14.6%
4. None	68	9.2%

(e) Electricity - A little bit above a half of the housing units 53.6% has electricity and the rest has none. The whole of zone 4 has no electricity supply, 100% of zone 3 is electrified, about 80% of zone 2 has electricity and about 27% of zone 1 has electricity. Refer to sub-area distribution of electricity in the jacket.

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Table 4.11: Availability of electricity supply.

Availability of electricity	number of households in the survey.	% of total Units surveyed.
1. Available	400	53.6%
2. not available	346	46.4%

(f) Refuse disposal - The survey clearly showed that waste deposit every where in Makurdi is one of the causes of environmental degeneration. Rubbish heaps is widespread all over the town. . The vehicles meant to collect rubbish are too few and the containers for collection are either too few or too small and in some cases they are not used at all. The situation is that 40.4% of the Units surveyed had their refuse disposed of through communal collection, 25.0% of the houses had private dustbins from where waste is removed by vehicles. 33.9% of the units surveyed had no provision for waste disposal at all. Table below shows this situation. See figure 12 and plate 6 shows a typical refuse dumping ground.

Table 4.12: Method of waste disposal.

Method of waste disposal	number of households in the survey.	% of total surveyed.
1. Communal collection	301	40.4%
2. Private dustbin	192	25.7%
3. None	253	33.9%

METHOD OF WASTE DISPOSAL [1976 survey]

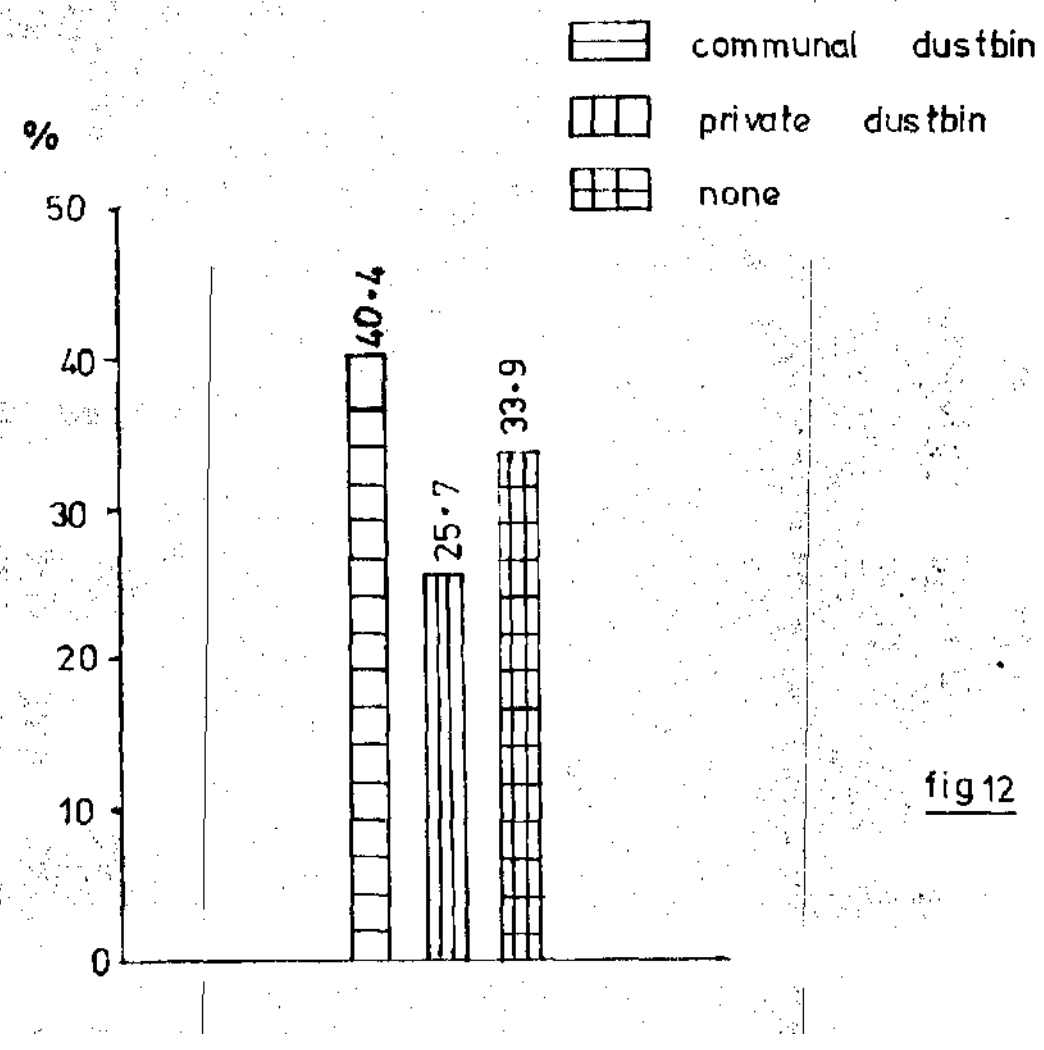


fig 12



Plate 6: Refuse dump typical of Makurdi residential environment.

OVERCROWDING

Judging from the outcome of the survey, overcrowding is insignificant. Overcrowding in the form of many households sharing a compound is common but it is not so in the sense of persons per livable room (occupancy ratio) which is 2.3 on the average. It has also been discovered from the survey that 31.1% of the total number of households occupies one room each, 38.1% occupies two rooms each, 11.9% occupies three rooms each, 16.8% occupies 4 and 5 rooms each and 2.1% occupies 6 rooms or more each. More than one household sharing a room is not common. The table below succinctly explains this situation. See figure 13

Table 4.13: Degree of overcrowding interms of number of livable rooms per household.

Type of occupancy (no. persons/livable room)	Number of households surveyed	% of total surveyed
One Room	232	31.1%
Two Rooms	284	38.1%
Three "	89	11.9%
Four "	36	4.8%
Five "	36	4.8%
Six " and more	16	2.1%

The average occupancy ratio derived from the survey is 2.3, this is derived from the fact that the average number of rooms per household is 2.3 and the average household size is 5.3. The occupancy ratio for the different zones are as follows:- zone 1 is 2.5, zone 2 is 2.6, zone 3 is 1.5 and zone 4 is 2.4.

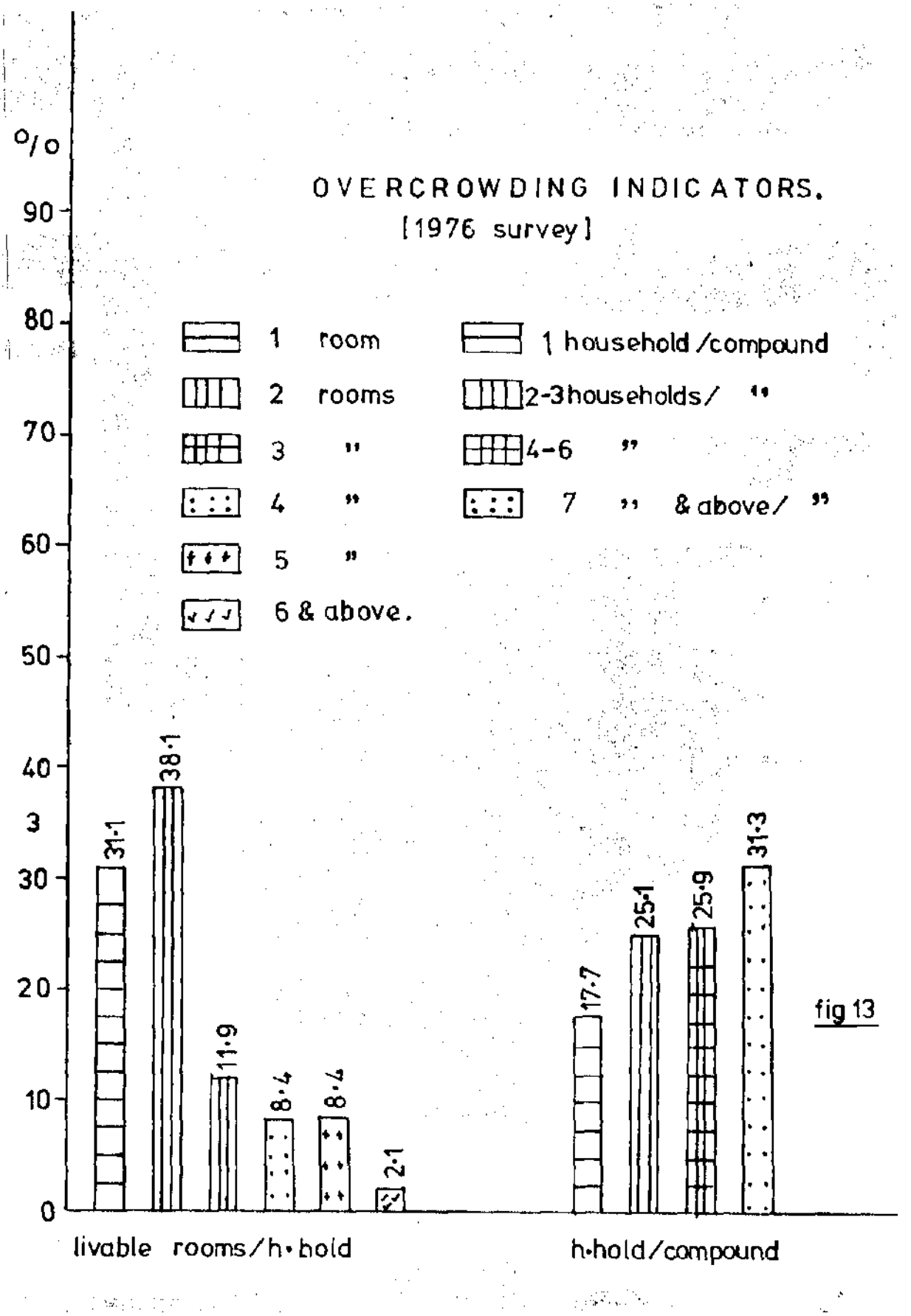

%
90
80
70
60
50
40
3
30
20
10
0
OVERCROWDING INDICATORS.
[1976 survey]
1 room
2 rooms
3 "
4 "
5 "
6 & above.
1 household/compound
2-3households/ "
4-6 "
7 " & above/ "
31·1
38·1
11·9
8·4
8·4
2·1
17·7
25·1
25·9
31·3
livable rooms/h·hold
h·hold/compound

fig 13

There are 154 persons per hectare net.

