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BY

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ON

# RURAL MULTI - SERVICE CENTRE

A RESPONSE TO THE OBVIOUS NEED TO

IMPROVE THE LOTS OF OUR RURAL SECTOR

IN

JUNE 1976

ACCEPTED BY;

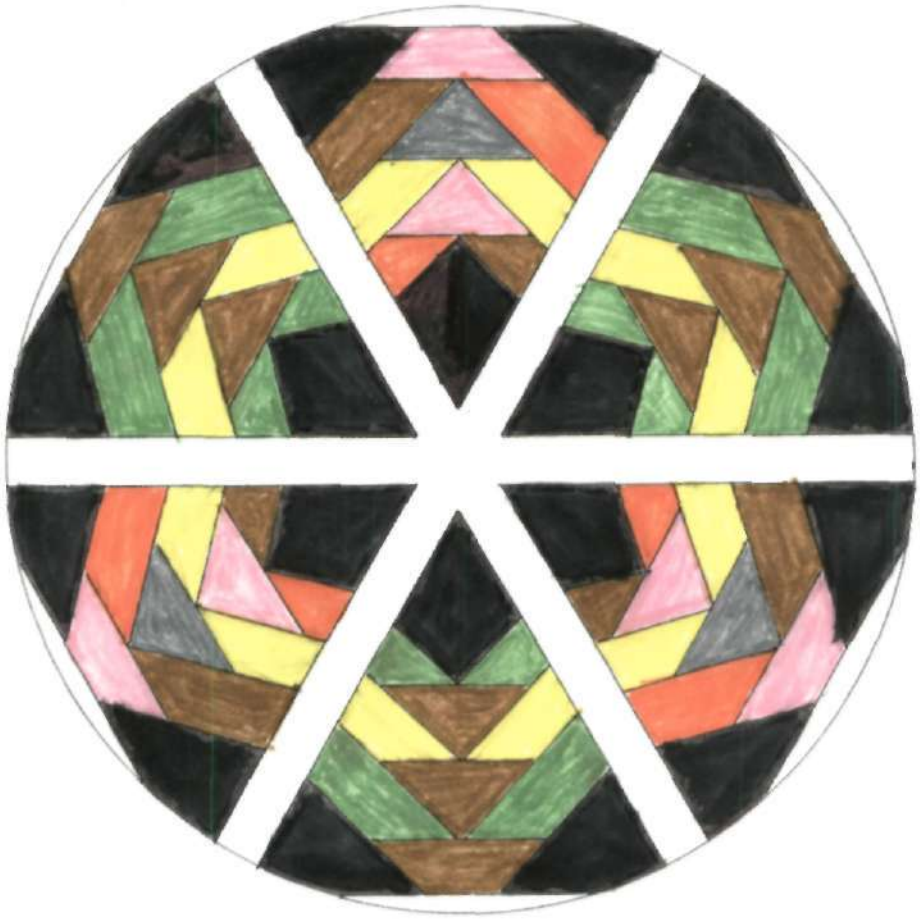
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# Mud ROOFS



PROPOSED DECORATION

- UNDER-ROOF of CIRCULAR buildings -

# D E D I C A T I O N

Dedicated to my father - for the glorious sense of direction he imparts on me, to my mother - for the ever daring love she demonstrates on me, and to a late brother (Yusufu Maiwada) who could not stay to share with the family this joyful moment. May His soul rest in perfect peace, Amen.

And above all to God Almighty, who dictates our peaceful existence.

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INTRODUCTION

This programme is a response to an identified need for driving an effective mechanism which progressively reinforces existing rural community institutions within predominantly low-income settlement under a condition of capital scarcity and rapid urbanisation. The aim generally is to improve the living conditions in our villages through such means as the provision of job opportunities - through technical and vocational training and small scale industries, the generation of shelter - through Local Resident Association or building cooperatives and by exploiting the possibilities of local building materials and finding a way of improving on them, communication facilities to make people susceptible to change and objective in their thinking. The provision of other amenities that smoothen the track of life's continuity - this make the scheme more acceptable to the people.

For the purpose of this survey, the Malumfashi Administrative area of Kaduna State and in particular the 'Kafur Village' was taken as a case study. The socio-economic survey undertaken revealed the fact

that the communities are predominantly homogeneous tribe-wise and agriculture is their main economic activity. This is but supported by some local industries, handicrafts, trade and other necessary services. However, all these activities are marked by traditional technology, low investment and invariably poor imputs and consequently low productivity and poor prices.

Public services are generally insufficient and isolated from one another. For example clinic for Kafur was located about two kilometers from the centre of the village and infact in another neighbouring village so they are sharing it. Vice versa the primary school is at Kafur for the use of all the neighbouring villages. It therefore becomes worthwhile to identify and derive a combination, or network of enabling services and institutions which could more effectively harness the human resources in the low-income communities.

The survey also revealed that even though there is the need for communual functions (infact it is a way of the life of the people) there are very few facilities to encourage them. The elders meeting is

normally held at the chiefs house, the youth festivities at the market place and the adult literacy at the primary school buildings to give a few example. There is no community hall in Kafur but even in other places where they exist in the administrative area, agency rivalry and bureaucracy seemed to limit the users access to such basic services.

Agricultural extension officers and other social workers do exist but the lack of a system that advertice their usefulness and make them available to all who need their help is a great barrier to most villagers who might otherwise benefit from their services. There is also at present very little connection between the Educational Institution (primary schools) and the social workers sections. In addition, the mechanisms for cooperation with private religions and social workers organisations are weak or antagonistic.

The survey carried out both in the village and at various State Ministries concerned with rural development programmes took the form of interviews, observations and photographs. These have led to a conclusion that a kind of multi-service centre which stimulates

and enables cooperation between various agencies and which places emphasis upon community participation in decisions, programming and management of services and facilities would be an excellent mechanism for eventually tying together other community resources and lagging centralized institutions.

The Kafur community's cooperation and involvement as well as that of various ministries' officials have been substantial in helping to arrive at the basic design determinants as will be elaborated in the sections which will follow.

Examples of similar schemes carried out both in Africa and elsewhere were sited in the later sections. This enables one to learn both the good aspects of such a scheme and incorporate them in the design and also know those weak aspects so as to avoid them. Generally very few similar examples could be uncovered especially in the African continent, infact almost non-exist in Nigeria.

Analysis of the facts and data gathered as a result of the studies and surveys above were carried out before the final proposals were put forward these pro-

posals cover fairly a wide scope right from the State government headquarter to the administrative area headquarter coming down to the villages and their neighbouring hamlets.

The later sections deal with the technical aspect of the propose centre. The method employed locally in the traditional buildings were studies and the possibility of using the local building materials with the hope of improving on the present limitations and disadvantages was looked into. The solution adopted here is the use of a new material, stabilized laterite, as a means improving the building industry at still a much lower cost compared to sandscreed buildings. A study of such a new material was therefore undertaken to examine the physical characteristic of the material, the cost implications and the structurally logical forms in the new material.

Local builders were interviewed on the traditional aspect of indigenous construction and the materials used locally while consultations were made both from written sources and people that have dealt with the new material - the stabilized laterite.

The proposal is for a prototype centre to be located in villages throughout the Kaduna State. Even though the villages differ in specific needs and size, however they share the common need for better access to shelter, public services and employment opportunities at a local institutional level. The prototype design and planning structure for the Kafur Centre will serve as a model for identifying needs of these other communities and arriving at design and implementation schemes which will in turn increase the effectiveness of local institutional network. It is therefore hoped that the design approach and the technical solution will help to demonstrate what architecture can do to the common man in the village. That is evolving an 'architecture for the people'.

Lastly, an attempt has been made to come up with an idea on the approximate cost of the scheme so as to assess vaguely how much assistance will be required from the government and private organisations. The costing aspect still further exposes the areas whereby the total cost can yet be cut down e.g. through the use of free labour in self-help.

# PART ONE

## STUDIES

"OUR TASK IS TO MODERNISE THE TRADITIONAL STRUCTURE SO AS TO MAKE IT MEET OUR NEW ASPIRATIONS FOR A HIGHER STANDARD OF LIVING"

- NYERERE, 1960

# CHAPTER ONE

## RURAL DEVELOPMENT

(NYERERE, 1960)

In Nigeria, as in most other developing countries of Africa, development programs were mainly concentrated on rapid Economic growth in the cities. Thus, the push centred on the Modernisation of the urban areas, particularly on industrialisation. While this has lead to a notable progress in some countries, the great majority of the people - those living in the rural areas (in Nigeria about 83.09% of the population are rural dwellers),[1] had benefitted relatively very little from such development schemes. As a result, the social and economic gap between the modernized urban sectors and the poverty ridden rural sectors of these societies was widening ominously. Such inbalances in the pattern of national development threatened further progress even in the cities. The cities-even

those that are industrialising rapidly, often with capital, intensive production techniques cannot sustain the demands for employment, for housing and for a multitude of public services which continuous migration of the rural unemployment brings in its wake. Nor can the new urban industries prosper and grow without mass markets in the rural areas, and such markets can only emerge with increased rural production, employment and widely distributed purchasing power. Here we see the interdependence between urban and rural developments.

This high lightened, among other things, the supreme importance of the need to provide for a better balance and integration between rural and urban development and much more emphasis than previously on rural areas.

Apart from the massive human resources to be tapped for development purposes, the rural inhabitants are practically responsible for nearly all the agricultural products which account for a very large proportion of the gross domestic product. The improvement in the diet of the people, which is an essential basic human need, can only be achieved by developing

food producing rural areas. We have been witnessing high food prises due largely to lack of productivity growth in the rural sector, which has affected the development of non agricultural sectors through wage increases.

This offers a vivid example of how lack of insufficient priority in any sub-sector of the rural areas can impede progress in general growth and development.

1. Problems of Rural Areas.

Rural areas are marked by hetrogeneity in their physical features, climatic conditions, natural resource endowments, levels of development, institutions and other constraining factors. Nevertheless, certain features are still common to most of them.

Generally, agriculture is the main economic activity supported by some local industries, handicrafts, grade and other necessary services. These are activities marked by traditional technology, low investment and invariably poor imputs and consequently low productivity. Knowledge about marketing techniques, such as quality control, grading, packing, storing, transportation etc. are poor and in many cases rather very crude. The absence of effective control of plant and

animal diseases and pests further reduces the poor yield. In agriculture, there are problems of small holdings lack of, or inadequate capital, poor marketing facilities which all need an immediate solution.

Furthermore, rural areas are characterised by a considerable amount of underemployment and consequent idleness. In agriculture, for example, Raynand estimated for eight regions in Africa that the average number of working days was 56% though with considerable differences between regions.[2]

For most rural areas, there is very little incentives to work hard due to poor prices both in food and cash crops as well as other locally manufactured items. The hard life characteristics of most village life which is devoid of many social amenities, also make life unattractive and boring.

2. Rural Development

An American sociologist, Everett Rogers[3] defined development as "a type of social change in which new ideas are introduced into a social system in order to produce higher per capita incomes and levels of living through more modern production methods and improved social organisation".

Rural development involves the mobilisation and development of the whole range of resources in rural areas within the broader context of national, Economic, social, cultural and political advancement, to the ultimate end of improving human living standards.

Since agriculture is the basic occupation of the vast majority of the rural population, the improvement of agricultural productivity merits a high priority in any sensible rural development program. The improvement of agriculture, however, is not simply a matter of grafting science and technology onto existing systems on land use. It defends on the active and willing participation of millions of farmers, farm women and other rural people.

Agricultural change and development require the mobilisation of human resources through such means as Education and Technical Training, through the provision of cash incentives and through the creation of the infrastructures essential to a modern agricultural industry-markets, credit, processing facilities and above all, fair and stable prices for agricultural produce.

Rural Development is aimed at raising the general level of living conditions of the rural population through, among other things, the provision of employment opportunities for all. More intensive cultivation can help somewhat to reduce rural underemployment, but it cannot solve all of it. Also the pressure of growing population on limited available land is creating an ever greater need for off-farm employment opportunities to absorb the excess rural labour force. These new jobs must be generated in the rural areas themselves, thus, inevitable, should use as much as possible the available raw materials existing in the villages.

Rural development must be seen in the wider perspective of the overall development. It is not simply agricultural and Economic growth in the narrow sense, but a balanced social and economic development, with emphasis on the equitable distribution as well as creation of benefits. Among the goals are the generation of new employment, more equitable access to arable land, more equitable distribution of income, wide spread improvement of health, nutrition and housing; greatly broaden opportunities for all to

realise their full potentials through Education. Lastly there is the need for a strong voice for all rural people in shaping the decisions and actions that effect their lives. If people shall not become mere objects of change, they must understand what is going on around them, and as much as possible participate in the decision-taking.

Development push thus, depends upon the human agent, which itself needs to be developed through learning. Educative and Training process enable human potential to be explored and brought to their development refinement and maturity. Learning and Teaching are as old as man, and will continue for as long as man survives. Not only have they been the means of his survival and ascendancy over all other creatures but the fundamental curiousity of man and the drive to creativity makes the learning process on inseparable part of the satisfaction of human needs.

3. Continuing Education and Rural Development

We shall now try to see what type of Education will be most suitable in solwing the said rural problems and in the smooth implementation of rual development programs.

Formal Education alone, as it exists today, cannot help much in this situation. Every school going child is a potential emigrant.[4] Those that succeed either find that there is no suitable jobs for them in the rural areas or even find it difficult to readjust themselves to the village life after having been exposed to urban life during the course of their studies. Most unfortunate, is the case of thsoe who could not go beyond the primary level - drop outs - most of them having left the farms for at least six years and worse still having tested some school experience, may develop special personal problems and the result is frustration. They run away to the urban centres in search of job opportunities which they might never get.

Thus if Education is to be used as an effective means of curving our rural problems the present Educational policies have to be re-examined. The formal system has to be re-oriented so that the children are taught what they need in solving the problems both while young and after they have grown up.

Talking about the grown ups induced me to hit straight to the main point of concern that I want to bring up in this paper - that is "out of school Education for rural grown ups and youths".

This should cover a diversity of topics and objectives. The method should start with the learners and their needs and only then to the question of what Educational means might be most appropriate for meeting these needs. This as we see it put the horse before the cart. These considerations lead us adopt, from the beginning, a concept that equates Education with learning, regardless of where, how or when the learning process occurs.! Thus defining Education as life-long learning or continuing Education. We have agreed that in most situations a forward push in agriculture is one of the essentials for initiating a broader rural development process. But a spult in agriculture itself requires a combination of circumstances, one of them - but only one - being that farmers must learn and apply improved methods of farming. This is a matter that requires education of the type mentioned above.

Once agricultural development is firmly underway, the process spreads to other economic sectors. Increased farm income, particularly if widely distributed, generates new demands for an ever widening assertment of goods and services, both agricultural and non-agricultural. Village artisans, craftsmen and small shop-keepers feel the stimulus.

As part of this development process, new products and technologies penetrates the area, greater specialisation and division of labour take place in the employment structures of the villages. Out of this complex process new skills and knowledge to deal with the new services, products and technologies previously unfamiliar to the area.

Due to varied circumstances existing in different villages, for example, back ground, cultures, language, religion, social and political situations, natural resources etc., there is no single formula for achieving rural development in all situations. Nor is there a standard formula for the kind of Education needed to promote rural development. Nevertheless, in all circumstances Education broadly conceived generate new employment and advance rural

development.

For rural development generally, the types of Education needed by everybody young and old, male and female can be categorised under four headings:

a. General or basic Education: Literacy, Numeracy and Elementary understanding of Science and ones Environment.

b. Family improvement Education: designed primarily to impact knowledge, skills and attitudes, useful in improving the quality of Family life, on such subjects as health and nutrition, home-making and child-care, home repairs and improvement etc.

c. Community improvement Education: designed to strengthen local and national institutions and process through instruction in such matters as local and national government, cooperatives, community projects etc.

d. Occupational Education: designed to develop particular knowledge and skills associated with various Economic activities and useful in making a living.

4. Rural Occupational Groups

Before looking into the possible approaches for providing these educational needs we shall first of all try to sought out the rural occupational groups as follows:

a. Persons directly engaged in Agriculture

In most rural areas, especially in those at the early stages of development, farmers, farm-workers and those engaged in animal husbandry, fishing and forestry make-up most of the active labour force and are the largest audience of non-formal occupational Education. They include, it must be emphasised, not only adults but also many young people, and not only boys and men but also girls and women.

The specific learning needs of those engaged in agriculture vary greatly according to the Ecological and agricultural pattern of the particular area (Rented areas for example, have different requirements

than irrigated areas), the state of agricultural technology and markets, and the characteristics of the farmers. Small subsistance farmers, for example have quite different learning requisites than do progressive commercial farmers.

b. Persons engaged in Non-Farm Artisan and Entreprenatural activities

The main hope for increasing rural employment and broadening the distribution of income lies in the growth of non-farm rural enterprises - nourished by an increase demand for agricultural supplies and services and new consumption patterns of increased farm incomes.

While increased demand for traditional skills (e.g. weaving, embroidering, dress making, masonry, wood curving etc.) often can be accommodated by indigenous training process, the newer skills associated with modern technologies (food process, repair and maintainance of farm machinery, vehicles, watches, radio etc.) must be created by new training processes.

c. Rural Administrators and Planners

Effective rural development calls for broader plans and strategies which require a new breed of rural development planners and administrators, capable of diagonising the major elements of any rural situation, selecting priorities in consultation with others, evolving workable plans and tactics and then mobilising available resources and implementing plans.

In addition to these, more general rural planners/administrators, there is need for competent managers for more specific purposes, such as managing rural cooperative societies, health services, water supply and credit and transport services. Meeting their Educational needs is likely to require some formal training followed by a variety of non-formal Educational Experience.

5. Approaches for implementation of Rural Educational Programs

After we have realised the educational needs of the rural inhabitants and have even categorised the people into their occupational groups, we can now go ahead to seek for the possible approaches to effect maximum communication of the knowledge.

a) The self-help approach: This is a traditional approach for solving common problems among rural dwellers and needs to be preserved and even encouraged. It starts with the assumption that the complex process of Rural transformation must begin with the changes in the rural people themselves - in their attitude towards change, in their aspiration for improvement and above all in their perceptions of themselves and their inherent power, individually and collectively to better their own conditions. The chief motive power for rural development thus must come from within. Outside help is a follow-up to sustain progress.

b) The extension approach: this emphasises the communication of information from the extension officers to the villagers. Its prime objective is to persuade and help farmers increase production by adopting improved technical practices. It also seeks to improve rural family life by teaching home economics to women, and to create modern young farmers through youth clubs. It involves such activities as meetings, farm and home visits, exhibitions, demonstrations etc. The training approach: through sometimes wedded to the extension approach, has a different

basic educational tradition and philosophy more closely allied to institutionalised schooling. In contrast to extension approach, which emphasises the communication of information about innovative technical practices, the training approach emphasises more systematic and deeper learning of specific basic skills and related knowledge. Training program typically involve assembling learners in a training centre, for a sustained period of instruction broken down into a planned succession of learning units combining theory and practice.

c) My Target Approach: What I want to aim at in this paper is an integrated development approach combining all the above mentioned approaches. Taking the broader view of the rural development processes and coordinating under a "single management" system, all the essential components, (including Education) required to get agricultural and other development processes moving. The emphasis in all events is upon the rational development and the co-ordination of all principal factors required for agricultural and rural development.

The aim is to make our rural areas, places where existence are going on, where participation in all Economic and social activities are as active as in the cities.

This requires proper replanning of our villages to prepare them well enough to receive such an integrated a scheme. Unfortunately our villages are relatively very small and moreover scattered. This makes communication an effective organisation very difficult.

There is therefore, the need to consider regrouping and resettling some of these smaller villages and hamlets so as to form conveniently large enough and easily accessible rural settlements. This will make easier among other things, the provision by governments the necessary amenities like health centre, schools, community centres, postal agencies etc. which are necessary components for the successful implementation of the integrated approach to our rural development program.

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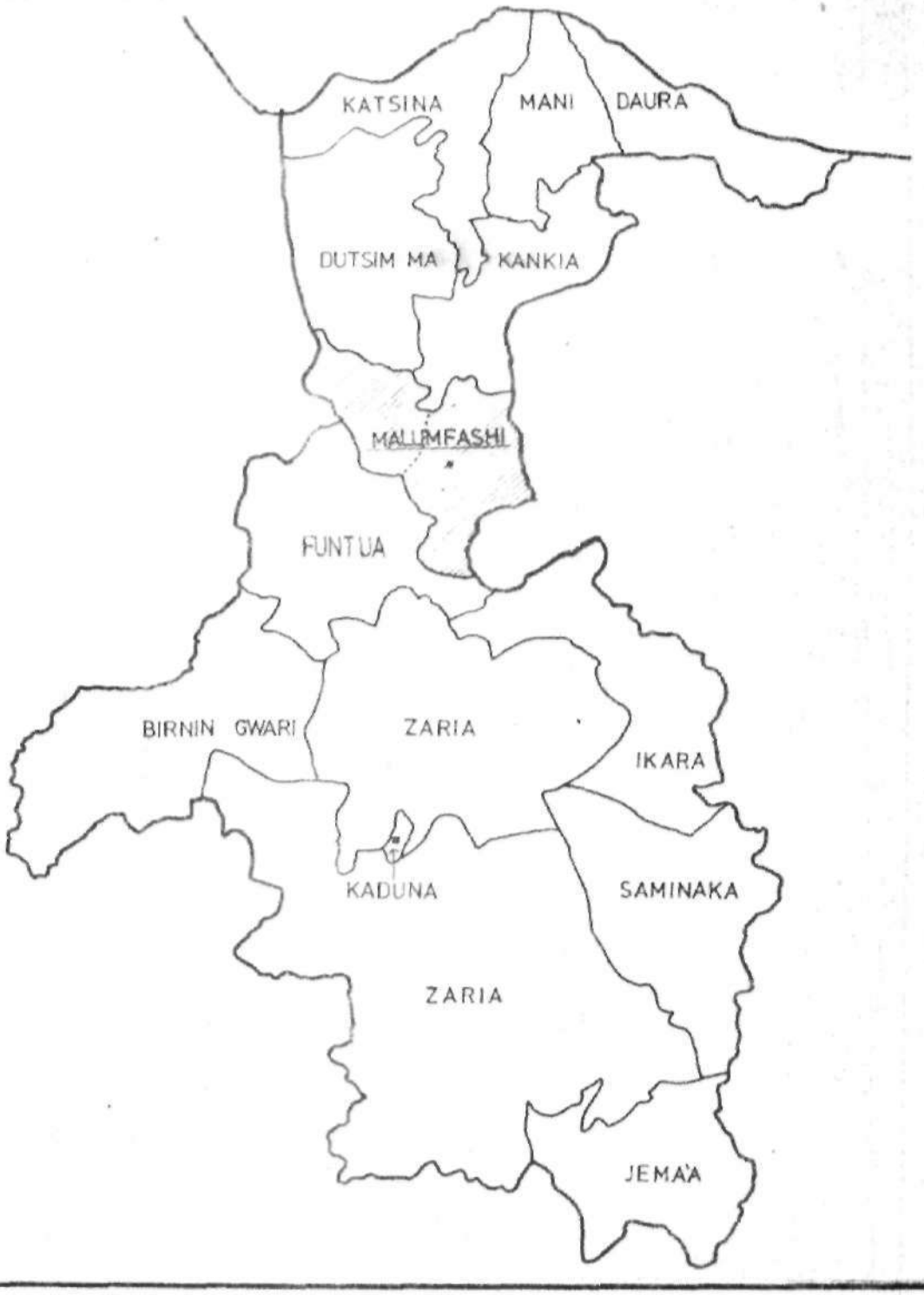
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1

LEGEND

SKETCH MAP OF NIGERIA
SHOWING THE 19 ST TES
(Kaduna State shaded)

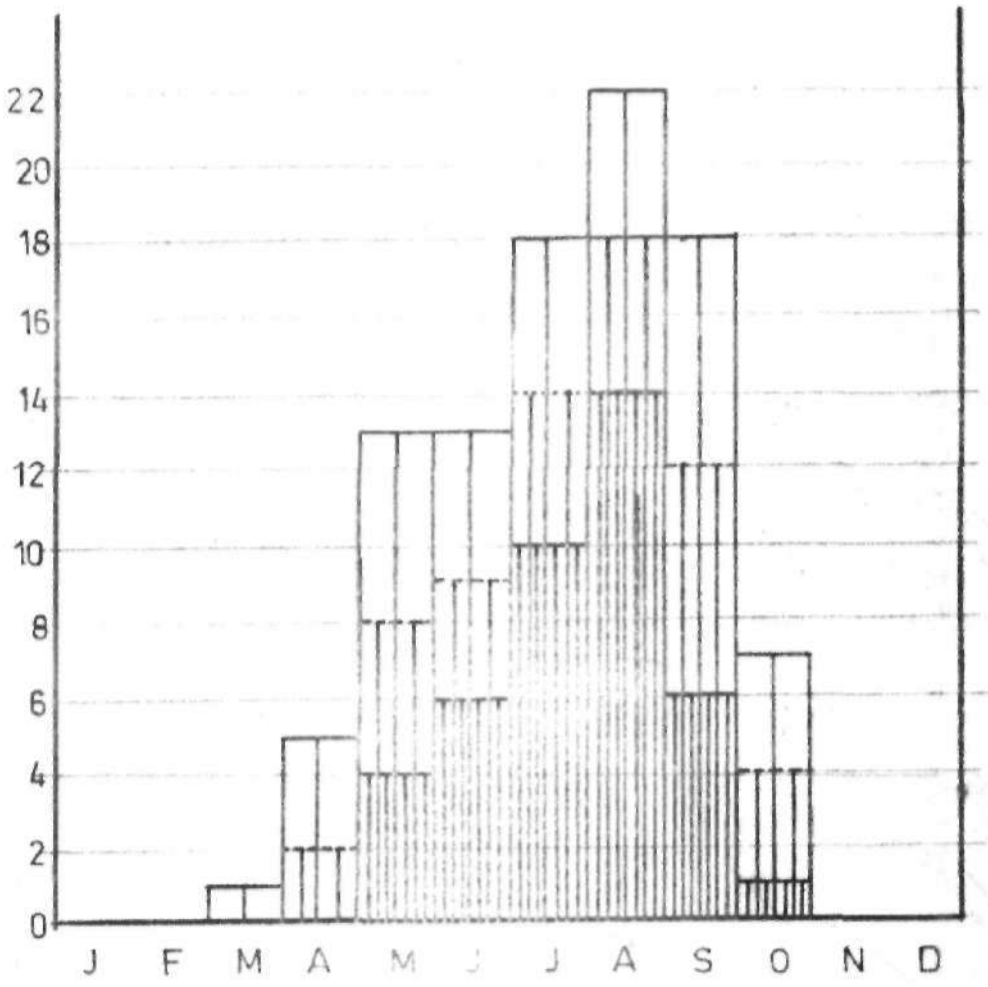



LEGEND

2

A SKETCH MAP OF KADUNA STATE SHOWING ADMINISTRATIVE AREAS

(Malumfashi area shaded)




AVERAGE OF MONTHLY RAINDAYS. 1968-1973.

source : Ministry Of Agriculture And Natural Reseurces
Metrological Division Lagos.

