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A STRATEGY FOR URBANISATION IN THE LOWER
SHIRE SUBREGION, MALAWI

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"A thesis submitted in "part" fulfillment for
the Degree of Master of Arts (Planning) in the
University of Nairobi."

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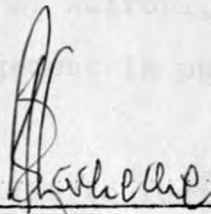
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D E C L A R A T I O N

This thesis is my original work and has not been presented for a degree in any other University.

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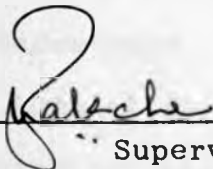


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B.G.W. KACHECHE.

ABSTRACT

Malawi, like several developing countries is faced with the problem of having a few major towns to which many people flock from all over the countryside in search of employment. Most of the migrants to towns are from the productive age group so that the countryside is all the time losing resourceful manpower which is needed for its own development. This wholesale drain of manpower is normally more than what the towns can accommodate in terms of employment and social services. The result is, that the towns turn into 'hot-spots' of 'do or die' due to high level of unemployment, strain on social services and consequential social problems. In other words towns suffer from an imbalance of population, jobs and services.

With full awareness that urbanisation is a universal phenomenon which cannot be fully arrested the aim should be to reduce the rate of migration by developing alternative centres which should provide modern amenities of life and job opportunities in the rural hinterland.

This study of urbanisation is centred on the Lower Shire subregion. It has been observed from the

study that the level of urbanisation is too low. There are only five main centres in the subregion but these are still small centres by national standards. Two of them are District Centres with their origin in the colonial days but the rest are products of post colonial development activities. Besides these five centres there are a number of small centres with potential for growth. Thus the approach to the study was to analyse the urban structure of the subregion, to weigh their potential for growth and sustenance and to design a strategy for the whole future spatial organisation of the subregion.

It is envisaged that the study will promote regional and interregional linkages which will help in the development process of the subregion and overall reduction in influx to major urban centres of the country.

TABLE OF CONTENTS

	<u>PAGE</u>
Title of Thesis	(i)
Declaration	(ii)
Acknowledgement	(iii)
Abstract	(v)
Table of Contents	(vii)
List of Maps	(x)
List of Tables	(xi)
List of Plates	(xiv)
 <u>CHAPTER ONE</u>	 1
1.0 INTRODUCTION	
1.1 Statement of the Problem	
1.2 Objectives of the study	
1.3 The Study area	
1.4 Methodology	
1.5 Limitations	
1.6 Scope of the Study	
 <u>CHAPTER TWO</u>	 13
2.0 BACKGROUND INFORMATION	
2.1 Development Background	
2.2 Population Aspects	
2.3 Economic Aspects	
2.4 Transport and Communication	

- 2.5 Aspects of Existing Settlements
- 2.6 Summary of main problems and Development Issues

CHAPTER THREE

68

- 3.0 ANALYSIS OF QUESTIONNAIRE SURVEY
- 3.1 Introduction
- 3.2 Chikwawa
- 3.3 Nchalo
- 3.4 Ngabu
- 3.5 Bangula
- 3.6 Nsanje
- 3.7 Main observations from the Survey

CHAPTER FOUR

104

- 4.0 URBANISATION POLICY EXPERIENCES
- 4.1 Situation in Developing Countries
- 4.2 Urbanisation Policy in Malawi
- 4.3 Kenyan Urbanisation Policy
- 4.4 Comment on Kenyan and Malawian approaches

CHAPTER FIVE

125

- 5.0 TOWARDS AN URBANISATION STRATEGY
- 5.1 Introduction
- 5.2 Physical Constraints
- 5.3 Population
- 5.4 Employment opportunities
- 5.5 Recreation and Tourism
- 5.6 District Administration
- 5.7 Transportation
- 5.8 Electric Power Supply
- 5.9 Scattered Services and Proliferation of small centres
- 5.10 Regional and Interregional Linkages
- 5.11 Hierarchy of Centres
- 5.12 Transportation
- 5.13 Ribbon Development Control Order
- 5.14 Implementation

CHAPTER 6

155

- 6.0 SUMMARY AND CONCLUSION

BIBLIOGRAPHY

160

APPENDICES

- I Population

162

- II Services available at Main Centres per District and Chief's Area

- III Questionnaire

171.

LIST OF MAPSPage

1.	The Lower Shire in the National Context	4/5
2.	Physical environment	5/6
3.	Population Density	22/23
4.	Existing Centres by population in 1977.	25/26
5.	Land capability	26/27
6.	Land Use - agriculture	33/34
7.	Mineral Occurrences	38/39
8.	Recommended hierarchy of centres	139/140
9.	Rail and Road proposals.	149/150

LIST OF TABLES

	<u>Page</u>
1. Population projection	17
2. Population growth and density	18
3. Net population density by Traditional Authorities	20/21
4. Population of major centres	24
5. Projection of urban population	25
6. Land capability	27
7. Projection of Arable land per rural household	29
8. Fish land from main waters of Malawi	37
9. Chikwawa - Origin of customer and mode of travel	68
10. Chikwawa - Customers reason for coming to the centre, duration, frequency, expenditure and employment.	69
11. Chikwawa - Other centres visited by customers, reason, frequency and mode of travel.	70
12. Chikwawa - Customers age, sex, education and problems encountered at the centre.	71
13. Chikwawa - Age, sex, education and origin of vendor.	73
14. Nchalo - Origin of customer and mode of travel	74

		<u>Page</u>
15.	Nchalo - Customers reason for coming to the centre, duration, frequency, expenditure and employment.	75
16.	Nchalo - Other centres visited by customers reason, frequency and mode of travel	76
17.	Nchalo - Customers age, sex, education and problems encountered at the centre.	77
18.	Nchalo - Age, sex, education and origin of vendor.	79
19.	Ngabu - Origin of customer and mode of travel.	81
20.	Ngabu - Customers reason for coming to the centre, duration, frequency, expenditure and employment.	82
21.	Ngabu - Other centres visited by customers, reason, frequency and mode of travel	83
22.	Ngabu - Customers age, sex, education and problems encountered at the centre.	84
23.	Ngabu - Age, sex, education and origin of vendor.	85
24.	Bangula - Origin of customer and mode of travel.	87

	<u>Page</u>
25. Bangula - Customers reason for coming to the centre, duration, frequency, expenditure and employment.	88
26. Bangula - Other centres visited by customers, reason, frequency and mode of travel.	89
27. Bangula - Customers age, sex, education and problems encountered at the centre.	90
28. Bangula - Age, sex, education and origin of vendor.	91
29. Nsanje - Origin of customer and mode of travel.	93
30. Nsanje - Customers reason for coming to the centre, duration, frequency, expenditure and employment.	94
31. Nsanje - Other centres visited by customers, reason, frequency and mode of travel.	95
32. Nsanje - Customers age, sex, education and problems encountered at the centre.	96
33. Nsanje - Age, sex, education and origin of vendor.	97
34. Distribution of growth centres by Province	

LIST OF PLATES

	<u>Page</u>
1. The valley from the Escarpment	4/5
2. Kamuzu bridge at Chikwawa	4/5
3. Unofficial market under a tree at Chikwawa	5/6
4. Borehole water supply in Ngabu area	5/6
5. Newly built rail-road bridge at Chiromo	15/16
6. Looking upstream from the bridge at Chiromo	15/16
7. Nchalo sugar factory	47/48
8. Sugar cane arriving at factory	47/48
9. Looking down Thekerani Rural Growth Centre from a hill top nearby	114/115
10. Thekerani - newly built community hall	114/115
11. Thekerani - renovated primary school and new playing field in the foreground	114/115
12. Thekerani - new produce market.	114/115

CHAPTER 1

1.0. INTRODUCTION:

1.1 STATEMENT OF THE PROBLEM

1.1.1 While it can be said that the distribution of human settlements in general is an expression of resource endowment and exploitation of a given area, the distribution and function of administrative and service centres on the other hand is a secondary development whose origin or development transcend pure consideration of resource endowment.. The observation is no less pertinent in the Lower Shire subregion of Malawi. The development of existing centres or the existing pattern of service centres is an outcome of several factors and decisions made in the precolonial and post-colonial periods. It is not within the scope of this chapter to explore the *raison detre* of the existing pattern of urban and service centres suffice it to say that the subregion todate is an integrated agricultural development project area. In this project which falls under the Ministry of Agriculture the function or role of centres as a means of providing services and promoting social and economic growth has not received the attention it deserves in the overall resource planning of the subregion. One has only to look at the statute of the establishment of the Lower Shire Valley Development Authority in 1970 to understand the meagre treatment

of the subject. The project is largely directed at increasing agricultural productivity and improvement of related aspects of health, road development, game and tourism, settlement research and evaluation and expansion of agricultural processing activity.

1.1.2 Consequently, the Lower Shire settlement pattern is to date a proliferation of different sizes of centres performing more or less interrelated functions of different scales and whose location and growth potential is left to chance. In brief there is no strategy or co-ordinating framework for the location of services and facilities or the development of centres. The improvement in the agricultural performance of the subregion and the development of improved transport infrastructure is stimulating the growth of more services and facilities or centres and posing yet more problems of growth and competition among adjacent centres especially those whose scale of activities and function are comparable.

1.1.3 Admittedly, there is need to provide a framework for an integrated rural/urban development which in total would help to consolidate all the efforts being made to raise the standard of living

with limited available resources. By adopting a positive approach to urban development and paying particular attention to the needs and potential of the rural areas it is anticipated that the problems resulting from unplanned and too rapid urban growth can be reduced and the region's resources can be properly harnessed to further the development of the subregion and the whole country at large.

1.2 OBJECTIVES OF THE STUDY

1.2.1 The objectives of the study can be summarised as follows:-

1. to examine the process of development and to identify the problems associated with provisions of services and the growth of settlement in the subregion.
2. to examine the structure of selected centres in the study area to identify their growth and functional problems.
3. to examine existing policies for urbanisation to determine or assess their effectiveness in promoting development in the region.

4. to suggest policy possibilities for future urbanisation strategy.

1.3 THE STUDY AREA

1.3.1 The Lower Shire subregion consists of two districts, Chikwawa in the north and Nsanje in the south. The two districts form part of the southern Region of Malawi which has a total of 24 districts. The subregion covers 26000 sq. miles and in the 1977 population census it registered a total population of 320,000 (ref. Map No. 1).

1.3.2. Situated at the extreme southern tip of the country, and the southern end of the Great African Rift Valley, the subregion forms a well-defined geographical entity being a valley basin bounded on the east by an escarpment which rises to 4,800 feet. To the west it has a natural international boundary with Mozambique; the border follows a crest of a lower escarpment which forms a watershed between the Shire and Zambezi rivers. The hills and the cataracts on the Shire to the north form another natural boundary to the subregion. It is only in the south where the subregion has an unnatural colonial boundary with



Plate 1: The valley from the escarpment.

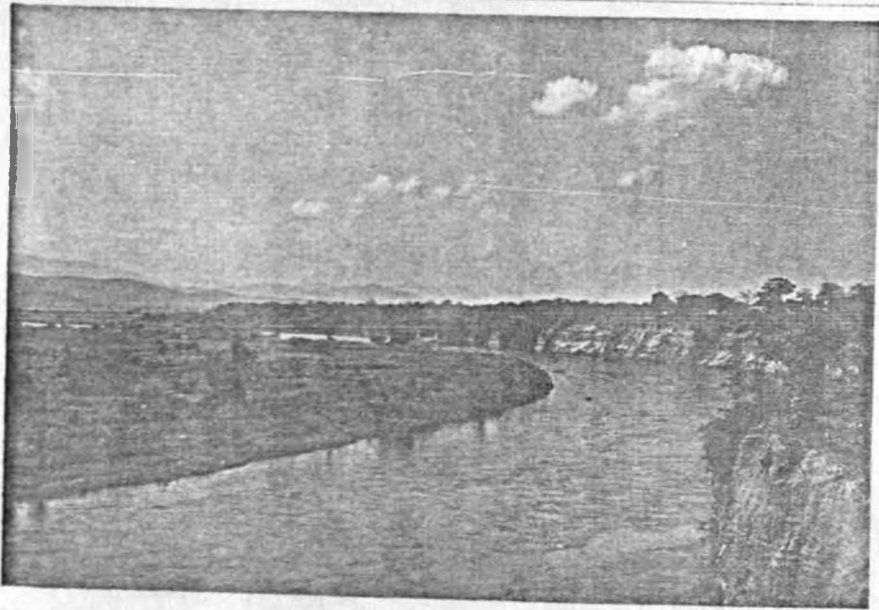
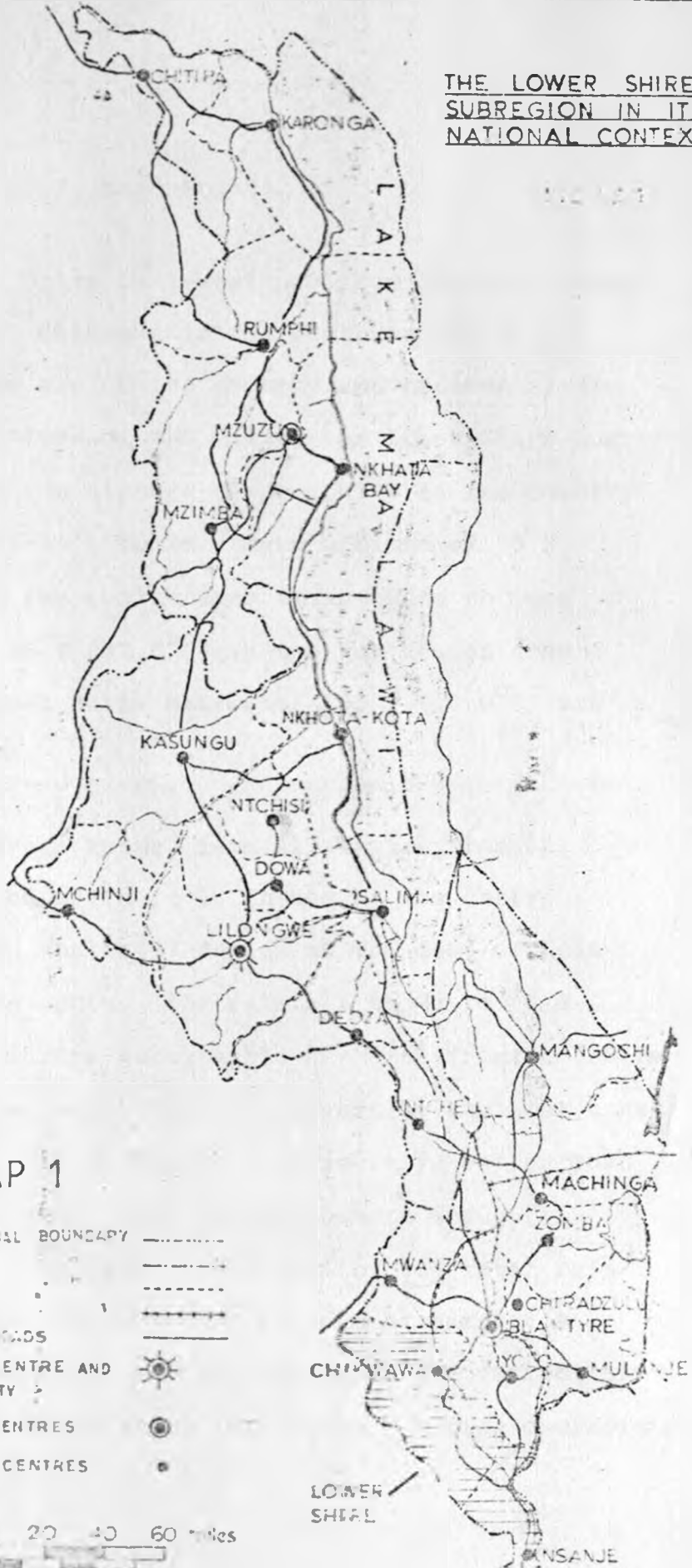


Plate 2: Kamuzu bridge at Chikwawa.

THE LOWER SHIRE
SUBREGION IN ITS
NATIONAL CONTEXT



MAP 1

- INTERNATIONAL BOUNDARY ————
- REGIONAL BOUNDARY ————
- DISTRICT BOUNDARY - - - - -
- RAILWAYS ————
- PRINCIPAL ROADS ————
- REGIONAL CENTRE AND CAPITAL CITY 
- REGIONAL CENTRES 
- DISTRICT CENTRES 



Mozambique (Ref. Map. No. 2).

1.3.3 The Shire valley slopes from 350 feet above sea level at Chikwawa in the north to 130 feet at the southern tip of the country and because of the low lying nature of the valley the Lower Shire subregion experiences the highest temperatures in the country ranging between a monthly mean minimum of 56^oF (13.4^oC) in the cool season around June to mean maximum of 99^oF (37.5^oC) in the hot season around September when daily maxima of 105^oF (40.9^oC) are quite common.

1.3.4 Average annual rainfall varies from 32 inches in the north to 28 inches at the centre around Ngabu and to 37 inches at the foot of Malavi hills in the south. The rainfall tends to rise steadily with the topographic gradient from the Shire River to the western hills. Generally the east bank at the foot of the Thyolo escarpment is wetter than the west bank and crop failure due to drought is unusual in this area. About 90% of the total rain falls between mid November and end of March. A salient feature of the wet season is the variability of the onset date which influences planting operations



Plate 3: Unofficial market under a tree at Chikwawa.

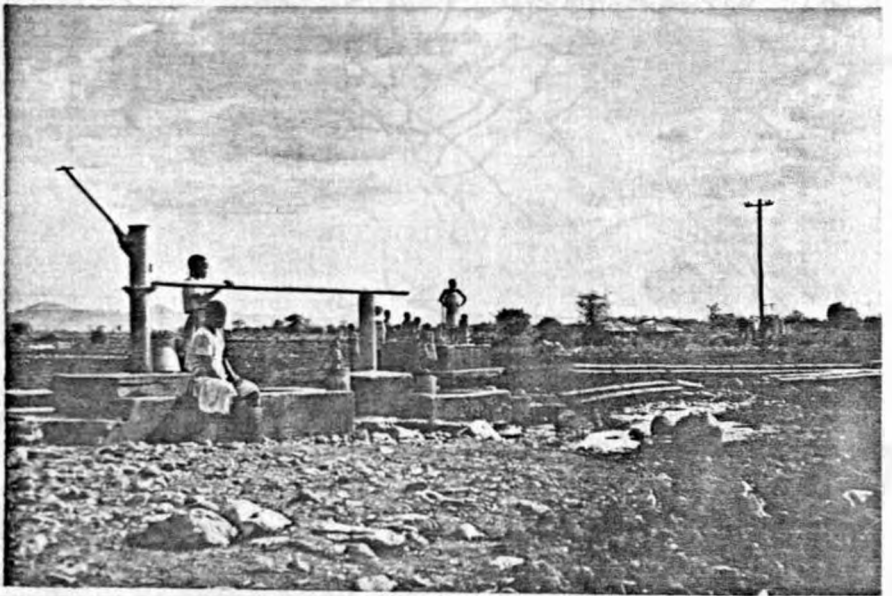
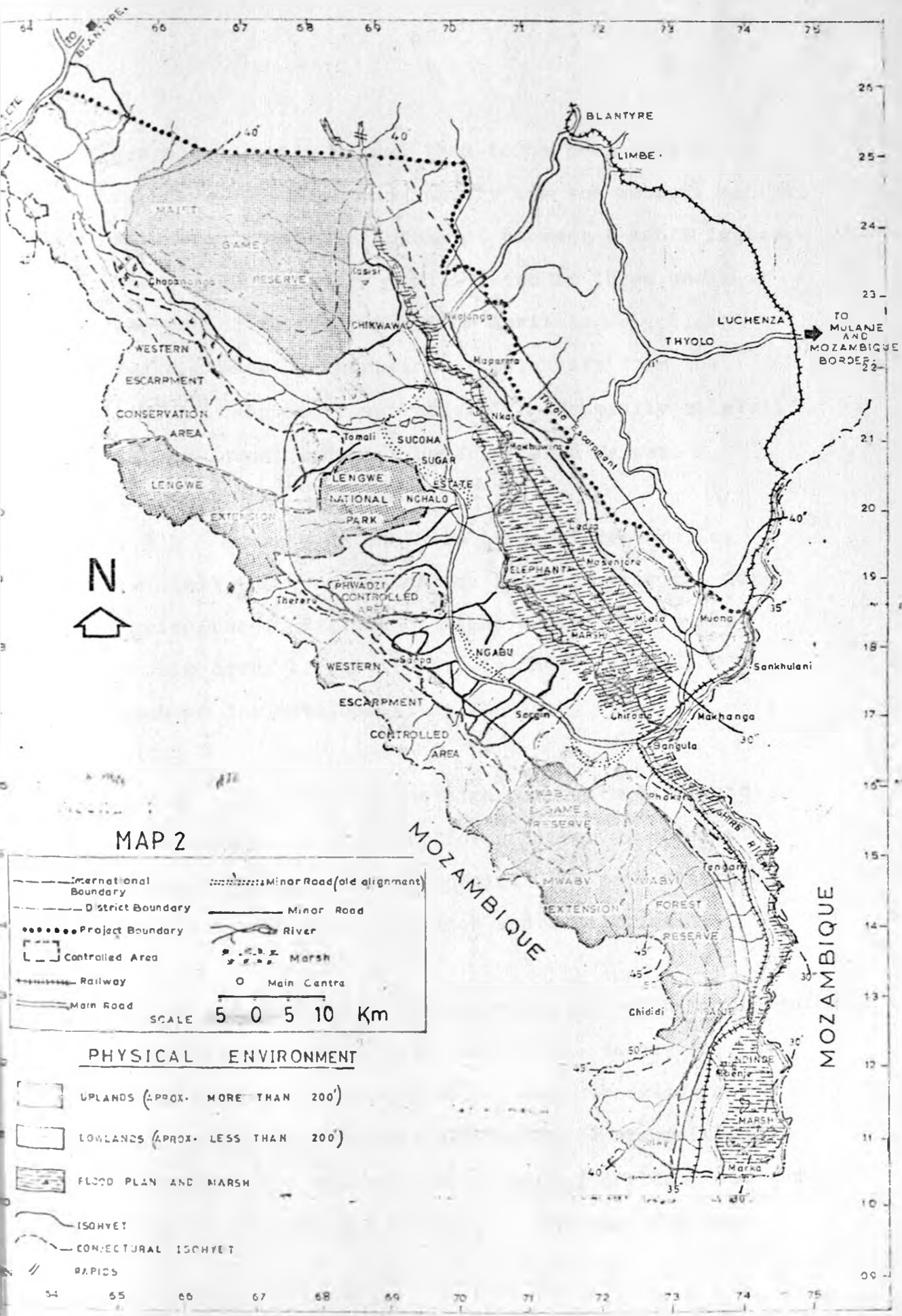


Plate 4: Bore hole water supply in Ngabu area.