Table 4.14: Occupancy ratio in the difierent zones.

Zone	Sample size and percentage	Occupancy ratio.
1	160 (21.4%)	2.5
2	443 (59.5%)	2.5
3	10 (1.3%)	1.5
4	133 (17.8%)	2.4

Table 4.15: Overcrowding in terms of household per Compound.

Nature of overcrowding (No.of households per unit)	Number surveyed	% of total surveyed
One H.hold per house	132	17.7%
2-3 H.holds " "	187	25.1%
4-6 H.hold " "	193	25.9%
7+ " " "	233	31.3%

17.7% of the households occupy housing units exclusively to themselves. 25.1% of the households live 2-3 households in a housing unit. 25.9% of the households live in units of between 4 and 6 households and the rest 31.3% live in units of 7 and above households.

Table 4.16: Number of households living in a compound

Number of households per housing unit.	Number of households surveyed	% of total surveyed.
1	130	17.7%
2	96	12.9%
3	91	12.2%
4	80	10.7%
5	55	7.4%
6	58	7.8%
7	52	7.0%
8	47	6.3%
9	135	18.1%

The survey further revealed that 16.6% of the households living in the same compound have blood relationships, 10.1% come from the same ethnic group, 10.5% are of the same profession, 7.4% are friends, and 55.4% have no relationships of any sort. This finding is to act as a guide or as a pointer to housing allocation in any housing scheme in Makurdi.

HOUSING TENURE:-

56.4% of the households surveyed live in rented housing units, 3.9% have subsidised accommodation, this category mostly includes top civil servants. 9.2% live in rent-free accommodation, this includes mainly those living in their parents' or relatives' houses. The rest 30.4% is owner-occupied. This owner-occupied is prevalent in zone 4, constituting over 85%. Most rented accommodation over 90% is in zones 1 and 2 and most of subsidised is in zone 3 which is G.R.A. The owner-occupied areas are mostly the traditional core areas.

Most of the existing houses are not suitable for renters who need essential facilities which are not in most cases provided. Zone 4 does not attract renters as other zones because it is far from the commercial and office areas, most people would want to locate close their offices and businesses, moreover, there are no facilities here.

Rents paid in Makurdi depend on the quality of the housing unit, the proximity to the commercial area and offices and on the environmental quality with the availability of services.

The united Nations centre for Housing, Planning and Building states that "one month's rent (including cost of water and electricity) should approximate one week's salary, a ratio of 20 - 25% at most"[1].

The Federal Government's Third National Development Plan also has it as a policy for all workers to pay not more than 20% of their gross pay on housing [2].

If we are to be guided by the above policies then rents are not considered too high in Makurdi according to the survey findings. Most of the inhabitants pay between 10-15% of their salaries as rents. The highest rents at the time of the survey are paid by the government on units rented for the senior civil servants who have no quarters, and senior officials of government-owned corporations as well as senior officials of private firms and companies. It is very possible that the reason for this low rents is due to the poor state of the environments and the lack of facilities. Rents are lowest in zone 4 and highest in zone 2. This is because there are more amenities and facilities in zone 2 and it is nearer offices and activity centres than zone 4 where there are no facilities. Rents for the whole town range between ₦7 for a standard room to about ₦160 for self contained units of 2-3 bedrooms on the average.

Rents are on the increase as units constructed of better, more durable materials are coming up and as more facilities* are being provided in the new units.

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1 Zaria Housing survey-H.Y.Bedawi (1975)
2. Third National Development Plan (1975 - 80) report pages 307 - 309. op cit.

* These relate to items such as electricity, water, toilet, Kitchen, Bathroom.

Residential mobility - Many reasons were adduced by the surveyed households for moving from one place to the other. The reason given by a majority of households who move is a lack of amenities and poor environment, this accounted for 45% of the reasons, distance from place of work was 10.9%, surprisingly, some of the housholds gave the reason as due to high rent which accounted for 12.9%. Probably these households feel the rents are high because of the lack of facilities. Movement to own house accounted for 19.5% and lack of space, probably households paired-up with others accounted for 11.7%. Among the middle income group the reasons are lack of amenities and poor environment. This accounted for 84.1% of their reasons. As for the high income group, they had no reason for moving because their rents are low, the housing units are sound, they are not in most cases far from their offices, and they have all the facilities. The low incomes' reasons are distance from place of work and a lack of space. Tables below explain the point.

Table 4.17: Residential mobility among the middle income group

Reasons for changing residence	number of middle incomers surveyed	% of total surveyed
1. Lack of amenities and bad environment	53	84.2%
2. Moved to own house	3	4.7%
3. Lack of space	7	11.1%

Table 4.18: Residential mobility among the low income group

Reasons for changing residence	Number of low incomers interviewed	% of total interviewed
1. Far from place of work	143	62%
2. Lack of space	46	20%
3. Lack of amenities and poor environment	14	6%
4. High rent	28	12%

In an attempt to know if households would be willing to build their own houses if given plots, to know what sort of buildings they would like to build and if they would occupy or let it, the following responses were made. 25.8% of the respondents occupying rented accommodation expressed the wish to build their own houses if given the plots. The rest, most of whom are workers and whose stay is temporary especially men of the armed forces and those working in firms expressed the desire of not wanting to build their own houses. They feel they may leave any day. Many among those who expressed the willingness to build their own accommodation feel that providing only plots is not just enough but also the provision of services on them. 33.4% of them did not specify any type of building or structure. 12.1% expressed the desire to use traditional building materials and modern technique, 54.5% would want to use modern building materials and modern technique. 63.9% would wish to put their houses when built to rental, 24.3% expressed the wish to use it exclusively and the rest 11.8% would want to use part of the building and let out the rest.

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Out of the total number of households expressing the wish to build their own houses, 28.4% will finance it from their own savings, these are large size households in the high income group. 23.7% hope to use government loan, this category consists of high and middle income groups. Bank loan and loan from housing agencies is hoped will provide the finance for 37.4% of the households wishing to build their own houses and these are people of high and middle incomes. 10.5% expressed the hope to use the household and extended family resources and using local materials and traditional technique. These are low income people with large household sizes in most cases. Tables below show all the findings of this section on rents. Figure 14 shows perference for use of different types of building materials.

Table 4.19: Types of building materials and technique desired to be used for buildings.

Type of building material and technique desired.	% of total surveyed
1. Not specific	33.4%
2. Traditional building material and modern technique	12.1%
3. Modern building material and modern technique	54.5%

Table 4.20: Housing Tenure desired by households.

Type of Tenure	% of total households surveyed
Let	63.9%
Selfoccupation	24.3%
Let and occupy	11.8%

Reasons for changing residence	Number of low incomers interviewed	% of total interviewed
1. Far from place of work	143	62%
2. Lack of space	46	20%
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PREFERENCE FOR USE OF DIFFERENT TYPES OF BUILDING MATERIALS [1976 survey]