4

LEGEND

Kaduna Malumfashi Katsina



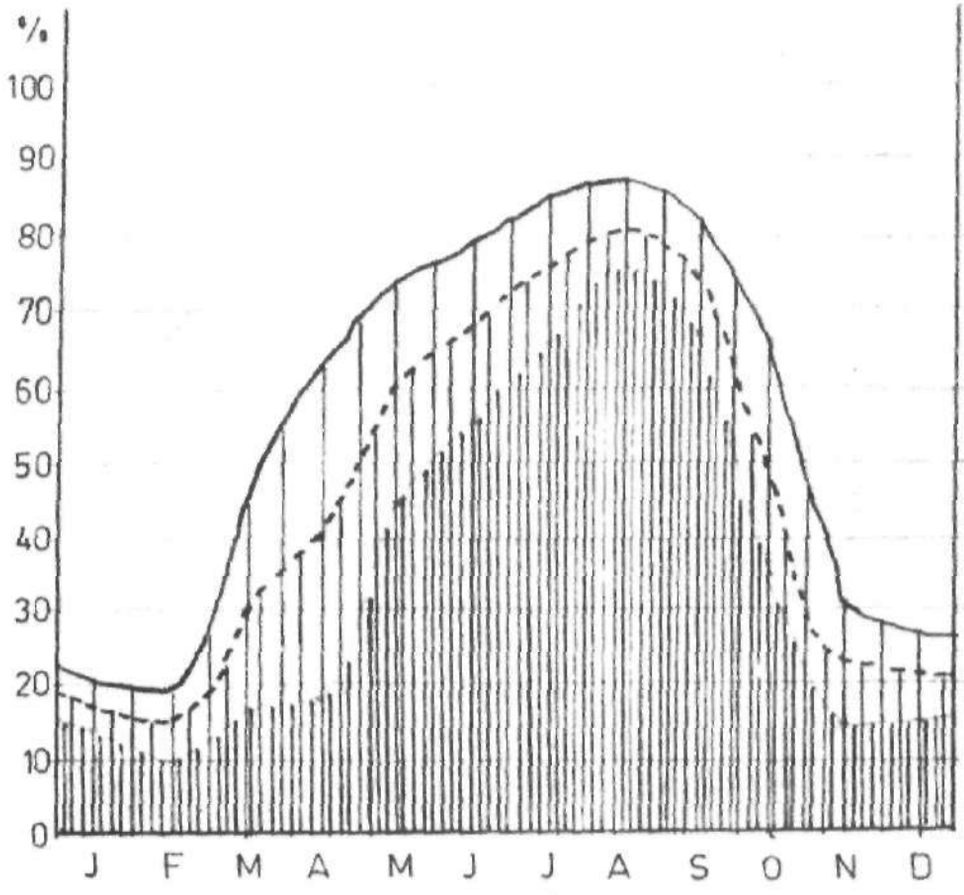

AVERAGE OF MEAN DAILY MAX. AND MIN. TEMP.
1958 - 1973

5

LEGEND

—— Katsina graph
—— Kaduna „
– – – Malumfashi „ (infered)

source : Min of Agriculture And Natural Resources
Metrological Division Lagos




AVERAGE OF MEAN PERCENTAGE RELATIVE HUMIDITY

BY MONTH 1963 - 1972

6

LEGEND

Katsina graph

Malumfashi graph (infered)

Kaduna graph

source: Ministry Of Agriculture And Natural Resources
Meteorological Division Lagos

# CHAPTER TWO

## REGIONAL CONSIDERATION

### 1. Geography

The Kaduna State of Nigeria measures 70,000 square kilometres (27,108 square miles)[1] - See the map of Nigeria provided. The State lies between latitudes $13^0$ and $9^o$ North and Longitude $9^o$ and $6^0$ East. The longest distance from East to West is about 297.72 kilometres (185 miles)[2]. It shares a common boundary with the Republic of Niger which bounds it to the North. The Sokoto State lies to the west, Niger State to the southwest, Benue State to the South-East and Kano State to the East and North-East respectively.

The State comprises of the two former provinces namely Katsina and Zaria. Katsina province covers an area of 24600 square kilometres (9,466 square miles) while Zaria province measure 45700 square kilometres (17,597 square miles). The Kaduna capital territory occupies an area of 116.9 square kilometres (45 square miles)[3]. Administrative area councils have been created in all the provinces and there are, at the moment fourteen administrative area councils, seven

out of each former province.

Malumfashi administrative area council is one of the seven curved out of the former Katsina province - see map of Kaduna State provided and it is this administrative area that have been chosen for the purpose of this study. This administrative area is formed by combining two former districts Malumfashi and Kankara all of the former Katsina Province.

Kafur village, the experimental location of the centre lies at about 19 kilometers (12 miles) south-east of Malumfashi - the administrative headquater. The village lies at approximately the intersection of latitude 11° 40' North high longitude 7° 40' east. The topography of Kafur area comprises of a relatively flat landform high a small river - river Kafur that passes the eastern part of the village to go and join a larger river - the river Jerre - see sketch of Kafur village.

2. Climatic Condition

The climatic conditions of Malumfashi administrative area can be infered as from those of Katsina area and Kaduna area. The location of Malumfashi at about central zone between these two areas gives a

good argument for taking the average conditions between them for an approximate condition at Malumfashi. This being so since there exist no topographical barrier or otherwise in between the two areas that might cause drastic climatic changes. The approach is adapted because no proper data exist for Malumfashi area but satisfactory datas were obtained for both Katsina and Kaduna areas.

a) Rainfall Generally low rainfall is recorded in the area, this being due to the geographical location of the area - the prevailing winds causing rainfall would have lost most of it before reaching such areas for into the landmass. Rainfall nromally starts in June and lasts until October, with August being the wettest month of the year when up to about 18 rainy days can be recorded. The average annual rainy days is 57 which is rather low - see chart for rain-days given. Here it can be seen that even though there is a need for shelter it is not so serious as in those places nearer the sea.

b) Temperature: Mean daily maximum temperature of as high as 36° c was averaged as against mean daily mimimum temperature of 25° C were recorded in the hottest month, May. Temperature as low as 15°C was also recorded during the hamattan which comes up during the months of January and December - see the chart given. Hence, buildings designed for this area will benefit very much from the use of heavy wall construction with small openings for capacitants.

c) Relative Humidity: The chart for the average of mean percentage relative humidity given here indicates that as high a figure as 8% recorded in the wettest month of August and also as low a figure as 15% recorded in February. On a general outlook, the climate reveals an interesting picture of varied circumstances. There are both periods of heavy rainfall - July, August and September and quite dry ones - November to February, also hot periods of temperature as high as 36°C in March and May were recorded as against quite low temperatures of 15°C in January and December, with relative humidity is

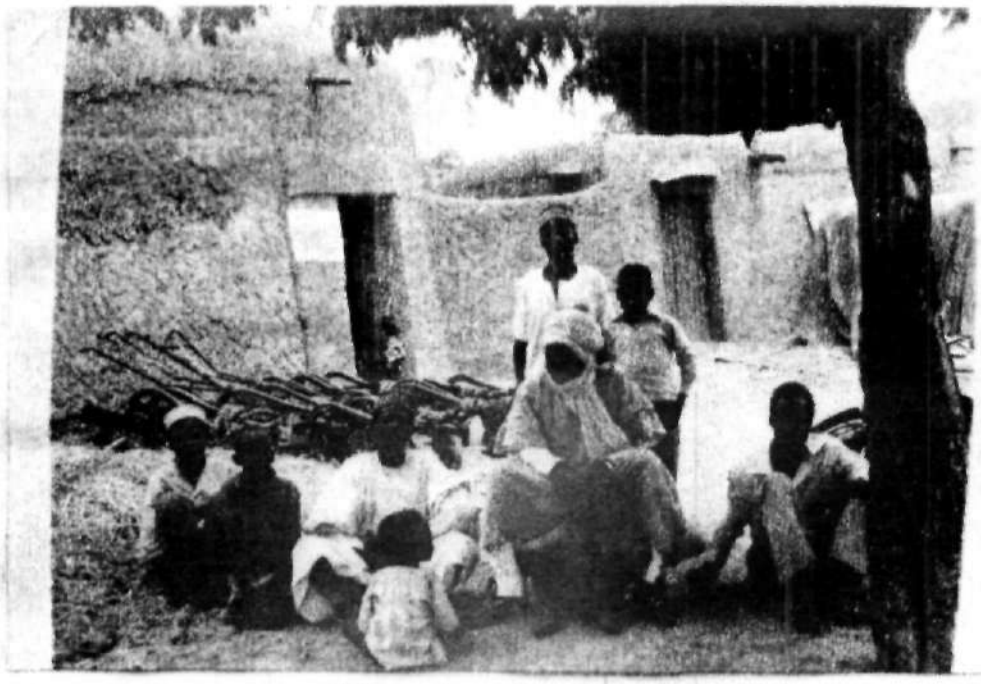
similarly following a similar pattern where it is highest in August (80%) and lowest in February (10%). The experience in this area is therefore varied and interesting while survival in the area assures high degree of adaptivity in any other part of the country. Architecturally, this kind of situation demand for cooler interiors during the hot days and warmer interiors during the hot days and warmer interiors during the cold nights.

3. Vegetation

The vegetation in this area is semi-savannah with a general absence of forest but few scattered growth of trees and some dense growth of grasses of quite a considerable hight in most places. The grasses and some wooden posts obtained from the trees are valuable building materials being well utilised in the area.

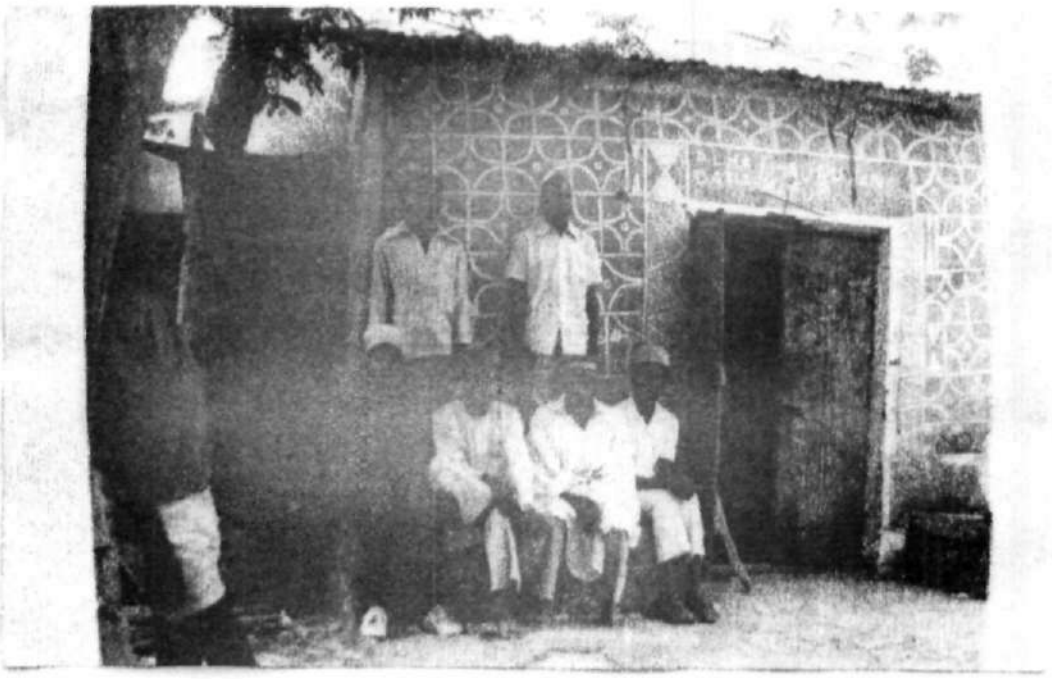
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1. Kaduna State of Nigeria statistical year book. 1973. p. 1.
2. ibid.
3. ibid.



village head with supporters

note the doomed roof of circular zaure and the improperly stored farm implements

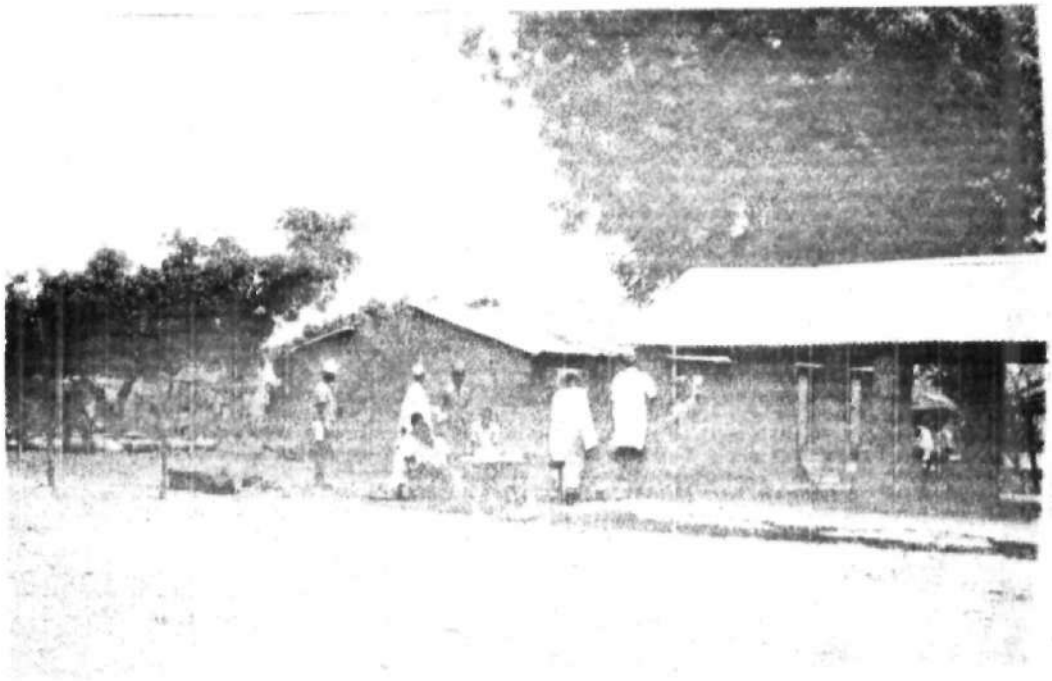


the village youth

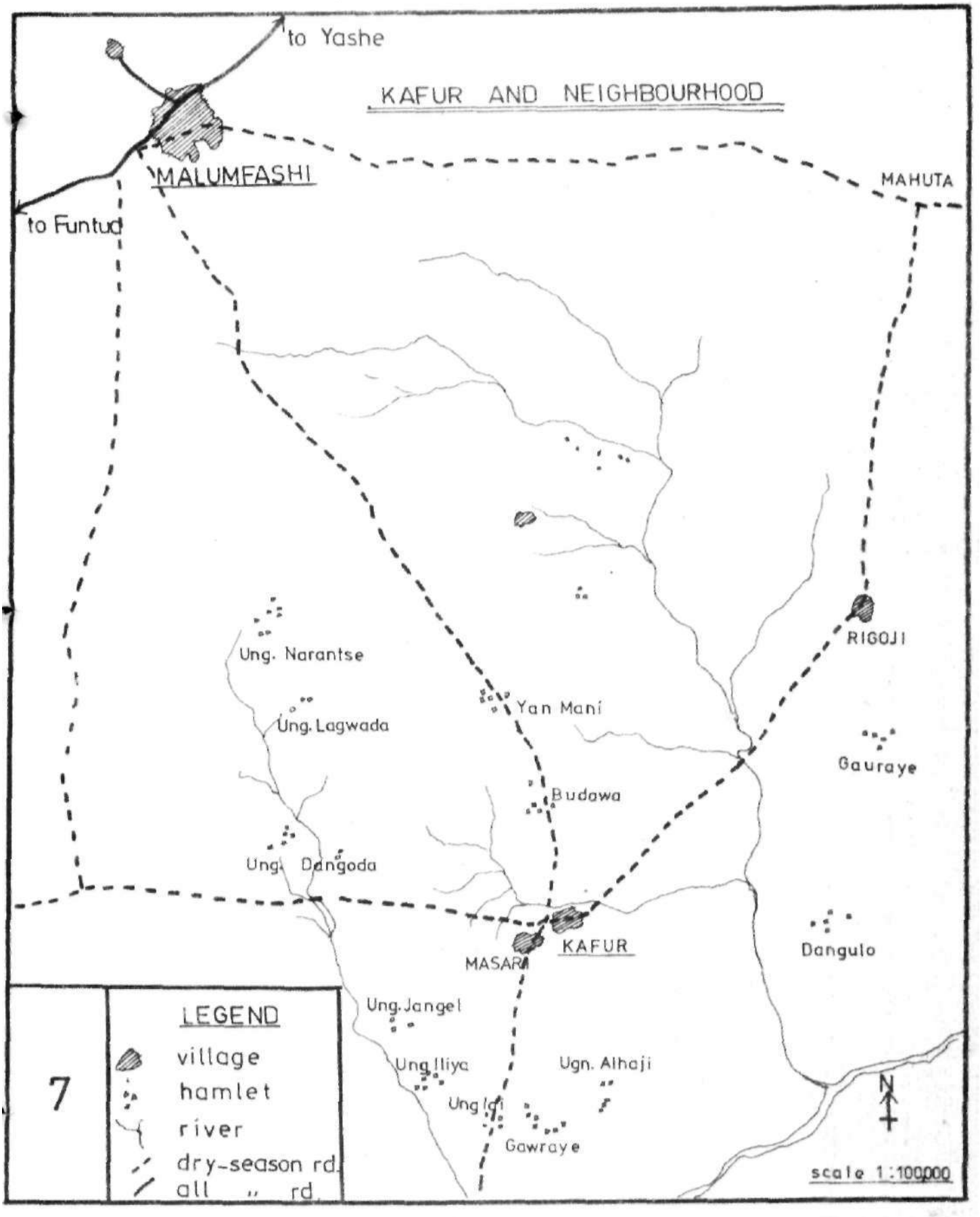
# THE VILLAGE MARKET

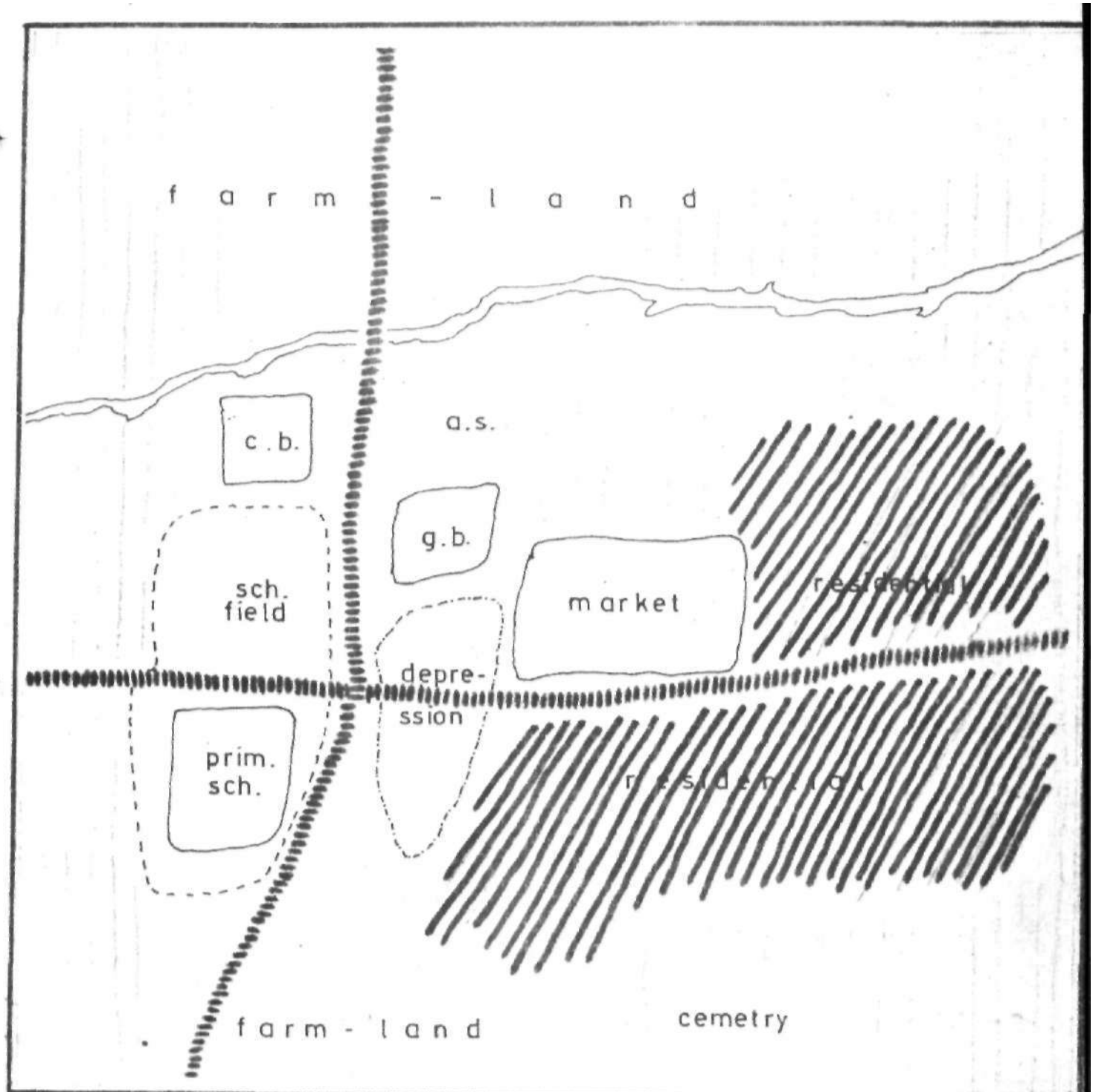


on a market day



on a normal day


KAFUR AND NEIGHBOURHOOD
to Yashe
MALUMFASHI
to Funtua
MAHUTA
RIGOJI
Ung. Narantse
Ung. Lagwada
Yan Mani
Budawa
Gauraye
Ung. Dangoda
KAFUR
MASARI
Dangulo
Ung. Jangel
Ung. Iliya
Ugn. Alhaji
Ung. Ici
Gawraye
N
scale 1:100000
7
LEGEND
village
hamlet
river
dry-season rd.
all " rd.




LEGEND

KAFUR VILLAGE - THE LAND USE

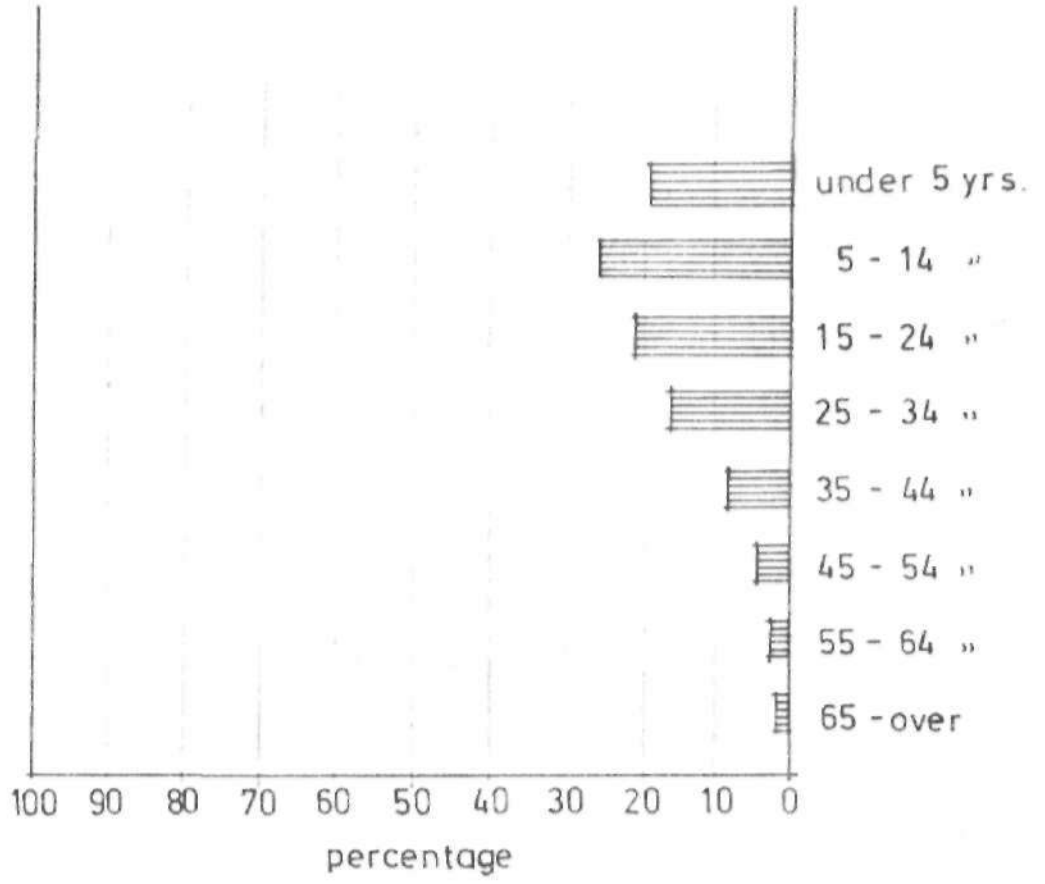
N

8

road
river

c.b.= cotton buying
g.b= ground nut ,,

a.s.= proposed site for agric project

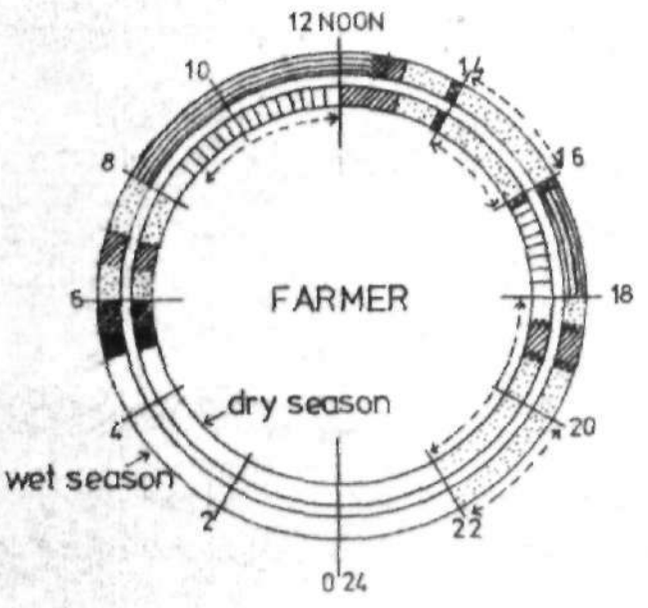


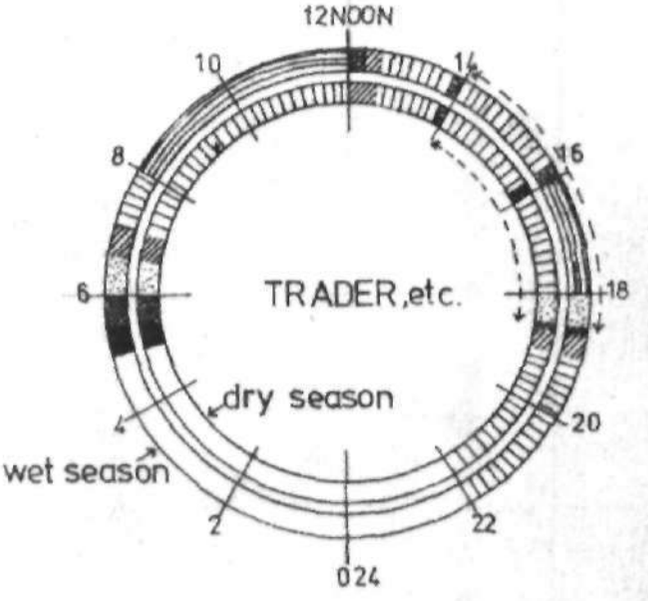

LEGEND

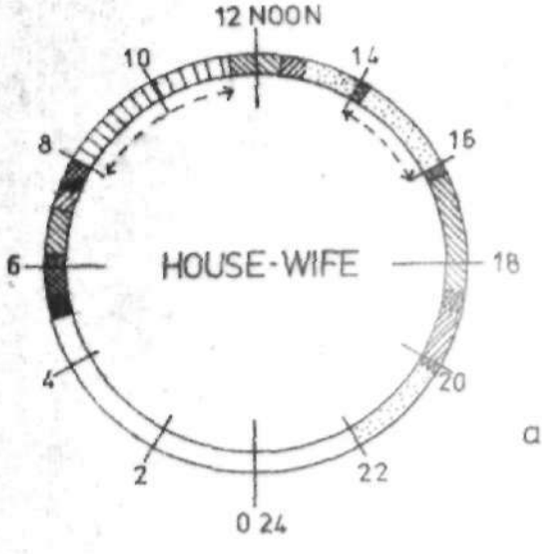
9

POPULATION BY AGE GROUP (KATSINA)

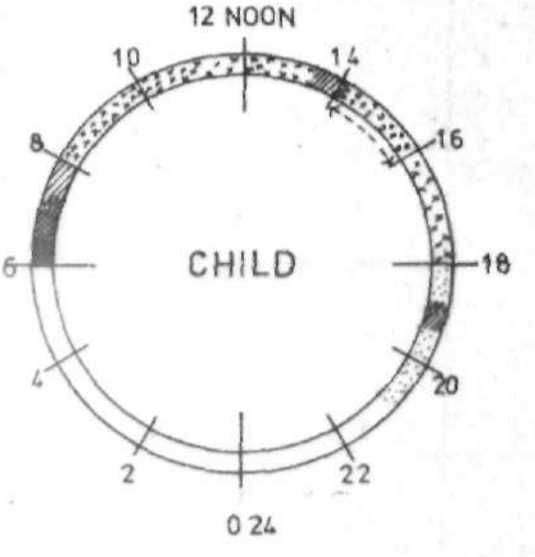
source : Nigerian Population Census Report, 1963.




all seasons




10

## THE VILLAGER USE OF TIME

- wake up
- wash
- eat meal
- food preparation
- at the farm
- on business/home crafts
- pray
- missillineous
- sleep
- at school
- koranic school
- ← → time possible to be at the centre

# CHAPTER THREE

## THE KAFUR VILLAGE

### 1. Location and Origin

As stated earlier on, Kafur is a village in the Malumfashi Administrative area of Kaduna State. The village is located at approximately 19 kilometres south-east of Malumfashi town where the administrative headquarter is located.