MAP 2

	International Boundary		Minor Road (old alignment)
	District Boundary		Minor Road
	Project Boundary		River
	Controlled Area		Marsh
	Railway	0 Main Centre	
	Main Road	SCALE 5 0 5 10 Km	

PHYSICAL ENVIRONMENT

- UPLANDS (APPROX. MORE THAN 200')
- LOWLANDS (APPROX. LESS THAN 200')
- FLOOD PLAIN AND MARSH
- ISOHYET
- CONJECTURAL ISOHYET
- RAPIDS

MOZAMBIQUE

MOZAMBIQUE

and occasionally causes them to be postponed until January. December and January are the wettest months with mean monthly rainfall of between 6 and 8 inches. There is often a dry spell of two to three weeks at the end of February and from April to July light rains caused by intrusion of moist air from the Indian Ocean occur sporadically. Generally rainfall is the lowest and most unreliable in Malawi.

1.3.5 Because of the high temperatures and low rainfall the water situation is quite critical for agriculture. Failure of maize crop which is the staple crop, in particular, is one of the major problem for development in the lower Shire.

1.3.6 Furthermore, the high temperatures provide a favourable environment for a number of physical ailments particularly if coupled with poor sanitation and lack of health education and facilities.

1.3.7 Nevertheless, the incidence of high temperatures does not only spell problems for the subregion. It also offers good opportunities for harnessing solar energy and agricultural development where rainfall and soils are adequate for growth of certain food and cash crops such as rice, sugar cane and guar beans.

Cotton generally does well in the subregion because of the good soil conditions and its relative drought resistant qualities. In fact the subregion is the major producer of cotton in the country.

1.3.8 The problem experienced in the Lower Shire region concerning haphazard development of centres is by no means restricted to that area alone; it is a common phenomenon in the country especially in areas which were badly neglected in the colonial era and which began to experience substantial development after independence in 1966. The choice of the Lower Shire for the study is intended to draw attention to these areas and to show how the problem of unplanned urban development and its bad effects can be remedied in the early stages and thus avoid waste of public funds. Secondly the subregion has been chosen for the study because of the nature of its internal migration pattern and its proximity to Blantyre, the major employment centre in the country. The general trend of migration in the subregion is from Nsanje district to Chikwawa district which is less densely populated and offer more employment

opportunities in such activities as the sugar estate and factory and a number of agricultural and fisheries activities. Chikwawa itself, is only about 30 miles from Blantyre which is naturally a major attraction for the subregional outmigrants. The study is therefore intended to provide an attempt at arresting a massive outmigration of the resourceful manpower from the subregion. Thirdly the Lower Shire, like other areas has an agricultural Development Project programme which lacks an urban development input.

1.3.9. It is therefore the intention of the study to provide this missing link for an integrated or balanced rural-urban development. Finally but not least, the author having worked in the area for a number of years is well informed with the area and this factor provides a good basis for attempting a study of this kind given the limited time and resources of surveying the area.

1.4 METHODOLOGY

1.4.1. Data collection from the study area was basically of two types namely primary and secondary data collection. Primary data collection involved designing of two types of questionnaires i.e. customer and vendor questionnaires, inventory of existing services and facilities at main centres and general observation of the area. The questionnaires were intended to establish economic, service and transport linkages between the main centres and their hinterland and between the main settlements themselves. The idea was to add a functional aspect to the settlement pattern which would not be available from mere inventory of services and facilities at the centres. There are in all more than 50 centres in the subregion but the majority of them are very small consisting in some cases of few shops only. The survey was confined to the 5 main centres of the subregion which are fairly well distributed across the subregion.

1.4.2. Secondary data involved interviews with Agricultural Development Project officials including the Project Manager on various aspects of the activities

and plans for the subregion, collection of relevant documents and/or publications, interviews with public transport authorities in person and by telephone, interviews with Nsanje and District Commissioners and a number of government and parastatal authorities.

1.5. LIMITATIONS

1.5.1. Nearly all the subregion was visited except for the centres on the western escarpment namely Lulwe and Chididi missionary centres. Nevertheless, some of the government officials interviewed had been to those centres so they were in a better position to acquaint the author with the centres and the whole escarpment area in general. The main reason for not going to the border area with Mozambique was the political instability in the latter country which resulted in strict security controls in the area as a result of which the author was asked to surrender his film of 36 spaces at Chikwawa bridge because of taking a picture of the bridge.

1.6.2. Probably, the only data not collected of importance to this study is the traffic flow on the main existing road network. The only data available

was for 1966. Concerted effort both in writing and by telephone to secure this information from Ministry of Works was all in vain. However, it can be generally assumed that the nature and type of roads has a strong bearing on the traffic flow in the Lower Shire subregion. For instance the tarred road and good gravel roads which connect the major centres have unquestionably high traffic flow than the smaller secondary roads which are not properly maintained. Traffic or public transport in the latter roads tends to be seasonal.

1.6 SCOPE OF THE STUDY

1.6.1. The scope of the study is to analyse the existing situation vis-a-vis the type and nature of the settlements, their process of development and opportunities and constraints to development through an exposition of the resources of the subregion (which is the prime prerequisite for the urban process), the population distribution and density, availability of arable land per household to estimate rural overspill to urban areas, transport and communication pattern, opportunities for rural based industries and agro-industries. By

bringing these considerations together and drawing on the existing experiences in the country and other countries an attempt will be made to come up with a workable urbanisation strategy for the Lower Shire.

1.6.2. Chapter one has covered introduction including a statement of the problem, study objectives, geography of the study area, study scope and research methodology. Chapter two will focus on the factors affecting the existing pattern of urban development such as pre and post colonial developments, existing patterns and processes of urban development, migration pattern, socio-economic influences, analysis of existing centres and a summary of the main problems and development issues. Chapter three gives a structure of urban development as reflected by analysis of the customer and vendor surveys at the five main centres in the subregion. Chapter four covers urbanisation policy experiences in developing countries in general and Kenya and Malawi in particular. Chapter five gives suggested strategies for urbanisation in the subregion. Chapter six will cover summary and conclusion which will include suggestion of areas for further research.

CHAPTER 2

2.0 BACKGROUND INFORMATION

2.1 DEVELOPMENT BACKGROUND

2.1.1. The sharp contrast between development in the colonial and post colonial periods is well illustrated in the subregion. The subregion was very much neglected in the colonial period. Its only chance for development lay, firstly, in its being on the main water route entrance to the country along the Shire river which resulted in the growth of Nsanje (previously known as Port Herald), Chiromo and Chikwawa centres and secondly, in the growing and processing of cotton for export. The first cotton ginnery was installed at Chikwawa in 1920. Apart from these two factors the colonial administrators wanted to have a firm control over the indigenous people of the country in order to protect their establishment and hence they set up administration posts all over the country including Chikwawa and Nsanje in the subregion. Each of these posts had a District Commissioner and a police post and later commercial and health services. Thus by the end of the colonial government in 1964 the main developments in the subregion were the three settlements mentioned above, a poor gravel road linking them, a railway bridge (rebuilt in 1950) and a ferry on

the Shire river at Chiromo, plus the railway to the port of Beira on the Indian Ocean in Mozambique. In marked contrast to the long colonial period (1891 - 1964), the subregion has experienced a substantial amount of social and economic change through agricultural and infrastructural development within the few years of independence. Between 1964 and 1970 alone a number of notable schemes took place as follows:

1. The setting up of the cotton development project headquarters at Ngabu.
2. the Sugar Corporation of Malawi (SUCOMA) at Nchalo.
3. growth of Bangula largely consequential upon SUCOMA as the railhead for export of sugar to Beira and distribution to the northern part of the country.
4. new road bridge on the Shire river at Chikwawa.
5. Kasinthula irrigated rice project.
6. the construction of a 66 kv. power line to SUCOMA and extension of the 11 Kv line to Ngabu.
7. construction of cotton development project, local markets and housing.

8. development of Lengwe National Park in Chikwawa District.
9. development of Majete Game Reserve in Chikwawa District.
10. Young Pioneer Settlement schemes at Kakoma and Gola.

2.1.2. In the period 1970 - 1978 a bitumen road was completed between Chikwawa and Bangula, the rail bridge at Chiromo was converted into a rail/road bridge thus replacing the ferry and most important of all an authority was commissioned - the Shire Valley Agricultural Development Project - for an integrated rural development project covering the whole subregion, with its headquarters at Ngabu. The project is being funded by the World Bank.

2.1.3. Since 1978 a new gravel road between Bangula and Nsanje has been completed, the Blantyre - Chikwawa road has been improved to bitumen standard and a modern district hospital has been constructed at Nsanje. The major project now taking place in the subregion is the rehabilitation of Chikwawa-Bangula road by the Ministry of Works and Supplies. The government has also just signed an agreement with the



Plate 5: Newly built rail-road bridge at Chiromo.

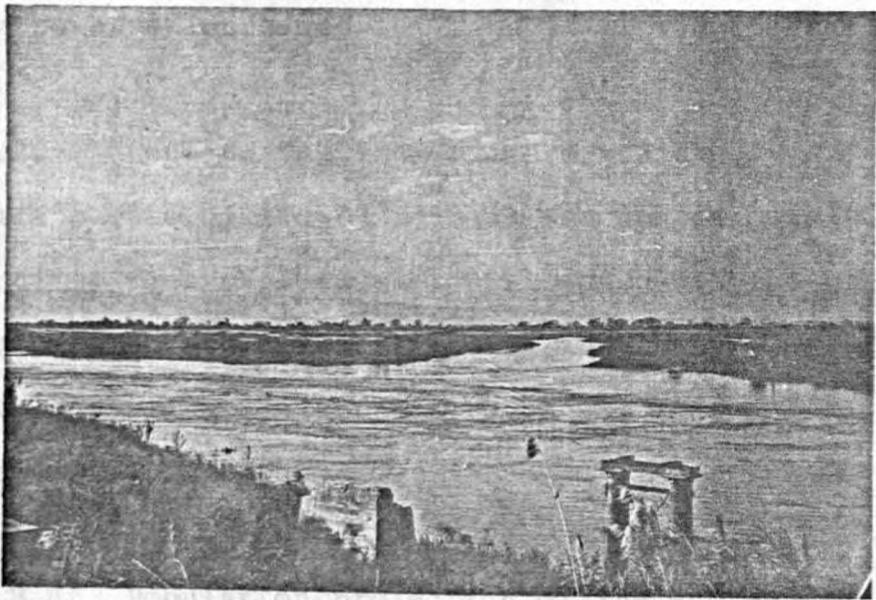


Plate 6: Looking upstream from the bridge at Chiromo.

American Government worth MK 100,000 for a third hydroelectric scheme at Kapachire falls near Chikwawa.

2.2. POPULATION ASPECTS

2.2.1. POPULATION GROWTH

2.2.1.1. In the 1966 population census the Lower Shire had a total of 248,598 persons. In the second national population census which was carried out in 1977. The population had increased to 319,206 which represents an annual increase of 2.3% for the region as a whole. Development projects however are likely to have increased the rate of growth above 2.3%.

2.2.1.2. Considering individual districts, Chikwawa's rate of growth (3.08%) was approximately three times that of Nsanje (1.03%) which was the lowest growth rate per district in the country as a whole. Outmigration appears to be the reason for Nsanje's small growth.

2.2.1.3 Population projection of the subregion should take into account the likely increase in the rate of population growth resulting from development activities as pointed out above. In order to do this,

the 2.3% annual growth rate for the subregion between 1966 and 1977 is taken as the lowest growth rate while the national growth rate of 2.96% for the same period is taken as the highest growth rate. An intermediate annual growth of 2.63% has been calculated with an explicit intention of finding a compromise population projection which can be used as a reasonable basis for this study. The population projections resulting from the three growth rates mentioned above are shown below in quinquennial periods:

TABLE 1:

POPULATION PROJECTION

Year	Lowest Projection at 2.30%	Highest Projection at 2.96	Intermediate Projection at 2.63%
1977	319,206	319,206	319,206
1980	341,550	348,254	344,743
1985	381,770	402,519	391,666
1990	427,098	464,764	444,973
1995	477,532	537,224	505,622
2000	534,032	620,537	574,571

2.2.2. POPULATION DENSITY

2.2.2.1. The overall number of persons per square mile for the subregion rose from 95 in 1966 to 123 in 1977. On district level Chikwawa had less density (112)

than Nsanje (151) whose density was almost equivalent to the national density (i.e. 153) in 1972. (Ref. Appendix 1).

TABLE 2

POPULATION GROWTH AND DENSITY

	1966			1977		
	Total Pop.	Area (sq.ml.)	Density	Total Pop.	Area (sq.ml.)	Density
CHIKWAWA DISTRICT	158,145	1,894	83	205,873	1,836	112
NSANJE DISTRICT	101,234	751	135	113,333	750	151
TOTAL	259,378	2,645	98	319,206	2,586	123

2.2.2.2. Although Nsanje District maintained a higher density than Chikwawa in both 1966 and 1977 national population census, Chikwawa experienced a higher net increase per area than Nsanje. The difference. The change in the pattern of densities appear to have been largely influenced by internal migration and presumably a return to Mozambique by some residents of that country upon its achievement of independence in 1975. Population density has increased remarkably on the east bank of Shire in Chief Mlolo and Makhuwira areas and also in Chief Lundu's are on the west bank due to the establishment of SUCOMA at Nchalo which has attracted a number of businesses and people.

2.2.2.3. The practical use of population densities as given in appendix 1 such as in estimating maximum densities for different chiefs' areas in the subregion is limited. This is so because these densities are overall averages of the number of persons per square mile of entire chiefs' areas as opposed to average number of persons per square mile of the available arable portion of each chief's area. The latter density, which excludes non arable parts of chiefs' areas wherever applicable could be described as net population density and this offers a realistic index of land pressure for comparative purposes with other parts of the subregion.

2.2.2.4. Eight chiefs areas are not entirely arable due to occurrence of factors other than marshes and these are Kasisi, Ngabu and Chapananga in Chikwawa District and sub chief Mbenje, Chief Tengani, Malemia, Ngabu and Ndamera in Nsanje District. The areas restricted to settlements in Chief Chapananga's area are the western escarpment controlled area, the Lengwe National Park and part of Majete Game Reserve; in Chief Kasisi area it is the northern escarpment area and part of Majete Game Reserve; in the Chief Ngabu it is the western escarpment controlled area and the Pwadzi controlled area; in subchief Mbenje and in

Tengani areas it is the Mwabvi Game Reserve and Matandwe Forest Reserve lies in the western part of chief Malemia and encompasses a small pocket of arable land around Chididi Mission. The hilly portions of Chief Ngabu (Nsanje) and Malemia are controlled areas and consequently not recommended for settlement. However, this area is strewn with a number of settlements. People have moved to this area from the lowland due to scarcity of land in the latter area and the cool climate of the hills seem to be a further attraction. Lulwe Mission is the main centre in this area. The net population densities of all eight areas as by 1977 have been estimated as follows:

TABLE 3:

NET POPULATION DENSITY BY TRADITIONAL AUTHORITY AREA

CHIEF'S AREA	ARABLE AREA (Sq.mls.)	POPULATION	NET DENSITY (persons per sq.ml.)
Chikwawa District			
1.Chapananga	252	37,361	149
2.Kasisi	44	11,117	253
3.Ngabu	259	58,322	225

TABLE 3 Contd...

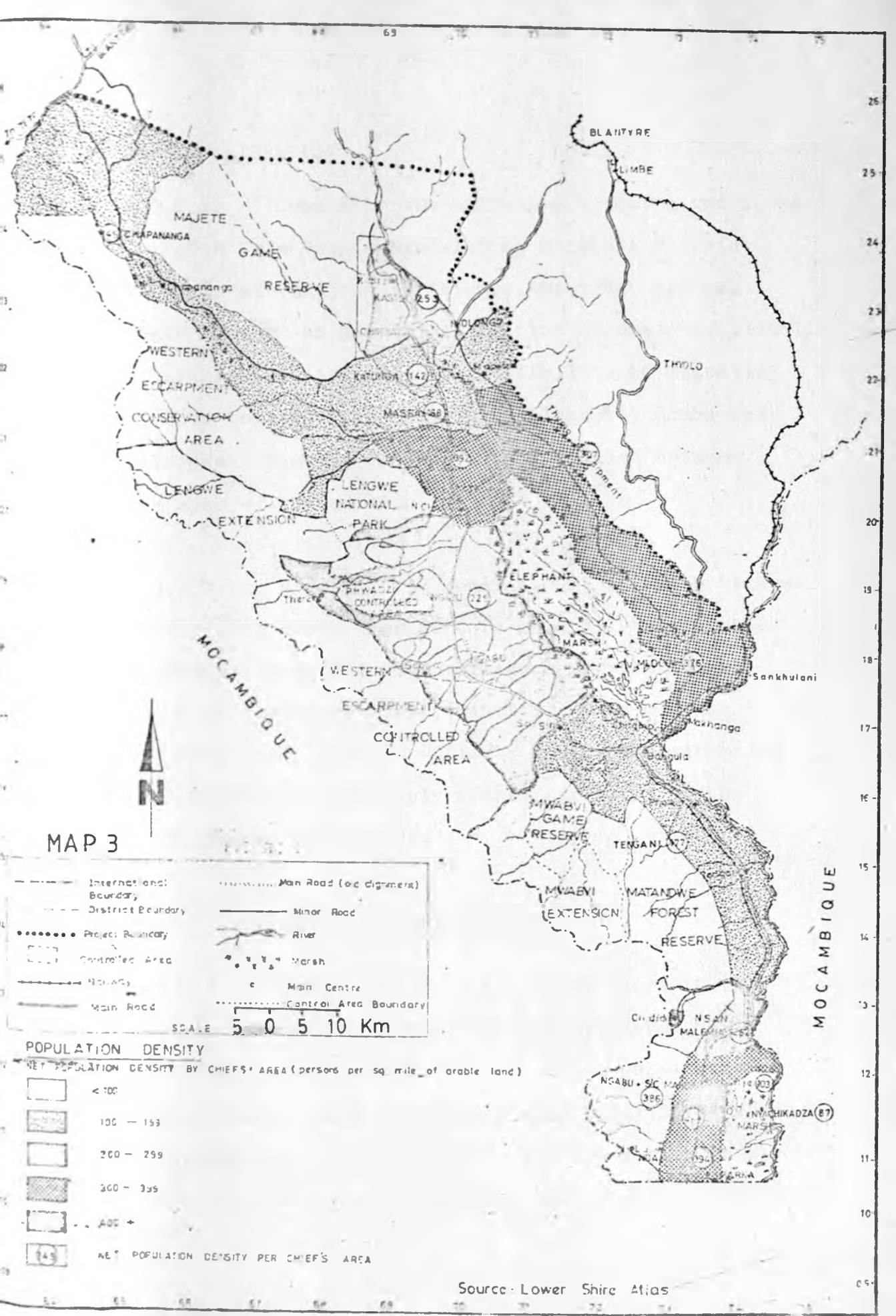
Nsanje District			
4. Tengani	70	12,411	117
5. S/C Mbenje	103	10,591	103
6. Malemia	27	7,060	262
7. Ngabu/S/C Makoko	22	8,496	386
8. Ndamera	37	14,589	394

Note: In Chief Kasisi, Ngabu (Chikwawa District) and Malemia the large centres namely Chikwawa, Ngabu and Nsanje respectively have been excluded in order to give a good reflection of the density in the surrounding areas.

2.2.2.5. Within marshy areas it is not easy to isolate arable portions because they vary from season to season depending on the extent and magnitude of flooding. The areas which are substantially affected by marshes are chief Nyachikadza (Ndinde marsh), Chief Mlolo (Elephant marsh) and Chief Makhuwira (Elephant marsh). These areas portray a different social and economical lifestyle on account of the frequent variation of arable land and should therefore be treated as special areas although it will be assumed in this study for purposes of calculating densities that they are wholly arable.

2.2.2.6. Map No. 3 shows net population density per Chiefs areas in the subregion. In Nsanje District a single population density has been calculated for Chiefs Malemia, Ngabu and subchief Makoko for easy comparison with the 1966 population density when the whole area was known as Khuluvi Council (ref. appendix 1 and Map No.3).

2.2.2.7. Assuming the accepted national average farm size of 5 acres per household of 5 or 640 persons per square mile, it could be said that Chimombo has reached three quarters of its maximum population capacity and that other areas like Makwira, Mlolo, Ndamera, Lundu, Ngabu (Nsanje) and Makoko already have more than half their maximum population capacities. It would also appear from this analysis of population density that the most sparsely populated areas are Chapananga, Masseah, Tengani, Mbenje and Katunga. However, a proper analysis of maximum population capacities in the Lower Shire subregion should take into account other factors such as variations in soil fertility and land required for cattle grazing given the fast increasing population of cattle in the subregion (ref. paragraph 2.3.2 below).



2.2.3. MIGRATION

2.2.3.1. Generally the migration trend in the Lower Shire is from Nsanje District to Chikwawa District. The main attractions in Chikwawa District are the sugar factory at Nchalo, irrigation schemes, availability of arable land and also the possibility of migrating further to the major centres of Blantyre, Zomba and Lilongwe. Most of the migrants are males between the ages of 15 and 45.v

2.2.3.2. Migration is generally at its peak between October and March when food is generally inadequate in the villages and some villagers migrate to the areas of employment opportunities. Some of the migrants drift back to villages during the marketing season but these are only a small fraction of the total number of migrants.

2.2.4. LEVEL OF URBANISATION

2.2.4.1. Urbanisation in the Lower Shire is very much in its infant stage. In 1966 the level of urbanisation was estimated at 4% but a substantial number of the urban population were still involved in agriculture so that the level of urbanisation in the true sense was much lower. Over the past decade and more

as a result of a number of agricultural development projects that have taken place, the general outlook of the subregion has changed with the emergence of large centres such as Ngabu. Nchalo and Bangula and the growth of the old districts and commercial centres of Nsanje and Chikwawa as shown below:-

TABLE 4:

POPULATION OF LARGE URBAN CENTRES

	1966	1977
Nchalo	1,492	21,271
Nsanje	1,373	6,091
Ngabu	614	4,823
Chiromo	535	3,502
Chikwawa	902	2,857
Bangula	693	2,275
Total	5,609	40,819

Source: 1966 and 1977 Population Censuses.

- Note:
1. Population figures for 1966 for all these centres except Nchalo do not cover traditional settlements adjacent to the urban core as is the case with the 1977 figures.
 2. The 1977 population for Nchalo includes some 14,495 residential population on the sugar estate.
 3. Of late heavy flooding at Chiromo and growth of Bangula nearby have had a remarkable adverse effect on Chiromo. The only significant development left at the centre is the police station close to the rail/road bridge on the Shire river.