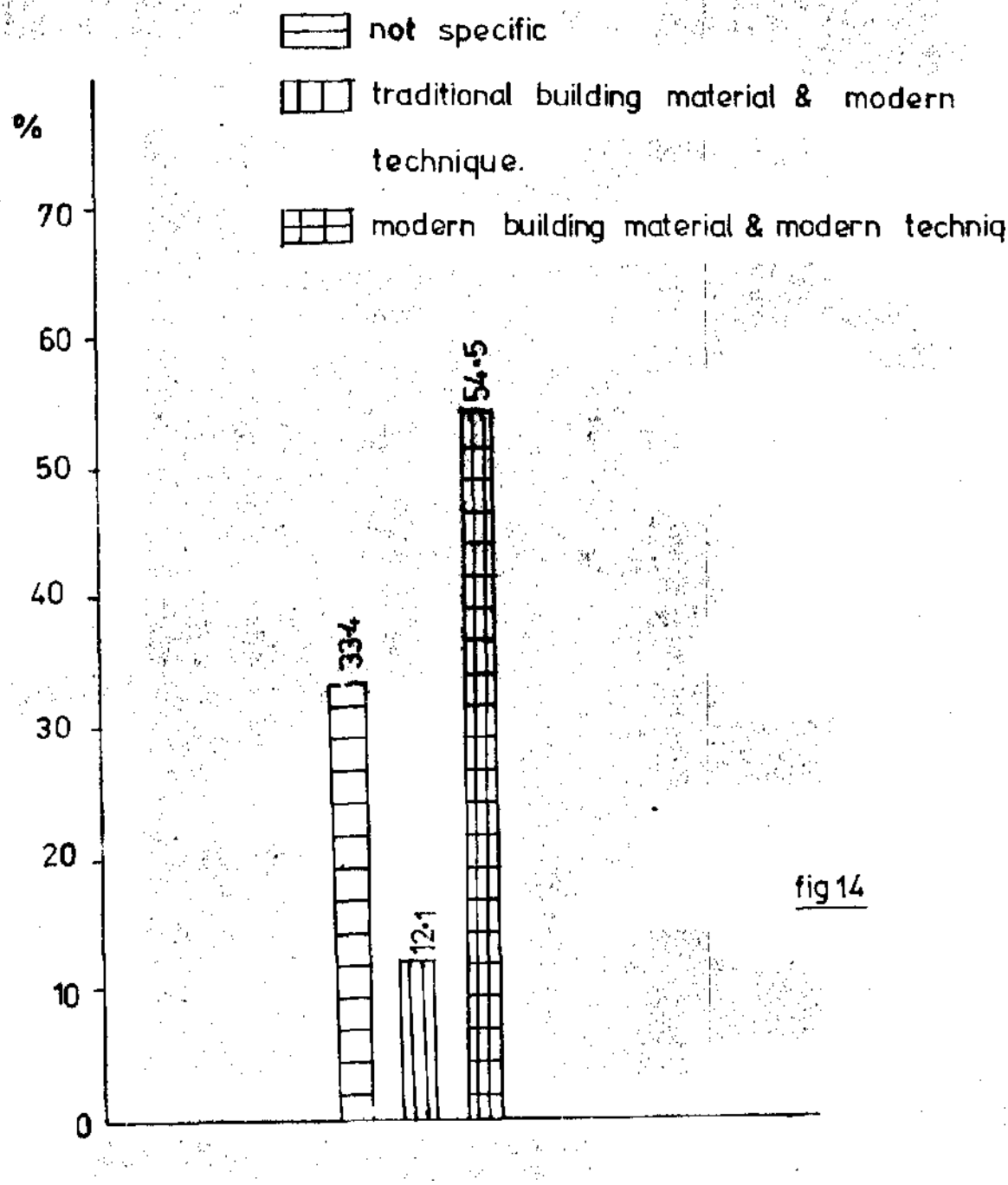


fig 14

Table 4.21: Resources for financing houses by households who desire to build their own houses.

Source of finance	% of those that expressed desire to build own units	Type of household	Income group.
1. Household saving	28.4%	Large size households	High income
2. Government Laan	23.7%	both large and small households	High and middle income
3. Bank loan and housing agencies	37.4%	both large and small households	High and middle Income
4. Self help	10.5%	Large size households	mainly low income

Figure 15 shows resources for financing household housing.

RESOURCE FOR FINANCING HOUSEHOLD HOUSING [1976 survey]

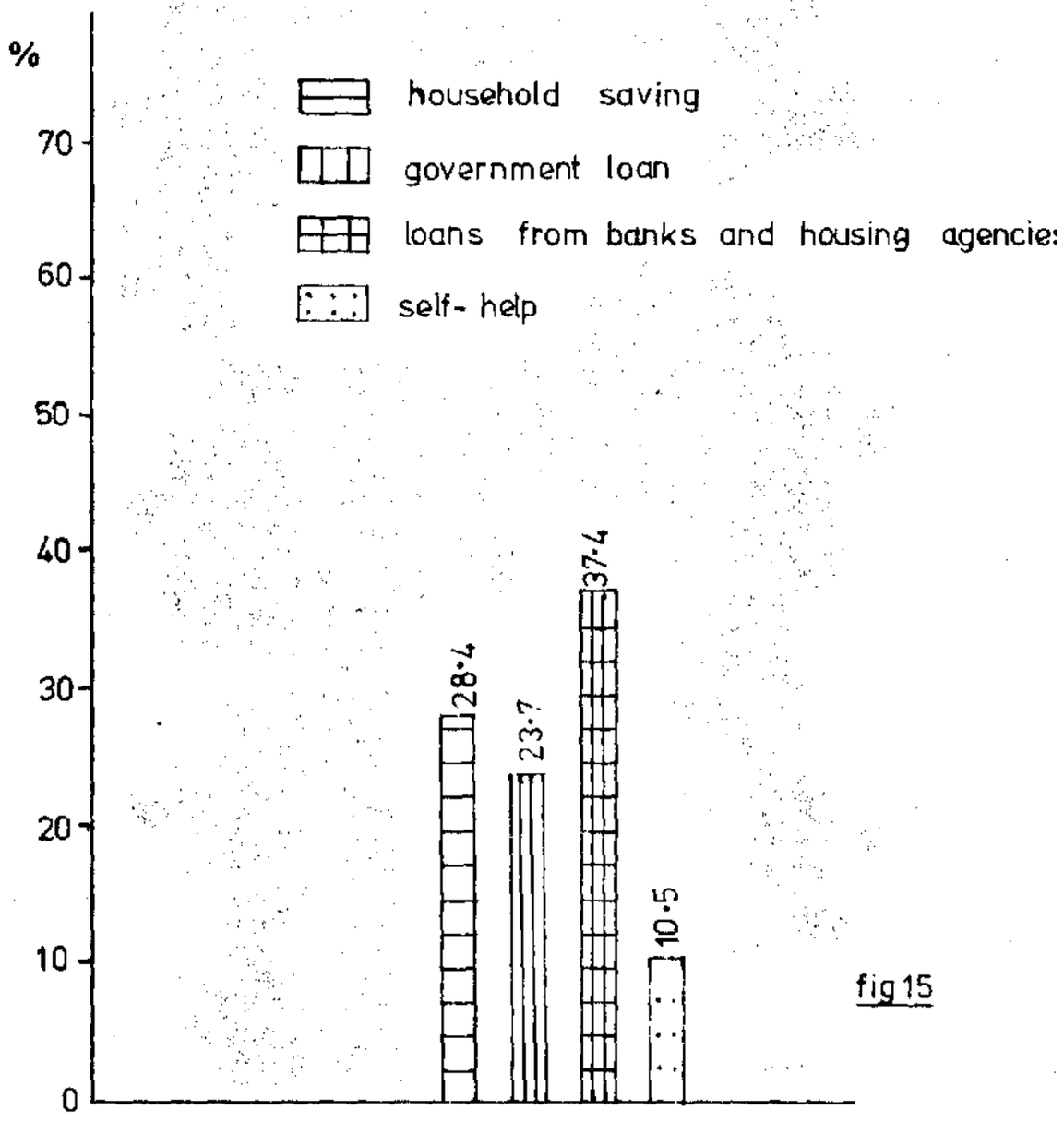


fig 15

CHAPTER FIVE

ESTIMATION OF NEEDS

Future housing need of Makurdi

Having noted the salient features of the existing situation of housing from the survey, estimation of pre- and future need will now be set out for the plan period (1976-2000).

Estimation of housing requirement in this work is based on the three main aspects of need.* These are, The need which is as a result of loss of dwellings to the housing stock caused by obsolescence and demolition, the need arising from existing need which must be tackled to relieve overcrowding and the need which is as a result of addition through new household formation due to natural increase or migration. From the survey need arising from overcrowding is negligible as the average number of persons per livable room (occupancy ratio) is about 2.3. New household formation according to the survey will account for most of the future housing need in Makurdi for the plan period Because there is a great influx of people into Makurdi and these new households will need private dwellings. Because of lack of any information on the relationship between specific population increase and new household formation, an estimate of 5.3 persons per household is taken and this assumes that the increased population must be housed at the average which prevailed at the time of the survey[1]. The household size may infact remain at the level it is now for sometime and then change after or

* refer to U.N. Publication Chapter Four - existing housing condition and Techniques of surveying a country's Housing Situation, including estimating of current and future Housing Requirements.

1. Beyer, G.H.(1965)"Housing and Society", Page 568 op cit.

towards the end of the plan period due to unforseen Social and economic changes but the policy of the Federal Government which is adopted by the state Governments is that there would be no "direct action to achieve a drastic or immediate reduction in the overall birth rate"[2]

Population forecasts based on past trends and future anticipations have been used to project the population of Makurdi. The only population figures available and which were used for the projection are those of 1952 and 1963. Apart from the controversy over the accuracy of these census figures, there was a mass exodus of people into Makurdi in 1976 and this influx is expected to continue until at least the end of the plan period though on a more modest scale. This assumption is based on experience from the older state Capitals and what obtained when they were created and the after math (Ilorin Master plan - preliminary report) by Doxiadis. Because of these assumptions some adjustments are made to reflect the situation in Makurdi.

During the 1952 Population census, Makurdi town was divided into eleven administrative districts and it is these eleven districts that make up Makurdi town. During that census Makurdi had a population of 16,713 and 53,967 in 1963 indicating an annual growth rate of 20%. From the Survey conducted in September 1976, the population of Makurdi was estimated at 79,000. This represents an annual growth of 3.6% for the period between 1963 and 1976.

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2. "Third National development Plan 1975- 80" Page 293 opcit

Because of the influx of population to the town after the creation of states in 1976, these growth rates had to be adjusted. An annual growth rate of 9% was assumed for the first four years of the plan period because of this influx. This situation is assumed will continue until 1980 because firms, factories, educational institutions and even job seekers will continue to come in great numbers this time. It is further assumed that as from 1981 to the end of the plan period (2000) the annual growth rate will fall to 7% because the rate of immigration might not be as great as the first four years. These assumptions may not be far-fatched if experience from other similar situations can act as guide. Ilorin at about the period of creation of states when it was made a state, capital recorded a growth rate of 10-12%[3] Enugu in its own case had a growth rate of 5.6%[4].

Deducing from the foregoing assumptions and figures, a population projection has been drawn up for Makurdi in the table below.

Table 5.1: Makurdi Population projected from 1976-2000

	1952	1963	1976	1980	1985	1990	1995	2000
Population.	16,713	53,976	79,000	112,000	157,000	220,000	308,000	432,000

Working on the assumption that the household size will be the same throughout the plan period, the newly formed households forecast due to population increase has been estimated and the table below shows it.