The village is ruled by the 'Dagaci'[1], called "Dan-Galadima", who is subordinate to the "Hakimi"[2] of Malumfashi called "Galadima". The neighbouring smaller hamlets, each ruled by a "Mai Unguwa"[3] are in turn under this "Dagaci" of Kafur and are subordinate to him.

Kafur village is quite an old settlement, one of the oldest villages in the administrative area, in fact almost as old as the Malumfashi town itself. For this reason, the village is one of the most respected even by the "Hakimi" of Malumfashi.

### 2. Neighbouring Settlements

Kafur village is serving as a socio-economic focal point to all the other smaller neighbouring settlements all around it. The market, the primary school and the Juma'at Mosque are among the attractions that

Kafur has for these neighbouring settlements. The list below gives some of the neighbouring settlements, their approximate sizes and the approximate distances from Kafur village[4].

| V I L L A G E | POPULATION (approx) | DISTANCE from KAFUR in Kilos |
|---|---|---|
| Kafur | 5512 | 0 |
| Masari | 2937 | 1 |
| YamMani | 756 | 4.83 |
| Budawa | 500 | 3.22 |
| Unguwar Dangulo | 857 | 1.61 |
| Unguwar Dangoda | 1,205 | 4.83 |
| Unguwar Lagwada | 790 | 6.44 |
| Unguwar Jengeli | 500 | 8.00 |
| Unguwar Alhaji | 600 | 5.60 |
| Unguwar Iliya | 200, | 4.83 |
| Unguwar Karofi | 286 | 6.44 |
| Unguwar Narantse | 260 | 8.00 |
| Gauraye | 640 | 6.44 |
| | 15,043 | |

These communities can be effectively brought together for their common good by the provision of more common facilities in Kafur and also improving and incorporating

the ones already existing.

3. Layout and Land-use

There is no proper planned layout for Kafur village. The land is sub-divided into smaller lots each sparated by a footpath. These tracks and footpaths are connected finally to join the main street that divided the village into two halves - see the sketch of Kafur village provided.

Kafur village is predominantly residential, with some commercial activities (bukas, shops, tea huts) incorporated into the residential units and they are actually inseparable parts of these units. An overcrowded wholesale - retail market adjoin the northwestern end of the community. This market has two sessions per week, sundays and Thursdays with the sunday as the main market-day.

The market is principally open, with few lockable shops and so many temporary opened, thatch roffed huts. This market attracts people not only from the neighbouring smaller villages, but also from Malumfashi and other smaller towns and villages in the administrative area and its neighbourhood. During the rest of the week, when the market is not on session, a

small amount of selling and buying still continues and the tea huts are in continuous operation 'Sallah' festivities comprising of dances, Sharo[5] and gambling all take place at the market place during the two important Muslims Sallah celebrations. Also at certain nights, mainly on market days, the Kafur Youths organise drumming sessions at this same market place.

The North-western end of the market is the groundnuts buying station which operates only during the dry season and is made mainly from temporary structures to be dismantled at the end of the buying season. The road to Kafur from Malumfashi runs north to south and keeps all the parts of the village so far described to its eastern side (see the sketch of Kafur village provided).[6] To the western side there is no residential unit but the cotton selling station (also temporary and seasonal) the primary school buildings with the playing fields and a local industry for weavers are all located here.[7]

The butchers area and the main cemetry are located to the southern part of the residential zone, while a river (river Kafur) runs through the northern

part of the village in an east to west direction. This river limits expansion of the residential units to the north while a certain big depression limits expansion to the west. At the moment expansion is mainly towards the eastern direction and also to a smaller extent towards the southern direction. All around the existing settlement is dominated by subsistance farmland and this extends to the land across the river on the northern part of the village.

There is no clinic in Kafur village but at Masari, a neighbouring village only one kilometre from Kafur, and is supposed to serve for both the two villages. Also there are no public utilities or services available to house holds in Kafur village, but with the current awareness for the need to develop the rural areas this situation may improve in the near future.

4. Existing Rural Services

As stated earlier on, the level of community facilities in the village is fairly low. However, people in Kafur and other similar villages in Malumfashi Administrative area make use of other higher level services at Malumfashi town. Some of the facilities includ:

a) Educational - The only Educational institution in the village is the primary school. This primary school has twelve classes - i.e. double stream. This primary school serve both Kafur village, Masari village and their neighbouring settlements. The two adult education literacy classes for Kafur and the only one for Masari also take place at the Kafur Primary School building. Each adult education class is made of sixteen students.[6]

b. The Dispensary. There is no Dispensary in Kafur village, but the one at Masari village, only one kilometre from Kafur is meant to be shared between the two villages and their neighbouring hamlets. There are three Dispensers working in this Dispensary and in case of major cases they normally reffer their patients to the Ahmadu Bello University Hospital at Malumfashi. Occasionaly also, the community medicine staff of this Hospital at Malumfashi go around the villages to study and treat some of their patients. However there is no ambulance for carrying patients to the Malumfashi Hospital from the villages so most of them have to arrange for their journeys to the Hospital privately unless on special cases when

ambulance is arranged to come from Malumfashi and convey the patient to the Hospital.

c. Market - The market at Kafur is the largest within the neighbourhood and so on market days - Sundays and Thursdays, people come down to Kafur from all the neighbouring villages to do their buyings and seelings. Infact people from Malumfashi and other neighbouring towns do also attend the Kafur market on the main market day which is Sunday. Most of the business at the market is on retail basis, even though some amount of seeling on wholesale basic also do occur.

. d) Community Hall - Nothing exist in Kafur or any of the neighbouring village to house any social activity. Eventhough a social club exist in the name of "Himma Club" but for their meetings and other activities they have to use the school premises.

e) Postal Agency - Similarly, there is no Postal Agency not only in Kafur but anywhere else throughout the Malumfashi Administrative Area besides the Malumfashi township and Kankara township. Even these two are far below standard and never purposely designed to serve as such but simply a one room space was chosen

and a counter installed with a sign-board boldly written in each case. Yet these are the two Postal Agencies all the villages around had to come to for their services. For more important things such as telegrams one has to go to the Funtua Post Office before he can be satisfied.

Even though it can be seen that Kafur, infact similarly most other villages, depend so much on Malumfashi Township for most of their services yet the road from Kafur to Malumfashi is motorable only during the dry seasons. This create problems for the villagers especially during the rainy season when the river floods wash away the weak bridge to cut off completely the village from Malumfashi until repairs have been made.

5. Population and Income

As stated earlier in this chapter,[7] the present population of Kafur is approximately 5512%[8] and with the rate of growth of about 2.5%[9] the population will grow to be 6250 by 1980 that is by the end of the third National Development Plan. Similarly the total population of both Kafur village and its neighbouring settlements is 150,43 and using the same 2.5%

rate of growth this will grow to be about 17,050 by 1980.

a) Structure: It proved very difficult to find figures that reveals the structure of the population in Kafur village either by age, sex or income. However attempts have been made to approximate these from information gathered at the Tax Registry. The results obtained gave too vague a picture to be tabulated here and so more precise figures for the whole of Katsina Province are used here to give the approximate picture of the population structure (see chart on population)[10]. The Population Chart reveals that the 5-14 years age-group has the highest percentage (about 26%),[11] but this range is principally primary and post primary school age and with the introduction of Universal Primary Education in June 1976 this age group will be taken good care of by the Federal Government of Nigeria. Since the age-group under 5 years of age are normally under the absolute care of their parents, they don't pose much problem to the Socio-Economic set-up. The two age groups made of 15-25 years and 25-34 years are the most important age groups, they are the youth and the parents of the

children. They form 21.2% and 16.0% of the population respectively and therefore there is need to provide for this group all the necessary encouragement required of them to carry out their vital role of bringing up the community.

b) Economic Activities: Agriculture is the main economic activity of Kafur villagers and it is carried out on a subsistance basis. Thus besides the few wage-earners in the village every other person is a farmer but because what one gets out of the farm can hardly feed and cloth him through the year, most people find a secondary occupation to keep them busy especially during the long dry season when there is very little work to do on the farms.

Some of the occupations undertaken by the villagers, besides farming include:[12]

i) Local Building construction - there are about five experts in this with a total number of ten assistants. Atimes they go outside Kafur to work and according to them the pay is always higher in the bigger towns.

ii) Tailors - Up to twelve professional tailors live in Kafur but most of them specialised only in

traditional cuttings. The youth thus don't patronise them well enough but rather take most of their clothes to the towns for modern cutting. The tailors also complain of insufficient payment compared to the towns.

iii) Carpenters - Only two are living in the village with their two assistants and the business doesn't look paying more especially in the wet season.

iv) Local Weavers - About eight of them live in the village and seem to be happy with the job when they claim that they export finished products to the towns.

v) Shops - There are nine shops in the village and these are multi-purpose shops selling from provisions to clothes depending mainly on satisfying the villagers needs. These few individuals are responsible for providing most of the house-hold products required by the villagers and they go out to the bigger towns both within and outside the Kaduna State to bring in supplies. They expressed some hardship and risks in the exercise due mainly to lack of good transportation system and bad roads.

Other economic activities include blacksmithing (two persons), dying (two persons), barbing (two persons) and a lot of other subsidiary trades undertaken espe-

cially during the less busy periods of the long dry season, when there is little or no work to be done on the farms.

6. Way of Life

The way of life of the villagers is varied and diversified, depending on factors such as: time of the year, status and even to some extent day of the week.

a) Use of Time[14] - For the purpose of this study, the male population was grouped into two main groups, the farmers (which form the majority) and the petty businessmen (shop owners, traders and other craftsmen). Their time use was studied for the two main seasons, dry season and wet season. Similarly the time use for women (housewives) was studied but showed no major difference between the two seasons and so it was tabulated on single graph[15]. The time use for children was also included but it was assumed that most of them are within the school age.

b) Residence - Extended family kind of living is most common in the village and a single house may contain from one up to five or more families with an average of three families. A house may contain a

father and his wives, uncle and his wife or wives, a son and wife and even servant and his wife. A son normally stays at his father's house even after his first marriage and may move out only after he is about thirty or when his own family is getting large enough.

c) Group Activities - A very high degree of mutualism has been observed among the villagers. The "Cayya" system offers free labour in ones farm, house building and the like when neighbours and friends all come to give a free hand and all one has to do is provide meal during the working hours. Not only labour but financial assistance is also very common on occasions like marriage, naming ceremonies or when a person is robbed by thieves and similar calamities as fire.

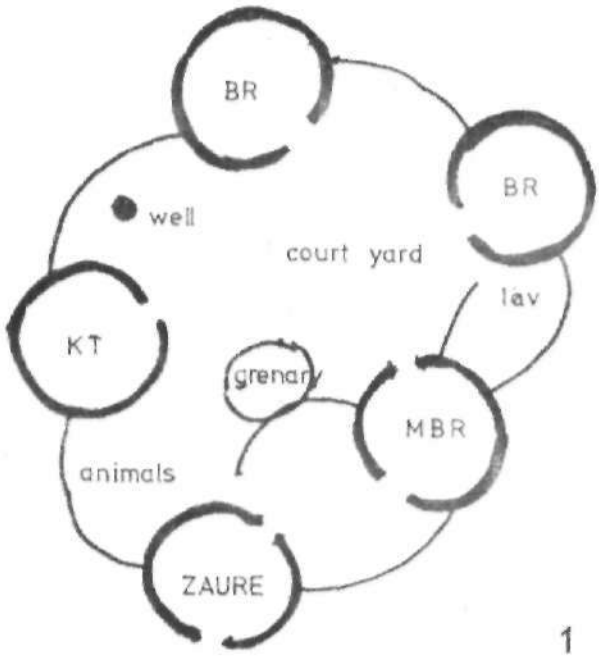
d) Religious Beliefs Majority of the population are Muslims with some few pagans and only about six Christians (these are workers with the proposed Agricultural Project, and so form temporary residents). The few convertees to christianity are mainly youth and do not return to the village after being converted but stay at Malumfashi where most of them are given

jobs by the Roman Catholic authorities there. The Jama'atul Nashl Islam' is also undergoing conversion exercises in all the villages. Thus the number of pagans is ever reducing day after day.

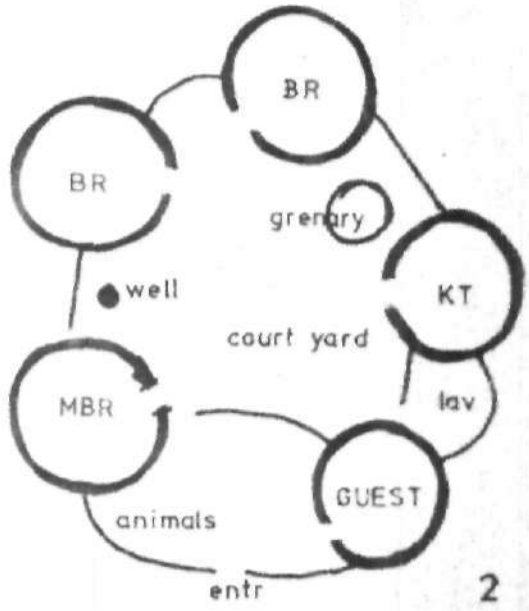
e) Festivals and Ceremonies - Because of the dominant nature of Islam in the area, the festivals are mainly connected with this religion. The main festivities come during the two Muslims 'Sallah' days and funny enough participation then is almost 100% because both the Muslims and the pagans take part and together. Other ceremonies are the marriage ceremony and the naming ceremony which comes up on the seventh day a child is born. Others include the ones performed by youth on the market days which takes place at the market square as described earlier on.

## FOOT - NOTES

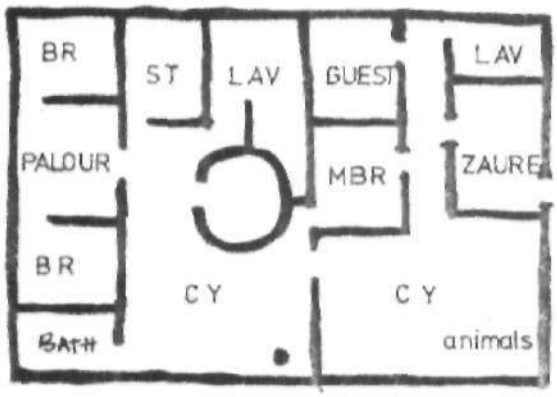
1. The 'village head' in hausa language
2. The 'District head' in hausa language
3. The 'hamlet head' in hausa language
4. From the Tax Office at Kafur
5. See figure 8
6. Interview with Chief Adult Education Officer, Kaduna State.
7. See sub-heading no. 2 neighbouring settlements
8. From the Tax Office - Malumfashi
9. The rate used at Statistic Office Lagos
10. Nigerian Population Census Report 1963
11. ibid
12. Survey of Kafur village
13. Interview with the Local Weavers of Kafur
14. See figure 10.



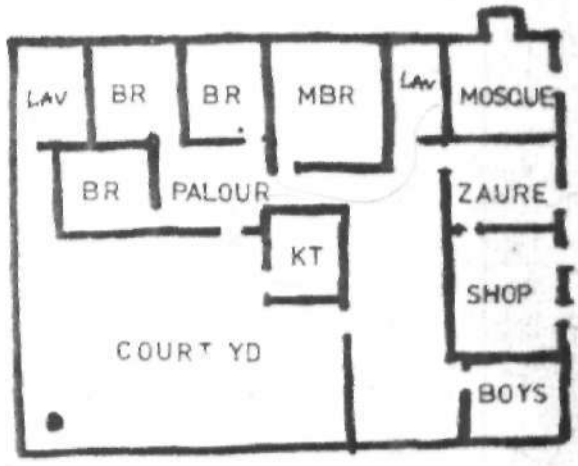

1




2




3




4

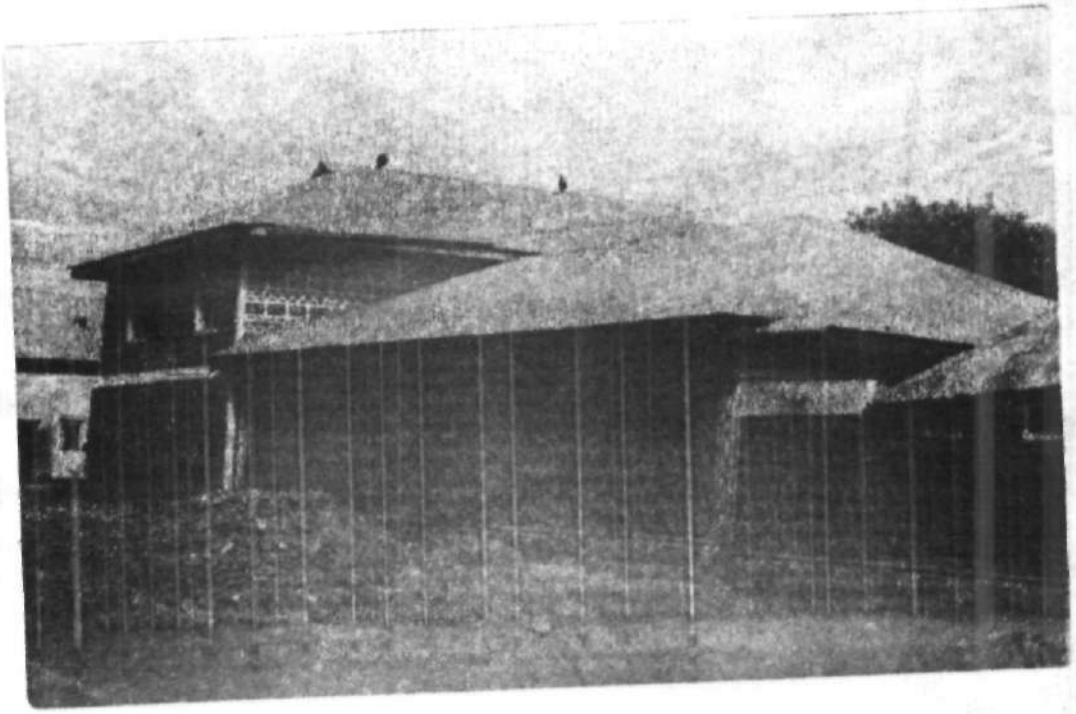
11

SAMPLES OF TRADITIONAL HOUSES IN KAFUR

# THE VILLAGE

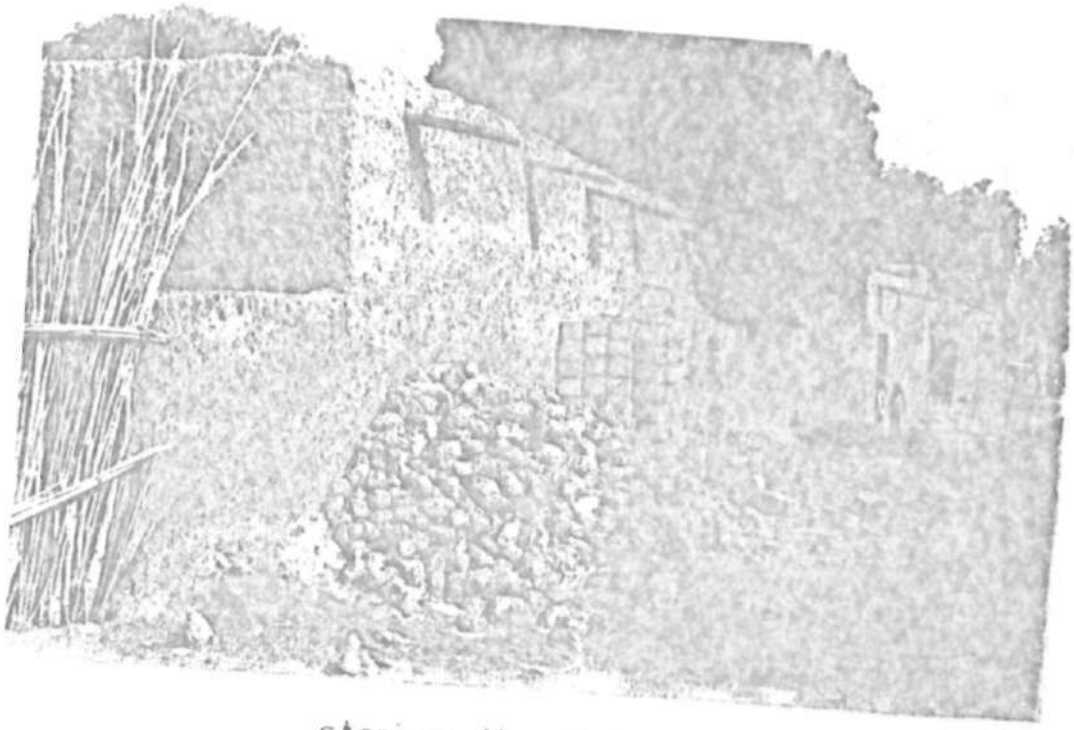


a typical house



a rich mans house

note the decorations.



storing the dried bricks

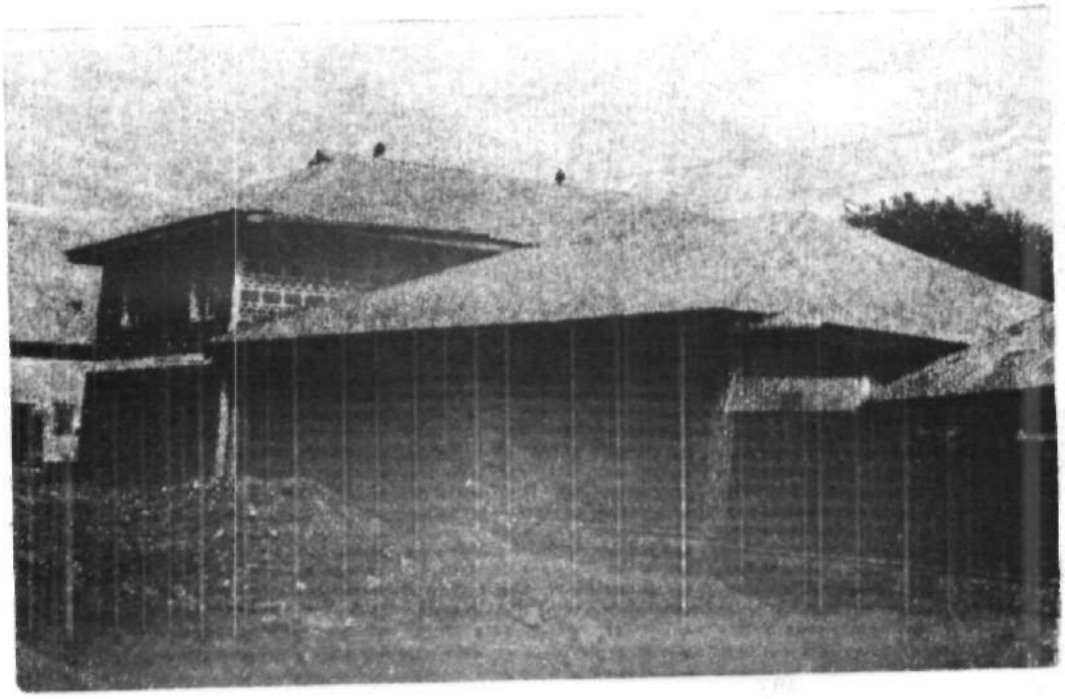


the annual maintenanance

# THE VILLAGE



a typical house



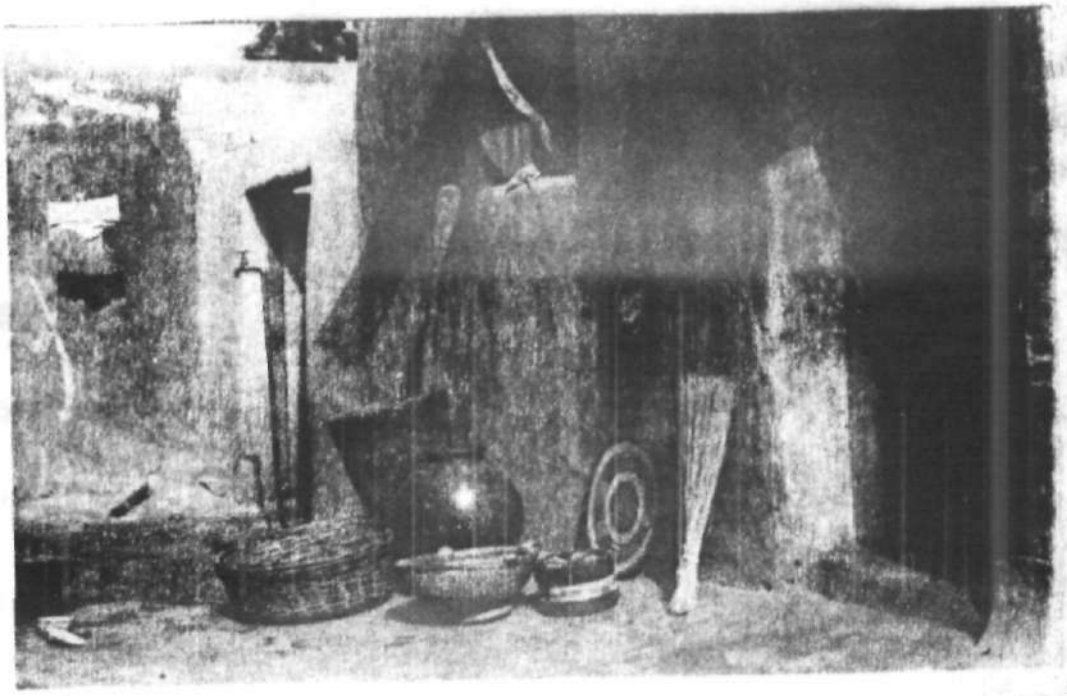
a rich mans house

note the decorations

# THE HOUSE



local screen for doors
– privacy, rain and sunshine.



household goods locally made
-they form the room furniture

# CHAPTER FOUR

## TRADITIONAL BUILDINGS

Traditional Architecture, at least in this part of the world, is mainly associated with house designs. This might be due to the fact that man's struggle for shelter started with some efforts to screen himself from the evils of weather and other harmful amimals.