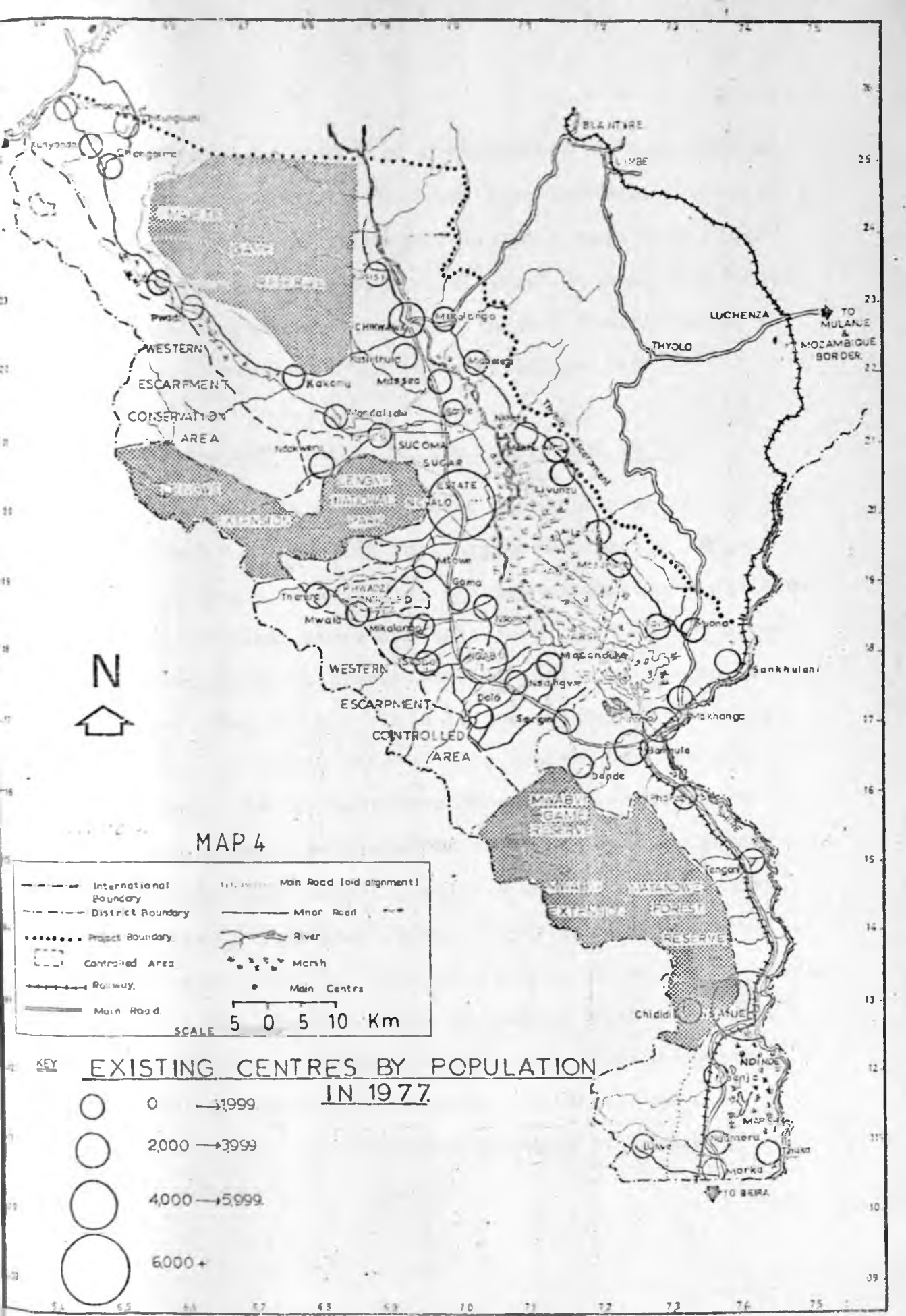
2.2.4.2. Given an annual national growth rate of 2.6% for smaller urban centres which includes all the "large" urban centres of the subregion, the total urban population in the subregion can be projected as follows:-

TABLE 5

PROJECTION OF URBAN POPULATION

Year	Urban Population
1977	40,819
1980	44,044
1985	50,003
1990	56,738
1995	64,474
2000	73,270

2.2.4.3. Besides these major centres there is a variety of small and intermediate centres. Map No.4 shows existing centres by their population in 1977 but for a better perception of the centres activities reference should also be made to Appendix 2. Most of the centres other than those mentioned in paragraph 2.2.4.1. are basically rural in outlook and one is therefore inclined to assume that the total population of the larger centres constitutes the level of urbanisation in the subregion. It is difficult to



MAP 4

-----	International Boundary	---+---	Main Road (old alignment)
-----	District Boundary	-----	Minor Road
.....	Project Boundary	~~~~~	River
[]	Controlled Area		Marsh
-----	Railway	●	Main Centres
-----	Main Road		

SCALE 5 0 5 10 Km

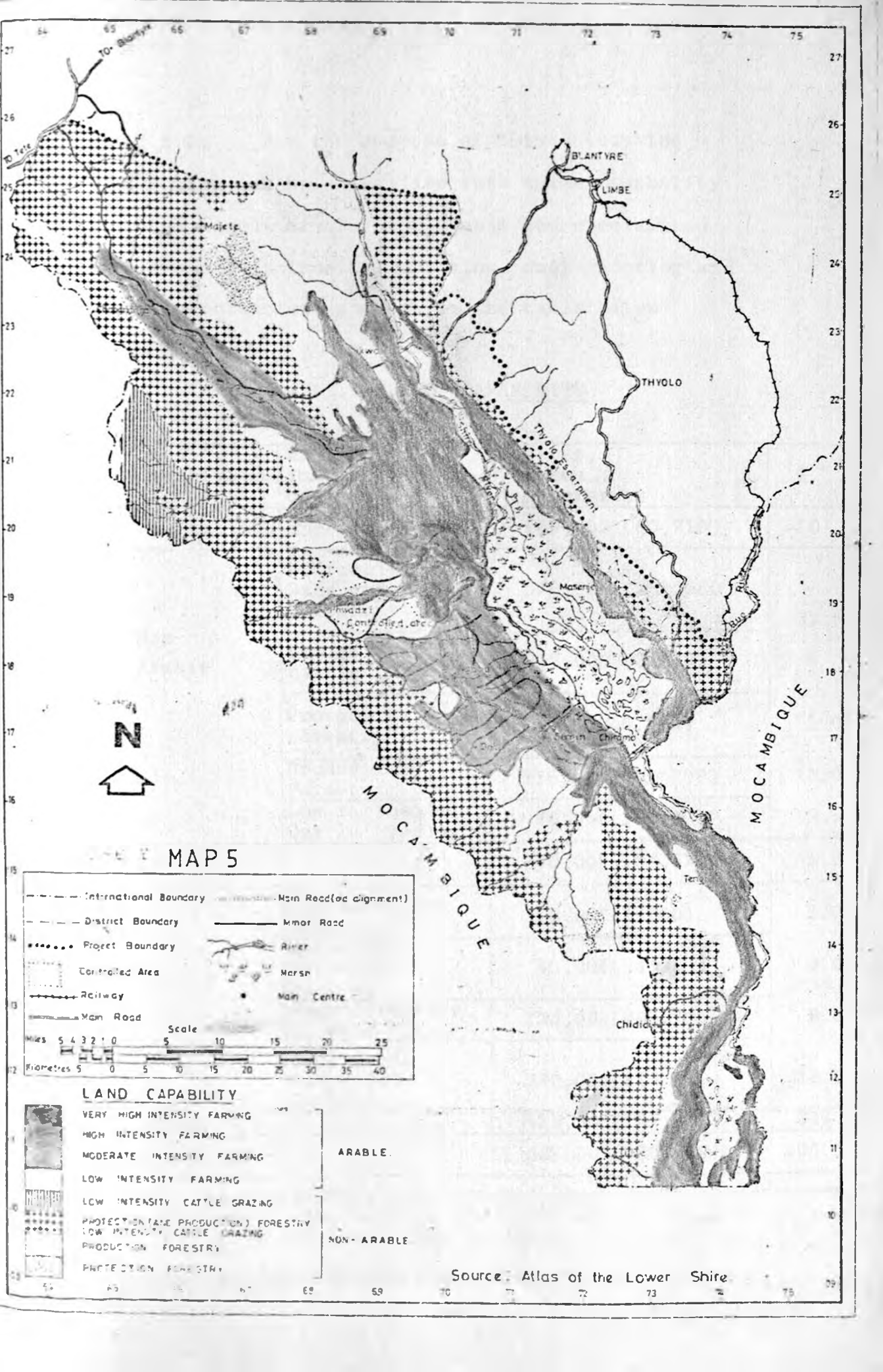
KEY EXISTING CENTRES BY POPULATION IN 1977.

- 0 → 1999
- 2,000 → 3,999
- 4,000 → 5,999
- 6,000 +

estimate the growth of urbanisation between 1966 and 1977 because the 1977 urban area boundaries adopted by the National Statistical office were much bigger and incorporated more traditional housing than the 1966 boundaries which were largely restricted to the urban cores with permanent buildings only.

2.2.5 LAND CAPABILITY AND POPULATION GROWTH

2.2.5.1. A study of land capability and population growth is important for long term planning largely as a means of assessing maximum population capacities in the rural areas and as a justification for urban development to absorb some of the rural overspill (ref. Map No. 5). This is not to suggest that all rural overspill will only be absorbed in the urban areas. It may equally be possible to initiate a resettlement programme which involves transferring people from densely populated areas to relatively sparsely populated areas. A further study of the present trend of internal migration of people should be looked into in order to come up with a socially acceptable programme or one which would minimise social conflicts between the residents of the recipient areas and the incoming or migrating population.



MAP 5

--- International Boundary	--- Main Road (or alignment)
- - - District Boundary	— Minor Road
..... Project Boundary	~ River
Controlled Area	~ Marsh
— Railway	• Man Centre
— Main Road	

Scale

Miles 5 4 3 2 1 0 5 10 15 20 25

Kilometres 5 0 5 10 15 20 25 30 35 40

LAND CAPABILITY

[Dark Grey Box]	VERY HIGH INTENSITY FARMING	ARABLE
[Medium-Dark Grey Box]	HIGH INTENSITY FARMING	
[Medium-Light Grey Box]	MODERATE INTENSITY FARMING	
[Light Grey Box]	LOW INTENSITY FARMING	
[Diagonal Lines Box]	LOW INTENSITY CATTLE GRAZING	NON-ARABLE
[Cross-hatch Box]	PROTECTION (ARE PRODUCTION) FORESTRY	
[Dotted Box]	LOW INTENSITY CATTLE GRAZING	
[Horizontal Lines Box]	PRODUCTION FORESTRY	
[Vertical Lines Box]	PROTECTION FORESTRY	

Source: Atlas of the Lower Shire

2.2.5.2. For the purpose of this study the subregion can be classified into three capability groups namely arable, non-arable and specialised uses which include fishing, rice, duck-shooting and bird sanctuaries as shown in the table below:

TABLE 6:

LAND CAPABILITY

Land Capability Classes	Maximum intensity of land use	Areas, Acres (Hectares)	%
Specialised	Specialised	150,000 (60,710)	10
Non-Arable	Protection (and Production Forestry)	570,000 (230,680)	37.5
	Low intensity cattle grazing	8,000 (3,240)	
	Protection Forestry	17,000(6,880)	1.0
	Production Forestry	275,000(111,300)	18.0
	Low intensity Cattle grazing	40,000(16,190)	2.5
Total		340,000(137,610)	59.0
Arable	Low intensity farming	12,000(4,860)	1.0
	Moderate intensity farming	60,000(24,280)	4.0
	High intensity farming	120,000(48,570)	8.0
	Very light intensity farming	280,000(113,320)	18.0
Total		472,000(191,030)	31%
Grand Total		1,532,000(620,030)	100.0

Note: Land totalling about 40,000 acres on Thyolo escarpment was not included in the table above. Much of this land is in the non-arable category.

Source: An Atlas of the Lower Shire Valley, Malawi.

2.2.6. ARABLE LAND AVAILABLE PER RURAL HOUSEHOLD

2.2.6.1. The total amount of arable land 472,000 acres (191,030) represents about a third of the subregion. About 68,000 acres of this amount is committed to large projects namely SUCOMA, agricultural research projects and cattle feedlot projects which occupy 41,000 acres, 19,274 acres and 7,415 acres respectively. Furthermore the eastern portion of the Lengwe National Park covers a potentially very high intensity farming area estimated at 32,000 acres. This leaves about 322,000 acres of uncommitted arable land.

2.2.6.2. In an attempt to derive arable land available per rural household at present and in the future the author has come up with the following formula:-

$$X = \frac{L a - L c}{(T p - T u p)} \cdot h$$

Where X - arable land available per rural household.

La - total arable land in the subregion

Lac- arable land already committed to other uses.

Tp - total population of the subregion

Tup- estimated total urban population

h - average household size.

2.2.6.3. Most of the parameters in this equation namely L_a , L_c , T_p and T_{up} are already known (ref. paragraphs 2.2.1.1, 2.2.1.3., 2.2.4.1. and 2.2.6.1.). The only parameter which should be investigated before X can be calculated is h .

2.2.6.4. A sample survey taken in the mid 1974 by Shire Valley Agricultural Authority indicated an average household size of about 4.5. For purposes of this study the figure has been rounded off to 5 and the results of calculation showing change of X to year 2000 AD are shown below:-

TABLE 7

PROJECTION OF ARABLE LAND PER RURAL HOUSEHOLD

	$T_p - T_{up}$ (total rural population)	$\frac{T_p - T_{up}}{h}$ (total rural households)	X (acres of arable land per rural household)
1977	278,387	55,677	6.68
1980	300,699	60,140	6.18
1985	341,663	68,333	5.44
1990	388,235	77,647	4.79
1995	441,128	88,226	4.21
2000	501,301	100,260	3.71

2.2.6.5. Assuming 5 acres as a satisfactory average farm size requirement per household in the rural

area (5 acres is the minimum acceptable subdivision of land for agricultural purposes), it appears that land pressure will reach a critical point between 1990 and 1995 and that the situation will deteriorate further by the turn of the century. However, there are a number of factors which may affect the land situation. Already demand for grazing land by the fast increasing population of cattle is causing much concern. A continued dependency on farming for living by residents of the major centres and a higher annual rate of population growth could bring land pressure to a critical point earlier than 1990. On the brighter side of things there is hope that a number of people employed by government, parastatal organisations and private organisations whom it has not been easy to estimate and have not been taken into account in the above equation, do not require a full-size small-holding. There is also the prospect that some people in the rural areas will be diverted from primary production to secondary and probably tertiary activities. Some changes in farming techniques resulting in higher yield per unit area is yet another possibility which could go a long way in alleviating the land problem in the subregion.

2.2.6.6. Generally the implications of land pressure in the subregion are:

1. that the number of people who will be diverted from farming to the service and industrial sectors of the economy in the short term and more so in the long term when the land pressure gets worse will influence the growth in the size and complexity of the existing main centres and also a proliferation of small service centres will need to be co-ordinated and arranged in a hierarchical manner which will ensure an efficient service to the population in the subregion.
2. pressure to reclaim the marshland for agricultural purposes. Considering that marshes are important fishing grounds and that a number of people depend on fishing for their livelihood a careful study has to be done prior to reclaiming the marshes or else the ecological, social and economic repercussions will be disastrous.
3. people could be directed out of the subregion altogether. Unfortunately, the rest of the southern region and much of the Central region is at least as congested as the Lower Shire

Subregion. It appears therefore that the problem of land pressure will have to be solved internally.

2.3 ECONOMIC ASPECTS

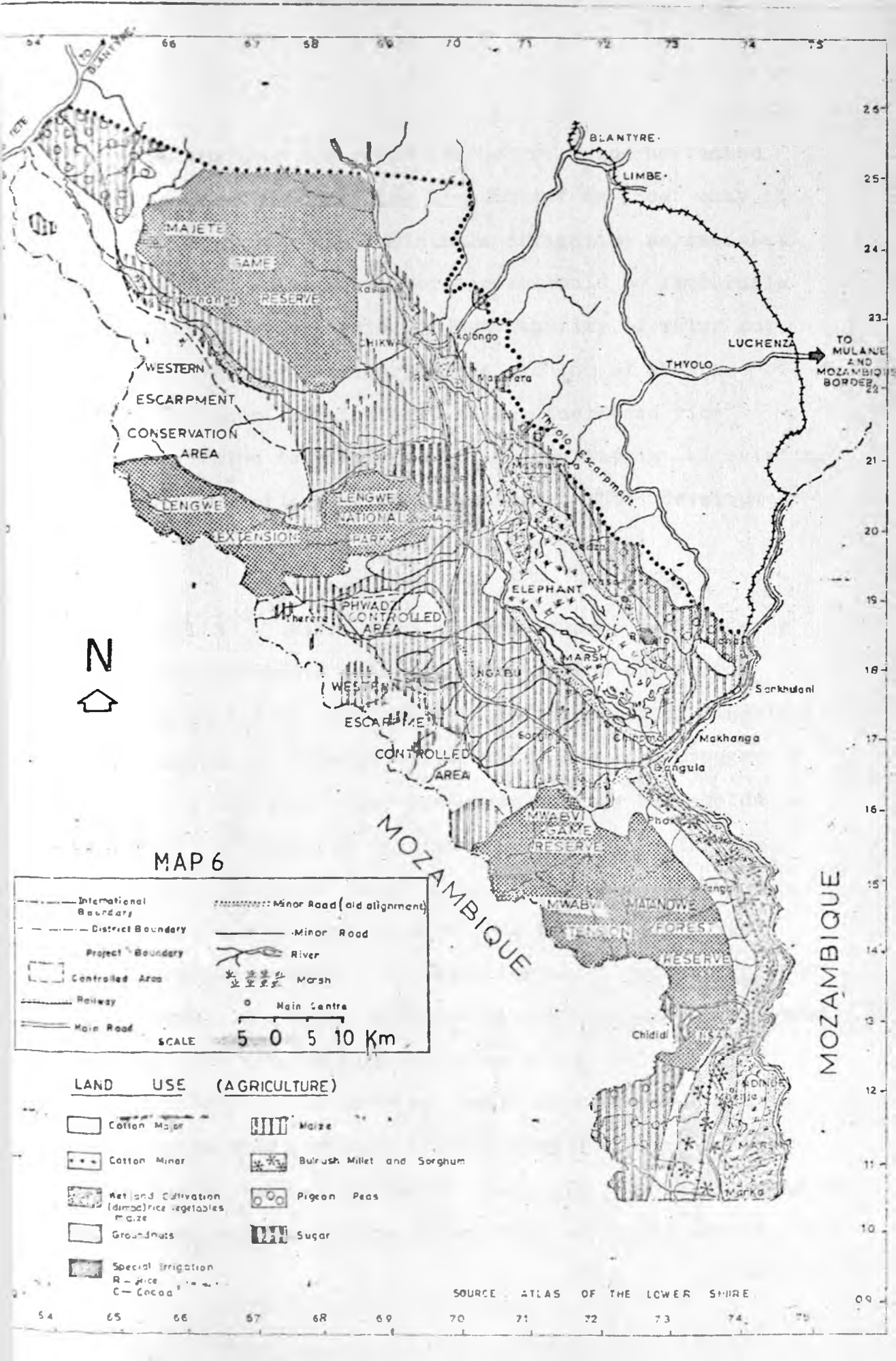
The growth of urbanisation in the Lower Shire is largely a direct result of economic development. Thus analysis of the future situation as regards urban development can only be meaningful if it is based on a sound economic base and bearing in mind that physical planning should seek to promote economic growth. In this section an attempt is made briefly:

- a) to review the general performance of agriculture which is the main economic activity- in the subregion.
- b) to study potential for retail service centres or improvement of existing centres.
- c) to explore opportunities for secondary and tertiary industrial development.
- d) to study the general employment situation mainly as an indicator of how well economically the subregion is faring in relation to the southern region and the Nation as a whole.

2.3.1. AGRICULTURE

2.3.1.1. The main crops grown are cotton, rice, maize, groundnuts, pigeon peas, bulrush millet and sorghum (ref. Map No.6). A newly introduced cash crop to the South of Bangula known as guar bean is also proving quite successful. Sugar cane is an estate crop covering 23,000 acres at Nchalo. Cotton is the major cash crop. Spraying of cotton, given average weather condition has resulted in such higher yields of 1200 - 1600 lb/acre as compared to 300 lb/acre which was attained prior to introduction of spraying. As more and more cotton growers take to spraying production will increase substantially and so will its related activities of transportation ginning, storage and employment therein. Increased production will also likely result in more disposable income and a boost in trade in a number of areas.

2.3.1.2 Two major varieties of rice are grown in the Lower Shire; the transitional variety known as Faya which has been grown along the Shire river and Mwanza river since time immemorial and the one that has recently been introduced in the irrigation schemes which is known as Blue Bonnet. The latter is a high quality long-grained type suitable for export. Blue Bonnet has another advantage over the shorter-grained



MAP 6

	International Boundary		Minor Road (old alignment)
	District Boundary		Minor Road
	Project Boundary		River
	Controlled Area		Marsh
	Railway		Main Centre
	Main Road	SCALE 5 0 5 10 Km	

LAND USE (AGRICULTURE)

- | | | | |
|--|---|--|---------------------------|
| | Cotton Major | | Maize |
| | Cotton Minor | | Burush Millet and Sorghum |
| | Wetland Cultivation (damba) rice vegetables maize | | Pigeon Peas |
| | Groundnuts | | Sugar |
| | Special Irrigation
R - rice
C - Cocoa | | |

SOURCE ATLAS OF THE LOWER SHIRE

Faya in that two crops can be grown and harvested each year. So far the Blue Bonnet is grown only at Mlolo, Nkhate and Kasinthula irrigation schemes but it could appear that more areas would be favourable to the crop depending on availability of water for irrigation. Considering the problem of shortage of food crops, particularly maize, increased rice production is likely to go a long way in alleviating this problem and in promoting economic development in the subregion.

2.3.1.3. Maize is the staple crop but the crop does not thrive well in the subregion due to low rainfall (ref. Map. No.2). To the south of Bangula sorghum and bulrush millet which are more drought resistant than maize are grown by many households in small acreages as insurance against maize failure. Generally maize tends to grow well in the bulky areas and is a dry season crop in the Ndinde and Elephant marshes. If tests currently being made at Nkhate, Mlolo and Kasinthula with different varieties of the crop on lowland areas prove positive, the problem of food shortage could be eliminated and the region could be able to earn more money from sale of surplus maize. Self-sufficiency in food requirement is a major prerequisite to any form of social and economic

advancement and it is the policy of the government that each region should be self-sufficient in food requirements.