3. Doxiadis and Associates(1975)"Ilorin Master Plan preliminary report".
4. Nze, E.E. (1975)-"Housing market analysis in Enugu urban area"- an M.Sc. (U.R.P.) Thesis.

Table 5.2: New Household formation in Makurdi during the plan period.

YEAR	POPULATION	AVERAGE H.HOLD	NUMBER OF H.HOLDS	NEW H.HOLD FORMATION	TOTAL NEW HOUSE-HOLD FORMATION
1976	79,076	5.3	14,920	-	-
1980	111,000	5.3	21,132	6212	6212
1985	157,000	5.3	29,623	8491	14703
1990	220,000	5.3	41,509	11886	26589
1995	308,000	5.3	58,113	16604	43193
2000	432,000	5.3	81,509	23396	66589

This indicates that for the plan period (1976-2000), about 66589 additional private household houses will be required for the new household created.

Housing units are provided according to size of households and so households have been grouped into four categories interms of size in this work. These categories are, 1 person household, 2-4 persons households, 5-8 persons household, and 9 and above persons household.

Still on the arlier assumption that the average size of the households will not change drastically during the period (1976 - 2000), the following table summarises the future categories of housing units requirement as projected.

TABLE 5.3: Size of households and categories of housing Units to be provided between 1976 and 2000

Size of household	% Total number of household	Total number by 1976	New formation in 1980	New formation in 1985	New formation in 1990	New formation in 1995	New formation in 2000	Total new formation
1 Person	5.7	850	1205	1689	2366	3312	4646	13218
2 - 4 Persons	40.9	6102	8643	12116	16977	23768	33337	94841
5 - 8 persons	31.9	4753	6741	9450	13241	18538	26001	73971
9 and above Persons	21.5	3208	4543	6369	8924	12494	17524	49854
Total	100%	14920	21132	29623	41509	58113	81509	231886

From the projection on the table above it means 66589 housing units will be required from 1976 to 2000 on the assumption that each private household should have a separate housing unit. This will be as follows:

1 person household will require 13218 units

2-4 persons householdwill require 94841 units

5-8 persons household will require 73971 units

and 9 and above households will require 49854 units. Provision ofthe units will be in phases of four years for the first phase and five years for subsequent phases.* On this basis in 1976 there should be 14920* units, 1976-1980,

1976 - 1980, 6346 units will be required.

1980 - 1985, 8916 units will be required.

1985 - 1990, 13735 units will be required

1990 - 1995, 16604 units will be required

1995 - 2000, 24770 units will be required

Replacement Needs:

Needs arising from a need to replace housing units are normally due to factors such as

1. Demolition of dwellings unfit for habitation.
2. Demolition for such redevelopment as road widening
3. Catastrophies such as fire, subsidence etc.
4. Conversion of dwellings into larger dwellings or of dwellings to non-residential uses.[5]

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* The first phase is 4 years and others are 5 years because the 1st 1976-80 has to coincide with the 1975-80 N.D.Plan.

* Obtained from the survey conducted in September, 1976.

5 United Nations Publication(1965)"Techniques of Surveying a country's housing situation, including estimating of current and future housing requirements. Pages 22-23 op cit

The concern of this study among all these factors is number 1 which is demolition of unfit dwellings because of the fact that data on all the other factors are not available and this type of data can't be collected from surveys. Using this aspect to determine need is subjective normally but a lot of precaution has been taken so that much objectivity is involved in the determination of this need arising from obsolescence.

Housing units are deteriorating every time and sometimes beyond repair without exorbitant costs*. In this work consideration is given to the possibility of prolonging the lives of units by maintenance and with this in mind, a system of life span has been developed for categories of buildings. See Fig.16

Looking back at the existing situation all the units in "E" are considered so bad that they can not be improved at all and hence they are earmarked for demolition immediately. According to the criteria "D" is to remain for the next four years meaning that by 1980, they should all be demolished. Categories "C" and "B" have spans of 20 and 30 years respectively with adequate maintenance. This means that they will still be in use till 1996 and 2009 respectively. "A" has a life span of more than 30 years. From the existing situation it is evident that 3.0% of the stock is in category E, 9.5% and 41.3% are in categories D and C respectively while 30.7% is in category B and 15.5% is in category A. The table below makes it easier to comprehend.

*Refer to Zaria Housing Survey - H.Y.Bedawi(1975)
Refer to chapter four on standard and substandard *Housing and their subgroups "A", "B", "C", "D", and "E".

ESTIMATED LIFESPAN OF BUILDINGS
[1976 survey]

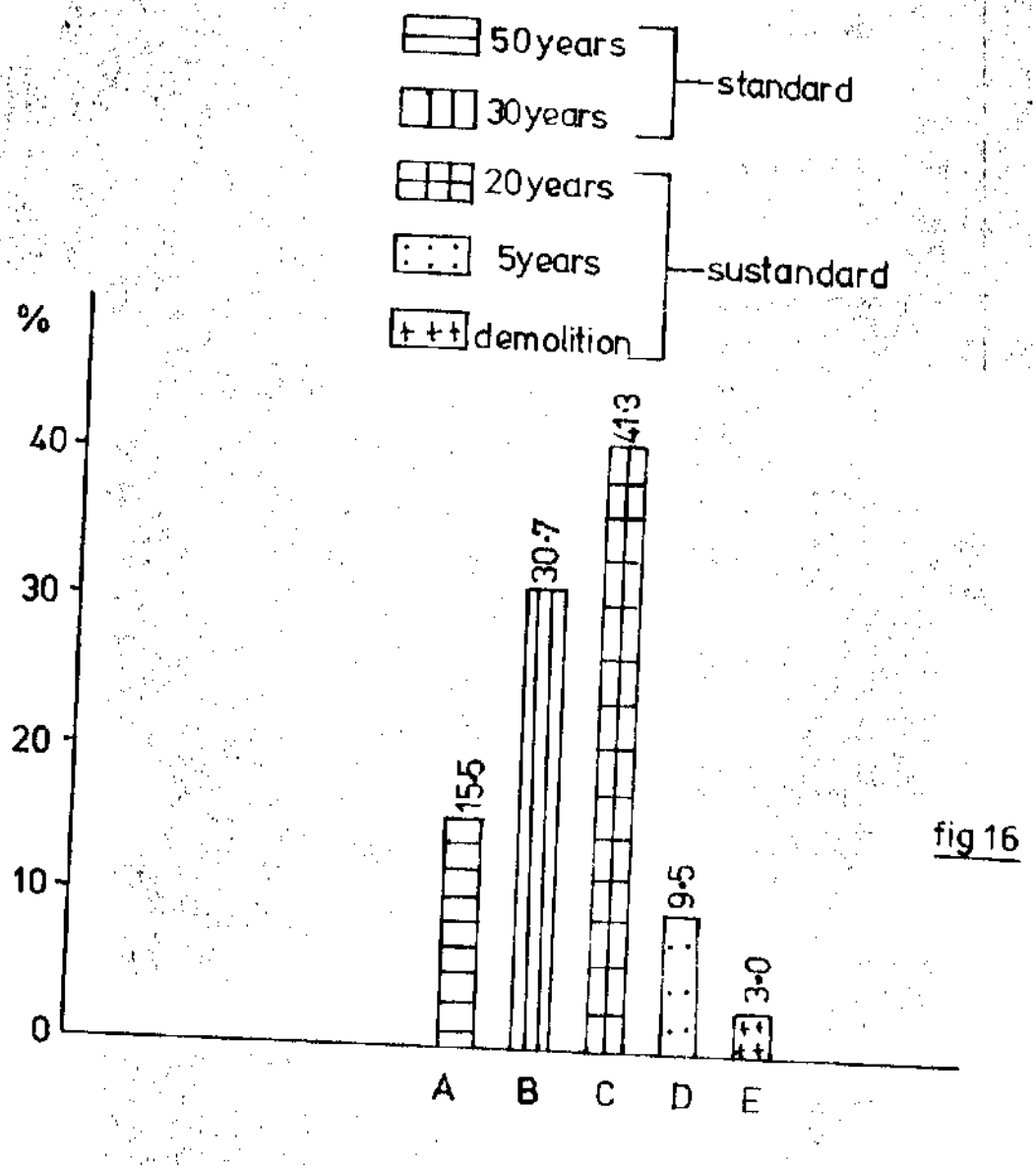


fig 16

Table 5.4: Replacement needs during the 1976-2000 period

YEAR	Grade of housing Unit	Percentage of housing unit to be replaced as % of the total at the survey time	Absolute number of housing units to be replaced	Remarks
1976	E	3.0%	134	These are either dilapidated or are so old or bad that they can not be used these should be demolished right away.
1980	D	9.5%	425	These have an estimated life span of 5 years at the time of survey and should be replaced between 1976-80.
1985-1995	C	41.3%	1849	These have a life span of20 years and should be replaced by the end of 1995
2000	B	30.7%	1374	These have a life span of 30 years

ACCUMULATED NEED: This aspect of need is very minimal in the particular case of Makurdi. An analysis of the survey shows that the occupancy ratio is 2.3 on the average and it is almost uniform for all the zones except zone 3. which has an occupancy ratio of 1.5. The occupancy for the other subareas are zone 1 (2.5), Zone 2(2.6) and zone 4 (2.4)*.

Since the standard adopted in this work is 2 as the average occupancy ratio[6], the 2.3 obtained in Makurdi is

* Refere to figure 15 and table 4.14 in chapter 4.