1. Housing - In Malumfashi area, housing is still mostly traditional, designed in accordance with the cultural heritage and traditional techniques, to use building materials available in the locality. This idea will as much as possible be adopted in the scheme for the Rural Centre.

Traditional Housing is adopted to social customs. It also corresponds to economic and climatic needs and depends on the technical and sociological development of each people. The dwelling is adopted to the family structure. In many cases it has to house an extended family, which is in a sense, a genuine community in itself.

2. The Compound - The general layout of compounds in this area (in fact in most other towns in Hausa-land) is uniform in principles. The few samples included here varifies this.

The whole territory of the compound is usually fenced out, either with mud-wall (katanga) or corn stalks (danni) usually about 3.00 m high. Entry is through a "zaure" (Entrance hall) which servers as a resting place for the 'Maigida' (house owner). It is here he recieves and entertain visitors and also does his craftmanship (tailoring, embroidering etc.) or reading. Visitors are not allowed beyond here unless under the permission of the maigida. The room of the 'maigida' is nearest to the Zaure while all other rooms are arranged around and face the internal court-yard which form the focus of all the activities in the compound, a point of interaction.

3. Furniture and Decoration

In the traditional context house furniture is very simple and economical. People sit and work on grass mats locally produced while they sleep on mud-constructed beds which could be heated with embers from underneath or on bed locally made from corn stalks.

An occasional upright loom, half a dozen clay pots or calabashes, and a very low round wooden stool, which is used by women, complete the traditional furniture of a womans hut.[1] Changes are however quite apparent nowadays as wooden beds, iron beds, wooden chairs and tables are gaining ground even in the very remote villages.

Inferior decoration of rooms is a common feature nowadays in the womens room especially the newly married ones and consist of plates, metal pots, pans etc. all arranged in shelves along walls or on wooden tables.

Exterior decorations, usually surrounding doors though sometimes covering the whole building walls that front upon the street, is the most striking feature of Hausa Architecture. The simplest decoration is made by modelling the fresh mud plaster manually into arabesque features, the second by cutting ornaments into the wet mud or cement (mud walls are sometimes cement plastered) and the third the painting of the walls to achieve the desired pattern. This is the most recent and allows the introduction of colours (Emir of Zaria's house is a good example). Such

decorations are usually associated with ones social status, a reason why it is mainly displayed on the front elevation facing the street. Decorations have however been detected even within the compound.

Finally along the parapets of the building stand horns of mud (zanko) like rabbits' ears, though often misinterpreted as phallic symbols. These projections undoubtedly give the massive mud construction a lighter and more picturesque appearance.

4. Organisation of building activity

The presence of only about five specialised local builders with a total of ten labourers in the whole village varifies the fact that the need for specialisation in the field is not acute. The simplicity of such buildings allows for every man to be his own architect for the purpose.

In the case of extended family house additions can easily be carried out by members themselves. Where the need for a professional builder arises he doesn't have to bring down his own labourers but uses the labour of the household members.

In the case of smaller households, the whole neighbourhood offer their unanimous assistance, and in return receive and expect no other recompence than a feast.

5. Materials and Technology

In Malumfashi area, the climate allows for the use of varing local materials for house construction. This ranges from grass used for the entire house to reinforced mud.

The most common structure in the villages are the grass type and these are circular in form tapering towards the top. The walls are either made of corn stalks furnished with mud plaster - sometimes only internally and other times both internally and externally or the walls can be made of mud.

Thatched roof normally covers the circular type of buildings and it is constructed either of bamboo, of raphia palm stems or guinea corn stalks tied together with bonds of straw and locally woven rope. The thatch is brought in bundles approximately one metre high, which, if unrolled, would be at least 7.5m long[3] (They can also be woven by the house owner himself on the site). These bundles are then wrapped

around the frame, each layer being set 10-15 cm above the previous one and fixed to the frame by a web of local rope.

The mud house is a little more complicated than the grass type and it's mostly here alone that assistance from professional local builder may have to be obtained. The form of the building here is usually four-cornered (circular structures do exist). The walls are made from mud bricks hand-moulded and shaped like circular cones. The foundation is dug to about 50 cm deep, penetrating below the loose top soil. The dried bricks (Tubali) are then laid (usually double layer) using mud motar reinforced with either horse manure or short cut grasses.

Mud roofs are categorised into two: The flat roof and the vaulted roof supported by arches (baka). Generally the roof consists of the following layers: First main 'azara' beams of about 50 mm diameter and about 100 mm wide are placed in contact with one another (sometimes split timber of harder woods - 'baure' are used instead of 'azara'). This is followed by a layer of mat or 'asabari' then covered with about 50 mm layer of mud motar, then by another layer

approximately 100 - 150 mm thick and finished finally with a layer of water-proof plaster.

The flat roofs are easier to construct but are efficient only for smaller rooms while the larger rooms have to be covered with a mud dome supported by a reinforced curved beams of 'azara' arches sprang from opposite walls. The roof area is surrounded by a low parafet 150 mm to 20 mm high and water is allowed to drain through spouts which were formally made of wood, but now made from old kerozine tines. These spouts project sufficiently outward to prevent the splashing rainwater from damaging the walls.

Finishes are of mud plaster for both the wall and the roof followed by white wash for the interiors of rooms while external walls and roofs are finished with 'Katsi', a binding material produced by the dyeing trade, or with 'makuba' which is made from the fruit pod of the locust bean tree. Either plaster will keep the roof and walls reasonably water-proof for at least one year.[4]

The floor is traditionally made of properly rammed laterite finished with the same 'makuba' to make it tougher.

The main problem with the structures described above is that they require constant maintainance, at least once after each one year.[5] Negligence may cause deterioration and consequent collapse.

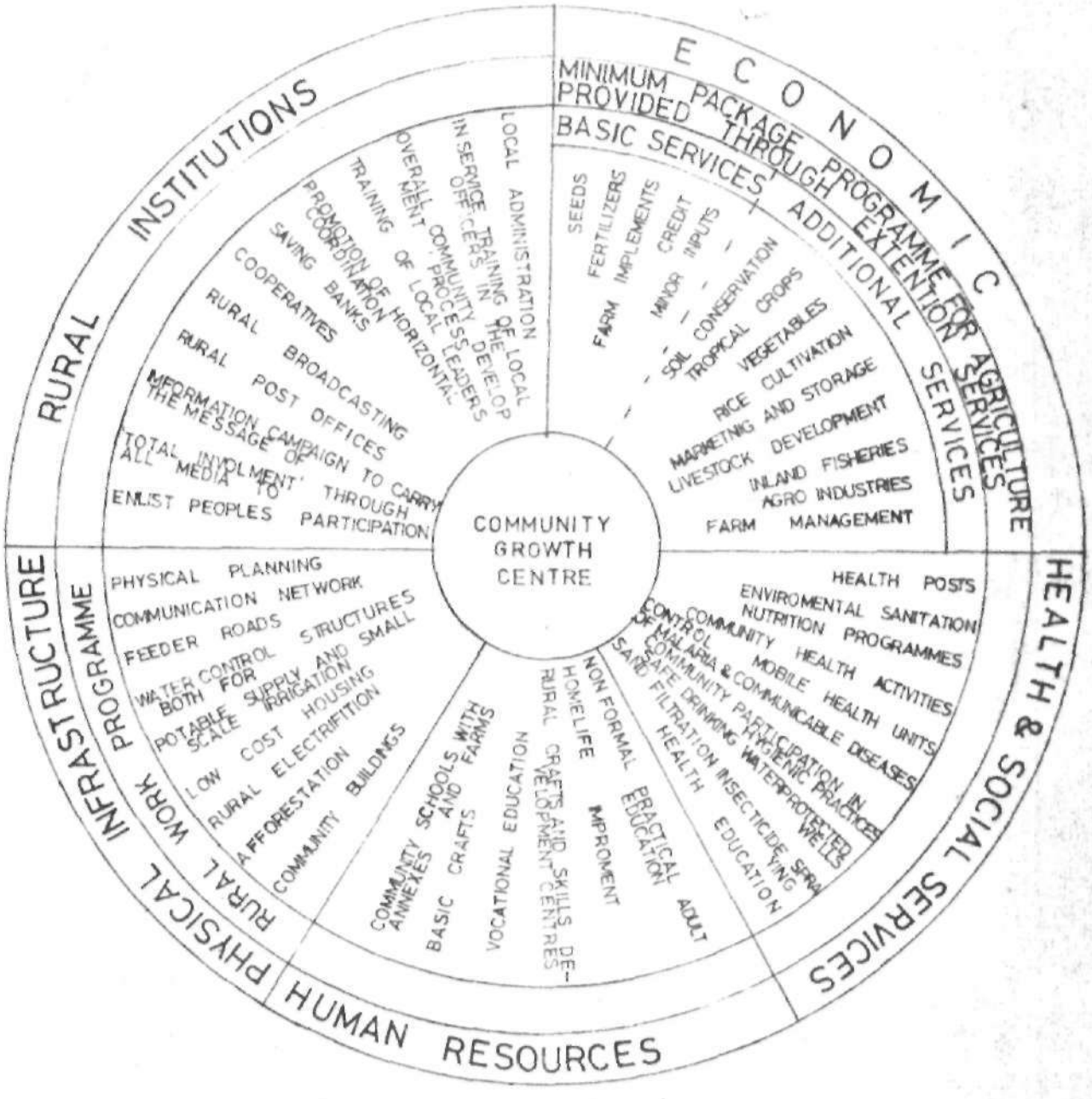
It is the attempt towards the above problems that welcomes the use of a new material-cement. Cement blocks construction roofed with alumimium sheets is now gaining grounds among the rich few. The less richer ones go about it by plastering the mud walls with a sand-cement layer which though stays for sometime, normally give way after some ten years leaving some ugly patches.

This scheme seeks to adopt certain good things in the local technology making some improvements where possible thereby encouraging local participation and a chance to come up with an architecture that reflect its own people.

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FOOT NOTES

1. Paul Oliver. Shelter in Africa, p. 67
2. ibid p. 69
3. ibid p.67
4. ibid p. 68
5. Interview with the Sarkin Magina of Zaria city May 1976.




12

INTEGRATED RURAL DEVELOPMENT
PROFILE COMMUNITY GROWTH CENTRE
FUNCTIONAL MODEL
LIBERIA

## CHAPTER FIVE

## RESPONSES TOWARDS RURAL DEVELOPMENT

Developing countries both in Africa and in Europe are realising the significance of incorporating the rural areas in their Development Processes. Some attempts towards this realisation have already been tried by some few countries while yet others are on the planning stage. From the studies undergone on the various responses, it is crystal clear that Education[1] has a very crucial role to play in the overall development in general and that of the rural areas in particular. The main purpose of rural Education is to provide Education that will have development effects on the people in rural areas; that are working either in agriculture, services, crafts or the Agro-Industries. The followings give an idea of such responses (1) in Africa and (2) in Europe.

### A. Examples in Africa

Some of the developing countries of Africa have realised that a member of a developing society should fulfill above all three demands. Preparations for these is the responsibility of Education. The demands

are:[2] (a) That every individual assume a position in the social structure which contributes to the development of the society. (b) That self-reliance become a goal for everyone; and (c) that live be oriented towards the future.

1. Tanzania -

Tanzania offers a very good example of a single African country that is engaged in vast innovation towards social and economic development. The aims to which the government of Tanzania aspires would secure certain basic human rights for every citizen. These rights are literacy, health care, and material conditions which would satisfy basic physical and moral needs. In pursuance of these objectives President Nyerere came up with the Educational strategies - Education for self reliance'.[3]

In the course of presenting his estimates to the National Assembly in July 1973, Tanzania's Minister of National Education indicated that the Government was thinking of transforming all primary schools situated in, and those to be built in Ujama'a villages, into fulcrums of meaningful Ujama'a development in the rural sector of the country's economy.[4]

The Ujama'a concept in Tanzania is one of family-hood, the traditional pattern of living whereby the efforts of the individual are directed towards the well being of the society in which he lives, and human relations are directed towards the well-being of the society in which he lives, and human relations are governed by mutual respect and co-operation. Ujama'a villages are being established where peasant farmers share, on a co-operative basis, in the agricultural development of their communities, with training in new methods of production and with a more modern equipment. Basic social services, (particularly water supplies), are being provided by the Government, using self help labour. The villagers themselves, through their elected councils, are taking on increasing responsibility for Education, health and community services.

For example, Kwamsisi Ujama'a village in Tanzania, there is a teachers college which, through the energy and emphasis of the Principal and his dedicated staff, persuaded the villagers to adopt a new concept of Education and the Education system. The traditional school curriculum was modified so that it consisted of

four curriculum areas, - (i) Literacy and Numeracy, (ii) citizenship, (iii) Self-help and cultural activities and (iv) community studies. These were designed around development projects identified in joint consultation between villagers and school. Infact, the essential distinguishing feature of this experiment that the school is a 'Fulcrum of meaningful Ujama'a development: The children do not learn about farming or about malaria control. They actually farm, making a considerable contribution to the village funds and actually dig drainage canals through expanses of stagnant water where mosquitoes breed.

The curriculum is planned in units and its flexibility allows a self-help committee composed of fourteen children, the Head teacher, a teacher and two members of the village council, to determine when each unit will be taught and the extent of daily co-operation between village and school.[5]

Today, a visitor to Kwamsisi is surprised to find village elders and children working side by side learning together. While villagers impart traditional skills and arts, they also attend up-grading courses with teachers, and the whole Education process has been

opened up to include adult literacy and basic Education for all. Even the football team has senior and junior members. The school time-table is no longer restricted or inviolate and the school is seen as belonging to the whole village.

Evaluation of the success of the experiment can be done only by Tanzanians, but it seems fair to say that while there are many features of the traditional school still evident, the happy faces and confident bearing of the children and villagers of Kwamsisi in Kenya testify to the fact that Education will never be a largely irrelevant and frustrating exercise for a few. There can be little doubt that the experience of Kwamsisi affords a platform from which to launch a fully integrated community school complex.

2. Liberia

Liberia, in common with other predominantly agrarian countries, is placing increasing emphasis on rural development as a social, economic and political necessity. In the past, there have been a number of schemes to improve facilities in up-country districts[7] - and since the 1950s, schools and clinics have been built,

roads constructed and efforts have been made to stimulate agricultural development. But they have been relatively unrelated ventures which didn't add to a coherent plan with well defined objectives.

What is currently emerging in Liberia - and it is perhaps a unique experiment in rural development - is a co-ordinated approach to the task involving the partnership of a number of Government Ministries and external agencies.

The diagram provided[8] shows the various components ultimately necessary to provide a rural community with an enhanced quality of life and a higher level of productivity. Progressively, over a period of years, the government will select 200 communities and provide the facilities appropriate to each centre. The centres to be selected must satisfy the following criteria:

i) A population of over 500 with a public elementary school up to grade six. The school will be used as a community centre.

ii) Potential as a growth pole, particularly, in agriculture.

iii) Accessibility, i.e. within five miles of a main link road.

These communities will also draw into their orbit the smaller villages and hamlets which surround them.

Clearly, the many facilities planned for the community centres cannot be provided immediately or simultaneously. What does exist already, however, is the public elementary school; and it is the development of these schools into community centres which is the spearhead of the rural development programme. The community schools programmes is the largest of the MInistry of Education's current development sch Briefly, the community school provide the following facilities:

i) A relevant basic Education for the young people of the community.

In this respect practical subjects (agriculture, home economics and basic crafts) are being introduced into the curriculum.

ii) Adult Education Programme. Consists of functional literacy initially, but to later introduce.. courses in agriculture, home economics and basic crafts where demand arises.

iii) Hall and a Kitchen. Being the school cafeteria, but also used as an assembly hall both for school children and for community purposes.

The project is still very much in its infancy, the major difficulty is one of communication and co-operation at the local level. How can Government most effectively convey its intensions to the communities which are to benefit from the scheme? How can the people in those communities be inspired and encouraged to lend their support to the undertaking? Who will provide the local leadership? The degree of success of the project depend on the extent on which these problems are overcome.

3. Cameroon

Realising the importance of Education in Economic and social development, the Government of Cameroon has applied itself to the task of planning the development of its Educational system. Consequently, there has been a rapid expansion of the Educational system at the Kindergarten, primary, secondary and higher levels, both general and technical. Attention is also being given to out-of-school Education, the aim being to establish a balanced system of Education within the

reach of as many people as possible.

It is such a rapid expansion of the Educational system at all levels that are to be found the roots of some of the most intractable problems of the system. At the primary level, the drop out rate (mostly at the end of the fourth year of six-year course) is 43%; the repetition rate is 31% while only 17% of the pupils completing the primary school go on to the Lylees.[9] There are social and economic problems also. Like everywhere else in Africa, such rapid expansion of the school system has created quite a serious economic and social problems, among them the increasing cost of Education and the unemployment of young school leavers who are increasingly becoming restless, frustrated and alienated. A direct consequence of the problem of the unemployed school leavers further complicates the problem of urbanisation which is directly linked to the problem of rural development.

The exodus of the abled young men and women from the villages to the towns and cities results in rural depopulation, paralyses rural development schemes,

creates social problems in towns and cities whose social amenities (housing, water, light, sewage facilities, health and schools) are inadequate to meet the increasing pressures from the rapidly - increasing urban population.

In the Cameroon 90% of the rural youth leave school before or at the end of their primary Education and then have no further training or Education. This creates the Educational problem of how to bridge the gap between primary Education and employment in the rural areas, and the broader problem of making the school system as a whole relevant to the rural needs and to the operations of the government and other organisations with an educational concern in the fields of agriculture, health etc.[10]

In an effort to adapt Education to the realities of an essentially agricultural country, to restore the dignity of manual work and encourage the desire to be useful to society and to provide Education and training beyond the confines of the formal Educational system, a number of youth agricultural training schemes were introduced to supplement the youth agricultural schems of the Ministry of Agriculture which in the past

depended mainly on the formation of voluntary local youth clubs at village level which could, at the same time, provide centres for recreational and Educational activities and offer the means of production-oriented agricultural training. Although these voluntary clubs have attained a measure of success, they have problems which render them less effective. A recent study by the Centre of Applied Research of the Panafrican Institute at Doala points out two drawbacks[11].

First, the success of these clubs has depended on the provision of local, voluntary leadership, and it is this element in the Ministry's program which has proved most difficult to maintain. Initial responses from local leaders has tended to peter out fairly quickly, principally, it is thought, because volunteers expressing an interest in youth leadership for its own sake as an aspect of community spirit have in practice expected that there would in time be material rewards for their efforts. Lacking the provision of any such reward by the Ministry - which would, so it was thought, have made the scheme too costly to maintain or to introduce over any large area - the motivation for leadership, and thus the basis

of local organisation generally, has rapidly disappeared.

Secondly, a related problem has been that of providing sufficient professional guidance and technical support, which mainly should have come to the clubs from agricultural extension workers. These are in practice so few on the ground, and costs of transport are so great, that no continous contact with clubs which have been formed has been possible.

Where successes have been gained in the field of extension and training generally it has been through production programs which have given people in the local community opportunities for increased income, and this factor has also been cited as the most relevant one in the development of youth training and educational programs. The churches and Missions which owned most of the primary schools from which the unemployed youth graduated, embarked on programs of vocational agricultural training for the youths. The secret of success in all such schemes is profit.

Of the many schemes now in operation, three Church or Mission projects are of particular interest[12] These are:

i) The Rural Training Centre, Kumba (Meme Division).

Organised and financed by the Presbyterian Church. This is a training project for youth in the age 17 - 21, with an emphasis on mixed farming, i.e. crop production, mainly of food crops for home consumption and for sale, and poultry and pig keeping. After Training the youths are given credit and technical assistance. Credit may be as high as 200,000 frs C.F.A., but is given only in materials, equipment or stock. Repayments of credit are reported to be above the average for the community as a whole. The scheme began in 1968 and at the present time, out of 24 trainees who first completed the training program 22 are still engaged in production and further instruction and are working as full-time farmers in their home villages. The Presbyterian Church has a similar scheme in a neighbouring province where rice production has been a marked success and where cattle keeping has also been introduced. In some instances graduate trainees have formed small groups to conduct joint farming operations on a larger scale than has been possible for those working individually or with their

parents.

ii) The Beva-Befang Farm School and Oil Palm Development Scheme (Mentchovm Division)

Organised and financed by the Roman Catholic Mission.

This scheme has from the start been a cash crop production project, in which the missionary responsible obtained rights to an area of land lying between two villages suitable for peasant oil palm plantation. Unemployed youth from the two villages were encouraged to assist in developing plantations close to their own homes, each participant being given rights to an area and the oil palms as his own property. The scheme has now extended sufficiently for the two village groups to have joined forces, with a single area of oil palm stretching between the two villages, and with a small extraction mill processing the oil, partly for local consumption and partly for marketing.

iii) The Bengem Settlement Scheme (Meme Division)

This is the most highly organised scheme operating in the South West Province, and apparently one of the most successful, as a Training and settlement scheme, also initiated and administered by the Roman Catholic Mission with financial assistance from the Dutch

Government. In this scheme 25 $km^2$ of land have been reserved for settlement by young couples. Unmarried boys and girls follow a one year course during which they learn how to make bricks, build houses, keep chickens, grow crops and market their farm produce through a co-operative. When a couple decide to get married they get a loan of 250,000 frs C.F.A. They are given 5 hectres as a small holding. The total cost of the project is 146 million frs CFA, of which the Cameroon Government has contributed nearly 10 million frs CFA in improving roads essential for the marketing of produce.

In its evaluation of the various Church or Mission Schemes for vocation Agricultural Training for youths, the Centre of Applied Research of the Panafrican Institute in Douala has come to the conclusion that existing schemes have shown the possibilities of developing agricultural and other vocational Training programs for rural youth on the large scale which would be necessary to meet the National need, and which might first be introduced at provincial level. The experience formed to date has, however, shown that sufficient attention should be given to planning the

services and Resourses needed, and to relatign these programs to the overall development of a rural infrastructure.

The steps now seen to be necessary to achieve this are the setting up of Pilot Projects in limited areas for which development as a whole is planned on an integrated basis, and the introduction of a through fact-finding and minotoring component in the formulation, implementation and management of projects[13].

B. Examples in Europe

Efforts have been made to discover the nature of responses carried out to bring up rural communities in countries outside the African continent. Contributions obtained include the following sources:

i) Cambridgeshire Country Council - Information on 'Village Colleges.

ii) Leicestershire, County Hall, Glenfield - Information on 'the Leicestershire Community Colleges.

iii) BAS, London - Information on 'the right to read.

iv) UNESCO, Paris and Dakar Offices - General Information on similar schemes.

v) National Institute of Adult Education for England and Wales - General Information on their activities.

vi) The National Federation of Community Association, Bedford, London - General Information.

Few others have been contacted but didn't seem to have much to offer. The example of the projects undertaken to bring up the rural communities in Europe also are mainly Educational and include:

1. The Village Colleges - Cambridgeshire and Isle of Ely Education Committee.

The distinctive feature of secondary Education in the southern part of the country, formaly known as Cambridgeshire, is the village college, a combination of a secondary school and a community centre providing for the Educational, social and recreational life of a rural area. The first village college was opened at Sawston by the Prince of Wales in 1930, who in his opening speech referred to the college as "a bold and original attempt of the Cambridgeshire Country Council to show the English countryside may be given opportunities for Education, social life and recreation equal to those enjoyed by dwellers in the great cities.

Since that time the village colleges have become part of the established way of life in the area. They have exerted their influence on the life and culture of people of all ages, providing as they do for the secondary Education of children, activities for young people and social opportunities for adults of all ages.

In essence the 'village college' was an attempt to solve the problem which faced rural authorities in the years following the first world war - the problem of providing cultural opportunities in the countryside. The authority saw the danger of urbanisation on the one hand and, on the other, the isolation of individual villages. Something had to be interposed between the town and the individual village if the encroachment of the former were not to be complete: their conception was the rural region. It was clear to the authority that modern transport, which would otherwise transform the countryside into a widespread suburb and the rural hunter-land into a cultural desert, could be harnessed to create a rural region, compact, accessible and economic for the provision of Education and social amenities. The Hadow Report of 1926 proposed that children over the age of eleven

should be transferred to senior schools, each serving a group of villages. In this, the authority saw their opportunity: resisting the common practice of having the centre of gravity in the school, they created the village college, not as a senior school with special facilities for further Education, but as a rural community centre, within which is housed the secondary school, to provide facilities for the countryman in no way inferior to those offered in the towns and cities.