2.3.1.4. Groundnuts are largely grown south of Bangula. The two varieties grown namely Chalimbana and Malimba are both suitable for confectionery but more so with the latter which is largely grown as a cash crop. The Malimba nut is also suitable for oil extraction.

2.3.2. LIVESTOCK

2.3.2.1. After cotton and sugar, livestock and livestock products constitute a major economic asset of the subregion. Although cattle goats, pigs and sheep thrive in the subregion, cattle population estimated at 70,000 in 1979 is the largest and as a result the livestock improvement and expansion programme is largely attributed to the riverine pastures which are the finest natural grazing areas in the country. A further factor favouring the cattle industry is the close location of the subregion to Blantyre city which means that cattle for beef can fetch higher prices in the city with relatively little transport costs. At present cattle sold to markets around Bangula and Nsanje is railed to Blantyre while cattle marketed north of Bangula is either trucked or walked up the

escarpment. The upgrading of Blantyre-Chikwawa road to bitumen standard has enhanced the trucking of livestock to Blantyre.

2.3.2.2. One of the main problems facing cattle industry is the need for more grazing land as the cattle population increases (from 53,000 in 1974 to 70,000 in 1979) and land formerly used for grazing is cultivated upon. The shrinkage of grazing land is more pronounced south of Bangula. About 10% of the households in the subregion own cattle.

2.3.3.1. Fishing is another activity which is expanding rapidly in the Lower Shire judging from the yearly harvests. The total amount of fish landings from the subregion has increased tremendously since the country attained self rule in 1964 as can be shown from the table below:

TABLE 8

LANDINGS OF FISH FROM MAIN WATERS OF MALAWI
(1,000 short tons)

	1964	1970
Lower Shire	0.4	7.5
Lake Chilwa and Lake Chiuta	6.0	4.8
Lake Malombe	1.3	5.8
Upper Shire	-	2.9
S.E. Amu (Lake Malawi)	2.2	16.7
Lake Malawi - other parts	4.6	5.1
Total	14.5	42.8

Source: Statement of Development Policies - 1971 - 80 Malawi Government.

2.3.3.2. About 100 short tons were harvested per annum in the late fifties. The figure went up to approximately 8,500 short tons between 1968 and 1974. Between 1974 and 1976 the recorded fish sales rose from 8,500 tons to 11,500 tons. The valley contributes 14.5% to Malawi's total catch. More calfish (*clarias* spp) is harvested than bream (*tilapia* spp). The main fishing grounds are the Elephant marsh, Ndinde marsh and the Chikwawa lagoons.

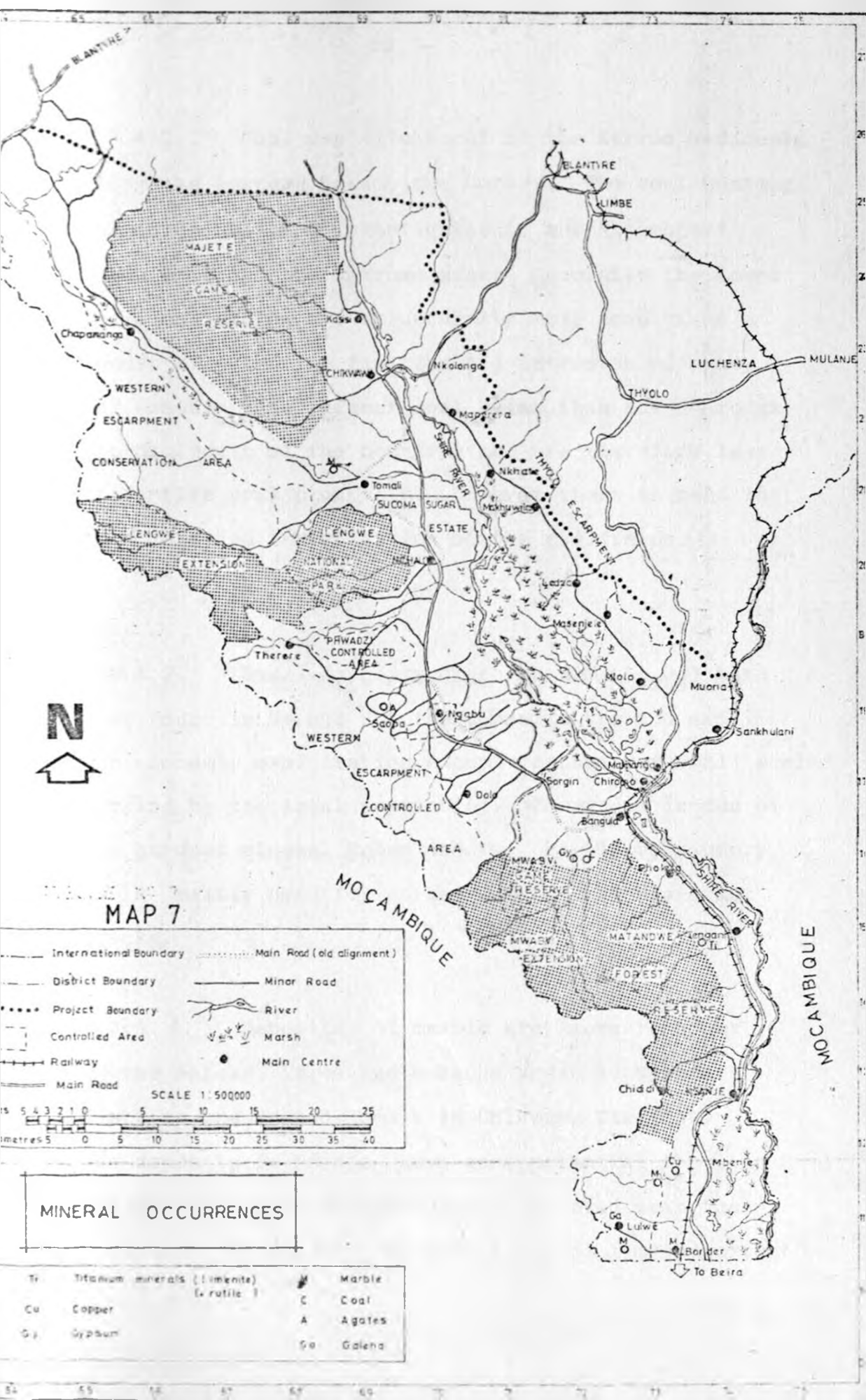
2.3.3.3. A survey conducted by the Fisheries Department between 1968 and 1974 showed that on average about 20% of smoked dry fish is railed to the Shire Highlands.

2.3.3.4. A good extensive flood is often associated with an abundant harvest and a poor flood as a precursor of a bad harvest the following year. It is expected that the barrages upstream at Liwonde and Nkhula will serve as a useful tool for proper management of fishing through some control of floods,

2.3.3.5. Considering that fish is the most important source of animal protein in the national diet it is important to consider the national and local consequences of attempting to reclaim the Ndinde and Elephant marshes since these are the main fishing grounds in the subregion.

2.3.4. MINERAL RESOURCES

2.3.4.1. Minerals known to occur in the subregion include coal, limestone, ilmenite,, rutile, copper, agates, galena and gypsum (ref. Map. No.7). On the basis of the ilmenite, agates and rutile are available in sufficient quantities and quality and have very good potential for exploitation in the near future.



MAP 7

- - - - International Boundary
 - - - - District Boundary
 Project Boundary
 - - - - Controlled Area
 - - - - Railway
 - - - - Main Road
 Main Road (old alignment)
 ——— Minor Road
 River
 Marsh
 Main Centre

SCALE 1:500000

0 5 10 15 20 25
 0 5 10 15 20 25 30 35 40
 metres

MINERAL OCCURRENCES

Ti	Titanium minerals (ilmenite) (rutile)	M	Marble
Cu	Copper	C	Coal
Gp	Gypsum	A	Agates
		Go	Galena

MOZAMBIQUE

To Beira

2.3.4.2. Coal deposits occur in the Karroo sediments along the western Mozambique border. The coal bearing formation has been investigated in the Nkhomedzi-Sumbu area and the Chiromo area. Generally the Lower Shire coalfields are structurally more complex as a result of extensive faulting and intrusion of dykes, and contain much thinner coal seams than the Karonga fields (north of the country) and are therefore less attractive coal prospects. However there is need for more detailed investigation of the coalfields.

2.3.4.3. Small deposits of corundum (Al_2O_3) have been found in Nsanje but the deposits are too small for economic exploitation except perhaps for small scale working by the local population. Corundum is one of the hardest mineral known and is highly refractory. It is mainly used for abrasives and lead resistant bricks.

2.3.4.4. Deposits of marble are known to occur in the Makoko, Lulwe and Mchacha areas in Nsanje District and around Tomali in Chikwawa District. The deposits in Nsanje have good potential for exploitation and are conveniently located near the railway. The deposits at Tomali are of limited extent

and appears suitable to support small scale lime burning. Marble is metamorphosed and recrystallised limestone and all known limestone deposits in the subregion are marbles. Marble is mainly used in the manufacture of cements and limes which are widely used in industry and agriculture. The purer limes are used in sugar refining, pulp and paper manufacture and in medicine. Previous investigations of the marble have been brief and there is need for more detailed sampling to delineate areas of exploitable marble.

2.3.4.5. Rutile (Ti_2O) and ilmenite ($FeTiO_3$) are the principle ores and oxides of the metal titanium. The bulk of rutile and ilmenite produced is used as a source of titania for paint pigment. The metal is extracted especially from rutile and is mainly used in the aeroplane industry. The minerals are found in the foothills west of Tengani and are conveniently located near a railway and water supply from the Shire river. With favourable economic condition the deposit has good potential for exploitation.

2.3.4.6. Hydrocarbon and concealed coal - The subregion is one of the three areas in the country with remote possibilities of containing oil and gas. The others are Karonga lakeshore plain and the lakebed of

the northern part of Lake Malawi. Basins in these areas contain sediment piles of over 1300 m in thickness necessary to develop such pressures as are favourable to the formation and accumulation of hydrocarbon. The lower Shire basin is centred on the Elephant marsh. Investigation of the stratigraphy of the basin is not only desirable because of hydrocarbon possibilities of finding coal, gypsum and rock salt. There is also a possibility of discovering large deep groundwater aquifers.

2.3.4.7. Agates are found to the south and west of Ngabu. They are valued as material for making various attractive ornaments. Red, grey and brown varieties have been found of which red stones are in great demand. Collecting and cutting agates into ornaments especially aimed at local and tourist trade is an ideal small scale industry for a rural population. Easily obtained good quality agates are now scarce and collecting would therefore involve more work.

2.3.4.8. Small amounts of copper minerals and galena are also found in the subregion. The deposits are too small and therefore of academic interest only.

2.3.4.9. Gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) is a mineral composed of hydrated calcium sulphate. It is mainly used in the manufacture of portland cement and also as a soil conditioner. At present all Malawi's gypsum requirements are met from external sources. The mineral has been located at Chiromo coalfield but information on its occurrence is too little to enable assessment of its potential.

2.3.4.10 In brief the main conclusions to be drawn from the available information on mineral resources in the subregion are:

1. That more detailed investigation of coal, gypsum and marble is required to determine potential for their exploitation.
2. that potential for small scale mineral works of agates, corundum and lime burning exists
3. that there is a remote possibility of the occurrence of hydrocarbon rock salt and gypsum beneath the Elephant marsh.

2.3.5. TOURISM

2.3.5.1. The Lengwe National Park is the main tourist attraction in the subregion. It was first

opened to the public on 1st August, 1966 but before that date it was a game reserve specially intended to preserve the rare Nyala antelope (*Tragelaphus anvasi*) which is only found in dense jungle throughout south-east Africa and nowhere north of Chikwawa District of Malawi. The animal is one of the most beautiful antelopes in the world. Other animals in the Park which has now been extended to the Mozambique border, include Kudu, bushbuck, baboons, monkeys, suni and graybok. Buffalo, lion, leopard, hyaena, lynx and serval are also known to be present.

2.3.5.2. Other tourist attractions include the Majete and Mwabvi game reserves and the Kapachire falls formerly known as Livingstone falls.

2.3.6. COMMERCE

2.3.6.1. The subregion has five major commercial centres which provide consumer durables such as bicycles and radios, retail and wholesale shops and main produce markets with a wide range of produce originating mainly within the subregion and Thyolo District. These centres namely Chikwawa, Nchalo, Ngabu, Bangula and Nsanje are evenly distributed with a recognisable pattern of hinterlands. Ngabu is particularly outstanding in having a compact cotton

growing hinterland. Its central location in the subregion which played a major role in its choice as the headquarters of the S.V.A.D. Project has already attracted a number of national concerns such as the National Bank, Commercial Bank, Southern Bottlers, Hardware and General Dealers, Chipiku wholesale shop and Malawi Post office. On the other hand Chikwawa in the north has a narrow elongated hinterland extending from Gaga in the north to Makwira in the south. Proximity to Mwanza district centre north of Chikwawa tends to lessen the apparent isolation from good retail facilities of the area to the north of Chapananga but the area around Makwira in the south is worse off as there is no major commercial centre on the east Bank of the Shire river.

2.3.6.2. The need for good retail facilities is not only felt in the upper Mwanza valley and the East Bank but also around Dolo in Ngabu hinterland, and Ntowe and Tomali in the Nchalo hinterland according to the survey for retail need and potential which was carried out in 1975 by the SVAD. However the difficulties of establishing high grade centres in purely rural context must be appreciated. Major retail centres cannot only be supported by seasonal demand but also require a considerable number of regular wage-earners who constitute an urban base. On the other hand it is

possible to improve the existing centres in the deprived areas by introducing formal wholesaling, banking and service facilities and by ensuring good road communication to the east bank brought by the conversion of the rail bridge to rail/road bridge at Chiromo and the construction of bridges at Tangadzi and Mwampanzi has promoted the retail status of a number of centres, the main one being Nkate, Makwira and Makhanga. Improvement of retailing in the upper Mwanza valley could be based on the existing retail centre at Chapananga which is the terminus of public transport and already has a few shops, a postal agency and an ADMARC market.

2.3.6.3. The rural economy of Nsanje hinterland according to ADMARC payouts is least prosperous but there is no doubt that increased cattle farming and sale of crops at produce markets together with fishing plus cash inputs from migrant labour would considerably raise the cash economy in the hinterland. Mbenje, Marka and Tengani are quite busy retail centres in the Nsanje hinterland. The cash economy on the East Bank is expected to be raised with fishery and rice schemes.

2.3.6.4. Generally the location of ADMARC markets in relation to existing retail centres should also be considered in promoting retailing in the subregion. A number of new markets have been sited away from good retail facilities thus reducing the farmers incentive to buy durable items when he has money in his hand. In fact a combination of a market and retail facility is an ideal proposition in the rural setting. This would provide a nucleus of a local centre to which more facilities and services could be attracted to serve the rural population conveniently and effectively.

2.3.7 EMPLOYMENT

2.3.7.1 Data on the employment situation is highly sufficient and even if it was available, employment alone cannot give a true picture of the well-being of people in the subregion since the majority of the people earn their living from self-employed farming albeit on a subsistence level. Income from farm produce is more significant than the number of regular wage earners in the subregion.

2.3.7.2. In the 1966 population census 8% of the economically active (Number of people aged between 10 and 64) received wages or salaries compared to 10% for the whole southern region and 15% for the

whole country. The figures for those who had earned income from farm produce were 61%, 23% and 40% for the subregion, southern region and the whole country respectively. At that time SUCOMA had just commenced its operation with a small labour force but the situation has now changed significantly as SUCOMA is fully established with a labour force of nearly 8,000 at peak season. The SVADP and SUCOMA have employed a significant number of semi-skilled and unskilled workers in the subregion. In addition income from increased sale of farm produce, though difficult to quantify, appears to have substantially improved the economic position of the subregion.

2.3.8 INDUSTRIAL DEVELOPMENT

2.3.8.1. The main industrial activities in the subregion are cotton ginning at Bangula and Mitole (Chikwawa) which are run by Cotton Ginners Ltd and ADMARC* respectively and the sugar factory at Nchalo.

2.3.8.2. Cotton is delivered to the ginneries from May to October but ginning may continue up to December depending on the size of the crop. The Mitole ginnery has a capacity of 9,000 bales per season while the three ginneries at the Bangula complex have capacities of 9,000, 18,000 and 27,000 bales respectively. The third ginnery

* ADMARC - Agricultural Development and Marketing Corporation.

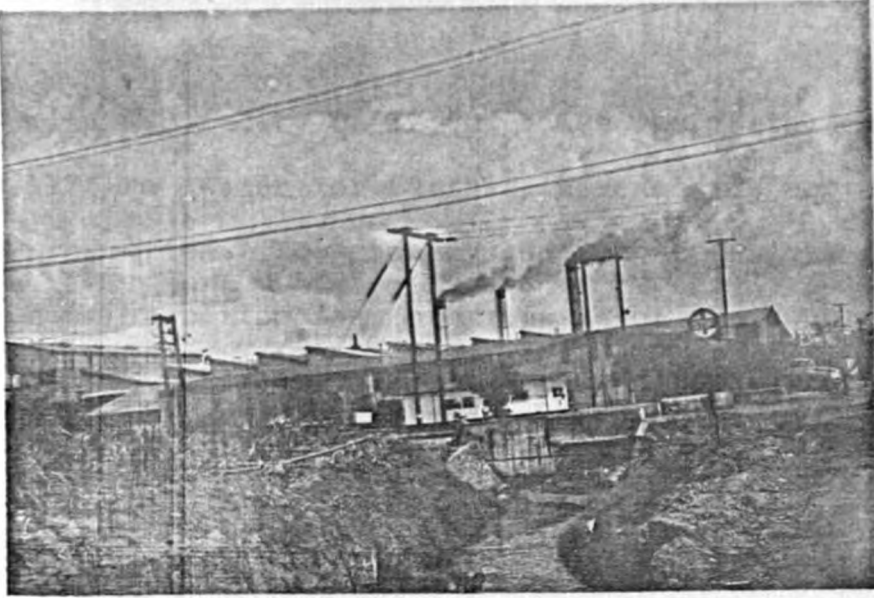


Plate 7: Nchalo sugar factory.

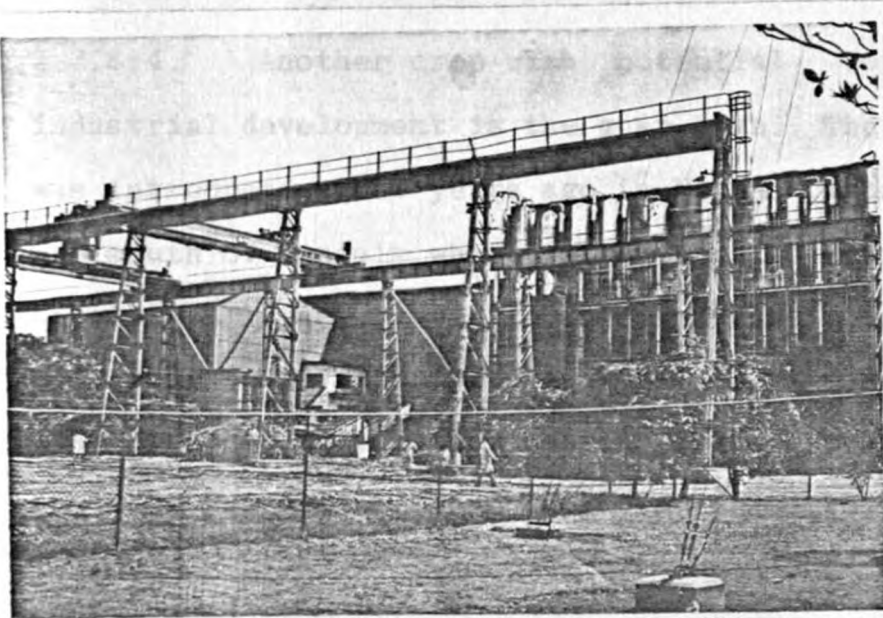


Plate 8: Sugar cane arriving at factory.

with a capacity of 27,000 bales was installed in 1975 to cater for further increases in cotton production. The ginnery complex at Bangula also handles cotton from other parts of the country namely Salima Lakeshore, Balaka area and the Shire Highlands.

2.3.8.3. The sugarcane factory located in the Nchalo estate represents an investment of MK 7.5 million and is the most important industry in the subregion. The factory produces 110,000 tons of sugar per annum of which 45% is consumed locally.

2.3.8.4. Another crop with potential for industrial development is the guar bean. The crop was introduced a few years ago in Nsanje District to the south of Bangula where cotton does not thrive and since then it has proved so successful as a cash crop that the SVAD Project authorities have ruled out its introduction in major cotton growing areas to the north of Bangula to avoid reduction in cotton yield.

2.3.8.5. Guar bean is basically a bush crop and once it is planted it needs very little attention until it is ready for harvest. The bean is used for making a number of products such as glue, cattle feed,

lubricants and insect repellants. The ease with which it can be grown coupled with its multipurpose use are two main factors behind the success of the crop.

2.3.8.6. At present production of the crop is estimated at 6,000 tons per annum but it is reckoned that the production level should reach 10,000 tons before a processing plant can be established. Already plans are underway to install a plant either at Bangula or Liwonde outside the subregion.

2.3.8.8. Potential for other industries in the subregion also exists as follows:-

1. Distillery using molasses from the sugar refinery.
2. Production of alcohol from sugar (molasses) for fuel purposes. Alcohol could be used as an additive to petrol or as a fuel on its own in purpose built engines. Use of alcohol for motor fuel as currently practiced at Dwangwa Sugar refinery in Central Region has a significant effect on foreign exchange saving.
3. Molasses also make good cattle feed which could go along way in promoting the cattle industry (i.e. cattle preconditioning for good beef, tannery and during farming). Already

Press (Ranching) Limited has set up a few feed lot schemes in the subregion.

4. Bagasse is another big product from the sugar refinery which can be used for making paper, ceiling and wallboards.
5. Processing of sorghum for Chibuku brewery.
6. Rice milling
7. Oil extraction from cotton seed and groundnuts.
8. Confectionery resulting from availability of basic materials of sugar and groundnuts.
9. Preservation of fish for sale to distant places i.e. refrigeration and canning.
10. Solar energy plant(s) for irrigation and domestic purposes. The high temperatures of the subregion offer the best potential of energy.
11. Production of hydro-electric power from the Shire River . . .
12. Mineral exploitation (ref. Map. No. 7).

2.4. TRANSPORT AND COMMUNICATION

2.4.1. ROADS

2.4.1.1. The two main accesses to the subregion are the M.9 road from Thyolo. The D134 road from Mwanza in

in the north to Chapananga offers limited use in its present condition particularly the section to the north of Chapananga. Use of the M9 road from Thyolo is also unreliable during the wet season. Thus the only reliable access is the M 8 bitumen road to Blantyre.