6 United Nations Publication(Sept,1965)"Housing in Africa Most of African towns record occupancy ratio above 2, but have to accept as over crowded any unit more than 2per room.

not high. No measure is going to be taken directly in this work to relieve it as other measures taken to meet needs also take into account the factor of overcrowding of the new housing units built to cater for householders doubled up or paired-up will reduce the number of people per livable room in the particular units that are overcrowded[7].

Below is a summary in table form of the two main elements constituting the housing needs with the total future needs of Makurdi attached. Figure 17 shows housing units required for the Plan Period.

Table 5.5.: Projected housing need of Makurdi(1976-2000)

Housing Requirement	REQUIREMENTS					
	1976-1980	1980-1985	1985-1990	1990-1995	1995-2000	Total by2000
1.New h.hold formation	6,212	8,491	11,886	16,604	23,396	
2.Replacement of obsolete units	134	425	1,849	1,849	1,374	3,782
TOTAL	6346	8916	13735	16604	24770	70371

* The target of 1,849 units cant be achieved in 1985-90 so it is extended to 1990 - 1995.

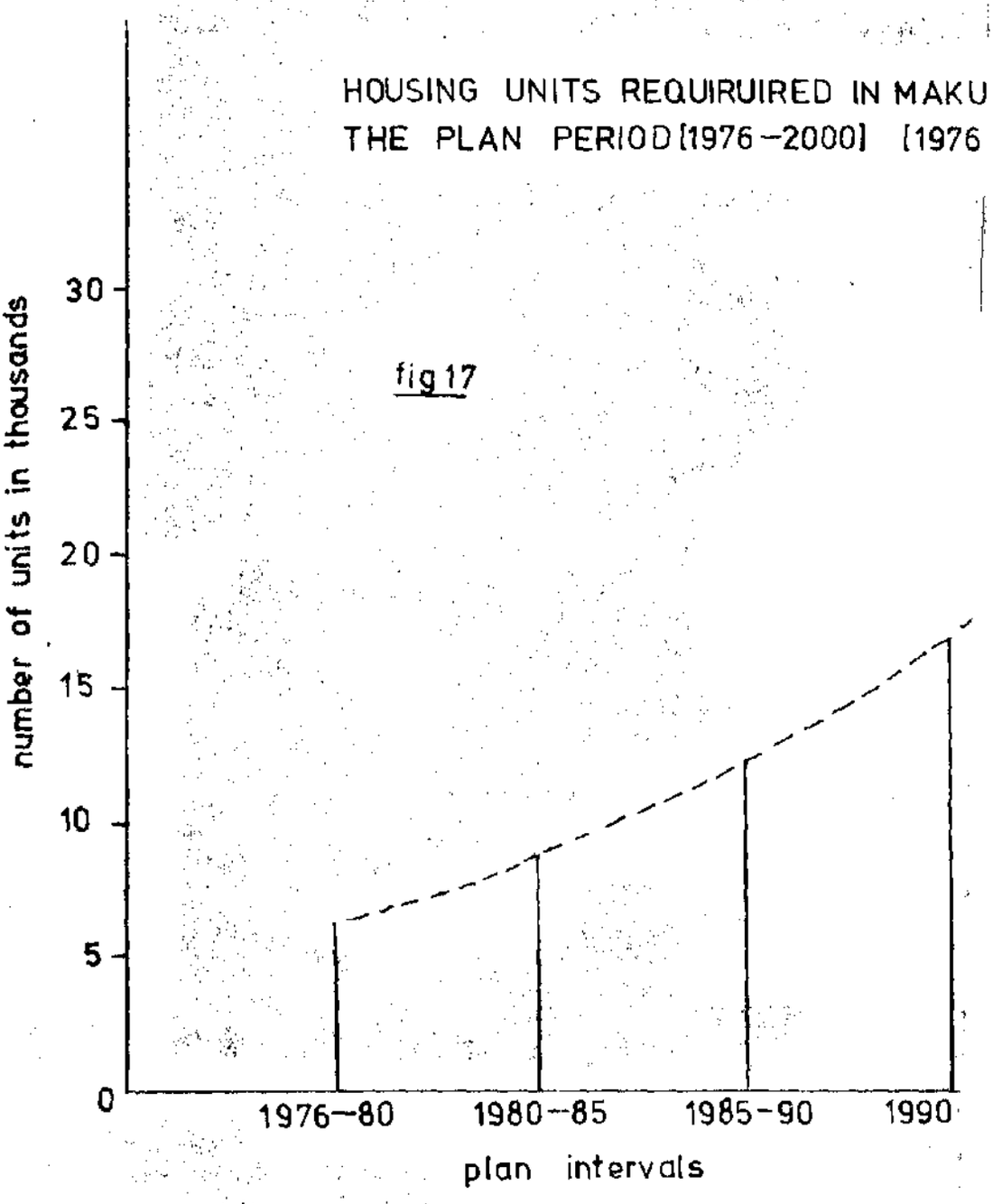
Having given an estimate of the number of units required over the projected period, it is also pertinent estimating the size of the individual dwellings as households required dwellings of different sizes determined by number of rooms. This exercise is necessary for planning space standards, cost of investment and landuse which are essential to programming in housing.

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7. "United Nations report of the Seminar on housing statistics and programmes for Africa". (31st August - 15th March).

HOUSING UNITS REQUIRUIRED IN MAKU
THE PLAN PERIOD [1976–2000] [1976

fig 17



To arrive at the projection of the different sizes of units, percentages corresponding to the number of households of different sizes as obtained during the survey period are assumed to continue with minor or no change during the plan period. In the study, 2 roomed unit corresponds to 2-4 persons household, 3 roomed unit corresponds to 5-8 persons household, 4 roomed unit corresponds to 9 and above persons household, these are small, medium and large units respectively. Below is a table depicting the categories of housing requirements, by size of unit and household size. This is succinctly shown in Fig 18.

Table 5.6: Distribution of housing need by size of housing units and household size

household size	size of housing units	Total number of units	REQUIREMENTS					
			1975 to 1980	1980 to 1985	1985 to 1990	1990 to 1995	1995 to 2000	Total for 2000
2- 4 persons	2 rooms unit	46.6%	2957	4155	6401	7737	11543	
5-8 persons	3 rooms unit	31.9%	2024	2844	4381	5297	7902	
9 + persons	4 and more rooms unit	21.5%	1364	1917	2953	3570	5326	
Total		100%	6346	8916	13735	16604	24770	70371

This calculation and projection has been made with the intention of not providing any single roomed unit, two roomed unit is regarded as the smallest.[9]

9. Town Planning students, Ibadan Technical College, (1971), Manual of space standards for urban development in the Western state of Nigeria.

DISTRIBUTION OF HOUSING REQUIREMENT BY SIZE OF UNITS [1976 survey]