Further official recognition is to be found in various of the Ministry's publications - in their pamphlet "Community Centres", where it is stated that "in rural areas collective activities on a district basis can be provided for by community centres as part of the post-primary school on the model of the'village colleges in Cambridgeshire' - and in the Ministry's Circular 283 on Education Building issued in December 1954, in which it is suggested that the needs of a community centre might well be met by taking advantage of the facilities a school can provide by attaching to it provision for Further Education, for cultural and social opportunities and activities.

The school curriculum at each village college includes as wide a variety as can be found in any comparable school in the country and is designed to give children and young adults an opportunity of developing their own interests and providing them with a sense of purpose in preparation for adult life.

The content of the program of formal Further Education classes for adults and young people differs from one College to another, according to the needs of the district and the tests of students, and in any one village college the program will differ from year to year as interests develop. At most Colleges courses are provided for people who wish to take examinations such as General Certificate of Education. Vocational and general interest courses and instruction in practical subjects have important place in the program of each College. Courses in liberal studies are arranged in consultation with the University of Cambridge Department of Extra Mural Studies, the Workers Educational Association and similar adult Education organisations. In all Village Colleges high standards are obtained in a variety of crafts such as Pottery, Sculpture, Carving, Wood and Metal Work.

They are also a valuable point of contact between the students and the Governing Body at the College.

The success or failure of the Establishment of a 'Village College can best be judged by the reaction of the inhabitants of the area it serves and the following comments, made by a housewife - who is also a member of the Parish Council, the Women's Institute and the Over-Sixties Club - about a college opened in her own village, will show the effect of the idea:-[14]

> "The college has become the centre of the village and the adult students feel it is a place where they can meet and work with people from their own and other villages. They find no class distinction, they all work on the same level. The college has given the students a chance to Educate themselves, in the arts, through the classes, Lectures and the visiting Drama and Operas. This is an opportunity which most of them would never have had. They have been able to see and hear speakers on various subjects which has helped them tremendously in running their own homes and has given them the opportunity to discuss

subjects with people who they would never have met had it not been for the college. The men and women of this area have waited a long time for this college; now it is here it has opened up a new world for them where they can explore and find out for themselves all the wonders of art, science, home-making, etc. and above all, the value of friendship with one's neighbours."

The following is a list of the existing village colleges with their dates of opening:[15]

| | |
|---|---|
| Sawston .. .. | 1930 |
| Bottinsham .. .. | 1937 |
| Linton .. .. | 1937 |
| Impington .. .. | 1939 |
| Bassingbourn .. .. | 1954 |
| Soham .. .. | 1958 |
| Swavesey .. .. | 1958 |
| Melbourn .. .. | 1959 |
| Comberton .. .. | 1960 |
| Cottenham .. .. | 1963 |
| Gamlingay .. .. | 1965 |
| Burwell .. .. | 1967 |

This compilation was made in April, 1970. Having so many in only a part of one county and at the rate indicated is worth being appreciated. In the whole of Nigeria not a single attempt have been made even-though the need is quite apparent.

2. The Leicestershire Community Colleges

The concept of the community college in Leicestershire was first outlined in the 'Leicestershire Scheme for Further Education and Plan for County Colleges.' All the colleges have a common form of government and yet each has its own peculiar characteristics. The increasing number of community colleges forming part of secondary schools, and also of village community centres linked to their local primary schools in Leicestershire, indicates their growing popularity in the communities they serve. It is interesting to note that already, over twenty years ago, an active and positive approach is being adopted towards Leisure-Time, cultural and recreative activities for those over compulsory school leaving age.

The 'Scheme for Further Education' was divided into two main sections, the first dealing with technical and vocational education and the second with social

and recreational. Relevant arguements in the scheme relating to community Education are as follows:[16]

- The Authority are of the opinion that further education facilities can only fully developed in rural areas by multi-purpose institution.

- this principle is applied by providing buildings to house the social and recreational activities of the community.

- there are colleges of further education which serve as community centres for their immediate neighbourhoods, and also smaller village colleges on the line of Cambridgeshire village colleges (described before), wherever the size of the local population warrants. These centres are normally attached to a secondary school or primary with the assembly hall, gymnasium, craft rooms and playing field acting as the core of the community.

- these community colleges are staffed on a more generous scale so that instructors can travel to the smaller villages to organise courses. Beside being the focal point of the neighbourhood, the community college will in this way help to foster local community activities and to act as the leaven for the whole

neighbourhood which it serves.

- there are two grades of community colleges, according to the size and needs of the area, with the following amenities:

| | |
|---|---|
| Grade I | Adult common room |
| | Adult games room |
| | Lecture/Music room |
| | Youth common room |
| | Youth games room |
| Grade II | Common room |
| | Games room |
| | Lecture/Music room |
| | Committee room |

It is anticipated that accommodation grade II scale will turn out to be a first instalment of grade I amenities. The key, however, to all forms of expansion in this field will rest with the initiative and self-help of the local community.

- these colleges alone cannot provide for all the needs of the county either in urban neighbourhoods or in the smaller villages and hamlets where the fostering of community activities is equally important. The difficulties lies in providing adequate amenities

to meet this and to overcome this the authority have adopted the principle of joint action with the local community whenever this is practicable. Joint action will generally assume the form of taking the school assembly hall, which the authority must provide under their statutory obligations, as the central point of the scheme. Adult amenities will then be added using a joint fund partly raised by the community themselves and the rest by the authority. The virtues of this method are that amenities will usually be more generous than anything a small community can produce by its own unaided efforts, and the local community will be absolved from much of the financial burden of the day-to-day maintainance.

Where possible such community centres are placed under a local management committee. The college at Ashby-de-la-Zondi is the oldest developed in 1951, followed by the college at Shepshed opened in 1957. Since these two colleges, twelve more have been opened.

The college of Shepshed served at the outset a largely practical pose, in the sense that the program of classes was down to earth with its handicrafts for men and women, cookery, sports, its offer of a home

to the local Charnwood Players, to the toastmasters' club and later to the town's youth club. The program reflected the practical needs and outlook of the majority of the inhabitants of Shepshed and so their response was high. The best example of practical support came in the ten year project (now completed) for the erection of a covered-in, heated swimming bath which serves the town as a whole as well as the college.

The college at Lutterworth seeks to serve a large rural area with a radius of six miles (about 9,5 kilometres) encompassing some fourteen small villages, and is perhaps nearest in environment to the situation of the village colleges of Cambridgeshire described earlier on. There are new colleges planned and shortly to be built at Syston, Loughbourough and Hinkley, all resulting from opportunities provided by new secondary schools. As similar opportunities present themselves, or as local communities decide to raise a proportion of the cost by their own efforts, so the Education Committee intend to establish new colleges.

Where as at Asby, Enderby and Ibstock, county library branches operate, they do so in conjunction with the school library and are used by the general public and the school throughout the day. There are mutual advantages in this dual use. Many who come to adult classes in the day or evening, and who might not otherwise visit a public library in another part of the town, consciously or not become aware of the library's existence as they pass by or through it on their way to a class or social group. Again, the facilities of the library are right at hand for class reference purposes, and tutors can make their plans for study accordingly.

There is no set pattern of college program and it would be unrealistic to expect identical opportunities to be on the offer throughout the year at all colleges, since each sets out to meet the cultural and leisure-time needs of its community in its own way, and these needs vary a good deal according to the nature of each community. Factors such as relative size of the community's population, whether it is in a rural or urban area, whether or not there is an extensive or negligible range of voluntary cultural,

social or recreative organisations already in existence, and whether or not there is an extensive or negligible range of voluntary cultural, social or recreative organisations already in existence, and whether or not there is a wide or narrow range of existent public facilities in these sphere all play their part. Nevertheless, all colleges offer mostly in the evening but also to some extent during the day, recreative and leisure time classes which may range from Arabic to Yoga; they make available their facilities to voluntary clubs and societies who wish to affiliate.

Another element in the college provision comes from the 'Responsible Bodies', i.e. the extra-mural departments of the universities of Leicestershire and Nottingham and the East Midlands District of the Workers' Educational Association. When planning their programs the colleges work in the closest association with them as providers of classes in liberal studies such as philosophy, economics, politics, religion or literature.

c. Observations and Conclusion

The various schemes undertaken both within and outside Africa can provide a very useful information towards a similar response in the rural areas in Nigeria, this being so eventhough the above mentioned schemes show some fundamental differences between one another on the majority.

Every society needs common institutions which are capable of bringing people of diverse interests and position together to share experiences ranging beyond and above the immediate claims of self interest more so in the rural areas where alternatives are lacking than in the cities where cinemas, clubs, shopping centres can serve as alternatives. The multi-service centre proposed under this scheme can do well here.

FOOTNOTES

1. The term Education will generally be used to include training except where the latter is to be emphasized.

2. Zanolli N.V., Education Toward Development in Tanzania p.3

3. Nyerere J.K., Education for Self Reliance, March 1967.

4. A paper given by A.C. Tosh, Educafrica 1974 no. 1 p. 69

5. ibid p. 70

6. ibid

7. A paper by John Bdton Maggs, Integrated Rural Development - a case study, Liberia, Educafrica 1974 No. 1 p. 45.

8. ibid p. 46

9. Seminar for Administrative and Political Cadres on the Reform of Primary Education in Cameroon, Yaunde, 26-29 March 1973.
Final Report. Younde, Ministry of National Education, 1973, Annex. p.4.

10. Panafrican Institute for Development. Duala. Vocational Agricultural Training for Youth. Background paper and plan of operations Research Project of the Centre of Applied Research p. 2.

11. ibid p 6-7.

12. ibid p. 9-10.

13. ibid p. 10

14. The Village Colleges, Cambridgeshire and Isle of Ely Education Committee pamphlet p. 4.

15. ibid p.5.

16. A.N. Fairbairn, The Leicestershire Community Colleges p. 5.

17. ibid. p. 11.

# CHAPTER SIX

## STATE GOVERNMENT'S POLICY ON RURAL DEVELOPMENT

In Nigeria the urge to develop the rural areas is a recent awareness and the current Development Plan is being reviewed principally to achieve this end. The general reaction is nation-wide and quite apparent, when both public and governments views and proposals are common scenes all over the news meadia (Newspapers, Radios, Television etc) as well as through discussions and Public Lectures.

For the purpose of this scheme the survey on Government's opinion and those of other interested bodies was restricted to Kaduna State. This step has been taken to avoid vague generalisations and save time and space in dealing directly with the situation in the Kaduna State, the home of this particular scheme. The background studies undertaken[1] revealed that it is always necessary to satisfy existing situations and deal directly with the problems and needs of the people for whom the scheme is meant to serve. It is thus believed that eventhough the response is nation-wide, but when coming into grief with the problem each State and may be even divisions will have to survey

the existing situations in their area and make proposals accordingly. The following gives the brief outcome of the survey, through discussions and interviews, undertaken at various ministries and other organisations.

1. Ministry of Economic Planning (Rural Development Division)

The Rural Development Division of this Ministry serves as an administrative focus for all. Other Ministries and Organisations concerned with rural development planning. It is suggested that this body of people concerned with rural development planning under the aigis of the Division, should be described collectively as a Rural Development Planning Bureau. The senior officers of this Division as a body as well as those of the Economic Planning Division, should be part of this Bureau, - so as to provide the necessary injection of Economic Expertise.

The tasks of the Division has been spelt out to be:[2]

a) To provide a secretariate' for the Rural Development Central Committee. (b) To secure effective co-ordination and coherence in development activities in the rural areas of the State whether such activities are carried out by the Division itself, by other

Ministries or by Local Authorities, or in so far as their support can be enlisted, by other agencies. (c) To provide capital funds for specific rural development activities. (d) To undertake studies leading to preparation of regional or area development plans for carefully selected groups of villages and for settlement schemes where appropriate. (e) To mount field investigations that may be necessary in furtherance of these functions including evaluation of community development projects. (f) To explain the purpose of the projects and through intensive trainning program development skills and initiative of the rural population. (g) To maintain a continuous review of rural development activities, and report thereon to the central committee. (h) To provide support and technical staff for rural development services, or to operate such services, except where these are adequately provided by other agencies such as Ministries or Local Authorities.

Since the Division will execute its projects through the agency of other Ministries or Local authorities, these are required to submit to the Division what projects they intend carrying out indicating the funds

available. They may also be asked for assistance of staff (on a part time probably) to administer the Planning Bureau.

The Division described above is at present in the early stage of its development and lacks the staff with which to provide the services enlisted above and so right now concentrates on objectives in para (a) and (b) above. Yet certain positive response is already being effected as regards to projects in the Rural Areas of the State. This include the digging of bore-holes, construction of Feeder Roads and Resettlement Schemes, for example, the 'Sabon Kuyallo resettlement scheme' where the Division provided the working equipments and personel for the clearing of the site and also divided the land to the villagers according to the acreage owned in the previous settlement with certain increase. The objective was to bring the villages nearer to the Main Road to make it easier for the government to develop the village.

The work of this division is expected to become more effective now that the urge to give priority to the rural areas is becoming hotter from all concerned.

2. Ministry of Agriculture (Extension Division)

As mentioned earlier on, the rural inhabitants are practically responsible for nearly all the agricultural products in the country and so a Ministry taking charge of the agricultural productivity will have to concentrate on the rural areas-the home of agriculture.

The extension Division of this Ministry gives much attension to the study of indigenous peasant farming systems, whilst at the same time advisory services is established in order to explain to the farmers what they should do in order to increase the output from their holdings - this in effect is what extension work is all about.[3] The secret of success in all Extension work lies in the method of approach to the problems of the farmer and his family, giving priority to their wishes, teaching them how to overcome their difficulties and developing in them a sense of pride in their achievements. The objective of all extension work is thus to change peoples outlook towards their difficulties, for only by this means can any permanent improvement be achieved, moreover all physical and

economic developments are worthless unless they are accompanied by the development of the people concerned.[4]

It is this division of the Ministry that is responsible for the training and distribution, throughout the rural areas of the State, the Extension Workers whose responsibility it is to achieve the above mentioned objectives. It can be understood that the exercise is simply a system of out-of school Education for the rural people and one of the problems the Extension workers are facing right now is lack of appropriate spaces to meet the people, explain, discuss and demonstrate some aspects of the work.[5] Also another problem is the fact that the extension workers themselves, majority of them young school leavers and graduates of school of Agricultures, do not like staying in the remote villages but spend most of their time in the towns.

After this scheme has been explained to the official of this division at Kaduna he saw it as a solution to most of their problems. First it provides the space needed to meet the villagers and carry out the extension work through all the possible meadia

(lectures, discussions, cinemas, exhibitions etc.) and secondly it makes the village life more interesting and thus condusive to stay in even for the young extension workers.

3. Ministry of Trade, Industry and Cooperatives

Two Divisions of this Ministry were found to be interested in this scheme and they are:

a) Cooperative Division: This division, similar to the Agric Extension division, also has permanent officials through out the rural areas whose work it is to Educate the Farmers on how best to improve their production. They set about this mainly through the formation of cooperate societies throughout the villages.

It is through these Co-operate Societies that the division communicates with the farmers and seek to satisfy the farmers basic needs by the means of:[6]

a) Credit schemes - organised to help the farmers who usually are handicapped by the problems of small holdings and lack of funds. The credit may be in the form of cash, materials or equipments.

b) Marketing facilities - open to the villagers so as to give them good prices for their agricultural products. Some of these co-operate societies act as Local buying agents for the government owned Marketing Board.

In the case of food crops, the division through these societies purchases the food crops at the time they are cheap and store them only to resell to the villagers at a subsided price when the crops are scarce. This block the chances of hoarders who would otherwise inflate food prices.

c) Supply of Farm Imputs - these include fertilisers, insecticides, crop and implements (merchaneries) required by the farmers for the effective operation of their farms. These are supplied by the division for sale, on credit or for hire and cut down the problems the villagers will encounter on obtaining and transporting the items.

d) Co-operative Shops - created and proposed to be opened throughout the state for effective distribution of consumer goods to all people

of the state. Basic consumer goods tend to be scarse even in the cities and hoarders create artificial scarcity so that before they reach the villages the prices have risen far beyond the pockets of most villagers. This section obtain the items from the National Supply Company and distributes to the various cooperative shops to be sold at quite reasonable prices.

When interviewed, the official of this division reveals that there is already a proposal to open about seventy shopping centres throughout the state. He also feels that this scheme if implemented will help so much in making their work much easier especially in the rural areas and the provisions he feels they may require in terms of design spaces are:

Storage Facility - for grains, equipments, fertilisers etc.

Shopping Facility - for the sale of consumer goods - flour, sugar, salt, cement maches, textile goods, roofing sheets, maches and other household goods.

Office Accommodation - for society secretary/ accountant or treasurer.

Meeting Hall - for society meetings.

b) Small scale Industries Division

This is another section of this Ministry that showed some interest in this scheme and during an interview with the senior official discussed the possible contribution their division can make in the proposed scheme.

The two arms of this division are:[7]

i) Intermediate Technology - This deals with the training of mainly primary school drop outs sampled from all parts of the State to train in the four centres located at Katsina, Zaria, Kafanchan and Kaduna.

The duration of the course is three years after which a Labour-Trade Test is taken which qualify the graduates to practice both in the public and private sectors throughout the State. The courses offered include among others:

Motor Mechanics

Electrical Installation

Building

Woodwork

Metal Work

The officials thus see this scheme as providing a training ground for the school leavers in the villages at their own homes. The advantages of this are many and include the fact that the villagers do not have to leave to the towns to train and so the possibility of them establishing their own workshops in the villages even after graduating, also there is this time more chances for them to train and in the environment they know so well and it is more likely they struggle to solve the existing problems in the village being insiders.

ii) Small Scale Industries - This section operates throughout the State and seeks to encourage and boast the small scale industries for better services to the public. It goes about this through consultancy and advisory services as well as giving loans to some appropriate small scale industrialists in the form of cash, materials or machineries. These services are offered for any sort of crafts and trade found wanting after a feasibility study has been undertaken.

Emphasis on rural development is becoming the rule here[8] also and the section is making feasibility studies throughout the rural areas to come up with the possible agro-allied industries that can be established in certain areas of the state. These include sugar cane processing, food processing, gari cassava crate etc. The approach here is to take each administrative area, find its resources and try to suggest the possible small scale industries required in the area. For Malumfashi area the suggestions so far is far:

light engineering,
woodwork
block manufacturing
backery
sheanut butter
food processing and
brown sugar processing.

At the moment, because of the concentration of Industries in urban areas, most of the beneficiaries of the exercise come from the towns and thus this scheme is seen as a means to giving the villagers a chance to boast their own Local crafts and trades and

consequently benefit from the loans and other services given by this section.

4. Ministry of Social Welfare and Community Development

At a survey in Kaduna some divisions of this Ministry indicated their desires to contribute towards this scheme and the following responses have been noted through observations, interviews and discussions with the officials concerned.

a) Community Development Section

Self help projects undertaken in various villages in the State are normally referred to this section before inception. This gives the government opportunity to assist in the project mainly through the provision of equipment and personnel.[9]

Before this procedure came up most efforts made by the villagers to carryout self help projects solely on themselves turned out to be efforts wasted for lack of expertice advise. Most constructions were poorly executed only to give way on the first heavy rainfall. This is more true with the construction of culverts and small dams, but also true with that of market stalls, adult Education classes community halls etc.

This Division, in its effort to arrest the above situation has made, through its technical sections, some standard drawings on most of the things the villagers would probably like to construct through self-help. So now any village that decide to construct one of these things will refer to the Division and get the drawings together with the necessary expertice assistant require for the proper execution of the project. The standard drawings ready for use are:[10]

Meet Stall

Market stall

Small dam

slaughter slab

community centre

Adult Education/Islamic classroom

Guest House

Dispensary

Drift and

Culvert

The need of this scheme has thus been clearly justified by the work of this division and the design information obtained through the survey has been adopted and modified to suit the problem at hand.

b) Adult Education Division

Universal literacy is the ultimate aim of our Educational objectives and the adult population has to be catered for more especially in our rural areas where a great majority of them are absolutely illitrate. Thus the need to activate the work of this section in the rural areas becomes more obvious now more than ever before.

At the moment they have integrated centres only in Zaria and Katsina whereby courses offered are varied and range from literacy and numeracy, vocational, domestic science for women to facilities for recreational purposes. There is however a plan to establish such centres in all the administrative area headquarters throughout the state.

As for the villages,[11] at the moment there are adult Education classes all over the State and these offer courses in literacy and numeracy to the villagers. The sylabus and examinations are controlled centrally by this division and for easier administration the period of sessions are zoned into two with half of the administrative areas undergoing their courses from May - January and the other half from

January to June.

The session for Malumfashi is from May to January and there are on the whole a total of four schemes in the administrative area, each scheme has sixteen classes and each class about sixteen students. At the end of each session the participants sit for an examination also centrally controlled by this division of the ministry. Successful candidates are offered certificates, (usually by the officials of this division and in the presence of their village head followed by ceremonies) which guarantee the holders ability to read and write fluently in hausa and also a chance to enroll for the post literary class where English language is taught.

The scheme at hand will thus do much to poster the efforts of this division by the provision of proper spaces to carry out their activities of trading and public enlighment.

c) The library Section

This section of the Ministry right now have not any program going on in the villages, but have proposed to open up divisional state libraries in all the administrative area Headquarters of the

state. Already six of these administrative areas have been provided for during the last plan period these are[12]: Daura, Birnin Gwari, Dutsimma, Funtua, Kankia and Kafanchan. Standard drawings for such libraries showed the following provisions[13]

Lending Room/Reference
Reading Room
Children's section
Work Room and Store
2 offices
Toilets

When the proposal for the village centre was explained to the official he proposed a small reading room to be included so that the above divisional libraries can through such reading rooms provide the villagers with some reading materials.

5. Ministry of Health - Health Education division

This section is observing the new method of cure which is the preventive medicine. Therefore assign officials into all the parts of the state to teach people about hygine, nuitrition child care and other aspects of preventive medicine.

The work is much easier in the towns where hospitals and officials provide the means, unlike the villages where lack of officials and bad roads hinder effective implimentation.

The officials here proposed a small clinic to be included in the scheme for the village centre and saw the centre as a good place for them to meet the villagers and extend their massages to them.

6. Sports Council

This section is also under the ministry of social welfare and a survey was also conducted there to find what recreational facilities the villagers can enjoy through government's help.

No existing contribution was observed besides the fact that the division, through the administrative areas invite representative to the state headquarters in case of any coaching exercise or sports meeting.

The cultural section of the ministry do the same as above and get better response from the villages since most of the cultural dancers and other performers come from the villages.

With the proposed scheme the official ensured that contact and contributions between the goverment

and the villages will improve greatly.

7. Northern Women Association

An organization that seeks to protect the rights of women and bring up their status especially in the Northern states of the country where, according to the secretary, the religious and cltural aspects of the society seem to be composed with one another leaving the women at a disadvantage.

A visit to their secretariate at Kaduna found their general activities to include:

Orphenage
Nursery school
Adult Education (literacy/Islamic studies)
Handicrafts
Domestic science (cookery & child care)
Guest inn.

As for the villages, they confessed having done nothing yet for lack of personnel besides distribution of gifts to the draught affected villagers in the last draught period. However they planned to expand and include school girls in the society to find the opportunity of using them to effect their schemes in

the villages. They thus saw the village centre as providing the spaces they require to operate well in the villages.

8. Religious Bodies

Both the two religious bodies Islam - through the Jamaatul Nasrul Islam, and the Roman Catholic send representatives in the villages to spread the ethics of their religions.

The proposal to include a mosque in this scheme was by the iman of the village and is both to serve the need and to attract the villagers, a greater majority of whom are moslems, who otherwise take any western education to be against Islam, their religion.

FOOT NOTES

1. See Chapter - Responses on Rural Development.
2. North Central State Executive Council conclusion No NCS (71) 34 dated 23rd March 71.
3. Interview with Agricultural Extension Officer Kaduna.
4. A.H. Savile, Extension in Rural Community P.2
5. Interview the Agricultural Extension officer Kaduna
6. Interview with the official at the cooperative division of the Ministry of Trade Industries and Cooperatives, Kaduna.
7. Interview with the Senior Official of the Intermediate Technology division of the Ministry of Trade Industry Kaduna.
8. Ibid.
9. Interview with the Senior official of the Community Development division of the Ministry of social Welfare and Community Development Kaduna State.
10. Ibid
11. Interview with the deputy chief adult education officer Kaduna state.
12. Interview with the chief librarian of Kaduna State
13. Survey of State Library Kaduna.

PART TWO

# PROPOSALS

"WE SHAPE OUR STRUCTURES AND
THEY FOREVER AFTER SHAPE US"

- WINSTON CHURCHILL

THE COMMUNITY NEEDS

The surveys and studies undertaken in the previous chapters is to ensure a proper understanding of the needs of the rural community. This will help in coming up with a village centre design, that will be instrumental to uplifting the socio-economic welfare of the villagers.

1. Economic

Self-employed occupations and the lack of general organisation of the trades reflects a predominantly low income group. Thus some economic benefits should be quite obvious to the villagers before their full support is gauranteed in such a scheme. This can be approached by the provision of vocational courses to teach new and improve existing skills, also through the establishment of consultancy services to give advice on modern management (e.g. banking and loan scheme) of all types of businesses. A do-it-yourself facility will allow the participation of the more conservative craftsmen in the centre and the consequent economic benefits from the provisions at the centre. Agricultural activities should be catered for in any

rural scheme.

2. Educational

The role of education in any development scheme especially in the rural areas has been well expressed in the previous chapters. Education for the understanding of oneself and the community in general through the art of communication (reading and writing). Education to make the villagers susceptive to change and allow for easier impementation of development schemes and a proper use of facilities.

The only existing learning institution is the primary school which caters for the child sector of the community (the coming of UPE in June 1976 ensures this the more). Provision for the Education of the adult sector of the community will ensure better understanding between the young and the old. School children need the support and encouragement of their parents, which is easier with knowledgeable parents. The above supports the inclusion of literacy classes, domestic science section and other educational facilities in the proposed village centre.

3. Socio-Cultural

The way of life of the community, as found from the survey, is characterised by group activity and group feelings - a high degree of mutualism. The design and organisation of the centre should ensure the maintainance and encouragement of this aspect of the communities way of life.

The existance of the centre will certainly affect the family-living and the time-use of the community but it is intended to evolve happier family, varied activities and better use of time. The status of women in the society is considered in the design and their cultural value is protected. To ensure the supports of even those husbands practicing purdah.

4. Recreational

Facilities for recreational satisfaction of the villagers is virtually non existing. The only facility is the school field which is treated as private. So, the incorporation and better maintainance of the school playfield and establishment of open spaces is vital in the village centre design.