2.4.1.2. Within the subregion itself the tarred road from Chikwawa to Bangula (presently undergoing rehabilitation) offers the best communication line. The road leading further south from Bangula to Nsanje (M.8) was realigned a few years ago parallel to the railway to avoid the flooding problem which was experienced in sections of the old alignment close to the Shire river. The new alignment is already attracting commercial development particularly in parts which coincide with railway stations.

2.4.1.3. The only other road of significance in the subregion is the secondary road (S.38) which serves the East Bank. At present the excessive number of streams from Thyolo escarpment to the Shire presents problems of passage over drifts but of late the two most problematical section on the Tongadzi and Mwampanzi streams have been eliminated with the construction of bridges. These bridges coupled with

the replacement of a ferry with a rail-road bridge at Chiromo have had a significant impact on the flow of goods and people to and from the East bank area. It should also be possible in the near future to introduce permanent public transport to the area and remove total dependancy on private transport which is inadequate and unreliable particularly in the rainy season.

2.4.1.4. From the foregoing analysis it is evident that the subregion is sufficiently endowed with main roads if they can all be improved. The main consideration should rather be directed to the roads of lower status, particularly on the west bank, which ensure access to villages or homesteads and markets.

2.4.1.5. The existing network of crop extraction roads in the Ngabu hinterland between the Lengwe National Park in the north and the Mwabvi Game Reserve on the south is appreciated. However it is more important to consider the multipurpose use of these roads including public transport and tourism. The circuitousness of some of the loop roads emanating from the tarred main road and lack of direct connections between the smaller centres in this area is a major inconvenience which should be corrected.

2.4.2. WATER TRANSPORT

2.4.2.1. The early importance of the Shire river as a water way was eclipsed with the completion of the rail link to Beira in 1935. The early terminal points at Katunga (Chikwawa) and Chiromo were abandoned because of the silting problem and finally the transfer point from river to rail shifted from Chiromo to Nsanje.

2.4.2.2. At present the river is used by flat bottomed barges which carry molasses from Nchalo to Bangula. A water bus service between Nsanje and Nkupila in the Ndinde marsh is of great importance to traders fishermen and farmers if the Ndinde marsh area for the river offers their main line of communication with the outside area.

2.4.3. AIR TRANSPORT

2.4.3.1. There are no scheduled flights to the subregion. Regular charter services used to operate to Ngabu, Bangula and Nsanje but have now ceased. The airstrips at these centres are now used for occasional flights. A small airstrip at Nchalo is privately owned by SUCOMA.

2.4.4. PUBLIC TRANSPORT"

2.4.4.1. RAILWAY TRANSPORT

2.4.4.1.1. Malawi Railways operates a number of passenger and goods trains each day between Limbe and Nsanje.

2.4.4.1.2. The railway is part of the historic route from Beira on the Indian Ocean to Blantyre. Although a new route has now been opened between Nakala on the Indian Ocean and Liwonde, the former line still handles a large proportion of Malawi's imports and exports. Of late political events in Mozambique have had an adverse effect on the performance of this line.

2.4.4.1.3. Notwithstanding the nation significance of the railway line, its local significance within the subregion is by no means diminished. The line offers the only reliable means of communication between Marka on the border with Mozambique and Bangula where the bitmen road from Blantyre terminates and is a vital link with Blantyre and the northern parts of the country; a number of goods and commodities from Blantyre find their way to the subregion by train and vice-versa. Amongst the major agricultural products from the subregion which rely heavily on the railway line for exports and/or transportation for local use

within the country are sugar from Nchalo refinery and cotton which is largely grown in Chikwawa particularly around Ngabu.

2.4.4.1.4. Given large quantities of these products and the length of time it takes to transport them by road alone it is important that some considerations be given to the extension of a rail to the north of Bangula to enhance transportation of these products. Such a rail extension would also greatly improve the transportation of cattle for beef to the big centres up north considering that the subregion is one of the main livestock areas in the country.

2.4.4.2. BUS SERVICE

2.4.4.2.1. United Transport Company of Malawi (U.T.M.) provides a regular daily service between Blantyre and Chikwawa and between Chikwawa and Bangula. The service between Chikwawa and Chapananga and between Bangula and Nsanje is often interrupted during the rainy season because of bad road condition. The inconvenience on the latter route is offset by availability of a train service. Thus the East Bank and Chikwawa north-east are the most disadvantaged areas in terms of public transport.

2.4.4.2.2. Recently minibus service has been introduced between Blantyre and Nchalo. The buses are owned by private individuals and licensed by the Ministry of Transport and Communication.

2.5. ASPECTS OF EXISTING SETTLEMENTS

2.5.1 The general distribution of settlements and service centres in the subregion conforms to the linear nature of the region with the large and majority of small centres situated along the main communication lines.

2.5.2. Chikwawa and Nsanje grew largely as district administrative centres; Chiromo as a water-rail transport interchange; Bangula as a rail-road transport exchange,; Ngabu as headquarters of the Shire valley Agricultural Development Project close to the Chief Ngabu's headquarters and Nchalo as a trading centre upon establishment of the Sugar refinery in 1966. Apart from these relatively large centres there are a number of fairly large centres (i.e. Makhanga, Sorgin, Tengani, Chapananga, Tomali, Makwira/Livunzu) and a number of small ones with potential for growth. These centres have grown around ADMARC markets (i.e. Nsangwe, Masanduko, Thereere, Mikalango) Chief's headquarters (i.e. Tengani Mlolo, Chapananga, Makwira) or from the establishment of missionary institutions (Chididi, Lulwe, Muona, Pwadzi), research stations (i.e. Makhanga, Kasinthula)

settlement scheme (Ndakwera) and Young Pioneer base (Kakoma). The setting up of SVADP administrative unit centres in the existing centres has boosted the status of a number of centres i.e. Tengani and Tomali area headquarters. The improved condition of the M.8 road between Chikwawa and Bangula has added a further impetus to growth of some centres at road junctions as evidenced by Sorghin, Nsangwe, Sande/Bereu and not forgetting the large centres along this road.

2.5.3. Potential for growth of new centres is evident in a number of places particularly where the district and secondary roads join the main roads (M.8 and M.9), such as south Goma Mission (junction to Mikalango and Therere) and south of Muona Mission (junction to Thyolo via Thekerani). Small centres in similar location i.e. Sorghin, Nsangwe, Bereu have a fair chance of growing into larger centres.

2.5.4. A mixture of facilities and their level of services account for the growth and size of centres and their hinterlands or catchment areas. In a number of small centres however facilities or services are not found in one place but are scattered sometimes more than a quarter of a mile apart making it inconvenient for the pedestrian populace whom they meant to serve.

Given this state of affairs the need for agglomerating facilities and services in the rural context cannot be overemphasized. There are a number of advantages for nucleating urban type facilities:-

1. a group of facilities together attracts a variety of other services necessary for the well-being of a community.
2. Nucleation of a number of services results in the growth of regular wage-earners or salaried employees thus increasing the purchasing power necessary to effect and promote economic growth.
3. The increase of non-farm employment resulting from advantages of agglomeration provides for diversification and increase in employment opportunities and absorption of rural migration which is likely to be aggravated by exigencies of land pressure and lack of abundant and good quality water for domestic and agricultural purposes in the subregion. Otherwise the rural migrants will find their way to major centres such as Blantyre thus adding to the ever-increasing problem of rapid growth of major centres. By absorbing some of the rural overspill through a deliberate policy of promoting growth

of some selected centres at a time when the large centres of the subregion have not grown so big a balanced growth of the centres can be attained with minimum effort to ensure social and economic property.

2.5.5. In addition to the inconvenience brought by scattering of services and proliferation of small centres there is widespread lack of or inadequate provision of services as revealed by a close examination of appendix 2, which would go a long way in improving the function and status of a number of centres. To provide services rationally there is need to satisfy thresholds such as population or distance or both combined. These are easily met where services are nucleated.

2.6. SUMMARY OF MAIN PROBLEMS AND DEVELOPMENT ISSUES

2.6.1. INDUSTRIAL POTENTIAL

2.6.1.1. Potential for agro-allied industries exists in the lower Shire but its exploitation will depend on government industrial location policy. The government has earmarked three areas for industrial

decentralisation in order to provide more employment outlets in remote areas from Blantyre and Lilongwe and as a means of abating urban explosion in the few large centres of the country. Dispersal of development of industries with an intensive labour requirement and a low capital in-put should receive direct encouragement because of the social benefits they would provide to the rural areas.

2.6.1.2. It would appear that extension of the sugar refinery at Nchalo to include a distillery and a gasohol production plant is the most likely industrial eventuality in the subregion. Gasohol is a mixture of petrol and alcohol which requires little or no modification to standard petrol engines. The importance of producing gasohol in terms of foreign exchange saving at a time when the cost of fuel keeps on rising cannot be overemphasized.

2.6.1.3. Potential for mineral exploitation also exists in the subregion. On the basis of information available at present marble, agates and titanium minerals are available in sufficient quantities and quality and have very good potential for exploitation in the near future. More detailed investigation of the coalfields is required to determine their potential for exploitation.

2.6.2. IRRIGATION POTENTIAL

2.6.2.1. In the event of low rainfall and high loss of water through evaporation in the subregion the importance of the Shire river and its perennial tributaries as a source of water for irrigation cannot be overemphasized. It is hoped that irrigation schemes will substantially alter the population capacity of the subregion and would channel the population growth into well defined corridors.

2.6.3. CONTAINMENT OF POPULATION GROWTH

2.6.3.1. In the event of shrinkage of land per household as population grows it is important to consider ways and means for the subregion to contain its increasing population. It is expected that service industries, fishing, livestock and its associated activities will assume more and more importance in this respect but their success will depend not only on the distant

big centres of Blantyre, Zomba and Lilongwe but also on the growth and improved communication between the local centres in the subregion itself.

2.6.4. GROWTH CENTRES

2.6.4.1. The five major centres of economic activity appear to serve the subregion satisfactorily. All of them except for the flood-stricken Chiromo are on the west bank of the Shire river. The fast growth of population on the east bank in the past few years demands that consideration be given to the area since the Elephant marsh precludes any hope of direct east-west road connection to the Ngabu area. Consideration will also be required to chief Chapananga's area which is situated to the west of Chikwawa centre beyond the Majete Game Reserve. The main urban centres are characterised by a predominance of traditional housing. Ngabu is the only exception in having a majority of permanent housing. The existing major functions of these centres can be summarised as follows:-

1. NGABU: Shire Valley Agricultural Development Project administration ADMARC headquarters, retailing and wholesaling.

2. BANGULA: Cotton ginning, transport interchange, warehousing, retailing and wholesaling.
3. NSANJE: District administration, customs, retailing and wholesaling.
4. NCHALO: Sugar production, retailing and wholesaling.
5. CHIKWAWA: District administration, cotton ginning, retailing and wholesaling.

2.6.4.2. The growth and viability of these centres can be explained by the fact that they are reasonably spaced from each other which reduces competition of common functions and the fact that each centre has at least one characteristic function of its own, a fact which should be strongly borne in mind in establishing any new major centre in the subregion. As these centres grow their potential functions, facilities and services and scale of operation will need to be spelt out clearly to promote their growth and this exercise can conveniently be carried out now when the centres are still at a low level of development.

2.6.4.3. In determining the functions of the centres consideration should be given to the size of hinterland for each type of function to promote accessibility to the services and facilities of that particular function. The same approach should be borne in mind in designating the location and function of smaller centres.

2.6.5. SUBREGIONAL CENTRE

2.6.5.1. Whilst the main centres will individually provide services to different parts of the subregion consideration will also be required of a major centre which could be able to provide higher order services which cannot be provided by individual centres to their respective parts of the subregion only. Such a centre would also be justified as a point of main interaction with the outside world and as a symbol of the subregion which could promote and foster regional integration.

2.6.6. ACCESSIBILITY TO SERVICES AND FACILITIES

2.6.6.1. The problem of accessibility to district centres, major commercial facilities, health centres and full primary schools is still experienced in some areas of the subregion. Accessibility to these facilities is marred by long distances, poor road conditions particularly in the rainy season, lack of

public transport and some physical features such as major streams and the elephant and Ndinde marshes.

2.6.6.2. Decentralisation of district administration through establishment of sub-bomas or sub-district centres as is the case in a number of districts in the country is also desirable in the subregion because the district centres are not centrally located. Plans are however underway to set up sub bomas at Chapananga, Ngabu and Bangula.

2.6.7. URBAN DEVELOPMENT CONTROL

2.6.7.1. Generally the linear shape of the subregion tends to attract development to the major roads. This is more pronounced with development of a commercial type. Nchalo is an extreme example of ribbon development although most of its development is concentrated on the western side of the main road where land is in public ownership.

2.6.7.2. Application to lease land need town planning approval. To this extent the cooperation of the District Commissioners with Lands and Town Planning Department is necessary to effect proper control of development.

2.6.7.3. The main problem concerns controlling erection of buildings built of traditional or semi-permanent materials and development which are not the subject of lease applications. It is in this area that the local traditional authorities and the District Commissioners are of invaluable service. The same authorities could also help in controlling development within road reserves and along main power lines.

2.6.7.4 Control of development is immediately desirable in the main urban centres where a combination of economic opportunities and population growth account for increased development of different types and scale. At present no urban centre in the subregion is a statutory town planning area or has a local authority such as Town Council to control development although at Ngabu the SVADP authorities has inevitably assumed a number of administrative responsibilities.

2.6.8 URBANISATION

2.6.8.1. Urban development as an expression of economic development is well illustrated in the Lower Shire. The development of Nchalo, Ngabu and Bangula over a short period since independence has taken place at fair distances from each other over a distance of

approximately 85 miles - between the old colonial administrative centres of Chikwawa and Nsanje thus bringing services closer to the majority of the people in the subregion. Only few areas such as the east bank need be considered for major urban development at present.

2.6.8.2. The distribution of smaller urban centres is one that needs major attention because there are a number of them scattered all over the subregion sometimes within a short distance of each other. If these centres grow uncontrolled they will have adverse effects on each other and it is only proper that policies to guide the growth of these small as well as larger centres should be formulated now to ensure a growth of viable centres which would serve the people more conveniently and effectively.

2.6.9. LINEAR DEVELOPMENT

2.6.9.1. The tendency for development to occur linearly along roads is a common phenomenon not only in the Lower Shire but throughout the country. However, this form of development should not be encouraged along the main roads (M 8 and M.9 roads) for aesthetic and safety reasons; the design speeds of the main roads are greater and the consequences of any accidents along these roads are more serious. Linear development may also prove more expensive in providing services such as plumbing.

CHAPTER 3

3. ANALYSIS OF THE QUESTIONNAIRE SURVEY

3.1 INTRODUCTION

3.1.1 Sample surveys of customers and vendors were taken at all the five main centres in the subregion (ref. Appendix 3). The main purpose being to study and analyse the functional linkages of the service centres and settlements within the study area and with the outside areas and to try and synthesize the main issues of relevance in deriving an urbanisation strategy of the subregion. The following were the survey findings centre by centre.

3.2. CHIKWAWA

3.2.1. CUSTOMER SURVEY

TABLE 9

CHIKWAWA - ORIGIN OF CUSTOMERS AND MODE OF TRAVEL

Origin of Customer	Traditional Authority	District	Mode of Travel
Centre 41 (63%)	Kasisi 57 (88%)	Chikwawa 64 (99%)	Walk 60 (92%)
Others 24 (37%)	Others 8 (12%)	Blantyre 1 (1%)	Others 5(8%)
Total 65 (100%)	65 (100%)	65 (100%)	65 (100%)

3.2.1.1. The survey carried out at Chikwawa showed that the majority of customers come from around the centre and within T.A. Kisisi where the centre is located. There was evidence, however, that some customers came from as far as T.A. Chapananga in the north, T.A. Katunga in the south and T.A. Somba on the escarpment area which is in Blantyre District. The longest distance travelled by customers was from Chapananga, a trip which took about 1½ hours by bus. The majority of customers walk to Chikwawa Centre.

TABLE 10:

CHIKWAFA - CUSTOMERS REASON FOR COMING TO THE CENTRE, DURATION, FREQUENCY, EXPENDITURE AND EMPLOYMENT

Purpose of coming to centre	Length of stay	Frequency	Amount spent	Employment
Shopping 58 (88%)	Less than ½ hr. 18(27%)	Daily 39(59%)	Less than K1, 33 (50%)	Employed 14 (21%)
Visit friends & Relatives 2(3%)	½hr.-1hr. 34 (52%)	Weekly 14(21%)	K1-K5,29(44%)	Self employe 3 (5%)
	1hr.+ 12 (18%)	Monthly 6(9%)	K5+, 4(6%)	Others 49 (74%)
Others 6 (9%)	N/A 2(3%)	Yearly 2(3%) N/A 5 (8%)		
Total 66(100%)	66(100%)	66(100%)	66(100%)	66(100%)

3.2.1.2. The majority of people interviewed had shopping as their main reason for coming to the centre. About 75% of the customers spent up to 1 hour at the centre. Slightly more than half of the people interviewed came to the centre daily and about one-fifth came weekly. The amount of money spent per person per trip ranged from 2t to K10.00 with an average expenditure of K1.45 per person per trip. About half the customers spent less than K1.00 per trip. The majority of customers were engaged in self-employed subsistence farming and belong to the 'others' category on the above table. The 'employed' refer to people earning a regular income and the 'self-employed' refer to individuals performing their own tasks such as tailoring, carpentry etc. The 'others' category includes some young individuals still attending school.

TABLE 11: CHIKWAWA - OTHER CENTRES VISITED BY CUSTOMERS, REASON, FREQUENCY AND MODE OF TRAVEL

Other Centres visited	Reason	Frequency	Mode of travel
None 48(71%)	Shopping 9(45%)	Weekly 4(20%)	Bus 14(70%)
Nchalo 9(13%)	Recreation 3(15%)	Monthly 10(50%)	Bicycle 2(10%)
Blantyre 8(12%)	Others 8(40%)	Yearly 6(30%)	Walk 2(10%)
Others 3(4%)			Others 2(10%)
Total 68(100%)	20(100%)	20(100%)	20(100%)

3.2.1.3. The majority of people interviewed seem to be entirely dependent on Chikwawa centre for their needs. of those who indicated going to other centres, that is about 30% of the customers, there was an even split to Nchalo and Blantyre. They went to these centres mainly by bus and their main reason for going there included shopping, recreation and visiting friends and relatives. Most of the trips were made monthly.

TABLE 12: CHIKWAWA - CUSTOMERS AGE, SEX, EDUCATION AND PROBLEMS ENCOUNTERED AT THE CENTRE

Problems encountered at centre	Age of customer	Sex of customer	Education of customer
None 41(60%)	Less than 15 yrs.4(6%)	Male 29(44%)	Primary 50(76%)
Problem 17(26%)	15-45 yrs.57 (86%)	Female 37(56%)	Secondary 4(6%)
N/A 8(12%)	45 yrs. + 5(8%)		None 6(9%)
			N/A 6(9%)
66 (100%)	66 (100%)	66 (100%)	66 (100%)

3.2.1.4 The majority of customers interviewed voiced no experience of problems at the centre. The customers who indicated problems constituted about 26% of the total interviewees and their main problems included:-

- a) Limited availability of items at the market ie. shortage of fish, eggs, vegetables and potatoes.
- b) Lack of specialised shops such as Bata Shoe shop, Hardware shop and Press Trading Company shop (P.T.C.) which provides a comprehensive range of consumer and durable items including clothing.
- c) Lack of recreation or entertainment.
- d) Lack of water supply particularly in the surrounding traditional housing area.
- e) Limited employment opportunities.
- f) Environmental problem of high temperature, mosquito bites and salty water.

3.3.1.5 Most of the customers had primary education and were medium aged.

3.2.2. VENDOR SURVEY

TABLE 13: CHIKWAWA - AGE, SEX, EDUCATION AND ORIGIN OF VENDORS

Age of vendor	Sex	Education	Origin By T.A.	District
Less than 15 yrs. 1(5%)	Male 13(68%) Female 6(32%)	Primary 12(63%)	T.A. Kasisi 10(53%)	Chikwawa 16(84%)
15-45 yrs. 14 (74%)		Secondary 4 (21%)		Thyolo 2(11%)
45 yrs. 4(21%)		None 3(16%)	Others 9(47%)	Blantyre 1(5%)
Total 19(100%)	19(100%)	19(100%)	19(100%)	19(100%)

3.2.2.1. Most of the vendors came from T.A. Kasisi area and Chikwawa District in general including T.A. Chapananga, Ngabu, Makwira, Katunga and Masseah. A few vendors came from outside the subregion from such districts as Thyolo and Blantyre. The majority of vendors had primary education and were medium aged.

3.2.2.2. The items sold at the centre included cereals ie. maize and rice, vegetables, tobacco, meat, dried fish, groundnuts, groceries and textiles which were purchased from local wholesalers and travelling wholesalers from Blantyre. Most of

the other items came from within the district and a few from distant places such as Thyolo, Mwanza, and Nsanje districts.

3.2.2.3. Most of the vendors started business at Chikwawa and have no intention of moving to other places. Their main problems at the centre included shortage of goods from local wholesalers, low sales, lack of certain commodities, lack of water and public convenience.

3.3 NCHALO

3.3.1 CUSTOMER SURVEY

TABLE 14: NCHALO-ORIGIN OF CUSTOMERS AND MODE OF TRAVEL

Origin of Customer	Traditional Authority	District	Mode of Travel
Centre 43(39%)	Lundu 82(76%)	Chikwawa 103(95%)	Walk 60(56%)
Sucoma 32(30%)	Ngabu 19(18%)	Nsanje 2(2%)	Bicycle 28(26%)
Other 33(31%)	Others 7(6%)	Others 3(%)	Bus 11(10%)
			Others 9(8%)
Total 108(100%)	108(100%)	108(100%)	108(100%)

3.3.1.1. A big majority of the customers at Nchalo come from the around the centre including the SUCOMA estate and within Chikwawa District in general.

It appears that very few customers come from Nsanje and outside the subregion altogether. Although the majority of customers walked to the centre there was good evidence that bicycles and buses are also widely used for transport. This explains why some customers came as far as Mlolo in the south, Chapananga in the north, Blantyre and even further north-east of the Lower shire subregion.