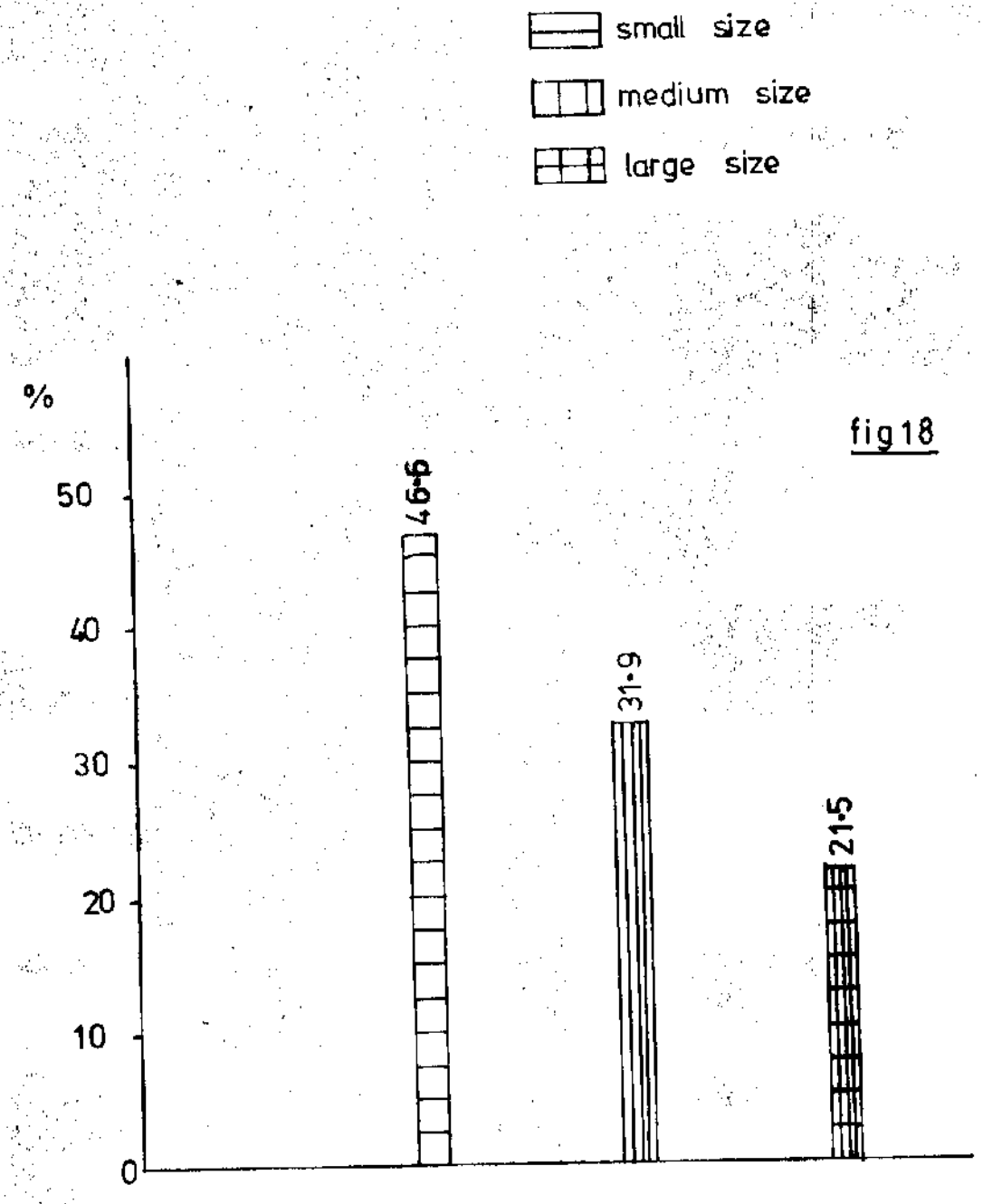


fig 18

CHAPTER SIX

POLICIES PROGRAMMES AND PROPOSALS

Having analysed the existing situation and made estimates of need for the projected period, the next thing is to draw up a programme that will guide the implementation. In this study the programme is drawn up for only the first phase (1976-80) and some policies are also set for the same period. The programme drawn up follows very closely the one drawn up by the Federal Government in the Third National Development Plan (1975-80). This approach is taken for pragmatic reasons as a programme which goes too contrary to an adopted one may not be accepted by the government and so will not be implemented and the aim of the programmes which is one of an advice will be defeated.

> "The government has traditionally tended to leave the field of housing almost wholly to private effort, restricted to the provision of a limited number of residential quarters for its officers. Private investment in housing has been growing too slowly to be able to meet demand because of well-known problems and bottlenecks such as inefficiency of private savings, inadequate credit facilities, high cost and difficulty in obtaining credit facilities, high cost and difficulty of obtaining land in some Urban centres and also sharp increases in cost of building material"[1].

The policies and objectives for achieving the above according to the Federal government is direct construction of units for letting at subsidised rates, increased construction of quarters for government officials and an expansion of credit facilities to enhance private construction. The use of local building materials is further advocated.

1. Third National Development Plan (1975), page 309 opcit.

The result of the survey proves the Federal governments' statement above to be very correct. It has been revealed from the analysis that the public sector is responsible for only about 4% of the existing stock and the private sector takes care of 96.0%. Most of the people in private sector would want to get as much gains as possible and putting very little effort in making the units comfortable. Most of the units they build lack essential services and amenities and they put poor finishes to their work. More over they want to invest only in high and middle income housing. They are also handicapped so in the proposal, the government has been called upon to take a greater part in providing units while at the same time encouraging the private sector.

The implementation is expected to be in five phases, the first phase being the first four years (1976-2000) of the plan period, the other phases are five years each of 1980-1985, 1985-1990, 1990-1995, 1995-2000. The concern of this study is the first phase which is 1976-80. The programming does not include only the housing units to be provided but also the land required and the various services* and facilities as schools, accesses*, open spaces etc because housing does not connote only the structures. Requirement of the different income groups, housing delivery system (the role of the different sectors), number and percentage of units to be provided are included in the programme.

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* This assumes 160 persons per hectare as gross density.

* Services are schools, five station recreation grounds, play fields etc.

* Accesses are roads, streets foot paths.

Table 6.1 Land requirement for first phase (1976-1980)

Size of unit	%	Total Land requirement
Small	46.6	96. 1 hect
Medium	31.9	65.7 hect
Large	21.5	44.3 hect
TOTAL	100%	206.0

The table below indicates the land requirement for the implementation of the programme (1976-2000) see figure 19 also.

LAND REQUIREMENT FOR RESIDENTIAL DEVELOPMENT

Table 6.2: Land requirement for the plan period.

Land requirement	Percentage of total requirement	Period
206 hectares	9.3%	1976-80
281 "	12.7%	1980-85
394 "	17.9%	1985-90
550 "	24.9%	1990-95
775 "	35.1	1995-2000
2,206 hectares	100%	By 2000

Table 6.3: Land requirement for implementation of first phase (1976 - 80)

Type of Landuse	% of total requirement	Land requirement in hectares (1976-80)
Residential	55%	113.3 hectares
Commercial	3%	6.18 "
Organised open spaces	10%	20.6 "
Roads and streets (access)	16%	32.96 "
Public & Semi public	16%	32.96
Total	100%	206

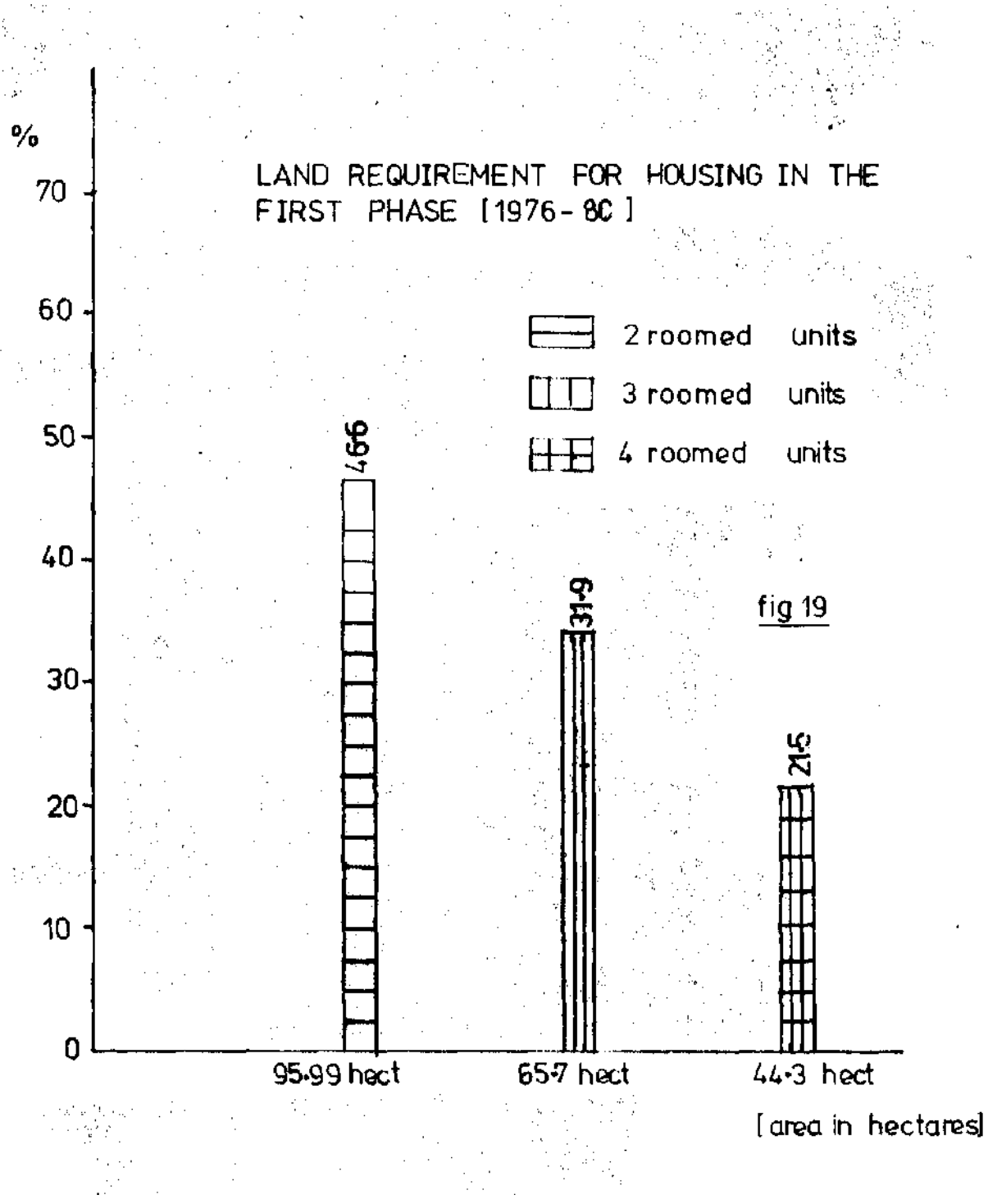

%
70
60
50
40
30
20
10
0
LAND REQUIREMENT FOR HOUSING IN THE FIRST PHASE [1976-80]
2 roomed units
3 roomed units
4 roomed units
46·6
31·9
21·5
95·99 hect
65·7 hect
44·3 hect
[area in hectares]

fig 19

Educational requirement.

A total of 16 nursery schools, 8 primary schools and 2 secondary schools will be required by the additional population in the first phase. This assumes 1 nursery school per 2000 population, 1 secondary school per 16000 population and 1 primary school to 4000 population.[2]

Table 6.4: Housing requirements by income groups.

Income group	No. of Housing units	% of total
Low income	3915	61.7%
Middle income	1656	26.1%
High income	774	12.2%
Total	6346	100%

Figure 20 shows housing requirement by income groups.

As a matter of policy in the programme the housing supply position which has been 4% and 96.0% by the public and private sectors respectively is reviewed so that the situation becomes 24% and 76% by the public and private sectors respectively. This makes 1,523 and 4823 units. These percentages have been arrived at judging from the present government policy. This is in a bid to supplement the efforts of the private sector which has been left with most of the supply problem and which has proved not up to the task due to many problems. Further more the units constructed by the government which are in most cases of higher standard and of good workmanship can act as a source of inspiration

2 Town Planning students, Ibadan Technical College (1971) Manual of space standards for Urban Development in the western state of Nigeria.