Discussion under the tree is the existing means of relaxation and this should be maintained by the provision of a park and common room and here more useful discussions can be achieved by the participation of social workers in the discussions. Indoor games can also be introduced and also film shows to screen useful events. This justifies the need for a large hall.

The cultural festivities comprising of traditional dances, 'sharo', meetings and the need for the annual agricultural shows which boost the farmers effort requires an arena to be incorporated in the centre's design.

5. Shopping Facility

Most of the economic activities are carried out in the market site at the moment but the lack of alternative places results in inflation of prices on commodities. The incorporation of a cooperative shop to sell goods at the controlled prices will help to beat down prices even at the village market. There should be a good link between the existing market and the proposed centre both being places where people meet.

6. Health Facility

Health Facilities for the community should be catered for in a number of ways. At least there should be a health clinic to promote the health condition of individuals. An advice centre for preventive medicine and family planning for those interested. Incorporating these in the centre will help to attract people to the centre and give all the recognition the centre deserves from the villagers for its proper operation.

Posting Facility

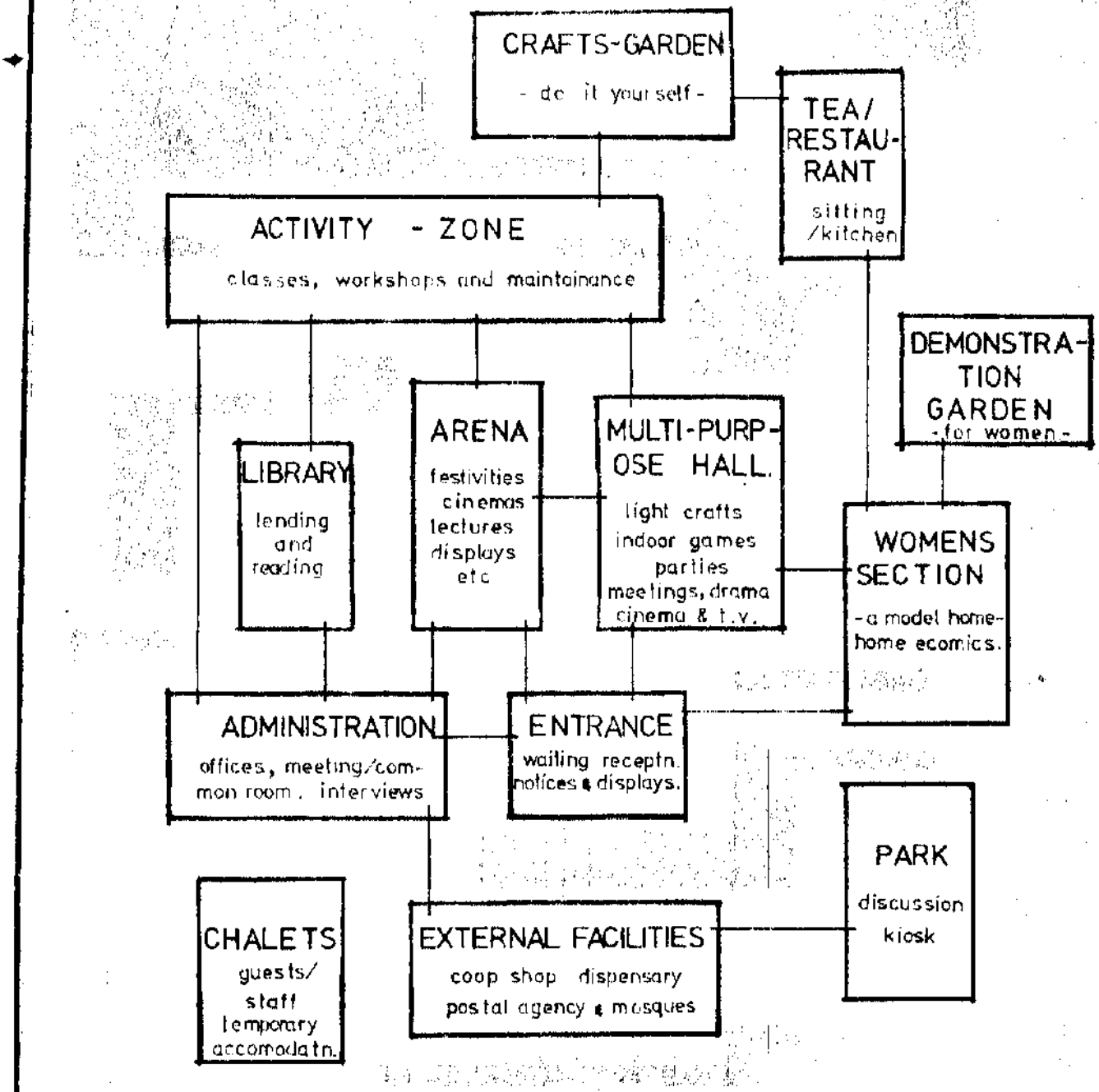
The need for a postal agency has been well established from the survey. This will improve communications between the villagers and the outside world. The Posting Facility will also satisfy the villagers popular hobby of radio record requests and other similar programs.

7. Religious Institution

Most resistances put against any scheme influenced by western ideology is due to their beliefs that such schemes are anti islamic. To disprocve such an idea there is need for a mosque to be included in the village

centre design. This way the concept of pray while you work will be maintained.

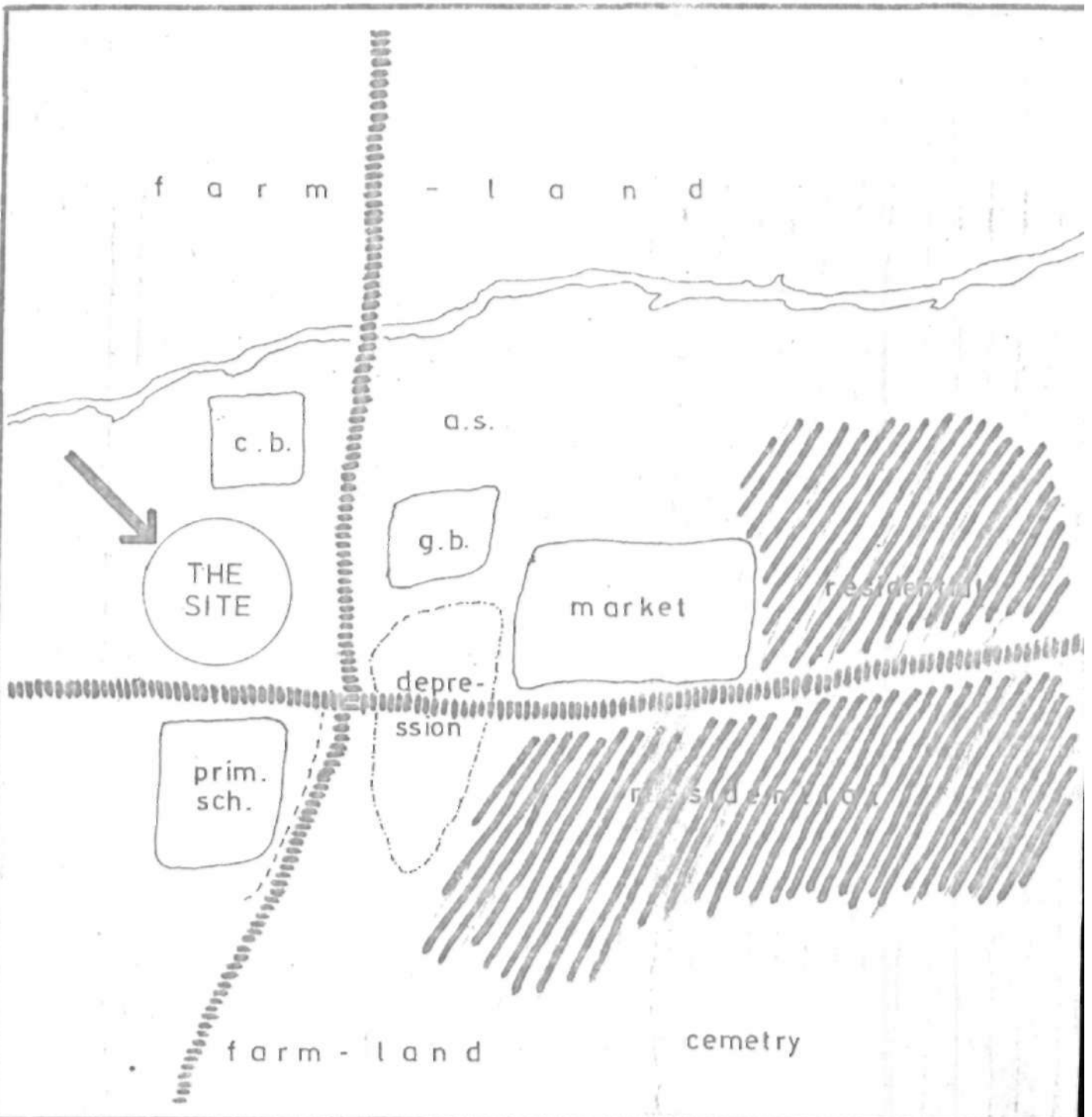
The few christians in the village can use the meeting room or a class for their services since their number doesn't justify the need for a separate church to be built in the village.




14

## THE VILLAGE CENTRE

ZONES AND THEIR RELATIONTIONSHIPS




17

LEGEND

THE PROPOSED SITE KAFUR CENTRE

N

road c.b.=cotton buying a.s.=proposed site for agric project

river g.b=ground nut ,,

# CHAPTER TWO

## THE VILLAGE CENTRE

From the survey on community needs, the Kaduna State governments proposals on rural areas and the international requirements necessary for rural development schemes. The following elements are believed to be worthy of consideration for the village centre design.

### A. The Elements of the Village Centre

1. District
2. Location
3. Population
4. Socio-Economic
5. Vocational Facilities
6. Shopping Facilities
7. Light Scale Industries
8. Religious Institution
9. Learning Institution
10. Health Facilities
11. Parking
12. Playfield
13. Gardens
20. Restaurant
21. Library
22. Childcare
23. Offices
24. Staff Lounge
25. Seminar Room
26. Meeting Rooms
27. Classrooms
28. Workshops
29. Storages
30. Toilet Facilities
31. Kitchen
32. Time Zone

14. Womens section
15. Community Hall
16. Entrance
17. Reception
18. Arena
19. Self Service Information
33. Expansion
34. Security
35. Childcare
36. Parks
37. Pedestrian flow
38. Vehicular flow

It has been found possible to combine effectively some of the above elements in a single space and the diagram on zoning shows how this has been achieved including the relationship between the various established zones.

B. Space Requirements

1. Multi Purpose Hall - Activities include

- Casual Crafts
- Indoor games
- Film shows/T.V. viewing
- Village Meetings
- Dramas
- Parties and
- Exhibitions/displays

Internal capacity of for about 200 people but capable of expanding to accommodate about 300 people or more.

Using 1.2 $m^2$ per person[1]

For 200 people area = 1.2 x 200 = 120 $m^2$ ≈ 240 $m^2$.

2. Classrooms - for

- literacy teaching discussions from the statistics of adult education: there are 48[2] classes in the administrative area and if we can have about 12 centres, each centres, each centre will need

$$\frac{48}{12} = 4 \text{ classes}$$

No of people per class = 16[3] people max area per person = 2.4 $m^2$

∴ area for 16 people = 16 x 2.4 = 38 $m^2$

(Existing design is 7 x 5 = 25 $m^2$)

3. Workshops
   - Woodwork
   - Metalwork
   - Leatherwork
   - Tailoring

Each workshop to accommodate 8 - 10 people at a time.

It wasn't easy to find data ready made for adaptation with regards to such simple village workshops. However existing workshops at the village - Tailors, leather workers and carpenters as well as survey at the Zaria craft centre shows that: average area of 4 - 5 $m^2$ per person will be adequate for most of the above workshops

∴ Total area = 4 x 10 = 40 $m^2$ (min)

4. Administrative Offices - for coordinator, secretary and State Ministries Representatives

- from survey it was assessed that about 8 -10 Officers need permanent office accommodation at the centre.
- the design will provide 1 office to 2 people
- No of offices = 4 - 5 offices
- space required per person = 5 $m^{2*}$
- total space for 2 person = 10 $m^2$

The design will make possible for the addition of one more person in each office

- Min office space = 3 x 5 = 15 $m^2$

6. Common Room/Meeting Room

The government organised cooperate societies which operate throughout the villages is taken for standardi-

sation of this space.

- min no of members = 10
- average no per society in Malumfashi area = 40
- space required for 50% or 20 people space for person = 1.4 $m^2$
- Total space = 20 x 1.4 = 28 $m^2$

7. Library - spaces for[4]
   - lending section = 10 $m^2$
   - Reading section = 8 $m^2$
   - 2 officials = 4 $m^2$
   - storage and toilets = 4 $m^2$

   Total area = 26 $m^2$

This space of 26 $m^2$ is adapted as Min

8. Restaurant - for light meals and tea to serve the average of 20 people at a time (10% of average population at the centre at a time)
   - space per 1 person = 4 $m^2$
   - space per 20 people = 4 x 20 80 $m^2$

9. Womens section - a model house
   - crafts room/living room = 35 $m^2$
   - childcare 35 $m^2$

- Bedroom = 25 $m^2$
- Equipment/demonstration Room = 35 $m^2$
- Kitchen = 25 $m^2$
- Storage/Toilets/Loundry = 6 $m^2$ each:

10. Arena - Activities Include:

- games
- cultural shows
- Aricultural shows and
- large meetings/lectures

To accommodate at least 500 people

- area per person = 1.2 $m^2$
- Total area = 1.2 x 500 = 600 $m^2$

11. Cooperative Shop

- display area = 35 $m^2$
- service area = 25 $m^2$
- Light Storage = 8 $m^2$
- Heavy Storage = 35 $m^2$

12. Postal Agency

- public area = 30 $m^2$
- staff area = 30 $m^2$ - for sorting service and storage.

13. Mosque

Average population at the centre at a time = 200

- indoor prayers for about 25% or 50 people
- area per person[5] = 0.6 $m^2$
- Total indoor space = 50 x 0.6 = 30 $m^2$(Min)
- Outdoor space for 75% of 200 = 150 x 0.6 = 90 $m^2$ (Min)

14. Clinic - from existing designs with some modification and consequent alterations.

- general waiting = 40 $m^2$
- mens treatment = 25 $m^2$
- womens treatment = 25 $m^2$
- Pharmacy/Storage = 40 $m^2$

c. Time-Use (at the centre)

To establish possible time-use at the centre, the existing daily routine for the villagers was recorded.[6] This was done for both men and women, young and old, as well as for both dry and wet seasons. A summary analysis of the above survey shows the possible time period for each group to be at the centre at any day.

The following possibilities were assessed.

1. Farmers:

a) during the wet seasons

Times: 2 pm - 4 pm and 8 pm - 10 pm (4 hrs)

b) during the dry seasons

Times: 9 am - 12 am., 2 pm - 4 pm and
8 pm - 10 pm (6 hrs)

2. Traders and other craftsmen

Times: 2pm - 4pm and 4.30pm - 6.30 pm (4 hrs)

- in case of craftsmen who may decide to practice at the centre include time:
8am - 12 noon (4 hrs)

2. Women - at all seasons

time: 8am - 11am and 2.30pm - 4.30pm (5 hrs)

From the above analysis it can be seen that it is possible to use the centre both during the morning hours and the evening hours of the day.

## FOOTNOTES

1. A.J. Metric hand book
2. Kaduna State Statistics Adult Education Literacy
3. ibid.

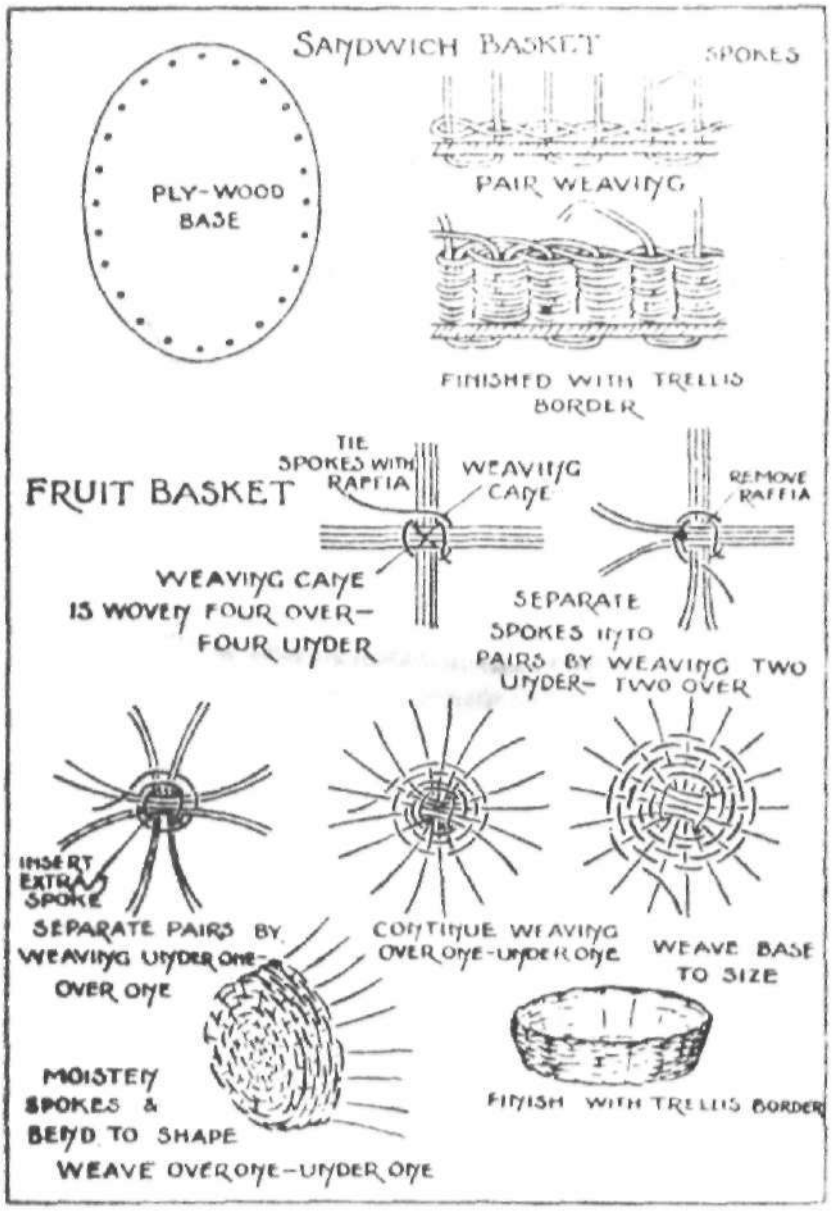
*. Ernest Neufert - Architects data p. 199

4. From the standard drawings for sub-urban libraries in the State
5. Measured at the prayer ground as an equivalent to the area of prayer carpet used by most students at A.B.U. Mosque
6. See diagram on time-use.

# SOME PRACTICABLE POSSIBILITIES

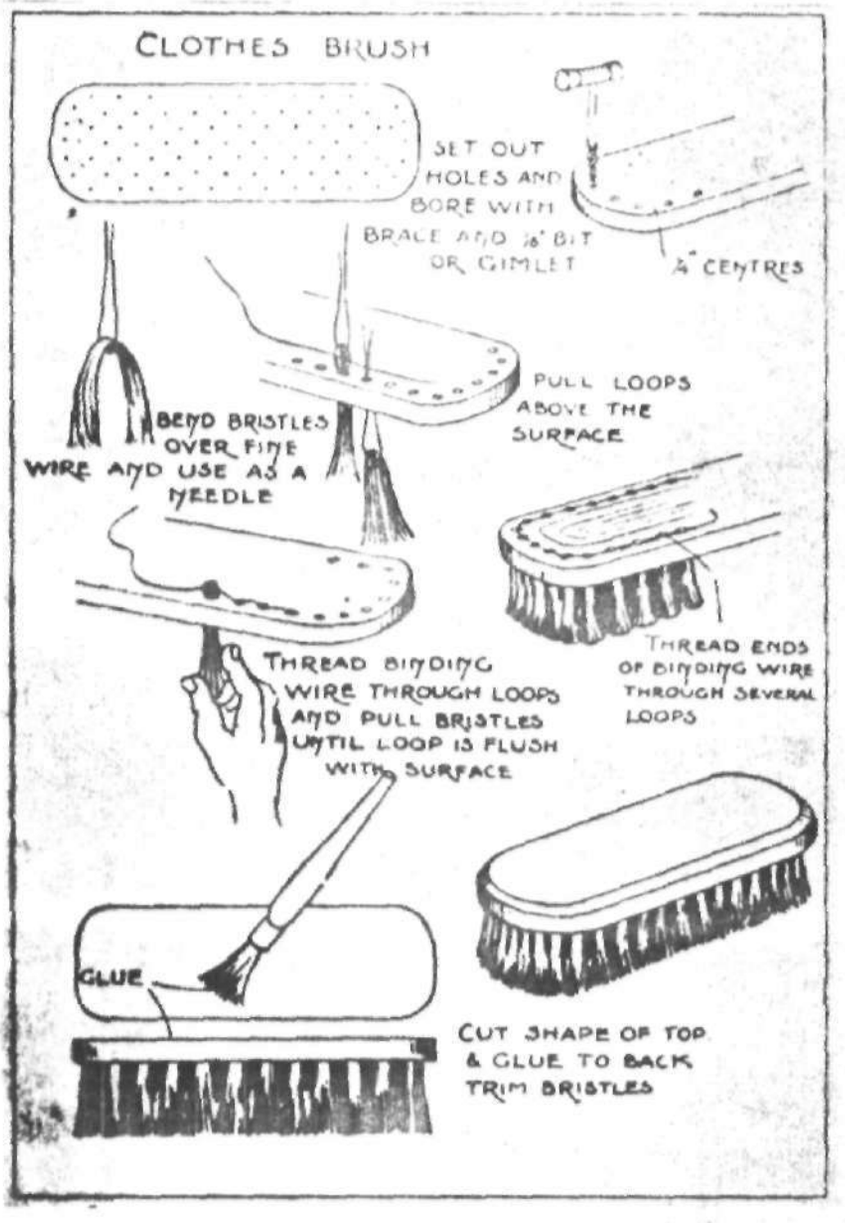
# LIGHT - CRAFT

## basketry



# LIGHT - CRAFT

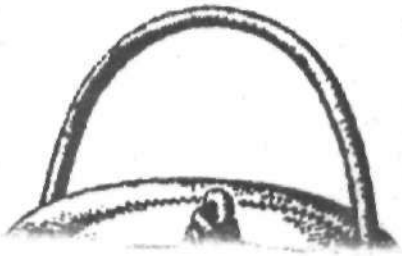
## brush-making



LIGHT-CRAFT, baskestry



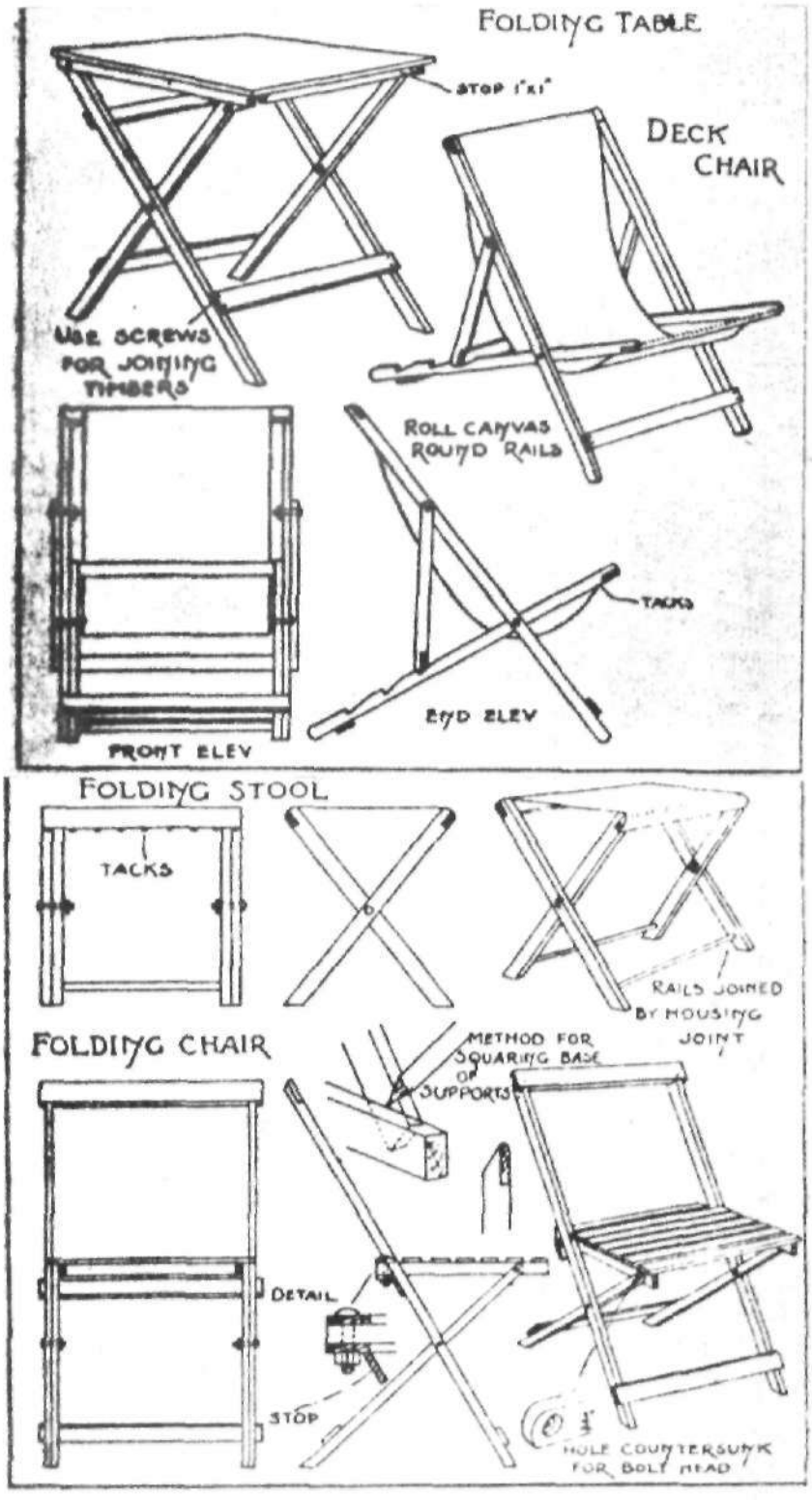
IMBENGE or PLATE DESIGN
Hehe



LIGHT – CRAFT

toy-making




FOLDING TABLE
STOP 1"x1"
USE SCREWS FOR JOINING TIMBERS
DECK CHAIR
ROLL CANVAS ROUND RAILS
TACKS
END ELEV
FRONT ELEV
FOLDING STOOL
TACKS
RAILS JOINED BY HOUSING JOINT
FOLDING CHAIR
METHOD FOR SQUARING BASE OF SUPPORTS
DETAIL
STOP
HOLE COUNTERSUNK FOR BOLT HEAD