TABLE 15: NCHALO-CUSTOMERS REASON FOR COMING TO THE CENTRE, DURATION, FREQUENCY, EXPENDITURE AND EMPLOYMENT

Purpose of coming to centre	Length of stay	Frequency	Amount spent	Employment
Shopping 72(67%)	Less than ½ hr. 18(17%)	Daily 46(43%)	Less than K1, 27(25%)	Employed 45(42%)
Visit friends and relatives 7(6%)	½ hr.-1 hr., 38(35%)	Weekly 41(38%)	K1 - K5, 60(56%)	Self employed 12 (11%)
On transit 5(5%)	1 hr.+47(43%)	Monthly 10(9%)	K5+ 21(19%)	Others 51(47%)
Others 24(22%)	N/A 5(5%)	Yearly 4(4%)		
		N/A 7(6%)		
Total 108(100%)	108(100%)	108(100%)	108(100%)	108(100%)

3.3.1.2. The majority of people came to the centre largely for shopping and a few other things such as visiting friends and relatives, medical treatment, maize milling and religions pursuits. More than 75% of the customers spent more than ½ hour at the centre and indeed there were a number of people who spent a day or more at the centre. There was almost a balance between those people who came to the centre daily and weekly. This is a good indicator of the busy character of the centre. The amount spent per person per trip ranged from 3t to K50.00 with an average of K4.60 per person per trip. The majority of customers (56%) spent between K1.00 and K5.00 per trip. About 42% of the people interviewed were employed, 12% self-employed and the rest were subsistence farmers and school goers.

TABLE 16: NCHALO-OTHER CENTRES VISITED BY CUSTOMERS, REASONS, FREQUENCY AND MODE OF TRAVEL

Other Centres visited	Reason	Frequency	Mode of Travel
None 56(52%)	Shopping 23(44%)	Daily 2(4%)	Bus 24(39%)
Blantyre 29(27%)	Proximity to	Weekly 11(21%)	Other vehicles 21(34%)
Ngabu 11(10%)	Home 8(15%)	Monthly 22(42%)	Walk 7(12%)
Chikwawa 4(4%)	Others 21(41%)	Yearly 9(17%)	Bicycle 4(7%)
Others 8(7%)		N/A 8(16%)	Others 5(8%)
Total 108(100%)	52(100%)	52(100%)	61(100%)

3.3.1.3 About ½ the interviewees did not travel to other centres, suggesting that Nchalo sufficed their needs and requirements. The majority who visited other centres went to Blantyre followed by Ngabu and Chikwawa. The other centres visited were mainly smaller ones and the people who went there did so because the centres were near their homes. The main reason for going to other centres were shopping largely for items not readily available at Nchalo. The majority of people who visited other centres did so monthly and to a lesser extent weekly. Buses and other vehicles featured as the main modes of travel to other centres.

TABLE 17: NCHALO-CUSTOMERS AGE, SEX, EDUCATION AND PROBLEMS ENCOUNTERED AT THE CENTRE

Problems encountered At the centre	Age of customer	Sex of customer	Education of customer
No problem 60(56%)	Less than 15 yrs. 5(5%)	Male 76(70%)	Primary 63(58%)
Problem 46(42%)	15-45 yrs. 94(87%)	Female 32(30%)	Secondary 26(24%)
N/A 2(2%)	45 yrs. + 5(5%)		None 7(7%)
	N/A 4(3%)		N/A 12(11%)
Total 108(100%)	108(100%)	108(100%)	108(100%)

3.3.1.4 About 60% of the customers aired no complaint about the centre. This compared favourably with 56% of the customers who had indicated that they did not visit other centres, thus prompting a conclusion that the centre probably met all their needs and requirements.

3.3.1.5 Most of the customers interviewed aged between 15 and 45 years and turned out to be males. The majority had primary education. The main complaints from the customers about the centre centred on:-

- a) problem of transport to surrounding areas.
- b) lack of specialist facilities such as photographic equipment, spare parts of sewing machines etc.
- c) lack of community hall and tavern
- d) poor housing and sanitation
- e) fast growth of the centre and consequent social problems.
- f) poor market condition ie. not clean and not well stocked.
- f) lack of public convenience and refuse collection
- h) heat and mosquito bites.
- i) lack of an urban authority such as Town Council to look into the urban problems of the centre.

3.3.2. VENDOR SURVEY

TABLE 18: NCHALO-AGE, SEX, EDUCATION AND ORIGIN OF VENDORS

Age of Vendor	Sex	Education	Origin By T.A.	District
Less than 15 yrs. 1(2%)	Male 34(79%)	Primary 22(51%)	Ngabu 15(35%)	Chikwawa 20(46%)
15-45 yrs. 38(88%)	Female 9(21%)	Secondary 13(30%)	Tengani 6(14%)	Nsanje 9(21%)
45 yrs + 4(10%)		N/A 8(19%)	Lundu 4(9%) Others 18(42%)	Blantyre 3(7%) Thyolo 3(7%) Others 8(19%)
Total 43(100%)	43(100%)	43(100%)	43(100%)	43(100%)

3.3.2.1 Although Nchalo is situated in T.A. Lundu most of the vendors came from T.A. Ngabu and T.A. Tengani in Chikwawa and Nsanje Districts respectively. Some vendors came from outside the subregion from districts such as Blantyre, Mangochi, Dedza, Mwanza, Chiradzulu, Thyolo and Lilongwe in Central Region. About $\frac{1}{2}$ the vendors had primary education but there was a fair number who had secondary education. The majority were males and medium aged.

3.3.2.2. The main items sold at the centre included groceries, hardware, clothing, foodstuff, shoes and fuel. Most of these items came from local wholesalers and Blantyre and also from Thyolo and Lilongwe.

3.3.2.3. Although most of the vendors started business at the centre, there was evidence of people who started elsewhere such as Ngabu, Masanduko, Chikwawa, and Nsanje and who later came to start business at Nchalo when SUCOMA got established around 1966. There is also ample evidence that people are continuing to open new business at the centre. Most of the vendors have no intention of leaving the place. They tend to rely heavily on SUCOMA for their businesses; every weekend some employees of SUCOMA are being paid and this accounts for the high liquidity and purchasing power at the centre.

3.4 NGABU

3.4.1. CUSTOMER SURVEY

TABLE 19: NGABU-ORIGIN OF CUSTOMERS AND MODE OF TRAVEL

Origin of customer	Traditional Authority	District	Mode of travel
Centre 25(45%) Others 30(55)	Ngabu 55(100%)	Chikwawa 55(100%)	Walk 43(78%) Bicycle 6(11%) Others 6(11%)
Total 55(100%)	55(100%)	55(100%)	55(100%)

3.4.1.1. On an ordinary day it would appear that most of the customers do not come from within the centre. However, if all the surrounding villages such as Malemia, Ganamba, Chimpambana, Thonje and Kaliza are taken as part of the centre, it is found that about 75% of the customers come within and around the centre. Virtually all the customers appear to come from T.A. Ngabu whose headquarters is at Ngabu itself.

TABLE 20: NGABU-CUSTOMERS REASON FOR COMING TO THE CENTRE, DURATION, FREQUENCY, EXPENDITURE AND EMPLOYMENT

Purpose of coming to the centre	Length of stay	Frequency	Amount spent	Employment
Shopping 49(89%)	Less than ½ hr. 10(18%)	Daily 27(49%)	Less than K1, 7(13%)	Employed 23(42%)
Others 6(11%)	½ - 1 hr. 29(53%)	Weekly 21(38%)	K1-K5, 32(58%)	Self-employed 10(18%)
	1 hr.+12(22%)	Monthly 3(6%)	K5+, 16(29%)	Others 22(40%)
	N/A 4(7%)	N/A 4(7%)		
Total 55(100%)	55(100%)	55(100%)	55(100%)	55(100%)

3.4.1.2. Shopping rated as the main reason for people coming to the centre. A small proportion also came for repairing articles such a clothes and bicycles and visiting friends and relatives. The majority of people stayed at the centre up to 1 hour. Although the majority came to the centre daily there was also a good number who came weekly. Amount spent by each customer ranged from 20t to K50 with an average of K7.80 per person per trip. About 60% of the customers spent between K1.00 and K5.00 each per trip and the proportion of employed customers was comparable to Nchalo.

TABLE 21: NGABU-OTHER CENTRES VISITED BY CUSTOMERS,
REASON, FREQUENCY AND MODE OF TRAVEL

Other Centres visited	Reason	Frequency	Mode of travel
None 41(75%)	Shopping 12(86%)	Weekly 8(57%)	Bus 5 (36%)
Nchalo 10 (18%)	Others 2(14%)	Monthly 5(36%)	Other vehicles 9(64%)
Others 4 (7%)		Yearly 1(7%)	
Total 55(100%)	14(100%)	14(100%)	14(100%)

3.4.1.3. It could be assumed from the results of the survey that about 75% of the customers depended entirely on Ngabu for their needs and requirements. The remaining quarter of the customers travelled mostly to Nchalo and Blantyre for shopping and entertainment. Customers pointed out that Nchalo offered a variety of goods in P.T.C. shop which were not available at Ngabu. Trips to Nchalo were made largely weekly by one type of vehicle or another.

TABLE 22: NGABU-CUSTOMERS AGE, SEX, EDUCATION AND PROBLEMS ENCOUNTERED AT THE CENTRE

Problems encountered at the centre	Age of customer	Sex of customer	Education of customer
No problems 33(60%)	Less than 15 yrs. 2(4%)	Male 29(53%)	Primary 28(51%)
Problems 18(33%)	15 - 45 yrs. 46(83%)	Female 23(42%)	Secondary 11(20%)
N/A 4(7%)	45 yrs. + 7(13%)	N/A 3(5%)	University 1(2%)
			None 4(7%)
			N/A 11(20%)
Total 55(100%)	55(100%)	55(100%)	55(100%)

3.4.1.4. Although the majority of customers indicated that they did not encounter any problem at the centre, there was a reasonable proportion of them who noticed some inadequacies at the centre. Their main complaints were:-

- a) insufficient supply of durable goods ie. bicycles spare parts, radios, shoes and consumer goods ie. vegetables and fresh fish.
- b) lack of public convenience
- c) limited job opportunities.

3.4.1.5. Most of the customers were medium aged, male and had primary and secondary education. It was also apparent that some customers had university education and these were largely employed at the Shire Valley Agricultural Development Authority Headquarters at Ngabu.

3.4.2. VENDOR SURVEY

TABLE 23: NGABU-AGE, SEX, EDUCATION AND ORIGIN OF VENDORS

Age of Vendor	Sex	Educa- tion	Origin by T.A.	District
15-45 yrs. 30 (81%)	Male 27(73%)	Primary 21(56%)	Ngabu 17(46%)	Chikwawa 18(49%)
45 yrs +7(19%)	Female 10(27%)	Secondary 8(22%)	Nsabwe 6(16%)	Thyolo 10(27%)
		None 8(22%)	Others 14(38%)	Mulanje 6(16%)
				Others 3(8%)
Total 37(100%)	37(100%)	37(100%)	37(100%)	37(100%)

3.4.2.1. Ngabu had almost an even proportion of vendors from Chikwawa district and the outside the subregion from Thyolo and Mulanje districts. Few vendors came from Nsanje District and Mozambique. Most of the

vendors were adults, male and had primary and secondary education.

3.4.2.2. The items commonly sold at Ngabu were groceries, clothes, beans, maize, fruits, dried fish and some hardware items. The source of these items were Blantyre, Ngabu, Thyolo, Mulanje and Mozambique.

3.4.2.2. Although the majority of vendors started their businesses at Ngabu, there was a reasonable number of them who started elsewhere and then migrated to the centre. They came from such places as Blantyre, Luchenza, Sorghin, Nsangwe, Thyolo, Thudzu, Machinga Makhanga and Makwira. They appear to have been attracted by the setting up of the Shire Valley Agricultural Development Authority whose original prime objective was to increase cotton production and hence cotton sales and disposable income of the people in the Ngabu area.

3.4.2.3. Most of the vendors had no intention of moving out of the centre although they complained of the seasonal nature of business which depended largely on cotton sales. Other complaints and comments included inadequacy of water supply, poor roads and

drainage and the need for more job opportunities to boost their businesses.

3.5 BANGULA

3.5.1 CUSTOMER SURVEY

TABLE 24: BANGULA ORIGIN OF CUSTOMERS AND MODE OF TRAVEL

Origin of customer	Traditional Authority	District	Mode of travel
Centre 26(37%)	Tengani 53(75%)	Nsanje 55(77%)	Walk 47(66%)
Others 45(63%)	Ngabu 7(10%)	Chikwawa 12(17%)	Bicycle 10(14%)
	Others 11(15%)	Others 4(6%)	Bus 9(13%)
			Others 5(7%)
Total 71(100%)	71(100%)	71(100%)	71(100%)

3.5.1.1. A survey of customers at Bangula showed that although the majority of them originated from T.A. Tengani where the centre was located, less than 40% came from the centre itself. Some customers came from extremes of the subregion ie. Chapananga in Chikwawa District and Ndamera in Nsanje District. Most of the customers walked to the centre but there was a fair proportion who came by bicycles, bus, train and other types of vehicles.

TABLE. 25: BANGULA-CUSTOMERS REASON FOR COMING TO THE CENTRE, DURATION, FREQUENCY, EXPENDITURE AND EMPLOYMENT

Purpose of coming to centre	Length of stay	Frequency	Amount spent	Employment
Shopping 50(70%)	Less than ½ hr. 16(22%)	Daily 27(38%)	Less than K1, 22(31%)	Employed 25(35%)
Others 21(30%)	½ hr.-1 hr. 26(37%)	Weekly 21(29%)	K1-K5, 34(48%)	Self employed 18(25%)
	1 hr+ 19(27%)	Monthly 15(21%)	K5+,13(18%)	Others 28(40%)
	N/A 10(14%)	Yearly 4(6%)	N/A 2(3%)	
		N/A 4(6%)		
Total 71(100%)	71(100%)	71(100%)	71(100%)	71(100%)

3.5.1.2. The majority of people came to Bangula for shopping while others came to visit friends and relatives, for medical treatment or were in transit to other places. Slightly over 50% of the customers stayed at the centre for up to 1 hour. Most of the people came to the centre daily and weekly and spent on average K5.60 per person per trip. There was a fair proportion of employed and self-employed individuals.

TABLE 26: BANGULA-OTHER CENTRES VISITED BY CUSTOMERS, REASON, FREQUENCY AND MODE OF TRAVEL

Other Centres visited	Reason	Frequency	Mode of travel
None 49(69%)	Shopping 14(64%)	Daily 2(9%)	Bus 9(41%)
Nchalo 7(10%)	Others 8(36%)	Weekly 7(32%)	Bicycle 9(23%)
Ngabu 6(8%)		Monthly 11(50%)	Others 8(36%)
Others 9(13%)		Yearly 2(9%)	
Total 71(100%)	22(100%)	22(100%)	22(100%)

3.5.1.3. The majority of customers who visited other centres did so for shopping purposes. They constituted about 30% of the total interviewed and they largely went to Nchalo, Ngabu and Blantyre. The main attraction at Ngabu was the Hardware Dealers shop and at Nchalo, the P.T.C. shop. The trips to those centres were mainly conducted weekly and monthly by bus and other vehicles.

TABLE 27: BANGULA-CUSTOMERS AGE, SEX, EDUCATION AND PROBLEMS ENCOUNTERED AT THE CENTRE

Problems encountered at centre	Age of customer	Sex of customer	Education of customers
None 30(42%)	Less than 15 yrs. (46%)	Male 56(79%)	Primary 45(63%)
Problem 37(52%)	15 - 45 yrs. 59(83%)	Female 15(21%)	Secondary 18(25%)
N/A 4(6%)	45 yrs + , 8(11%)		None 4(6%)
			N/A 4(6%)
Total 71(100%)	71(100%)	71(100%)	71(100%)

3.5.1.4. About half the people interviewed at Bangula had a complaint about the centre. The complaints can be summarised as follows:

- a) inadequate butchers, bottle stores and well-stocked shops.
- b) lack of a proper restaurant
- c) lack of community hall and entertainment
- d) lack of luxury goods
- e) lack of a hardware shop

- f). lack of water supply
- g) poor transport connection
- h) lack of public convenience
- i) need for more job opportunities.

3.5.2. VENDOR SURVEY

TABLE 28: BANGULA-AGE, SEX, EDUCATION AND ORIGIN OF VENDORS

Age of vendor	Sex	Education	Origin by T.A.	District
15-45 yrs. 19(68%)	Male 20(71%)	Primary 18(64%)	Tengani 10(36%)	Nsanje 15 15(54%)
45 yrs. + 7(25%)	Female 8(29%)	Secondary 5(18%)	Mlolo 3(10%)	Chikwawa 4(14%)
N/A 2(7%)		None 5(18%)	Others 15(54%)	Others 9(32%)
Total 28(100%)	28(100%)	28(100%)	28(100%)	28(100%)

3.5.2.1. Most of the vendors at Bangula came from T,A. Tengani and Nsanje District in general. There were also some vendors from Chikwawa. Mulanje, Thyolo, Blantyre and distant places such as Chiradzulu and Nkhata Bay. The majority of vendors had primary education and were male and medium aged.

3.5.2.2. The items sold at Bangula included groceries clothes, tobacco, fish, clay pots, textiles and fuel. Groceries clothes and textiles are obtained from local and travelling wholesalers whilst the rest of the commodities come from the surrounding areas. Maize is largely bought from ADMARC market.

3.5.2.3. Bangula is a relatively new commercial centre as most of the vendors started operating there from the 70's. Some vendors started their businesses elsewhere and came to Bangula because they reckoned it was a bigger centre, Others came from Chiromo because the latter centre had serious flooding problem which has totally ruined it.

3.5.2.4. Generally the vendors complained of lack of water supply, non-paying health centre, hardware dealers, public convenience, refuse collection and they needed more employment opportunities at the centre to increase their sales.

3.6. . NSANJE

3.6.1. CUSTOMER SURVEY

TABLE 29: NSANJE-ORIGIN OF CUSTOMERS AND MODE OF TRAVEL

Origin of customer	Traditional Authority	District	Mode of Travel
Centre 34(51%)	Malemia 61(92%)	Nsanje 65(98%)	Walk 61(92%)
Others 32(49%)	Others 5(8%)	Mozambique 1(2%)	Others 5(8%)
Total 66(100%)	66(100%)	66(100%)	66(100%)

3.6.1.1 Customers originating from the centre and other areas afar seem to compare favourably in terms of numbers. Generally, however, the majority of customers come from T.A. Malemia within which the centre is situated. A few customers come from T.A. Tengani, Ngabu (Nsanje), Ndamera and across the Shire river from Mozambique. The majority of customers walk to the centre but few come by bicycle. The customers from Ndinde Marsh in the south depend on the District Council motor boat for accessibility to the centre.

TABLE 30: NSANJE-CUSTOMERS REASON FOR COMING TO THE CENTRE DURATION, FREQUENCY, EXPENDITURE AND EMPLOYMENT

Purpose of coming to Centre	Length of stay	Frequency	Amount spent	Employment
Shopping 60 60(91%)	Less than ½ hr. 15(23%)	Daily 37(56%)	Less than K1, 36(55%)	Employed 11(17%)
Others 6(9%)	½ - 1 hr. 31(47%)	Weekly 20(30%)	K1 - K5, 26(39%)	Self employed 7(11%)
	1 hr. +, 17 (26%)	Monthly 6(9%)	K5+, 4(6%)	Others 48(72%)
	N/A 3(4%)	N/A 3(5%)		
Total 66(100%)	66(100%)	66(100%)	66(100%)	66(100%)

3.6.1.2. The majority of people came to Nsanje for shopping but there were few individuals who came to visit friends and relatives, to pay income tax, to check on patients at the hospital, to sell fish and to attend meetings. About 70% of the customers spent up to 1 hour at the centre and the majority spent less than K1.00 per trip. The average spent per trip per person was K3.30 and this was largely because of a few individuals who came to buy fish in bulk for sale elsewhere. Excluding for instance an isolated individual who bought fish worth K120.00, the average spent per person comes

down to K1.50 per person which compares favourably with Chikwawa. The significance of fish trade in this area is a factor to reckon with in terms of commercial development. Very few customers were either employed or self-employed. It would appear that there is high incidence of subsistence farming in the Nsanje hinterland.

Table 31: NSANJE - OTHER CENTRES VISITED BY CUSTOMERS, REASON, FREQUENCY AND MODE OF TRAVEL

Other Centres visited by customers	Reason	Frequency	Mode of Travel
None 53(80%)	Shopping 8(62%)	Daily 2(15%)	Bus/Vehicle 6(46%)
Blantyre 5(8%)	Others 5(38)	Weekly 6(46%)	Walk 5(39%)
Others 8(12%)		Monthly 4(31%)	Train 2(15%)
		Yearly 1(8%)	
Total 66(100%)	13(100%)	13(100%)	13(100%)

3.6.1.3. Only about 20% of the customers visited other centres thus showing a high degree of dependency on Nsanje by people from its hinterland for their needs and requirements. Those who visited other centres went to Blantyre, Nchalo, Ngabu and Mbenje which is south of Nsanje. Their main reason was shopping for

clothing and selling fish. In the case of Mbenje customers preferred it to Nsanje for its cheapness of items being a small busy centre away from Nsanje urban.

TABLE 32: NSANJE - CUSTOMERS AGE, SEX, EDUCATION AND PROBLEMS ENCOUNTERED AT THE CENTRE

Problems encountered at the centre	Age of Customer	Sex of Customer	Education of Customer
No problem 42(64%)	Less than 15 yrs. 2(3%)	Male 37(56%)	Primary 41(62%)
Problem 19(29%)	15 - 45 yrs. 58(88%)	Female 29(44%)	Secondary 7(11%)
N/A 5(7%)	45 yrs.+6(9%)		N/A 18(27%)
Total 66(100%)	66(100%)	66(100%)	66(100%)

3.6.1.4. A high proportion of customers did not indicate any problem at the centre. Those who did had the following as their major complaints:-

- a) Environmental problem of high temperatures and mosquito bites.
- b) inadequate electricity which was generated from diesel engine. (The national electric grid should have now been extended to Nsanje).

- c) lack of public convenience.
- d) poor road to Marka on the border with Mozambique to the south of Nsanje.
- e) poor drainage
- f) lack of tavern
- g) need for special shops ie. shoe shop, hardware and P.T.C. shop.

3.6.1.5. Most of the customers were medium aged, male and were predominantly primary educated.

3.6.2. VENDOR SURVEY

TABLE 33: AGE, SEX, EDUCATION AND ORIGIN OF VENDORS

Age of Vendor	Sex	Education	Origin by T.A.	District
15 - 45 yrs 24(65%)	Male 31(84%)	Primary 29(78%)	Malemia 26(70%)	Nsanje 29(78%)
45 yrs. + 13(35%)	Female 6(16%)	Secondary 2(6%) None 6(16%)	Other 11(30%)	Mulanje 5(14%) Others 3(8%)
Total 37(100%)	37(100%)	37(100%)	37(100%)	37(100%)

3.6.2.1. A high proportion of vendors came from Nsanje District and T.A. Malemia in particular. Some vendors came from Mulanje and Thyolo and few others from Chikwawa, Chiradzulu and Machinga Districts. Most of the vendors were medium aged, male and had primary education.