HOUSING REQUIREMENT BY INCOME GROUPS

[1976 survey]

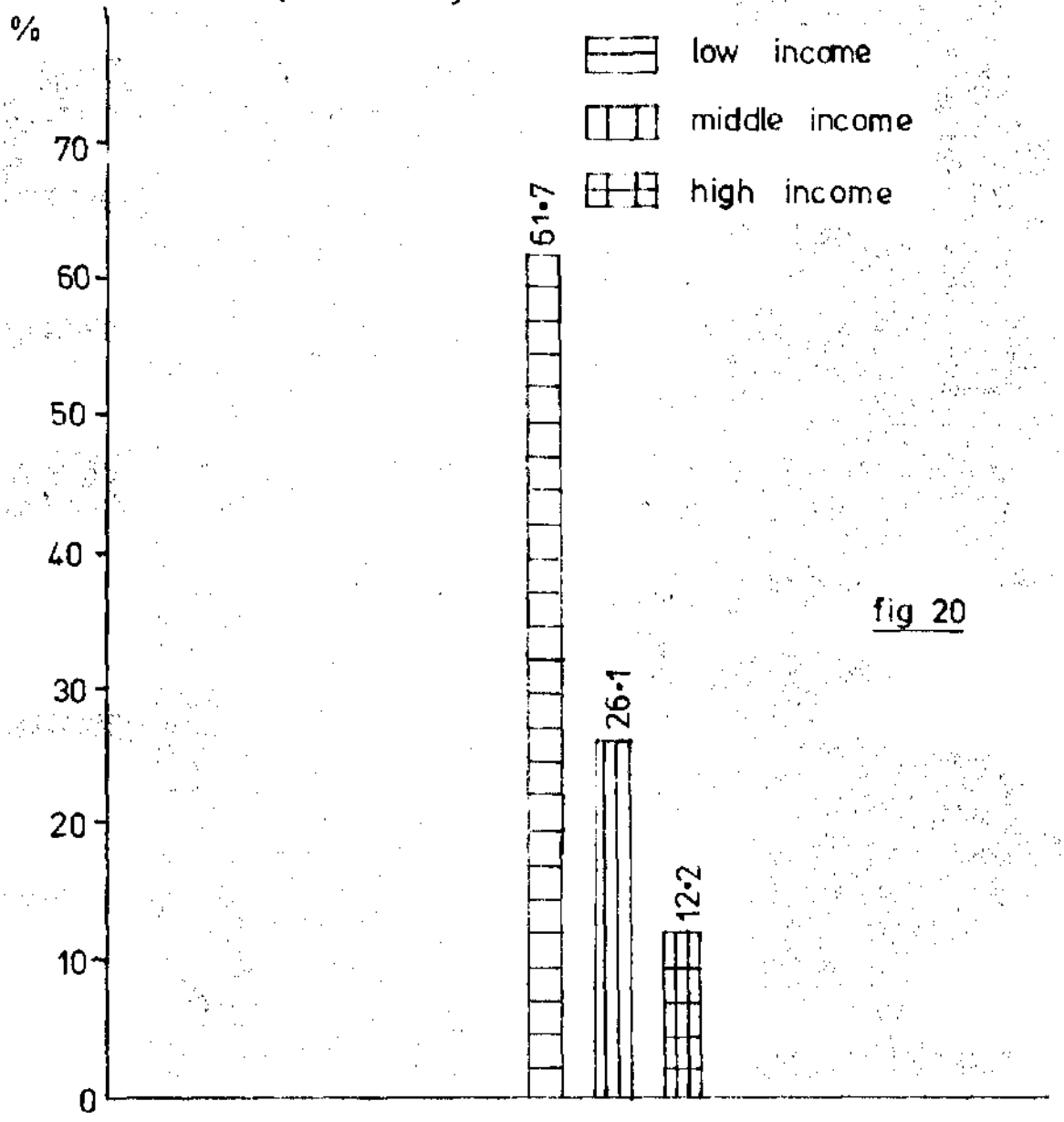


fig 20

and model which should be emulated by the private sector. See figure 21.

From the survey analysis, 9% of the total requirements for the Plan period is to be implemented in the first phase (1976 - 80).

Table 6.5: Housing requirements by size of units and area needed for each category.

Type of housing unit by size	Total number in the category	Area requirement	% of total
2 roomed unit	2957	295.7 Hect.	46.6%
3 roomed unit	2024	202.4 hect.	31.9%
4+ roomed unit	1364	136.4 hect.	21.5%
Total	6346	634.6	100%

Costing: Without fund, no matter how good a housing programme is, it cant be implemented. This aspect of programming estimates the amount of money required to accomplish the scheme and also stipulates who provides the fund. In this section the amount of money to be spent by the public sector on housing for the low, middle and high income groups is estimated and the total is brought out.

To know the total amount of money to be allocated to the provision of units for the various income groups, the cost of a unit in each category must be determined.

The cost of a unit of high income group house is estimated at an average of ₦50,000. For middle income it is estimated at ₦15,000 per unit and ₦8000 per unit for low income housing. This estimate per unit includes construction cost, cost of

PROPOSED PARTICIPATION IN HOUSING PROVISION
(1976 survey).

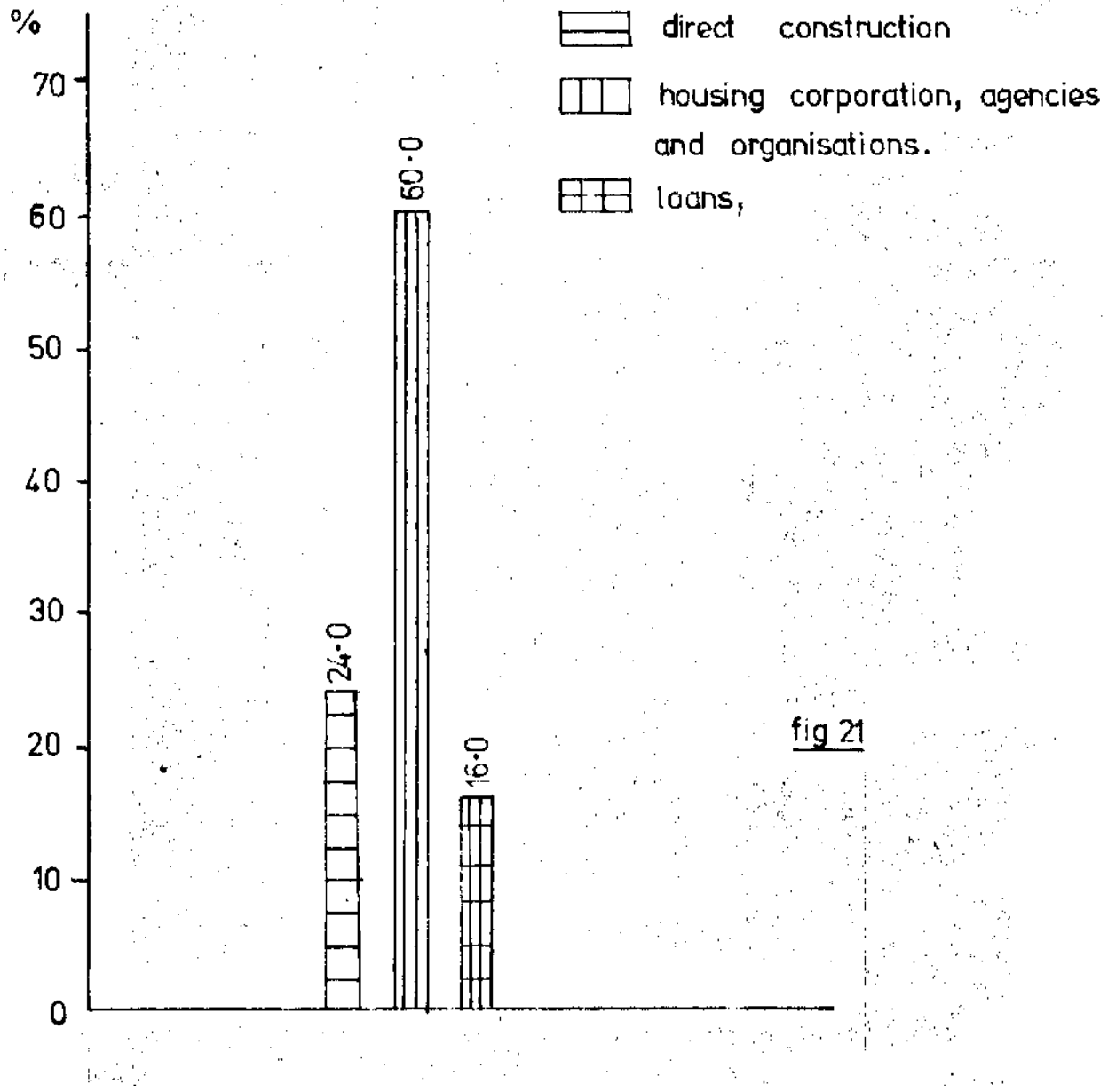


fig 21

developing the plots and all the services and amenities in the housing unit*.

As mentioned earlier the government is hoped would be responsible for 24% of the total units to be provided for the first phase. This 24% includes the housing units of all the high income civil servants deployed to the state, 80% of the housing units needed by middle income civil servants and 60% of the housing units needed by the low income civil servants. The numerical strength of these three is 225, 432 and 864 housing units for high, middle and low income civil servants respectively.