# METAL WORK

## farm implements



*A Metalworker's Hammer*



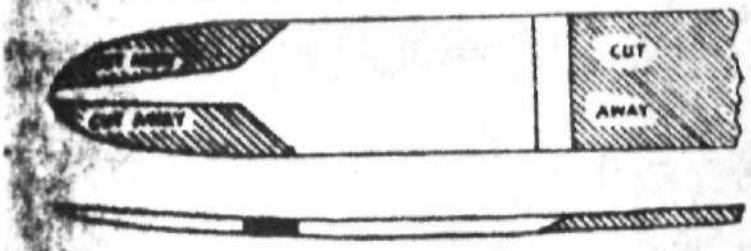
*A Metal Vice*



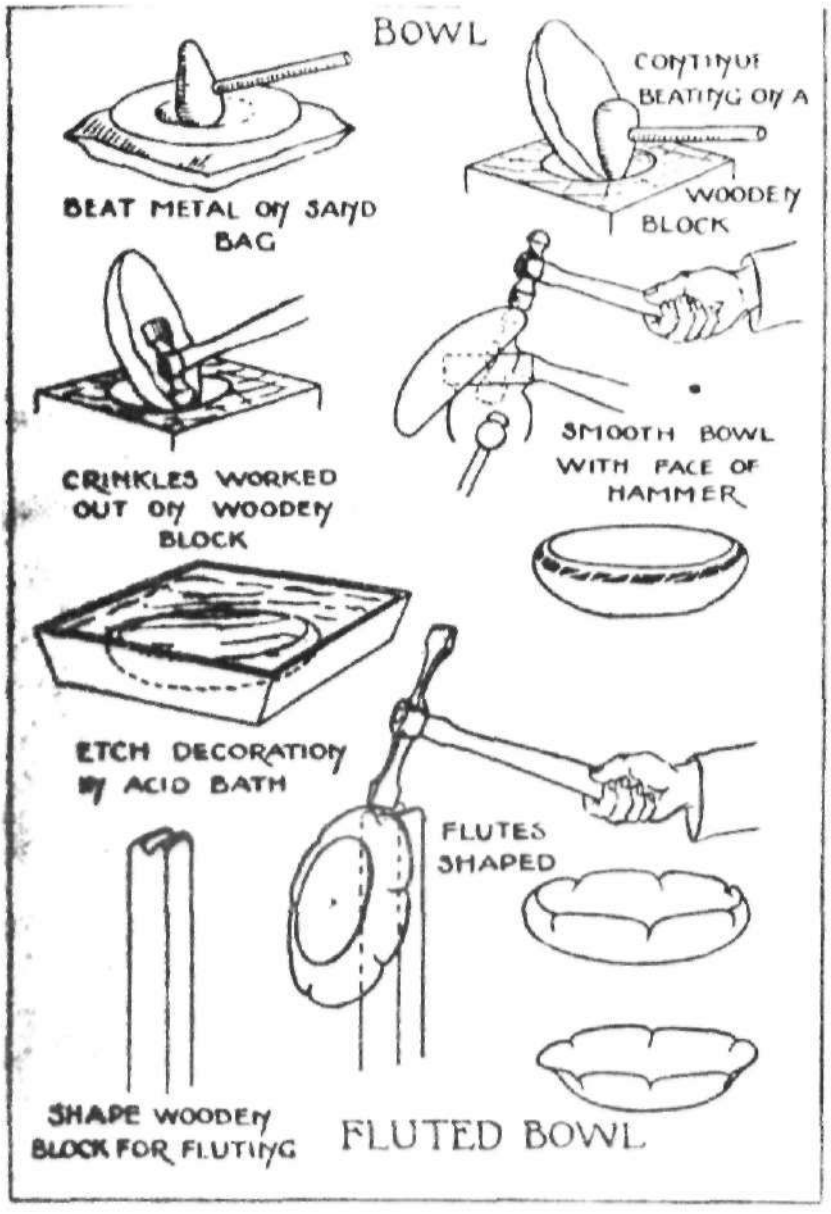
*A Brazier*

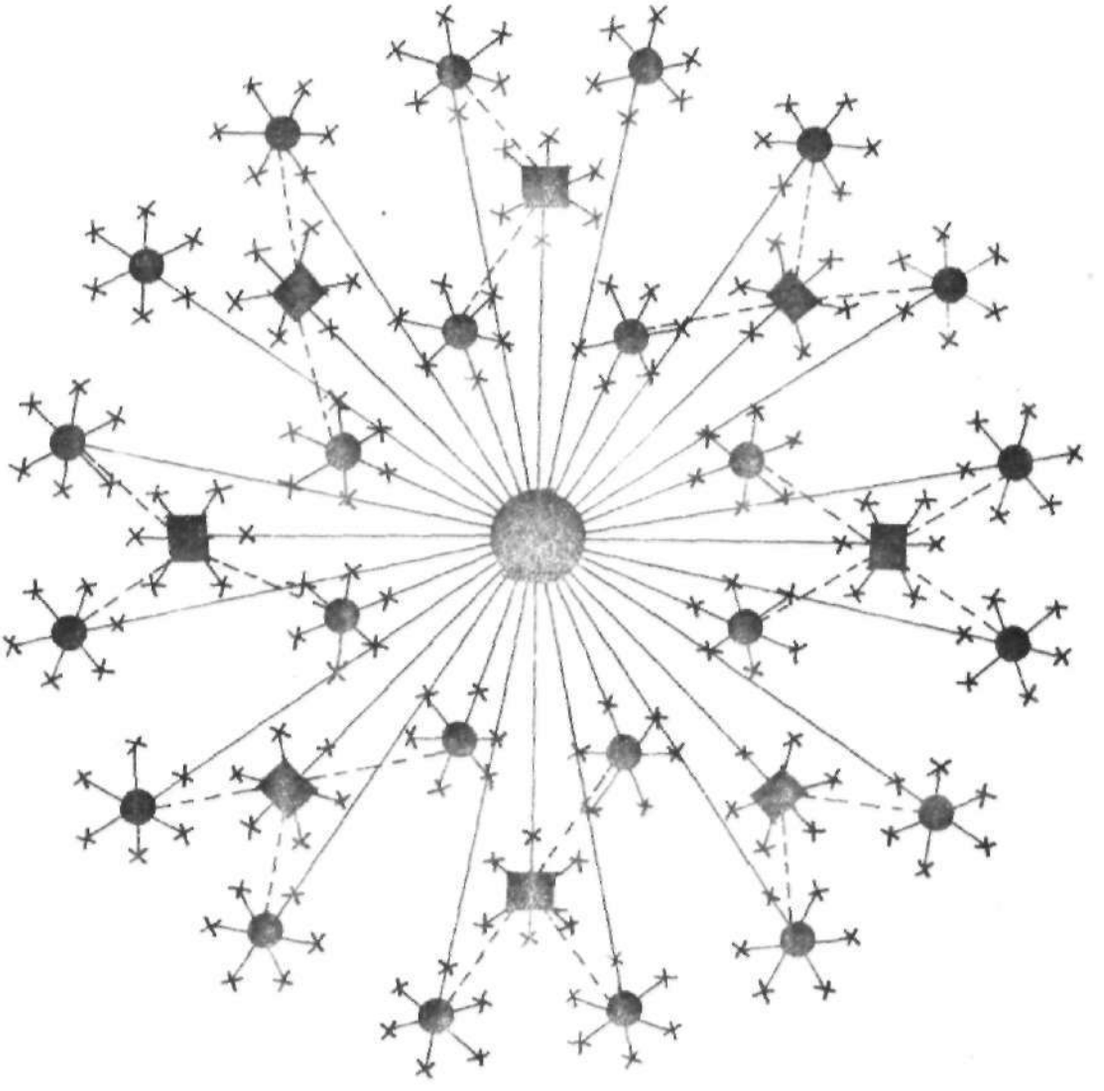


*An Adze Made from a Car Spring*



# METAL – WORK


BOWL
BEAT METAL ON SAND BAG
CONTINUE BEATING ON A WOODEN BLOCK
CRINKLES WORKED OUT ON WOODEN BLOCK
SMOOTH BOWL WITH FACE OF HAMMER
ETCH DECORATION BY ACID BATH
FLUTES SHAPED
SHAPE WOODEN BLOCK FOR FLUTING
FLUTED BOWL



PLANNING CONCEPT:

SETTLEMENT NETWORK - DISTRICT SCHEME, POLAND.

15

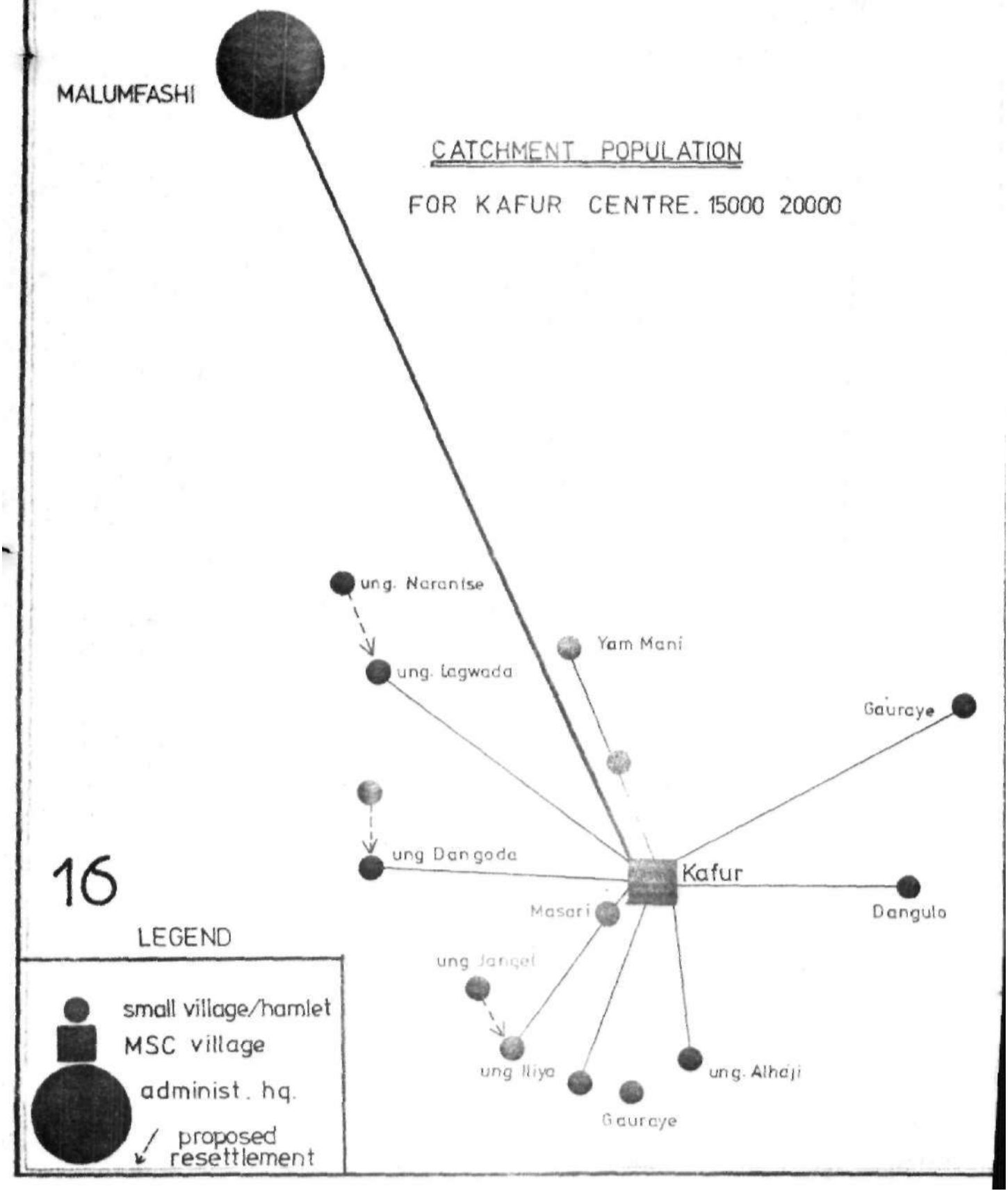
LEGEND

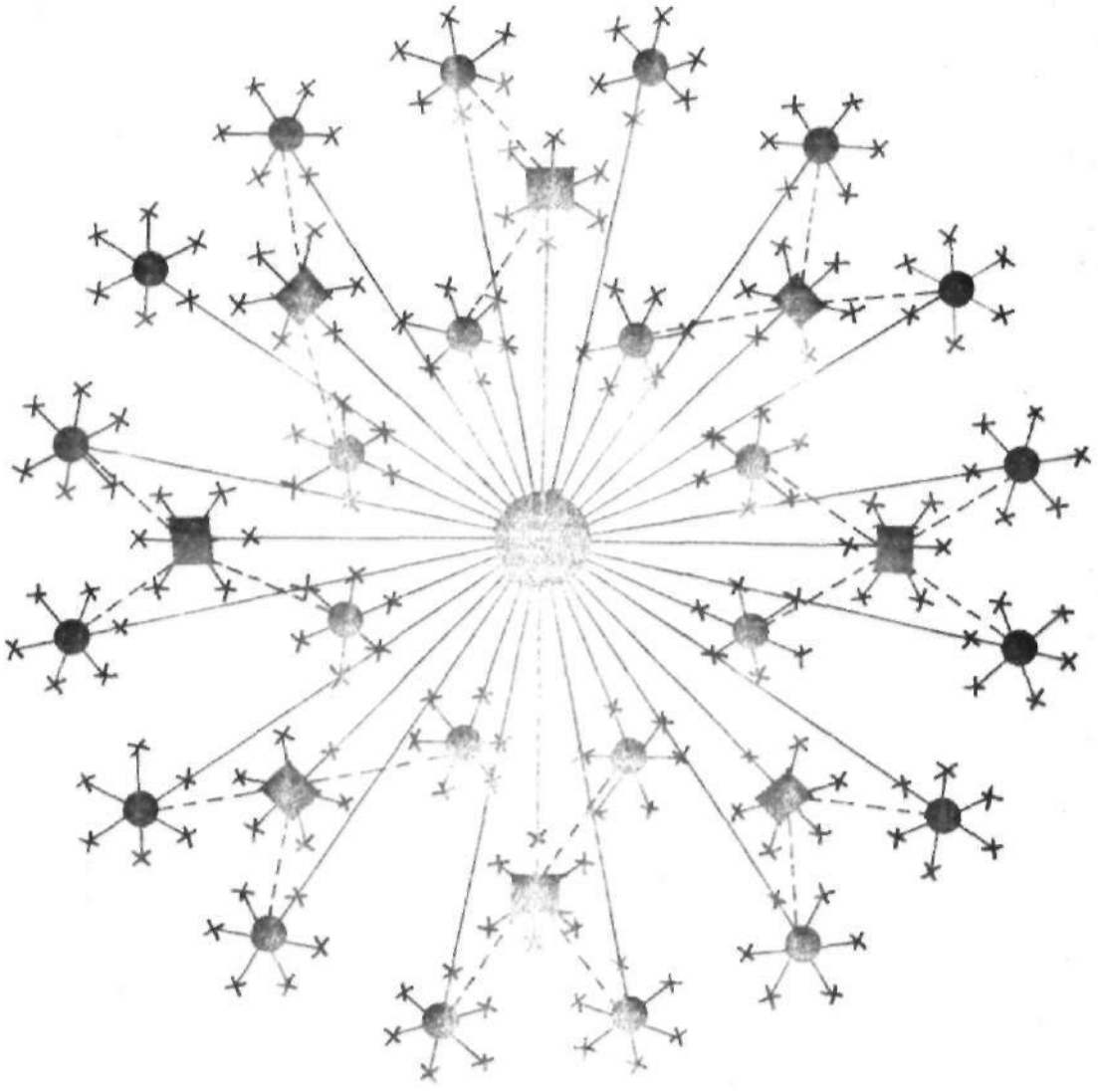
× village / small hamlet

● centre of gromada

■ centre of major gromada

● centre of district


MALUMFASHI
CATCHMENT POPULATION
FOR KAFUR CENTRE. 15000 20000
ung. Naranise
Yam Mani
ung. Lagwada
Gauraye
ung Dangada
Kafur
Masari
Dangulo
ung Jangel
ung Iliya
ung. Alhaji
Gauraye
16
LEGEND
small village/hamlet
MSC village
administ. hq.
proposed resettlement



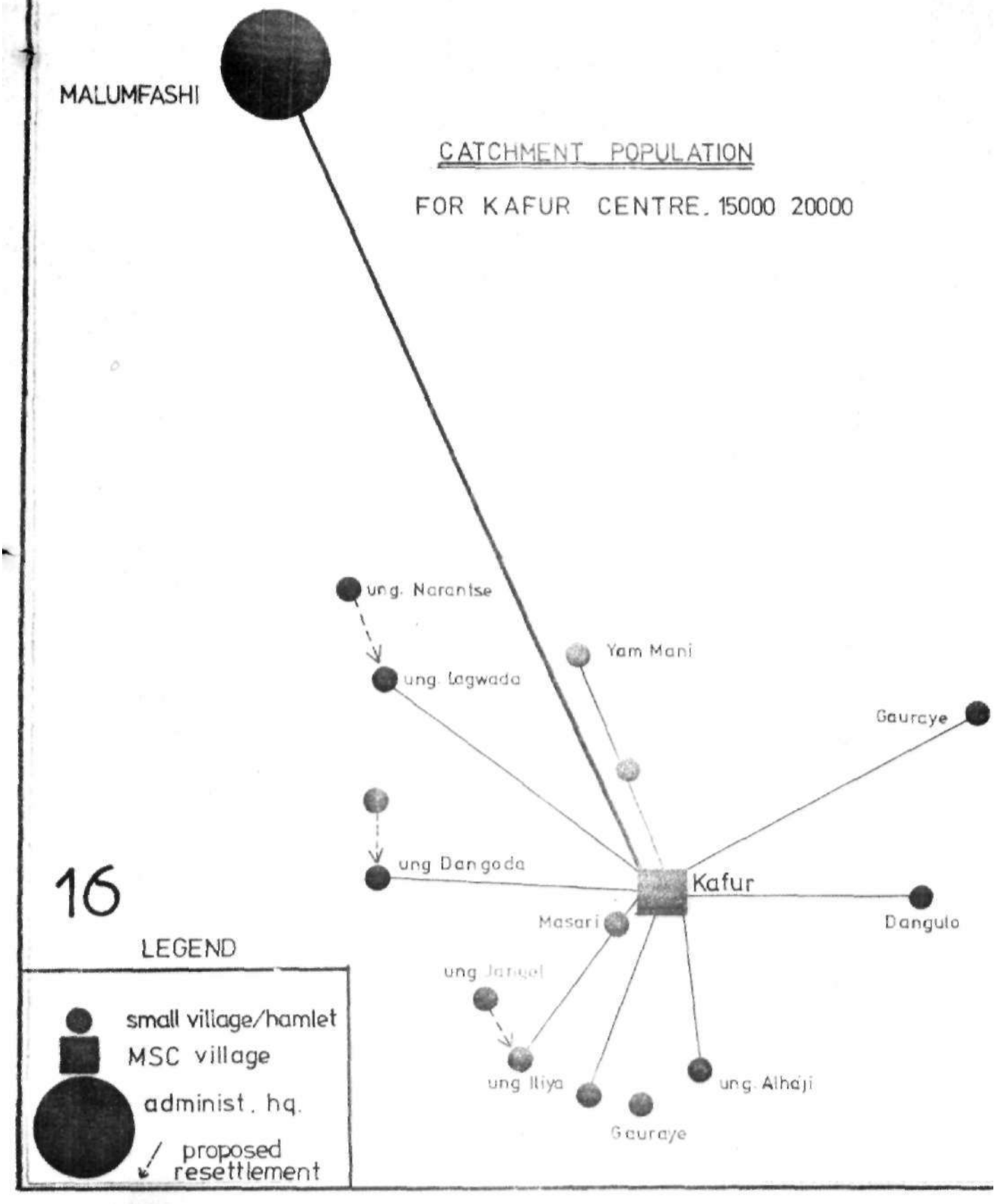
PLANNING CONCEPT:

SETTLEMENT NETWORK - DISTRICT SCHEME, POLAND.

15

LEGEND

- village / small hamlet
- centre of gromada
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proposed resettlement

# CHAPTER THREE

## SITING AND MANAGEMENT

For an efficient operation of such a scheme in a rural area there is need to consider properly certain vital elements. For the convenience of the villagers and the smooth running of the centre. The following elements are worthy of consideration.

1. Planning Principle

In Kaduna State generally, and Malumfashi Administrative area in particular, villages are not too dispersely scattered in location. This makes it possible to find a conveniently large enough group of villages within easy working radius.

The Kaduna State Government's intension with regards to the above was expressed by the State's Commissioner for social welfare and community development during his Katsina/Daura Tour last December ending. According to him, smaller villages and hamlets will be regrouped with resettlement where necessary. This will speed development processes in the rural areas and facilitate the provision of amenities such as water supply, health, electricity, drainage and so on. A model-village, according to the commissioner will be

established in each administrative area of the State so as to examplify the above intension.

2. Polish Example

Poland gives a very good example where the above approach had been quite successfully adopted for the agricultural rural settlements. The diagram[1] supplied gives the idea of the Planning Principle applied and the following factors give the factors being considered for the small production farms:[2]

a) Partial disappearance of dispersed farms and some small farms.

b) Maintainance of production and housing functions in the structure of the villages with their own individual farms.

c) Concentration of a full set of basic services and engineering amenities in selected villages where the situation, size and type of farming predetermine their role as service centre.

d) Maintainance of elementary services planned according to the needs and economic possibilities of smaller settlement units.

Under the condition where the population of villages are very small (few hundreds) and are scattered there are difficulties facing the establishment of public utility services, especially social and communal services, the economic effectiveness of which as well as their convenient accessibility, requfre a certain degree of settlement concentration.

3. The Catchment Population

In the case of the formation of such a pattern of basic villages constituting a service centre for the group of smaller settlements, the problems of the optimum number of people using these services is closely linked to the radius of servicability.

The cathment population suggested for this scheme is 15,000 - 20,000 people and the settlements distribution in the area allows this to be obtained within the radius of 8 kilometers (5 miles) maximum. This maximum distance is derived from the modes of communication commonly used in the area. The following table relates cruising speed to max permissible distance between commuter and his place of work.[3]

| Means of transport | cruising speed in km/hr. | maximum permissible distance in km |
|---|---|---|
| on foot .. .. | 5 | 2.5 |
| on horse back .. | 6 | 3 |
| on bicycle .. .. | 10 | 5 |
| on motor cycle .. | 25 | 12.5 |

The above are the main modes of transportation locally used in the area and so the maximum distance from any neighbouring village to the centre can be accepted as 8 kilometers - the villages that combined to give the desired population (15000 - 20,000) and at approximately within the desired radius are the 13 villages described earlier on and the diagram provided shows how they relate to the centre at Kafur village.

4. Location

The centre is proposed to be located at Kafur village because besides the historical significance of the village described earlier on, Kafur has also provided around it the concentration of villages required to support the scheme. The village has also fulfill the requirement of having a primary school and a strong market that presently attracts all the neighbouring

villages into Kafur. Kafur, being off the main road (19 kilometer off Malumfashi) gives a good demonstration on how the scheme can operate to serve not only those villages right on or nearer to the main roads but also those remote villages away from the main towns and off the main roads.

5. Siting

The siting of the centre must be equiped and managed in such a way that there is time and space for people to do what they want to do. It should be suitably sited in relationship to the existing and future residential areas, and other existing and proposed institutions as per our site survey. The siting of the centre at Kafur village must be effective to the degree that its linkage with other institutions promotes easy flow of goods, persons and information. Hence in the case of Kafur village[5] the space presently occupied by the primary school field including any extra-space between the school and the cotton buying station has been chosen as being most appropriate for the siting of the centre. The school

field will then be transferred to the side of the road containing the main school building[6]. This makes it more conveniet for the children to use the field, being adjacent to school building and without having to cross any road. Presently they have to cross over a road before they go to the field which might cause some accident when trafic is a bit high, say on market days.

The siting also provide a very good link between the centre and the existing facilities like the market and the primary school all separated from the centre only by roads. Links between the cotton and groundnuts buying station as well as with the proposed site for agricultural project is also direct. Besides the space is large enough and provides a very good opportunity for whatever expansion will be required in the future. The presence of a river near the site obviate the practice of modern irrigative farming to be introduced in the centres curriculum.

The site being on the junction of four major roads signifies the centres role as a focus point for the communities coming to Kafur via these roads and provides a very good advertisement for the presence of the centre.

6. Management and Finances

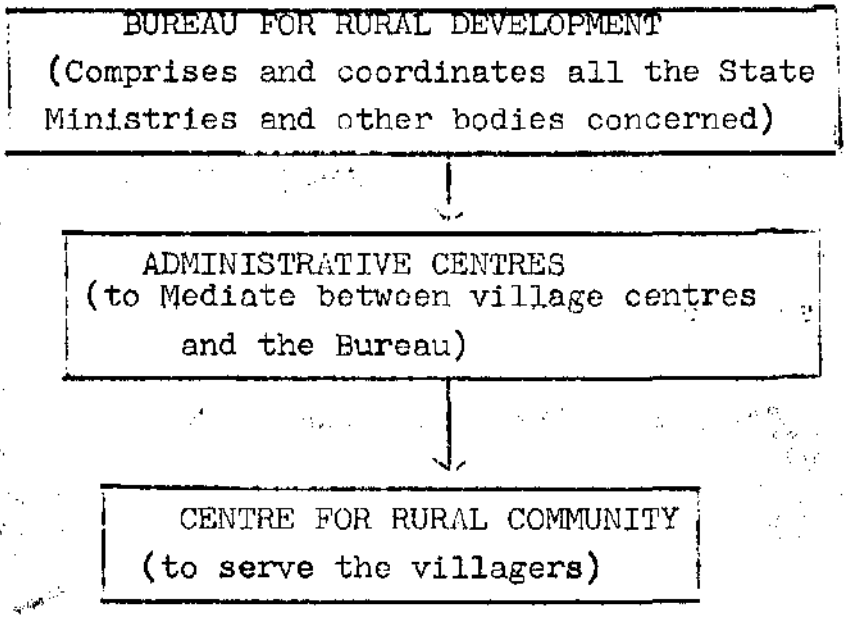
One of the vital functions of the scheme is to encourage and enable the villagers to move towards the vision of a caring, sharing society, to bring about the maximum involvement of the group, neighbourhood or community in solving the problems that concern them, in participating in the decision that effect them, and in running their own affairs. After all people should have a share in transforming their society and not be merely helpless objects of change.