3.6.2.2. The items sold at the centre included groceries, hardware, clothes, fish, maize, tobacco, groundnuts, vegetables, and fruits. Groceries, hardware and clothes were obtained from local and travelling wholesalers from Blantyre while the other items came from Thyolo, Mulanje, Mozambique and within Nsanje area.

3.6.2.3. Nsanje is an old centre but development of new shops and businesses is still taking place. In addition to those vendors who started their businesses at the centre there are a number of vendors who have come from smaller centres in the hinterland (i.e. Ndamera, Marka, Nyachikadza) and from other places such as Ngabu, Bangula, Zomba, Mulanje, Blantyre, Tchisi, Dedza and Lilongwe. Most of them come from Nsanje and they wanted to be near home or they own businesses in two places.

3.6.2.4. Among the major problems expressed by the vendors were:-

- a) lack of filling station
- b) lack of southern Bottlers Depot
- c) lack of hardware wholesalers
- d) lack of public convenience
- e) lack of water supply
- f) limited job opportunities
- g) poor drainage.

3.7. MAIN OBSERVATIONS FROM THE SURVEY

1. The major centres of the Lower Shire subregion offer more or less the same level of services. As a result most of the centres have strong affiliation with their hinterland and there is little mobility of customers from one centre to another. Nsanje and Ngabu were extreme cases where virtually all customers came from the immediate hinterland and very few travelled to other centres. Bangula and Nchalo were the only centres that had a wider sphere of influence; Bangula on account of its rail/road transport interchange which afford it easy accessibility

from all other big centres in the subregion and Nchalo because of employment opportunities afforded by the sugar estate and factory and also in having a variety of well-stocked and specialist shops such as the P.T.C. superette and Bata Shoe Shop.

2. In a number of centres shopping featured as the main attraction and accounted for over 80% of the purpose for coming to the centre at Chikwawa, Ngabu and Nsanje. All this goes on to explain that the pattern of existing centres is biased to shops and markets. A variety of good services and facilities are required to promote and sustain the growth of reasonable centres.

3. The proportion of customers who pointed out problems or inadequacies of centres is closely related to the proportion of secondary education that obtained at a particular centre. For instance Chikwawa with 6% of secondary educated interviewees had also the lowest proportion (17%) of people who complained about the centre. On the other hand Nchalo with 26% of secondary educated

interviewees had also the highest proportion (46%) of people who pointed out the problems at the centre. Therefore as more people get educated they are therefore more likely to live their home in search of not only job opportunities but also basic amenities of modern life which are non-existent in their home centres. Something has to be done to control this selective drain of resourceful manpower which could be deployed with good results within the subregion itself.

4. At least all centres had customers who went outside the subregion to Blantyre for specialist shopping or high order level of services and facilities. Whilst it is accepted that the subregion cannot offer some very high specialist services of national character, it is possible that some higher order services can be provided within the subregion to serve a wide range of tastes and interests.

5. Ngabu, Bangula and Nchalo seem to have high expenditure per person per trip. However, the

high population of Nchalo gives it a much higher purchasing power than Ngabu which recorded the highest expenditure per person per trip to the centre. On the other hand Chikwawa and Nsanje had the lowest purchasing power. It is expected that the upcoming hydro-electric power plant project at Kapachire Falls near Chikwawa will improve the social and economic spectrum of the centre.

6. The main problems which beset all the centres in the subregion can be summarised as follows:
 - a) lack of specialist shops and luxury goods.
 - b) lack of basic urban services ie. refuse collection, public convenience, community halls and entertainment centres.
 - c) inadequate and an uncoordinated public transport which result in long delays for people on transit from one centre to another.
 - d) lack of public transport between the centres and their hinterland which strongly affect distribution of goods and services to and from the market areas.

- e) lack of an urban authorities such as Town Council to deal with some urban problems.
 - f) environmental problem of high temperatures and mosquito molestation. The need for adequate electricity for refrigeration fans and air conditioning facilities cannot be overemphasized.
7. The state of affairs as outlined above do not augur well for regional integration which is vital for rural and urban development.

CHAPTER 4

4. URBANISATION POLICY EXPERIENCES

4.1 SITUATION IN DEVELOPING COUNTRIES

4.1.1 Conditions in developing countries are by no means the same; they vary in character and intensity from one country to another and from one continent to another. Africa for instance has very low population density, relatively little pressure on land and comparatively few urban settlements of any size south of the Sahara. Latin America on the other hand has relatively low population densities with a large proportion of urban population concentrated in few centres. In Asia population densities are much higher with considerable pressure on both urban and rural land in many places and problems often appear intractable.

4.1.2 Whatever their differences, most developing countries have a number of similarities. The great majority of people live in rural areas where services, facilities and employment opportunities are few; there is little hope for social or economic advancement; there is large scale and unplanned movements of people from rural to larger urban centres where they exacerbate problems of overcrowding, unemployment and social unrest and in most

countries, resources of all lands are totally inadequate in relation to needs. Indeed the problems of developing countries as manifested in rapidly increasing population combined with large-scale and unplanned urban growth present problems of major proportions unknown in the developed world.

4.1.3 It is unquestionable that urbanisation has a significant role to play in national development but the former view that nothing should be done to hinder the growth of cities and the movement of rural people into larger urban centres where they are instrumental for industrialisation and economic growth can no longer be accepted. This concept which obtained in the United Kingdom during the last century when cities grew as a consequence of agricultural revolution and in response to growth of industry overlooks human and social problems of today.

4.1.4 In urban areas of developing countries the problem is not the need to increase the size of the labour force but the difficulty of providing work, shelter, community services and an adequate way of life for those who are already in the centres.

Although it is sometimes argued that rural areas are unable to support existing and growing populations, the flight to larger centres is no adequate solution to the problem. Chances for increased employment rarely need be confined to the major centres as a lot can be achieved by guiding movement of population and coordinating them with the development of natural resources and creation of new jobs in minor urban settlements in the rural areas.

4.1.5 Admittedly the urban areas will continue to grow whatever action is taken but at least a reduction in the magnitude of future urban problems and rate of growth might be possible if greater attention can be addressed to the needs and potential of the rural areas.

4.1.6 Once and foremost it has to be accepted that cooperation between urban and rural sectors is essential for it is clear that neither alone has the answer to the economic and social problems facing developing countries. More often than not urban problems are better solved within a planning and development approach which embraces both urban and rural sectors.

4.1.7 In the development planning for developing nations there is a tendency to have separate plan objectives for rural and urban industrial sectors. There is of course, technical convenience derived from this dichotomy but this is to a large extent offset by lack of reality. It is significant to realise that a plan for a nation or region involves an interplay of many components through a network of social and economic linkages. Ultimately planning based on a sectoral dichotomy can result in misallocation of scarce resources and a failure to tackle problems and exploit opportunities of the rural-urban continuum.

4.1.8 A reasonable approach in alleviating the plight of the rural poor in developing countries is not only to provide increased employment and production but complete urbanization of the rural population not in the United Nations sense of creating settlements of 20,000 or more people but in bringing urban-type opportunities and services within reach of all people. The provision of services and infrastructure necessary to bring levels of living to an acceptable standard is done in concentrated manner within planned settlements. A network of settlements will need to be established on a hierarchical basis varying in size from a smallest centre with most basic services

to a regional centre offering higher level facilities. Such a pattern of development will not come by chance but with official intervention from government which will also ensure that rural areas receive fair allocation of national resources.

4.1.9. A number of theories can be employed to help explain the process of urbanisation and regional development such as the central place theory, the growth pole theory and the core-periphery theory.

4.1.10. The central place theory owes its origin to Walter Christaller's attempts in 1933 to explain the size, number and distribution of towns. The theory focuses on the relationship between settlement nodes and the areas these nodes serve and maintains that regions are structured by a hierarchy of development nodes which is the basic framework through which the fuller exploitation of a region's resources may be realised. Thus to the extent that a strong and identifiable urban network is absent the prospects for optimum regional development and personal satisfaction are lessened. The theory is based exclusively on servicing activities of settlement

nodes and for this reason, amongst others, it does not appear to conform with the real world. However, it is valid for service activity location and contains a number of important concepts such as the inter-dependence between town and region and the hierarchical arrangement of function and centres.

4.1.11. Perroux believed that "growth does not appear everywhere at once; it appears in points or development poles, with variable intensities; it spreads along diverse channels and with varying terminal benefits to the whole economy" (Perroux, F, 1964 p. 143) Perroux suggested that both sectors and geographic space are made up of two contrasting elements; the active and propulsive and the passive and dependent. Perroux noted that the relative strength of the two opposed influences of the pole on the rest of a given space is crucial for the long run performance of that space and that the manner and mechanism through which effects are expressed is significant in explaining the ongoing processes and actual working of the economy in the spatial dimension.

4.1.12. Perroux's conceptualization of the growth model was 'brought down to earth' by Friedmann

who suggested the terms 'core' and 'periphery' to describe the two elements mentioned above. Core stood for concepts such as metropolitan areas, centres, growth poles and growth centres while periphery replaced concepts of hinterland or fringe area. Friedmann himself developed a model which suggests stages of spatial organisation that a national economy moves through on its progress from a primitive pre-industrial position to industrial maturity. Although the model is open to criticism it gives a good picture of the relationships between economic development and spatial structure especially for countries that were colonised or experienced external forces.

4.1.13 In brief all the theories indicated above are embodied in growth centre policies which are expected to achieve the following:-

- a) improvement in a region's potential for adopting innovation.
- b) regional economic growth much greater than that which would have otherwise occurred.

- c) a saving in public investment in infrastructure.
- d) a more efficient pattern of service provision.
- e) dissemination of growth impulses over a wider area and
- f) interception of would be migrants from the region.

4.1.14 Having looked at the general pattern, theory and possible options to urbanisation in developing countries it is perhaps appropriate now to look at the urbanisation policies of two countries namely Kenya and Malawi in order to gain a deeper insight into the practical aspect of things.

4.2 URBANISATION POLICY IN MALAWI

4.2.1. The urbanisation policy in Malawi can be examined in three ways namely the shift of the capital from Zomba in the Southern Region to Lilongwe in the Central Region, the West German government aided Rural Growth Centre Project and the Development of District Centres Project not to mention the government policy of industrialisation which stipulates that major industries should be located in Lilongwe, Blantyre and Liwonde.

4.2.2 In the first place the urbanisation pattern in Malawi as inherited from the colonial government consisted of the national capital, Zomba, in the Southern Region, the regional centres ie. Blantyre in the South, Lilongwe in the centre and Mzuzu in north plus all the district centres namely Chitipa, Karonga, Rumphi, Mzimba, Nkhata Bay, Kasungu, Nkhota-Kota, Ntchisi, Dowa, Mchinji, Salima, Lilongwe, Dedza, Ntcheu, Mangochi, Machinga, Mwanza, Zomba, Chiradzulu, Blantyre, Thyolo, Mulanje, Chikwawa and Nsanje. Apart from being the regional centre of the south, Blantyre was and still is the main commercial and industrial centre of the country and it also accommodated a number of Ministries Headquarters until January, 1975 when Lilongwe officially became the new capital city.

4.2.3. Because the main access route to the country both by water and rail was in the southern region, the Shire Highlands cool climate attracted the colonial administrators, traders and missionaries to settle there. The tea estates were opened up in Mulanje and Thyolo, Blantyre became a commercial and industrial centre and Zomba became the seat of the colonial government. Thus the Southern Region

became more developed than the central and northern area which had low infrastructural development which inhibited exploitation of resources. The result was that people from the north migrated to the southern region and other countries such as Zambia, Zimbabwe and South Africa in search of employment opportunities.

4.2.4 The shift of the capital from Zomba to Lilongwe was in line with the overall post colonial economic objective of the country of ensuring that the fruits of development are spread as evenly as possible throughout all sections of the population and all parts of the country. Lilongwe is now a new economic growth point in the centre of the country and is surrounded by areas of high agricultural potential. It is now the second largest town in Malawi after Blantyre. The extension of the railway to Lilongwe and as far as Mchinji on the border with Zambia coupled with the opening of the new international airport there has gone a long way in enhancing accessibility to the new capital both nationally and internationally.

4.2.5 The Rural Growth Centres Project is aimed at raising the standard of living in rural areas by concentrating developing effort on selected rural centres in the remote parts of the country. The

emphasis is on the provision of basic facilities such as market place, school, health centre, community hall, post office, playing field and roads. Centres have been selected in areas that are distantly located from existing centres, where the population density is relatively high, agricultural potential is high and areas that are close to existing communication or transport lines. The Growth Centres Project is but one of the gamut of rural development strategies that the government is undertaking.

4.2.6 The project started with an agreement between the Malawi and West German governments in 1978 to embark on a pilot programme of ten rural growth centres in Malawi. A sum of K7.5 million was granted by the German government to cover both financial and technical assistance. So far five of the ten centres have been completed. In view of the success of the pilot programme the governments have agreed to extend the pilot programme to the national level and other donors are expected to participate in the funding of the programme.



Plate 9: Looking down Thekerani Rural Growth Centre from a nearby hilltop.

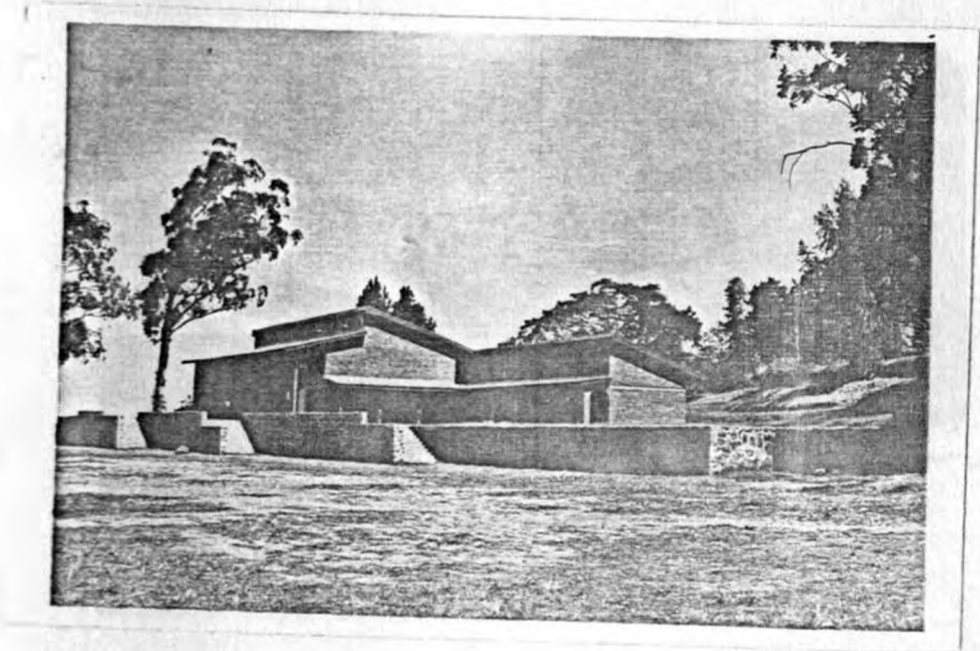


Plate 10: Thekerani - Newly built community hall.

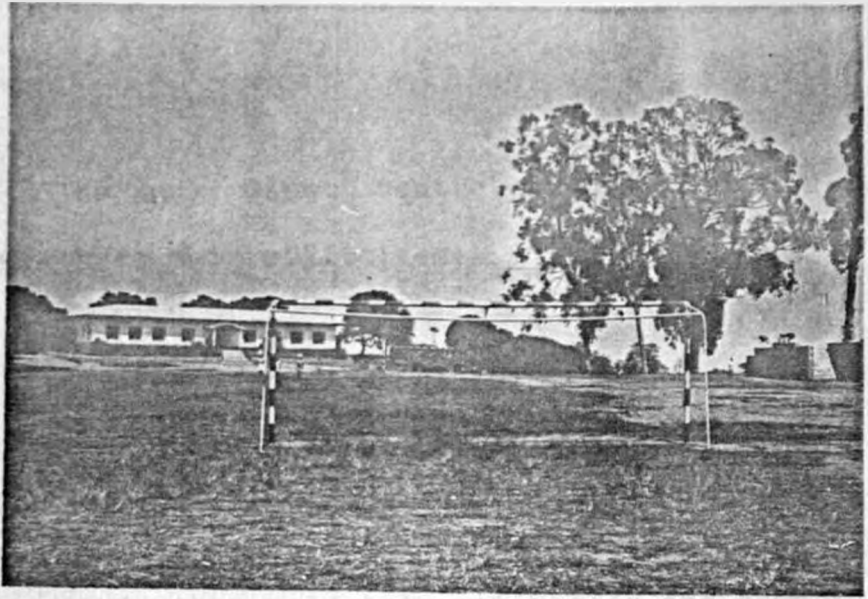


Plate 11: Thekerani - renovated primary school and new playing field in the foreground.

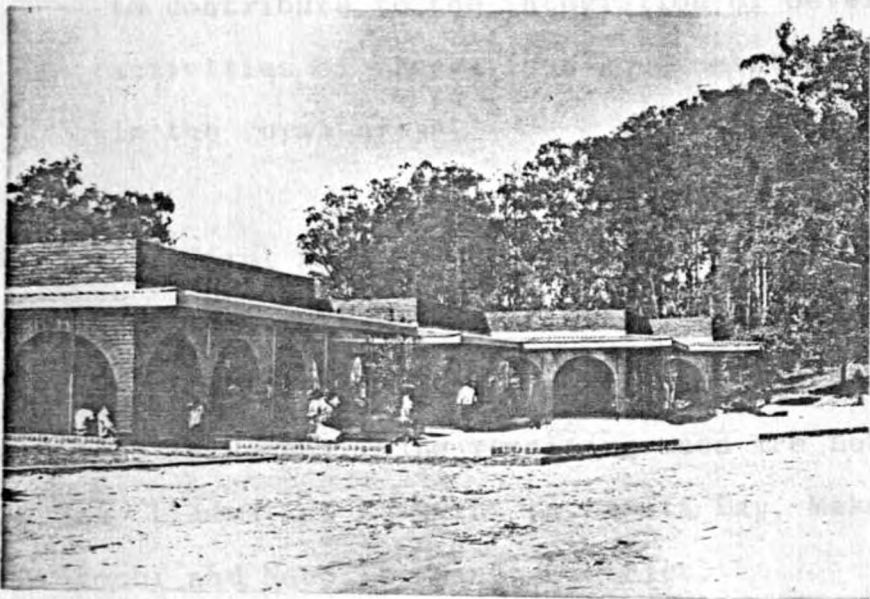


Plate 12: Thekerani - new product market.

4.2.6 The Rural Growth Centre was designed to achieve three main objectives:-

1. to create local points of development in remote areas of Malawi by providing social services to rural population.
2. to further self-help activities and community development in order to give rural people an opportunity to better participate in development progress at the local centre and
3. to contribute to the integration of development activities of the various government Ministries in the rural areas.

4.2.7. The first five to be completed of the ten initial centres are Mkhota in Kasungu, Mbalachanda in Mzimba, Thekerani in Thyolo, Tsangano in Ntcheu and Bolero in Rumphi. The remaining ones are Lobi in Dedza, Likoma and Chikwina in Nkhata Bay, Makanjira in Mangochi and Neno in Mwanza District.

4.2.7. The Growth Centres that have been completed are proving quite popular with the people from surrounding areas. The immediate advantage is that

people have less distance to travel for basic services such as health care and therefore can spend more time on productive or recreational activities. Because the centres have more and better infrastructure than some old small centres and because they are well-planned they tend to have more potential of developing into bigger centres and hence transforming the spatial organisation of the country as a whole.

4.2.8 The Development of District Centres Project aims at promoting the physical development of selected towns so as to provide a better level of urban services and job opportunities in those areas which are distant from Blantyre and Lilongwe. The urban population in 1977 was 467,000 and given that it is growing at 7% annual growth rate it is estimated to reach 2.2 million by the year 2000. The question therefore is how to ensure sound economic living conditions for this growing urban population and this boils down to the question of how to provide sufficient employment opportunities in Malawian towns. The District Centres Project is therefore intended to create alternative major centres which will offer secondary and tertiary employment opportunities

largely as a result of expected growth in the agricultural sector which is the main source of income and overall economic growth in Malawi.

4.2.9 The basis of decentralized urban development in Malawi is to provide a hierarchy of urban places which should facilitate agricultural development. The importance of the interrelationships between the urban and rural sectors is best described through the spatial linkages required to ensure maximum integration of the productive activities of the national economy. These include physical linkages of transport networks, economic linkages i.e. marketing systems, technological linkages, service delivery linkages, population movement and social interaction linkages and political and administrative linkages.

4.2.10. The District Centres Development Feasibility study has proposed the following settlement hierarchy for planning purposes.

	TYPE OF CENTRE	TARGET POPULATION
1.	National Centres (Lilongwe, Blantyre)	above 150,000
2.	Regional Centres (Mzuzu)	50,000 - 150,000
3.	Sub-Regional Centres	15,000 - 50,000
4.	Main Market Centres	5,000 - 15,000
5.	Rural Centres	2,000 - 5,000
6.	Villages	below 2,000

4.2.11 The District Centre has not started being implemented but already pilot studies have been done for four centres namely Mzuzu (Regional Centre), Kasungu (Sub-Regional Centre), Ntcheu and Luchenza (Main Market Centres). The proposed hierarchy for settlements has yet to be adopted by the government and will probably await the findings of the National Physical Development Plan which is supported by UNCHS (Habitat) and is operating under the Town and Country Planning Department.

4.3 KENYAN URBANISATION POLICY

4.3.1 The growth centre model adopted by Kenya involves identification and designation of a

hierarchical schedule of centres for the location and concentration of essential services, amenities, infrastructure and resource investments of needs of the centre and its hinterland population. Four main types of centres are designated as urban centre, rural centre, market centre and local centre in descending order of significance and each is expected to serve a specified range of hinterland population. Over and above these centres principal towns have been identified to encourage development of large towns in addition to Nairobi and Mombasa and to promote regional development since most of these towns are provincial centres. In these towns major public works, infrastructure and industrial estates are expected to be provided to stimulate growth and promote overall national development. The principal towns are Meru, Nyeri, Thika, Embu, Nakuru, Eldoret, Kisumu, Kitale and Kakamega.

4.3.2. The methodology used in designating the service centres included survey of all existing centres and preparation of an inventory of all services judged to have a central place function under the following headings:-

- a) administration and protection
- b) social services
- c) communications and transportation
- d) commerce
- e) industry and power.