The estimated amount to be expended on the units is as follows:
100% of civil servants of high income group is ₦11,250,000, 80% of civil servants of middle income group is ₦6,480,000 and it is ₦6,912,000 for 60% civil servants of low income group. The total then amounts to ₦24,642,000

Table 6.6: Estimated cost of units by income groups

Income group (civil servants)	% of total No.of units	number of units	cost for the units
High income	100%	225	₦11,250,000
Middle income	80%	432	₦6,480,000
Low income	60%	864	₦6,912,000
Total		1521	₦24,642,000

Estimates: high income = ₦50,000 per unit
middle income = ₦15,000 per unit
low income = ₦8,000 per unit.

* Estimate is derived from a comparison of cost of units by the Federal and State Governments in the third development and from informal interviews.

Out of the remaining 76% of the total units required for the first phase 60% (3808) units is expected to be provided by the housing corporation, organisations and agencies. This 3808 units includes the number of middle income groups and low income groups whose units are not being provided by the public sector through direct construction. It also includes non-government workers. The rest 16% (1015) of the units is expected to be provided through loans given to private developers who would build their own houses.

Direct construction = 24%

HousingCorporation, agencies, organisation = 60%

Loans = 16%

Table 6.7: System of Housing delivery.

Delivery system	Percentage of participation	Total number of units
Direct construction	24%	1523
Housing corporation, agencies and organisations	60%	3808
Loans	16%	1015
Total	100%	6346

As an incentive to these organisations, agencies and corporation and to ensure that the target of 6346 units in the first phase is accomplished it is suggested that for the rest 4823 units remaining after the direct construction of 1521 units, plots should be provided. These plots are expected to be provided with the necessary infrastructure. To do this will

cost an average of ₦1,200 per plot. This is expected to amount to ₦7,615,200. This in addition to the amount estimated for direct construction is ₦32,257,-200.

Considering the activities of the government so far this amount, though big is not too ambitious. Already 320 units for the low income and 200 units for the middle and high income groups have been built. The state Housing corporation is constructing 1000 units in Makurdi before the end of the first phase. For the 1977 -78 financial year it is planned that the housing corporation would build 200 units in Makurdi and for this about ₦9.7 million has been allocated. As a way of implementing the Federal Government's policy, 1000 units out of the state's 2000 is expected to be built by the Federal Government to supplement the efforts of the government. Added to the above, the sum of ₦4.2 million has been given for the provision of essential infrastructure togive Makurdi a new face-lift. A contract for mapping out of 600 residential units has been awarded. Judging from these efforts and activities it is hoped the 6346 units target will be accomplished.

POLICIES AND PROPOSALS

In making policies number of factors is taken into account. An awareness of the existing situation, the requirements and the programme is essential in making policies.

From the analysis it has been discovered that one of the causes of housing need in Makurdi is the

lack of the essential facilities. This makes prospective tenants uninterested and this is one of the causes of movement among the middle and low income groups alike though this applies more to the middle income group. It is necessary that as much as 40-50% of the cost of units is used for facilities. The existing units without these facilities should be provided so that the housing situation improves and also for the lifespan of these units to increase. It was discovered that only 38.0% of the houses has pipe borne supply of domestic water and only about 53% of the units in the survey is supplied with electricity, the provision of these two services should be given top priority.

In selecting the sites for the new construction adequate consideration should be given to accessibility and proximity to place of work and centres of activities. This is most important in the case of low income people who do not have their own private means of transport. This is one of the causes of residential mobility among the low income people this factor accounted for 60% of the reasons for movement from one house or area to the other.

Bucket system of latrine accounts for 55.6% of the total number of latrines in housing units surveyed, Pit latrine forms 20.6%, 9.2% does not have latrines of any sort and only 20.6% has water closet system. The Government should at this period of development make efforts at inhibiting the use of bucket and pit latrines as these are inimical

to health being potential sources of pollution to water from wells which is a major source of water supply (50.3%) in Makurdi. This can be done by giving incentives to landlords and houseowners. The government should endeavour to pay part of the cost of conversion of bucket latrines to water closet systems. Any new building plan submitted without inclusion of water closet system latrine should be rejected. The people should be made aware of the bad side of bucket and pit systems. The bucket system has bad smell, it is accompanied by flies, the conservancy bills are high and it gives a lot of poor aesthetic appearance.

Still on the sanitary aspect, the system of waste disposal is poor, 33.9% does not have any form of waste disposal system. Individual household dustbin for the collection of household refuse should be made compulsory, standard type dustbins should be purchased by the government and supplied to households at subsidised prices. These should be put within convenient reach for municipal service.

House models should be made by the government and shown to people who want to build their own houses. These will give them the standard desired. It has been revealed in the analysis that only 31.5% of the housing units surveyed was well-ventilated and lighted, it is hoped through these models that buildings with more ventilation, light and more facilities will be provided.

Financing aspect of housing is very important.

Without the fund, a good programme will not succeed. Judging from the money allocated to housing so far, we can assume that money should not be a constraint on the realisation of this programme. ₦9.7 million has been earmarked for housing this standard if maintained or increased the programme will succeed. The survey showed that 28.4% of households want to finance their buildings from their savings and 61.1% would want loans from either the Government or bank and Housing agencies, another 10.5% would want to build through self-help. To encourage these people who have expressed the desire to finance their housing through loans, the government should in a bid to supplement its loan scheme, guarantee loans from Nigerian Building society agencies and organisations. These loans should be liberal, the interest rate should not be too high and the period of repayment should be long. In this way many people would be able to own houses.[3]

The next main item of the policies and proposal is concerned with measures to minimise existing bottlenecks in the construction industry. The high cost of building materials may jeopardise this housing programme.

In a bid to do this the measures that should be taken are:

To improve the skill of the local contractors so that they can produce better quality work, they should be formed into cooperatives or larger units

3 Abrams, C (1964) Housing in the modern world Pages 142 - 161 op cit.

to be able to handle larger contracts at a lesser cost than the foreign contractors coming in now. If they form cooperatives they would be able to purchase better equipment for the execution of their contracts and the present situation in which contracts are terminated for slow pace of execution will be minimised. To further help the contractors, materials such as cement should be purchased in bulk and supplied to them, this will save them spending too much money on materials and thereby reducing their gain. As an example, as at the tail end of November 1976, a bag of cement cost ₦8.50 to ₦9 in Makurdi market while it was bout ₦3 when supplied by the government. Further in this section on incentives to the private sector, serviced plots should be provided. The cost of a serviced plot is ₦1,200. This will remove the idea of not having essential services in buildings and also it ensures a good layout with drains and roads and other services and amenities. This has been successfully used in Dar-es-salem in a cooperative Housing pilot project [4].

The use of local building materials is very useful and cheap. A substitute to cement blocks which is almost as good is burnt brick made of local clay, this is very cheap, it is durable and builds very nice houses. This is being widely used and people should be encouraged to use it as a substitute to cement.

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4 United Nations publication Cooperative housing pilot project (Kijitonyama), Dar-Es-salam prepared by economic and social council (15th August 1972).

A factory producing cement blocks and other materials as electric poles should be established to produce these items in large quantities with a view to reducing the price.

An impprtant aspect of this proposal is that the serious problem of a multiplicity of authorities dealing with housing as in some places should not be allowed to occur. However the activities of all those concerned with housing delivery system should be coordinated and a common base, data and projection should be used so that there would be no duplication of effort.

A management agency most suitable is the housing corporation.

CONCLUSION

In this work the aim is to look at the existing situation of housing and make an estimate of need and further make programmes, policies and proposals.

The existing situation revealed that the future need will be mostly due to new household formation and to a lesser extent to replacement of obsolete housing units. Overcrowding is negligible. It has also been revealed from the study that the buildings are mostly of durable building materials and that the buildings are mostly less than 20 years. The cause of the present need is lack of essential facilities.

After analysing the existing situation, projection of future need is made. This includes the number due to obsolescence and new household formation, the sizes of buildings and the corresponding household size.

Policies and programmes follow this. The programme is drawn up for the first four years (1976-80) and for this the costing was made, land requirement, educational requirement, housing requirement of different income groups and housing delivery system were set out.

In the policies the government is expected to engage more in direct construction, give assistance to the private sector and provide more amenities. It is advised that as much as possible a multiplicity of agencies responsible for housing should be discouraged or coordinated and also suggested that a management agency most suitable is the housing corporation.

I hope and expect that the study should be given consider-

ation in the implemetation of housing provision for Makurdi. Every aspect of the proposal is either related to the Government policy or is as a result of the analysis of the situation and are therefore flexible.

Emphasis should be given to incentives to the private sector to build for the low income this is because as of now the private sector is interested in building for the high income because the profit is higher.

The study of housing need in Makurdi is peculiar because of the very rapid change in status and hence the accompanying changes in administrative, economic and social situations. There are very few cases as this and so there has to be a modification of the study. Some variables for the study are left out because of a lack of data. Alot of the data is primary because data is scanty. This study is also unique in the sense that it is expected it will be used for implementation purposes and not just an academic exercise. This is why the policies and proposals have followed very closely government policies and analysis of the existing situation.

APPENDIX

1. To project The Population, the formular below was used:

$$\text{Log } (1+r) = \text{Log } \frac{\frac{(P_2)}{P_1}}{n} = \text{(annual rate of growth.}$$

Where P_1 = Initial population

r = rate of growth

P_2 = Present population.

2. This part of the appendix gives a list of the sections of the town which forms each zone.

Zone 1 is Wailomayo East and West.

Zone 2 is (a) Ankpa ward
(b) Central ward
(c) Clerk's ward
(d) North market ward
(e) North Mission ward
(f) South market ward
(g) South Mission ward
(h) Wadata ward.

Zone 3 G. R. A.

Zone 4 Lafia ward (North Bank).

3. The income groups (Existing)

Low income - 61.7%

Middle income - 26.1%

High income - 12.2%

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