To successfully achieve the above mentioned objectives it is very imporbtant that the villagers are encouraged to participate into all aspects of the centres activities. This way the people can discover their potentialities in realising and solving their own problems using their own efforts from their own resources of manpower and materials and with minimum assistance from the government. As much as possible local leadership should be aimed at. The views of the villagers (complains and suggestions) will thus be discussed within themselves and be communicated to the government representatives through the local leaders. This way the decisions about the running of

the centre will look rto be the villager's own making rather than being imposed on them from above (the government). Participation of the social workers can however be called upon at any stage of the decision.

The financing of the village centres will be catered for mainly by the Bureau for Rural Develop- (Explained earlier on) so created to comprise of all the State Ministries and other bodies interested in rural schemes. The secretariate of the above is based in Kaduna the capital of the Kaduna State and it is proposed that a sub centre or sub-secretariate is established at the administrative headquarter of each of the 14 Administrative Areas. It is through these sub secretariate that the village centres communicate with the main Bureau in Kaduna. This decentralisation will maximise efficiency and minimise inconveniences that might arise had it been that each village centre would have to communicate directly with the Bureau at Kaduna, thereby congesting and overloading the activities of the Bureau. The distance from some villages to Kaduna can be a barrier where direct communication is insisted upon. The diagram below gives

the operational hierarchy of the proposed scheme:




Supports for this scheme might also be gained at the international level. The organisations listed below have shown great interests on schemes undertaken in the rural areas throughout the world and are therefore likely to get involved into the proposed scheme. They include:

a) W.H.O. (World Health Organisation) - interests on: - Health aspects. Water supply and waste disposal.

b) I.B.R.D. (International Bank for Reconstruction and Development) interests on:

- Rural Housing and
- Rural Water supply.

c) F.A.O. (Food and Agricultural Organisation) interests on:

- Home Economics

d) W.F.P. (World Food Program) interests on:

- Resettlements
- Colonisation
- Housing and
- Rural Improvement

e) U.N.E.S.C.O. interests on:

- Fundamental Education
- Rural School Building Program
- Housing for rural workers
- Production of Local building materials
- Training of skilled masons.

## FOOTNOTES

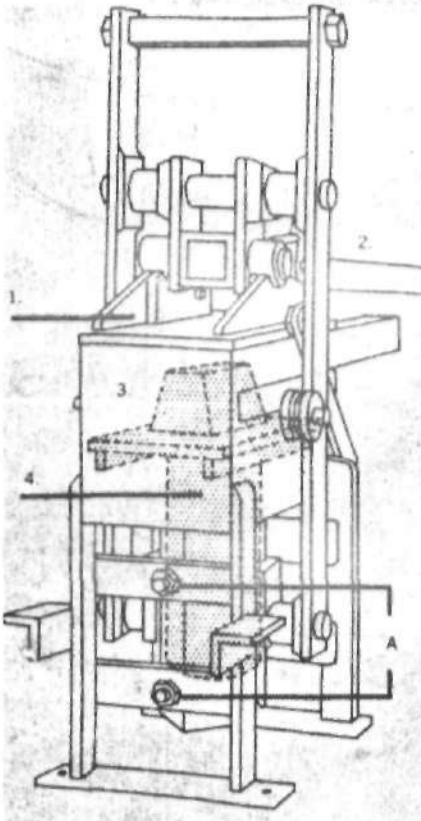
1. U.N.O. Rural Housing, World Report - New York 1969 p.25.
2. ibid
3. H.T. Saad, M.Sc. Architecture thesis, A.B.U., 1975, p.
4. See Kafur - Neighbouring settlements chapter 3, p. 25.
5. See Sketch Map 8 - Kafur village
6. See sketch on 'The Proposed Site.'



"SWISHCRETE" BLOCKS, GOLD COAST:
Some of the first blocks, used by Mr. Alcock at Asawasi, Kumasi, were made in wooden moulds. Here, the mix was 20:1 earth ("Swish"):cement.

hand moulding

# STABILISED EARTH
## block making




Cinva-ram moulder for soil cement blocks

1. The COVER. A rectangle of metal, joined to the box by two movable rods at the side to allow it to slide open and to close. Above it are two brackets to house one of the upper shafts of the lever's connecting rods.

2. The LEVER. Consists of a set of connecting rods, operated by hand, which set the piston in motion.

3. The BOX. A metal mould supported by four angular iron legs, constituting the frame of the whole mechanism.

4. The PISTON. Consists of a cylinder, guided between two adjustable angles and ending in a rectangular plate which serves as a compression plunger. To this plate is screwed a piece of wood, the function of which is to stamp the blocks. If solid blocks are wanted, the wooden piece can be taken off by removing the screws and filling the holes left in the plate with small screws.

A. SCREWS FOR LOOSENING THE PISTON GUIDES. Are used to loosen the piston if it fits too tightly between the guides, or vice versa.

machine moulding

# CHAPTER FOUR

## CONSTRUCTION MATERIALS -

### A. Wall Construction

Cost implication should be the key consideration for any rural project. With regards to building projects, especially in the rural areas where labour is relatively cheap, the cost of material and the construction techniques dictates the cost. But even the construction techniques depends more or less on the material in use. Choice of material thus turns out to be the vital factor the construction of this rural centre.

Six parts of sand to one part of cement is expensive, too expensive for the average villager to consider if he wishes his house to be stronger and more durable than the ubiquitous mud or mud and sticks - wattle and damb structures. Similarly are most other modern construction materials like aluminium sheet, asbestors and iron sheets, and steel. Not only are the actual costs of these items high, but factors like availability, transportation to the villages and the lack of skilled personel to use them in the villages

are all factors against the application of the modern materials in these villages.

Alternatively the use of mud as the main building material has been considered for this scheme. It is the cheap and abundant, and because it has been in use by the vernacular builders since time immemorial the construction techniques is no much of a problem.

It requires the simplest of equipment to be transformed from its state of structural instability (thus constant need for maintainance) into a stronger, durable and weather resistant external wall. The processes are described as 'stabilisation' and can be achieved juggling the balance of elements in the subsoil and/or puddling and/or compacting and/or by structural reinforcement and/or by the admixture of chemical known by civil engineering as mechanical stabilisation.[1] The stabilitising agents include cement, lime and/or bitumen with the cement being more popular among the rest.

Before going into the detailed explanation on soil - stabilisation it is worthwhile to first briefly discuss the nature of soil and characteristics of various kinds of soils.

1. Physical Properties of soil[2]

Soil is primarily made up of the following contituents:

a. Mineral substances resulting from the breakdown of the sedimentary and igneous rocks that form the earth crust as a result of physical, chemical and biological actions.

b) Organic substances - usually on the top layer of the earth (called top soil) as a result of the decomposition of animals and plants materials.

c) Sometimes also mineral salts can be detected depending on the locality.

The presence or absence of the above in a soil sample can be predicted fairly accurate from the colour of the soil sample:

a) Black and dark-brown, indicate the presence of organic materials.

b) Red and Reddish brown, indicate the presence of iron possibly in the form of iron oxide (hermitite).

c) Yellow and Yellowish brown - also indicate the presence of iron but in the form of hydrated iron

d) Grey, greyish - blue and yellow molted - these usually indicate high clay contents as a result of poor drainage

e) White - usually indicates the presence of iron or silica.

It is important that the above characteristics are understood because during stabilisation it is not every type of soil that will suit the purpose. For example[3] soil containing too much clay say, over 25% can be difficult to stabilise, and so also soil containing high perdentage of organic substances and/or mineral salts. Soils rich in iron and aluminium compounds but poor in silica compounds have very high stabilising properties of their own[4]. These properties are connected with the iron compounds contained, which when dried do not readily reabsorb water,

they consequently remain sticking tightly together for many years on.

Soils that weathered are usually high in silica compound and low in iron and aluminium. Such soils shrink and swell appreciably, and have low inherent stability. They are sticky and glue-like when wet, and rapidly break up into dust when dry.

A soil used for building in mud must dry hard and remain stable even if rewetted by rain continually year in and year out. It must not swell or shrink appreciably.[5] As the clays and colloids of lateric soils swell and shrink very little when wetted and dried, and as they remain fairly stable for very long periods, those soils are eminently suitable for building.

2. Soil Stabilisation[6]

One of the most important objectives of soil stabilisation is to increase the resistance of soil to the actions of destructive agencies such as water. This is achieved in 3 main ways:

a) By increasing the strength and cohesion of soil.

b) By reducing the movement of the soil caused by changes in the moisture content

c) By making the soil less readily wet.

Traditional methods evolved and practiced over the years proved satisfactory enough for the villagers though not good enough for modern application, they include:

a) Addition of natural oils

b) Addition of certain plan juices

c) Mixing of soil with crushed anthills

d) Mixing of clay and sand

e) Mechanical compaction of soil

f) Burning of clay to reduce its alkalinity.

The most modern methods of stabilisation of soils involve the increase of strength and cohesion of soil by addition of cementous material which help to 'cement the soil particles together in a manner analogous to the way it binds aggregates in a normal concrete mix[7].'

The stabilising agent chosen for this scheme is 'cement' and even though the existance of other methods e.g. addition of lime and or bitumen is

realised they will not be detailed here.

Because the soil already has some stabilising properties of its own, it is not necessary to add so much cement as in the case of sand which has none. The ratio of cement to be added varies with the nature of the soil in question. The nature of soil is very complex-great difference can be obtained between soil samples obtained between two plots quiet near to one another, as such empirical tests are the only practical solution to determine whether a soil is suitable for stabilisation and if so how much cement is necessary. The tests include:

Field Tests[8] A good field test is to make several blocks, say 45 cm x 22 cm x 15 cm using one part of cement to varying parts of soil. Make 3 blocks each of the ratios 1:18, 1:17, 1:16, 1:15 and 1:4 cement: soil making 15 blocks in all (the methods of making the blocks is explained later). Keep the blocks in the shade and, if in a dry climate, keep them damp by covering with sacking or matting, weathered frequently. After one week, immerse two blocks of each strength in water in a tank, pond or stream all night

and place them in the sand all day. Continue with this for one week, thus alternatively wetting and drying them seven times.

If any of the blocks fall to pieces, crack, swell, bursts, flake or show other defects then the proportion of cement they contain is insufficient. If the whole range is deffective then the soil itself is unsuitable. Just to appreciate the stabilising effect of cement on soil make some blocks without cement, keep them a week and then place them in water with the others. Except in exceptional cases they will all fall to pieces in the first night.

The third set of blocks of different cement mixes should be kept exposed to the local climate for observation, and as control during the erection of the building.

Other tests to determine suitability of soil samples for stabilisation as well as finding out the soil constituents exist and are quit reliable.[9]

Preparation of Soil-cement blocks

Having tested the soil sample for suitability, correct soil cement ratio and amount of water to be added, an important factor is to make sure that there is enough of the soil sample to execute the project.

Soil for use is dug from below the top soil (top soil containing humus is first removed completely). The soil is dried to remove the moisture content and seived to eliminate roots, coarse materials and large gravels.

The soil is then mixed thoroughly with the right amount of cement. This is done either manually or mechanically using special machines (concrete mixers are found to be unsuitable). Addition of water is done with some care, it is dangerous to have the mixture too dry (better too wet than too dry).[10]

Blocks may be made by hand in wooden moulds in a similar manner used for sand-cement blocks (see photograph provided). The soil cement mixture should be well rammed into all corners with a rounded rammer, and the top smoothed off with a trowel or a wooden lath. Moulds may be removed at once, if the mixture is the right consistency.

Other machines deviced for soil-cement blocks include the 'teck-block,' the landcrete and the 'cinva-ram moulder'. Similarly, the mixture should be well rammed in all corners of the mould, the faces of which should be treated with oil to prevent sticking. The presence of clay in the mix makes the use of pallettes unnecessary; the soil-cement blocks may be lifted directly from the machine by hand immediately they are made (this is a considerable saving compared with sandcrete blocks making).[11]

Practical Details for use of Soil-Cement[12]

It is required that the design should be in accordance with British specifications and code of practice for unreinforced masonry and brickwork.

a) Slenderness ratio of up to 18 has been suggested by various authorities.

b) The use of Lintols above openings to distribute the concentrated loads.

c) Layout of walls should be made as simple as possible to avoid breakage and slender sections of wall such as would occur between closely sit windows and doors should be avoided.

d) Most buildings of soil-cement should be of single or double-storey but never more.

e) Motor used should be in harmony with the blocks. Motor may be made from the same sieved soil with the addition of some sand to the same strength as the blocks.[13]

f) The lowest coarse should begin at 25 cm above the ground level (just above the D.P.C.) the base being made of more durable material such as sandcrete blocks, concrete or stone work or bricks. Otherwise if soil-cement is used it should be rendered to the D.P.C. level.

g) Window cills should be made of very durable material such as precast concrete slabs weathered and throated.

Finishes

Internally, the blocks will take plasters, i.e. cement and cement lime renderings which adhere well, but it is essential that the plaster should not be too strong. Certainly not stronger than 1:12 cement: sand.[14] The addition of lime or 5% to 10% of clay to the mixture will help.

Externally, tyrolene plaster with a base of sand cement in the ratio of 7-14 parts of sand to 1 part of cement have proved most efficient. Soil cement will also take the usual variety of stucco treatment applied to brickwalls, if desired. They should however not contain a high proportion of cement. The above treatments will increase the materials resistivity to weather and also improve the appearance of the building.

If the soil is good and a cut-down in cost is required, there is no need for external treatment other than painting. Where trouble arises because the soil turns out to be not as good as expected, the exterior is coated with a coat or two of ordinary portland cement washed or covered with a dash of sand and cement, and tyrolene finished.

B) Roof Construction

For construction in the rural areas the same arguments with regards to cost, availability and workmanship do not favour the use of modern roofing materials with aluminium, asbestos and corrugated iron sheets or reinforced concrete. So the architect once·

again has to turn to the favourable material - the earth, which besides being abundant its use for roofing has been mastered by the Local builders through centuries of application.

The usual dome-like construction very common in the locality is a technique that allows the material to suffer only compressional with little or no bending forces. Reinforcements for the arches and vaults are by means of 'azara' beams- normally cut into pieces and built even within the wall.

The mud-roof construction has been well analysed and the diagrams included show possible alternatives for the arrangements of pieces of azara beams during the roof construction.

The roof could be effectively water-proofed by white-washing with lime. Internally it is plastered and may even be painted in differing colours to give an interesting under-roof - a colour scheme for each type of space has been suggested for this scheme.

C) Floor construction

This aspect of construction has depicted the Architects desire to go tradional. This is because

the traditional material for flooring[15] is not water-proof. The floor is not hygenic and tends to flake.

However on cost consideration the use of 75 cm or 100 cm concrete is not justifiable. The use of the buildings and the simplicity of the furniture can accept a weaker floor. A combination of traditional method and modern techniques will do here. Rammed laterite, 25-30 cm will form the structural part of the floor while the finish could be made of 2.5 -5cm sand cement screed.

## FOOTNOTES

1. Article by Colin Moorcraft in Eco-Tech
2. H.T. Saad - M.Sc. Arch Thesis, A.B.U., Zaria June, 1975. p.
3. R.T. Fullerton, Building Construction in warm climate Vol. 2 p. 184
4. Colonial Building Notes Department of Scientific and Industrial Research No 16 p. 5.
5. ibid p. 3
6. H.T. Sa'ad - M.Sc. Arch Thesis A.B.U. Zaria June 1965, p.
7. ibid p.
8. Colonial Building notes No 16 p.6
9. H.T. Saad M.Sc. Arch Thesis June 1975 p.
10. Colonial Building Notes NO 16 p. 6
11. ibid p. 7
12. H.T. Sa'ad M.Sc. Arch Thesis June 1975 p
13. Colonial Building Notes No. 16 p.9
14. ibid

# CHAPTER FIVE

## APPROXIMATE ESTIMATED COST AND COST IMPLICATIONS

There are various methods of determining the approximate estimated cost of a building. The choice of method depends on the degree of accuracy required, the amount of information available hence the purpose of the estimate.

In this exercise the information available can adequately facilitate the preparation of an estimate based on the approximate quantities method. This is therefore the method to be used.

The approximate estimated cost when determined will beside enabling us to know the anticipated total cost also provide a basis for determining:

a) the cost effect of using local materials and constructional methods.

b) the amount of savings that can be achieved by engaging communal or cheap labour as against labour paid for at the approved set down rates.

For convenience, only the main core of the village centre will be costed and the rates obtained will be

used directly to find the approximate estimate of the remaining component buildings. The structures have been categorised into four main types.

i) circular/ellipticals with domed roofs.

ii) circular with thatch roofs.

iii) elliptical with asbestos roofing (the main hall)

iv) connecting rooms/toilets with flat roofs.

## Preliminary Calculations

### 1) Circular/Ellipticals with domed earth roofs

Taking a circular room of 7 meters diameter and breaking it into the following groupings:

a) Foundations up to and including damp proof course.

b) Walls including plaster and paint both sides.

c) Roof structure including plaster and paint to soffit.

d) Floor structure including surface excavation, hardcore filling and screed.

e) Openings (doors and/or windows) including frames, ironmongery and paintting (measured extra-over item b above).

On analysing each group, a rate can be calculated which when applied to the quantity gives the total 'group cost' for the building.

As an example group (a ) is analysed as follows:

1) Excavate for foundations in trenches not exceeding 1.5 m deep commencing 150 mm below existing ground level — 23.76m$^3$ @ ₦1.00 = ₦23.76

ii) Return fill in and ram selected Excavated material around foundations — 13.76 m$^3$ @ ₦0.70 = ₦9.63

iii) Remove surplus excavated material from the site — 10.00 m$^2$ @ ₦0.60 = ₦6.00

iv) Level and compact botton of Excavations to receive concrete — 19.80m$^3$ @ ₦0.20 = ₦3.96

v) Planking and strutting to curved surfaces of trench radius 3.50m and not exceeding 1.50 total depth below ground — 26.40m$^2$ @₦1.20 = 31.68

vi) Plain concrete (1.3:6) foundation in trenches over 150 but not exceeding 300 mm thick — 7.00 m$^3$ @ ₦40.00 = ₦280.00

vii) 450 x 225 x 225mm sandcrete $20m^2$ @ ₦9.00
solid blockwork in foundations = 180.00

viii) Double layer felt d.p.c. 22m @₦0.90
on block work 300mm wide = 19.80

Total =₦531.07

22 linear meters of foundation (the perimeter) cost ₦531.07

∴ 1 linear meter will cost $\frac{531.07}{22}$ = ₦24.14

In a similar manner the rates for the other groupings were calculated as follows:

| Group | Quantity | Rate(₦) | Amount (₦) |
|---|---|---|---|
| a | 22.00m | ₦24.14 | 531.07 |
| b | $83.60m^2$ | 9.40 | 785.84 |
| c | $12.83m^2$ | 36.00 | 461.88 |
| d | $38.50m^2$ | 4.80 | 184.80 |
| e | $3.96m^2$ | 13.20 | 52.27 |
| | | Total | =₦2015.86 |

floor area = $A_1^2 = \frac{22}{7} \times \frac{7}{2} \times \frac{7}{2} = 38.50m^2$

∴ cost per $m^2$ of floor area = $\frac{₦2015.86}{38.50}$

= ₦52.36

Applying the same principle the "all in rates" for the main hall and the connecting rooms with flat earth/cement roofs were found to be ₦45.65 and ₦41.92 per $m^2$ floor area respectively.

Having come this far, we are now in a position to determine the approximate total cost of the project.

(A) Core of the Centre

| Type of Building | No | Total Area ($m^2$) | Rate/$m^2$ floor Area(₦) | Amount (₦) |
|---|---|---|---|---|
| 6 m dia rooms | 8 | 226 | 52.36 | 11833.36 |
| 7 m-ditto - | 9 | 347 | 52.36 | 18168.92 |
| 8 m-ditto - | 1 | 50 | 52.36 | 2618.00 |
| Ellipticals | 5 | 263 | 52.36 | 13770.68 |
| Main Hall | 1 | 159 | 45.65 | 7258.35 |
| Connecting rms | 12 | 72 | 41.92 | 3018.24 |
| Toilets | 15 | 90 | 61.72 | 5554.80 |
| | Total | = 1207.00$m^2$ | Total = | ₦62222.35 |

II Circular with Thatched Roof

The only difference between this and the one previously analysed is the roof structure.

Investigations into cost of traditional buildings conducted in Zaria City revealed that a 6m diameter room can be thatched for approximately ₦130.00 as per the breakdown below:

Bamboo sticks 200 No @ 8k = ₦16.00

Grass 150 bundles @ 50k = ₦75.00

Rope 6 bundles @ ₦1.50 = ₦9.00

Total = ₦130.00

From I, cost of roof element = ₦461.8

floor area of building = $38.50m^2$

∴ cost of roof per $m^2$ of floor $\frac{₦461.8}{38.50}$

= ₦12.00

From II, cost of roof element = ₦130.00

floor area of building = $28.26m^2$

∴ cost of roof per $m^2$ of floor = $\frac{130.00}{28.26}$

= ₦4.60

Thus the thatch roof, compared with the earth/ cement domed, roof comes out cheaper by ₦7.40 per $m^2$ of the floor.

Hence the 'all in rate' per $m^2$ floor area for a thatch roofed circular room = ₦52.36 less ₦7.40 = ₦44.96

We can now apply the principle of 'all in rates' to calculate the approximate estimated costs of the rest of the component buildings at the village centre:

| | Type of Building | No | Total area ($m^2$) | Rate/$m^2$ floor area(₦) | amount(₦) |
|---|---|---|---|---|---|
| B | CHALLETS | | | | |
| i | 6m dia rooms (with thatch roofs | 8 | 226 | 44.96 | 10160.96 |
| ii | toilets | 8 | 48 | 61.72 | 2962.56 |
| | | | | Total cost | ₦13,123.52 |
| C | MOSQUE | | | | |
| i | Main Mosque | 1 | 52.00 | 52.36 | 2722.72 |
| ii | Minarets | 2 | 6.28 | 52.36 | 328.82 |
| iii | Reading room | 1 | 28.26 | 52.36 | 1479.69 |
| iv | Toilets | 2 | 24.00 | 61.72 | 1481.28 |
| | | | | Total cost = | ₦6021.51 |

| Type of Building | No | Total area ($m^2$) | Rate/$m^2$ floor area (₦) | Amount (₦) |
|---|---|---|---|---|
| D CLINIC | | | | |
| i 7m dia room | 1 | 38.50 | 52.36 | 2015.86 |
| ii 6m - ditto - | 2 | 56.52 | 52.36 | 2959.39 |
| iii Toilets | 2 | 24.00 | 61.72 | 1481.28 |
| iv Connecting rms | 2 | 12.00 | 41.92 | 503.04 |
| | | | Total cost = | ₦6959.57 |
| E POSTAL AGENCY/ *Co-op Shop* | | | | |
| i 8m dia room | 2 | 100 | 52.36 | 5236.00 |
| ii 6m dia room | 1 | 28.26 | 52.36 | 1479.69 |
| iii Toilets | 2 | 12 | 61.72 | 740.64 |
| iv Connection room | 1 | 12 | 41.92 | 503.04 |
| | | | Total cost = | ₦7959.37 |

Cost effect of circular (traditional) shape on Perimeter Walling

a) Considering the 6 meter diameter room:

Perimeter = $\pi d$ = 18.84m

area = $\pi r^2$ = 28.26 $m^2$

b) A rectangular room of sides 7 mand 4 m has:

perimeter = 2(7+4) = 22m

area = 7 x 4 = 28$m^2$ about the same as the circular room above.

Taking a wall height of 3.00 m say the total area of perimeter walling in the two cases are:

- rectangular = 22 x 3 = 66.00 $m^2$
- circular = 18.84 x 3 = 56.52 $m^2$

Difference = 9.48 $m^2$

This reflects a saving of 14% in the cost of perimeter walling through the use of circular shape.

Cost effect of using local materials as against imported Materials

Here, cost comparism has been made considering a meter square (1$m^2$) of walling and then finding its approximate estimated cost using the imported material (cement with some sand), the local/traditional material (earth), and the new material (a combination of cement and earth).

a) Cost per meter square walling using stabilised Earth:

Consider 1$m^3$ of stabilised earth:

- ratio of cement to earth = 1:14

∴ volume of cement = $\frac{1}{15}$ $m^3$

But volume of 1 bag of cement (50 kg wt) = 0.035 $m^3$

∴ For 1$m^3$ No of bags required = 2

Cost per bag = ₦6 ∴ Total cost of cement = ₦12.00

4.00 $m^3$ (5 $yd^3$)/1 tipper[1] lorry of earth costs ₦8.00

1$m^3$ costs ₦2.00

∴ 0.93 $m^3$ costs ₦1.86

∴ Cost of material/$m^3$ = ₦12 + 1.86 = ₦13.86

Cost per 1$m^2$ = ₦4.16 - materials only.

No of 40 x 20 x 15 cm block = $\frac{1}{0.40 \times 0.20 \times 0.15}$ = 80 blocks

(allowing 4% for waste)

∴ Cost per block = ₦0.17 or 17k (materials only)

Labour in moulding:[2] 100 blocks cost ₦1.20

∴ 1 block costs ₦ $\frac{1.20}{100}$ = 1.2k

We require about 25 blocks per 1$m^2$

∴ Cost of moulding = ₦0.012 x 25 = 30k

Labour in building[3]

Consider 1 builder and 2 labourers working 8 hours -

These can build 8$m^2$ of 300mm thick walling

1 builder @ ₦2.80 = ₦2.80

2 labourers @ ₦1.20 = ₦2.40

₦5.20

Cost of building per $1m^2$ = $\frac{₦5.20}{8}$

= 65k

∴ Total cost of $1m^2$ walling in position

= ₦4.25

0.30

0.65

₦5.20

Similarly the costs of sandscreed and earth wallings were found to be ₦8.00 and ₦1.55 respectively. Comparative costs per $1m^2$ walling are as follows:

| Material | cost $1m^2$(₦) |
|---|---|
| Hollow cement blocks | 8.00 |
| Earth Blocks | 1.55 |
| Soil-cement blocks | 5.20 |

The above shows a saving of up to 35% on $1m^2$ walling using stabilised earth blocks compared to hollow cement blocks. The wall obtained with stabilised earth is strong enough to replace hollow cement block walling for most building uses in the rural areas while it may not require the every season tideous maintanance that the earth walling definetely requires.

1. Ministry of Works and Housing Kaduna State
2. ibid
3. ibid.

## DESIGN SUMMARY

The realisation of rural conditions - as they exist, and the understanding of these conditions - through studies, has helped the architect to evolve an Architecture unique in its own context and oriented to suit the rural conditions.

'Simplicity' is the approach taken, and economically, it has been achieved both through the choice of material/technology and through the choice of shape. The circular shapes chosen are not only the most economical - space wise, but they are also the simplest to layout - No wonder they have been in use since ages immemorial.

'Courtyard' is the unit taken for the design. This not only conforms with the circular shapes adopted but also reflects the traditional layout of spaces and activities.

Thus altogether it has been an attempt to dash out to the villagers an architecture that looks quite homely in the rural environment. This way the villagers accept and participate fully in the activities of the village centre, a chance to improve ones living conditions and to contribute more to the society he lives in and to the development of the Nation.

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