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4.3.3 Each category was subdivided to give twenty-one subservices each of which was assigned points on the basis of the quality and level of service offered and not quantity. Three points were given for a high level service i.e. hospital, two points for a medium level service i.e. health centre and one point for a low level service i.e. dispensary. The points for centres were added up and it was assumed that the more points a centre scored the greater was its centrality and the wider its area of influence. Variety of service was also considered in that a place had to have at least a subservice in 4 of the 5 main categories to qualify as a central place. The maximum number of points possible was 51 and the minimum 8. Urban centres scored 38 to 51 points, rural centres 20 to 37 points, market centres 13 to 19 points and local centres 8 to 12 points.

4.3.4. Other factors included in the selection of service centres were the economic potential of the area, transportation accessibility, population distribution and density, topography and water potential.

TABLE 34

DISTRIBUTION OF GROWTH CENTRES BY PROVINCE IN KENYA

Province	Urban Centres	Rural Centres	Market Centres	Local Centres
Coast	3	12	20	43
Eastern	5	27	53	79
Central	11	29	30	98
Rift	10	26	45	227
Nyanja	3	24	40	85
Western	4	19	36	65
North-East	0	3	7	3

4.4 COMMENT ON KENYAN AND MALAWIAN APPROACHES

4.4.1 Both Kenyan and Malawian urbanisation policies appear to have their own merits and weaknesses.

4.4.2. The Malawian approach does not seem to have a clear rationale to the choice of rural growth centres and there is no overall national comprehensive approach to urban development outside the administrative and political structure. Thus a number of settlements or centres have emerged as a result of post colonial development efforts i.e. Dwangwa, Nchalo and Ngabu, whose role in the overall urban development of the country is not spelt out. Some of these new centres have more potential for growth than the old administrative centres which are often favoured in terms of infrastructural development. The main advantage or merit with the Malawian approach is that it is project oriented and the government is keen on securing funds for further planning and implementation.

4.4.3. Kenya on the other hand has a comprehensive national approach to urbanisation but faces the problem of implementing the scheme. It is not enough to designate a centre urban, rural, market or local if there are no funds to provide services commensurate with the status bestowed on the centre. The harambee spirit may certainly help in providing some facilities such as schools and health centres but ultimately the government has to provide the staff to run the

services. Given the large number of designated growth centres it is difficult for the government to achieve the expected standards of urban development in the foreseeable future. However, the designation of centres and functions is very helpful with regard to decision on locating facilities and services when the opportunity arises particularly in the private sector. Apparently there is need to define national priorities among centres more particularly the principal towns and to have a growth centre development authority for purposes of securing finance for implementation and co-ordinating all the efforts made towards the attainment of stated objectives.

REFERENCES

1. Laurence Hewes 1974, Rural Development :
World Frontiers. Iowa State Press.
2. Ninth Commonwealth Council Meeting, 1976 -
Role of Infrastructure in Rural Community
Development.
Commonwealth Science Council.
3. B.S. Hoyle (Edit.) 1974, Spatial Aspects of
Development.
John Wiley and Sons.
4. J. Alden and R. Morgan 1974, Regional Planning:
A comprehensive view.
Leonard Hill Books.
5. Daily Times, Thursday 18th August, 1983, Malawi.

CHAPTER 5

5. TOWARDS AN URBANISATION STRATEGY

5.1 INTRODUCTION:

5.1.1 It has been observed that the Lower Shire has experienced rapid development in agricultural and infrastructural development since independence. These developments are best expressed by a proliferation of various types of centres that have cropped up particularly along the transport routes. Whilst post independence achievements have transformed the subregion into one of the well-to-do areas agriculturally, they have also accentuated and brought some social, economic and physical problems of their own which can only be solved by a concerted effort of all bodies concerned.

5.2 PHYSICAL CONSTRAINTS

5.2.1. The subregion has a number of physical constraints both to settlement and agriculture in that quite a large portion of land is under Game Reserves/National Park (Majete and Mwabvi Game Reserves and the Lengwe National Park), escarpment zones (western escarpment controlled/conservation areas, Thyolo escarpment) and the Ndinde and Elephant marshes.

In addition to these constraints parts of the Shire Valley are liable to flooding as constantly experienced at Chiromo where road/rail communication is at times disrupted.

5.2.2 Rainfall is the lowest and most unreliable in the country and coupled with highest temperatures, the subregion has acute problem of inadequate supply of water for crops including maize, the staple crop for Malawians. Irrigation from the Shire river appears to hold the key for future development of the area.

5.2.3 There is also an acute problem of saline water in the Ndakwera and Nchalo/Ntowe areas which is not suitable for human consumption and agriculture such as cotton spraying.

5.2.4 The physical problems of the subregion naturally have a strong bearing on any future proposal for location of services, facilities or centres. The flooding problems has for instance led to a decline or demise of some centres along the Shire such as Chiromo. It would therefore be unwise to propose development of centres in flood-risk zones of the sub-region. The same applies to saline water areas unless

there is potential of abundant fresh/pure underground water or there is a perennial stream from which good fresh water can be obtained. In both cases it may be necessary to have the water treated.

5.2.5 The environmental problem of high temperatures requires that tree planting should be encouraged to provide shade from the sun in the settlements. Besides, the trees would enhance the aesthetic condition of the settlements and would be a source of poles for construction of houses and also a source of fuel.

5.3 POPULATION

5.3.1. LEVEL OF URBANISATION AND MIGRATION

5.3.1.1. The level of urbanisation is still in infant stage since Nchalo is the only centre with about 22,000 people in the subregion. Most of this population (about 15,000) however, lives on the sugar estate and therefore is not essentially urban. The next largest centres, Nsanje and Ngabu had population of 6,091 and 4,823 respectively in 1977. Generally urban population is expected to rise from 40,000 in 1977 to 73,270 by the year 2,000 in the subregion.

5.3.1.2. General migration trend is internal in the subregion with a net drift from Nsanje to Chikwawa District. This is partly due to insufficient arable land in Nsanje District and partly due to less employment opportunities than those available at Nchalo sugar estate and other agriculture irrigation schemes in Chikwawa District.

5.3.2. POPULATION PRESSURE ON AGRICULTURAL LAND

5.3.2.1. Only one-third of total area in the subregion is arable. The population is growing at 2.6% per annum and bearing in mind that most of the population depend on agriculture for their livelihood, the population pressure on land will reach a saturation point by the year 1975 if the average farm size is maintained at 5 acres per household. The increasing number of cattle presently estimated at 70,000 herds and demand for grazing land also adds to the land problem. Population pressure on agriculture land could be contained by one of the three courses of action:-

- a) establishment of services and industrial activities in nucleated form so as to create urban centres that would create employment and absorb rural overspill from the agriculture

sector. At present, most services are scattered and ribbon development is the order of the day. Lack of statutory powers for controlling development and lack of co-operation on the part of developers are constraints to creating sound urban centres. In addition potential for industrial activities has not been fully exploited in the subregion to absorb extra population.

b) reclamation of marshes is one way in which more land can be made available for farming to extra population. However, the equally important role of marshes as fishing grounds has to be recognised. The marshes contribute about 14.5% to Malawi total fish catch. Besides a special study would be required to assess the ecological economic and social repercussions of reclaiming the marshes in the subregion.

c) Shifting extra population outside the subregion altogether but this cannot succeed in the long term because other areas in the country have similar problems of land pressure.

5.4 EMPLOYMENT OPPORTUNITIES

5.4.1 Over 90% of total population is directly employed in subsistence farming and only about 8% of the economically active received wages.

5.4.2 Industrial Development is restricted only to a few agro-allied industries and these are cotton ginneries at Bangula and Chikwawa and sugar production at Nchalo. Development potentials for mineral deposits appear to be far from exploitation because either detailed investigations have not been carried out or minerals occur in small uneconomic deposits. Only few minerals occur in sufficient quantity and quality for exploitation in the near future.

5.5 RECREATION AND TOURISM

5.5.1 There is great development potential for recreation and tourism in the subregion such as the Kapachire falls north of Chikwawa Boma, the angling and yatching or boating on shire river, the game reserves and the Lengwe National Park. However, these facilities tend to be largely utilized by tourists or people who come from outside the subregion. Local demand for recreation facilities such as playing fields and community halls is generally neglected.

5.6 DISTRICT ADMINISTRATION

5.6.1. Although Bangula and Chapananga have been selected for sub-bomas as part of the Government policy to decentralize services so that all people in the subregion are within easy reach of such services the area east of the shire in Nsanje District and the area south of Chikwawa District will still be far from these sub-bomas and District centres.

5.7 TRANSPORTATION

5.7.1. ROADS

5.7.1.1 The improvement of the M.8. road from Blantyre to Marka, the conversion of the rail bridge to a rail/road bridge at Chiromo and the upcoming improvement of the S.38 secondary road on the east bank are appreciated. However, there is urgent need to improve or construct crop extraction road network to facilitate connections to centres and major roads both to the western and eastern bank of the shire river.

5.7.2 RAIL TRANSPORTATION

5.7.2.1. Since transportation of sugar from Nchalo and cotton from Chikwawa particularly around Ngabu rely heavily on the railway both for export and local distribution, lack of a rail link to Nchalo create

transportation and storage problems. Sugar and cotton are transported by road to Bangula Railway Station and these are stored first before being finally loaded on trains, a practice which unfortunately adds to expenses that can be avoided by rail extension. The rail extension would also help in transportation of cattle for beef from the Lower Shire.

5.7.3. PUBLIC BUS SERVICE

5.7.3.1. There is no bus service on the east bank during the rainy season due to poor road condition although it is a densely populated area. The services between Chikwawa and Chapananga and between Bangula and Nsanje are often interrupted during rainy season also because of bad road condition.

5.8 ELECTRIC POWER SUPPLY

5.8.1 It is highly appreciated that the national electric grid has been extended from Ngabu to Nsanje. It should now be possible to extend it to other parts of the subregion such as the east bank and the Chapananga area in the north. Availability of electricity to all parts of the subregion would go a long way in helping with refrigeration fans and

airconditioning given the high temperatures which makes the subregion and other areas along the shores of Lake Malawi less attractive compared to other parts of the country with higher altitude.

5.9 SCATTERED SERVICES AND PROLIFERATION OF SMALL CENTRES

5.9.1 In a number of small centres facilities and services are not found in one place but are scattered sometimes more than a quarter of a mile apart thus making it inconvenient for the pedestrian populace whom they are meant to serve. Added to this problem is the widespread lack of or inadequate provision of services. There is also no proper criteria of locating services; this is generally done on ad hoc basis. Sometimes new services are completely isolated from existing ones and thus act as nuclei for growth of new centres. Such multiplication and proximity of centre can only serve to create problems of growth and expansion of small centres into reasonable centres which should serve the local people efficiently and effectively.

5.10 REGIONAL AND INTERREGIONAL LINKAGES

5.10.1. Because almost all the main centres in the subregion offer more or less the same type and level of services and facilities, the social and economic

linkages appear to be stronger between centres and their hinterland than between hinterlands of different centres. The only centres that seem to have linkages with almost all parts of the subregion are Nchalo and Bangula and to a lesser extent Ngabu. Shopping accounted for the strong linkages between centres and their hinterland, a fact which explains the predominant role played by markets and shops in these relatively small centres.

5.10.2. The linkages between the centres and hinterland are marred by a mixture of lack of public transport and insufficient variety of services and facilities at the centres. Thus the existing linkage channels are not ideal for promoting diffusion of innovation and regional integration.

5.10.3. The linkages with other parts of the country or interregional linkages are particularly strong with Blantyre and a few other parts of the central and southern region.

5.10.4. Thus there is need to promote local and subregional linkages and one way of doing this is by increasing the type and level of services offered at the centres. Such services would include the following:-

a). Social Services

1. Sophisticated entertainment i.e. cinema.
2. Sporting and recreational facilities for different
3. age groups.
3. Public libraries
4. Community halls
5. Air conditioned rest houses
6. Night clubs.

b). Commercial and industrial facilities

1. Specialist shops
2. Sites for service industries i.e. tinsmith,
carpentry.
3. Mechanical repair and garages
4. Banking facilities.

c). Transport and communication

1. Bus depot
2. Public Transport
3. Public telephone
4. Bridges

d). Public utilities

1. Electricity
2. Water supply
3. Sewage system.

e) Administration

1. Local authorities
2. Sub-bomas or sub-district centres.

5.10.5 Obviously not all services need be provided at all centres. It is therefore necessary to have a planned network of centres which will provide an arrangement of towns of different levels of economic and social activity in accordance with a hierarchy necessary to provide a satisfactory service at all levels. Each hierarchy will therefore be expected to have a certain group of services.

5.11 HIERARCHY OF CENTRES

5.11.1 RATIONALE

5.11.1.1 A plan for growth of selected centres arranged in a hierarchical order is the most realistic approach in tackling the grandiose problem of rural poverty. The approach takes into account the scarcity of financial and skilled human resources which is not recognised in a haphazard development of centres. The approach is also more reasonable than that which would purport to consolidate development in a few relatively

main centres of the subregion since the latter would polarize development at the expense of the remote areas. This being the case the choice of centres into which urban facilities should be recommended to improve the standard of living in the subregion has been carried out with a number of considerations as follows:-

1. Only higher order centres have been classified into a hierarchy.
2. Existing services and infrastructure (ref. Appendix 2). It is felt that existing facilities and services should play a vital role in the choice and designation of a hierarchy of centres because they reflect potential for growth in the absence of any other remarkable constraint.
3. Population threshold. It is felt that a centre's vitality depends or is related at least crudely to the number of people it services. For the purpose of the subregion's hierarchy of centres it is felt that the lowest order centres should be serving a minimum population of 5,000.

4. Spatial considerations. In order to ensure satisfactory provision of services in the subregion it is felt that no area should be more than 10 miles from the centres recommended in the plan. In some cases this will not be possible because of very scanty population i.e in the hills or controlled areas. In such cases it is felt that the facilities at a recommended centre will tend to attract people close to the centre.

5. Accessibility to existing high level services and facilities. Some areas are poorly located with regard to existing large centres which offer high level services and it is only proper that as population continues to grow in these peripheral areas which are interspersed with small centres, some of these high level services should be made available to them. Thus where reasonable centres exist in such areas it is proposed that they should be scrutinised with a view of promoting them into larger centres in order to offer facilities to those areas.

6. Consideration of economic potential. This is taken into account largely as reflected through

existing and anticipated land use, land capability and economic activities.

5.11.2 RECOMMENDED HIERARCHY OF CENTRES

5.11.3 A four-tier hierarchy (ref. Map. No. 8) is recommended as follows:-

- a) Subregional centre
- b) Urban centres
- c) Rural centres
- d) Local centres

5.11.4 SUBREGIONAL CENTRE

5.2.2.1. The central location of Ngabu and existence of a variety of high level services and infrastructure (ref. Appendix 2) reinforced by its status as the headquarters of the Shire Valley Agricultural Development Project and Division Headquarters of ADMARC make it enjoy an unparalleled supremacy over all other centres in the subregion. It is therefore recommended that Ngabu be developed as the subregional centre where all higher level services which cannot be provided separately in all urban centres should be located such as standard supermarket, hotel, bus depot, special medical facilities large secondary school and sophisticated



MAP 8

SCALE 5 0 5 10 Km

SETTLEMENT HIERARCHY

- SUBREGIONAL CENTRE
- URBAN CENTRES
- RURAL CENTRES
- LOCAL CENTRES

MOZAMBIQUE

TO MULANJE & MOZAMBIQUE BORDER

TO BEIRA

entertainment. A local authority should also be established at Ngabu as soon as possible to deal with existing and subsequent issues pertaining to urban development consequential upon its recommended status in the subregion.

5.11.5 URBAN CENTRES

5.11.5.1 Recommended urban centres are Chapananga, Chikwawa, Makwira, Nchalo, Bangula and Nsanje.

Considered together with Ngabu these centres are fairly well distributed in the subregion. They are on average well over 20 miles from each other and they each serve or have a potential hinterland of 40,000 to 50,000 people. It is proposed that these centres be the major growth centres. In these centres high level services should be provided such as wholesale facilities, post office, police station, piped and treated water supply, reliable electricity supply ie. connection to national electric grid, standard rest houses, secondary school, and primary health centres to boost the growth of these centres and promote accessibility to these services among all people in the subregion. It is important that all major services be nucleated in these centres in order to generate more jobs for future rural overspill.

5.11.5.2 Chikwawa and Nsanje are district centres. It is proposed that the rest of the urban centres should at least have a tax office each but that the designation of an urban centre as a sub-boma should depend on its own merit. Ngabu, Bangula, Makwira, and Chapananga seem to be hot favourites for sub-boma services on account of their distant locations from the two district centres.

5.11.5.3 Of all recommended urban centres Chapananga and Makwira are the least developed but there can be no doubt that their distant location from the other urban centres coupled with increasing population and agricultural activities in their immediate hinterland will be instrumental in promoting their growth. Already these two centres have a number of facilities such as postal agencies, traditional courts, ADMARC, health facilities, retail and police posts.

5.11.5.4. Nchalo, a town whose growth was triggered by the establishment of SUCOMA has the highest resident population and is closely followed by Nsanje and Ngabu in this respect. It is proposed therefore that these urban centres should receive immediate attention vis-a-vis provision of some high level services i.e. treated piped water and electricity. However by the turn of

the century when the total population of the subregion will have reached approximately 600,000 and each urban centre will be serving well over 80,000 people, the resident population of these centres will have grown high enough to warrant provision of a number of high level services to serve both the resident population and the hinterland population.

5.11.5.5. Bangula, with its unique advantage of rail road transport interchange is expected to benefit a lot from transport services or transport-oriented industries for its growth. Already it has a cotton ginnery complex, warehouses, SUCOMA depot and a southern Bottlers depot. Further it is recommended that a number of high level services i.e. police station presently located at Chiromo be shifted to Bangula. Chiromo situated between the Shire and its tributary the Ruo river has suffered from flooding for a long time but until recently there was no centre close to it where development could be diverted. The growth of Bangula has precisely provided such an alternative centre and the recent flooding at Chiromo seems to have sealed any hope of growth to this historic centre. Dilapidated and unused buildings at Chiromo, among other things clearly reveal the centre's state of decay.

5.11.6 RURAL CENTRES

5.11.6:1. Recommended rural centres are Tomali, Mikalango, Sorgin, Masenjere, Makhanga., Tengani, Mbenje and Ndamera. A number of these centres are already busy centres which provide a number of services to the rural areas. It is recommended that they should play an intermediate role between the urban and local centres. These centres are currently serving populations between 15,000 and 20,000. Services in these centres should include a postal agency, police sub-station, health sub-centre, traditional court, standard produce market, a group of shops and cottage industries.

5.11.7 LOCAL CENTRE

5.11.7.1 A number of small service centres centres are also identified and designated as local centres. These are Changoima, Phwadzi, Kakoma, Mandalade, Ndakwera, Kasisi, Mikolongo, Masea, Maperera, Nkhate, Ledza, Mlolo, Muona, Sankhulani, Therere, Goma, Nsomo, Nsangwe, Masanduko, Dolo, Phokera, Chididi and Lulwe. While the majority of these provide services to a group of villages ie. Changoima, Therere, Mlolo and Dolo some of them are service centres attached to missionary institutions ie. Muona, Lulwe, Chididi and Phwadzi, or settlement schemes ie. Kakoma, Each centre

serves a total of population of 5,000 to 15,000.

Existing services at the centres are few and generally consist of two or more of the following:-

Junior/full primary school

An ADMARC market

A health facility

A few shops

Produce market.

5.11.7.2 It is recommended that each local centre should provide a group of basic services such as primary education, a few shops including bottle store/grocery, health service, post box, a market, playground, Malawi Congress Party Office and a Community hall.

5.11.7.3. A number of centres were also considered under this hierarchy but were left out because either their chances of growth were endangered by proximity to major centres i.e. Saopa and Dande or they served few people and were actually mere village centres ie. Dzimphonje and Kunyondo.

5.11.7.4. Some centres were left out of this hierarchy because of their susceptibility to flooding i.e. Chiromo, Thuka and few other small centres in Ndinde Marsh.

5.12. TRANSPORTATION

5.12.1. ROAD IMPROVEMENT PROPOSALS

5.12.1.1. In order to ensure constant flow of goods and services to centres the need for good road communication cannot be overemphasized.

5.12.1.2. Good roads are also a prerequisite for the operation of public transport service. To this extent it is envisaged that all-year-round delivery of goods and services could be ensured to a number of centres in the subregion through improvement of roads.

5.12.1.3. Priority to road improvement and maintenance should follow the status of the centres the roads link. Thus the east bank and Chapananga areas deserve immediate attention to promote the growth and viability of Makwira and Chapananga proposed urban centres.

5.12.1.4. Two types of road improvement schemes are recommended:-

1. improvement to gravel standard
2. improvement to all weather standard preferably by tarring.

5.12.1.5. Tarring is agreeably the ideal requirement but it is not financially feasible to tar all the roads at present and besides improvement to gravel standard on its own could go a long way in improving the condition of a number of roads in the subregion.

5.12.1.6. The following roads are recommended for improvement to gravel standard (ref. Map. No. 9).

1. A proposed secondary road between Nchalo and Sorgin lying to the west of the tarred M. 8. main road. This would directly link and facilitate movement between a number of small centres in this part of the subregion.
2. From Ngabu to the border with Moxambique linking with a road that goes to a railway station known as Doa in Mozambique. Such an international

road link would enhance the subregional status of Ngabu and provide a vital intermediate link with Mozambique on the western international boundary.

3. From Nsanje to Marka and onto Lulwe Mission. This is an important road to the southern border with Mozambique and the only access to Lulwe which is an important local centre in this hilly area.
4. From Chididi to the M.8 road section between Bangula and Nsanje. This is the only road that links Chididi with the rest of the subregion. Chididi like Lulwe is an important local centre in this area.
5. From north of Nchalo to Mandalade through Tomali. This link road will provide a direct link to Chapananga from Nchalo without going to Chikwawa first.
6. The proposed secondary road between Chapananga and Mwanza to the north. This road leaves much to be desired. Its improvement could open up the northern area and provide a better link between the district centres of Chikwawa and Mwanza to the north.

5.12.1.7 The roads recommended for improvement to all-weather standard are those that link the proposed urban centres namely:

1. The estbank road which leads to Makwira
2. The D134 road from Chikwawa to Chapananga.
3. The M.8 road section between Bangula and Nsanje.

5.12.1.8 New roads are proposed as follows:

1. between Sankhulani and the M.9 road section between Makhanga and Muona.
2. between Mandalade and the D134 road between Chikwawa and Chapananga. This road will cross the Mwanza river and therefore needs a good reliable bridge.

5.12.2. BUS DEPOT

5.12.2.1. A bus depot is proposed at Ngabu for the permanent stationing, repairing and administration of bus service within the subregion. Such an arrangement will among other things offset delays which occur on the escarpment routes as buses travel to and from Blantyre.

5.12.3. RAIL EXTENSION (ref. Map. No. 9)

5.12.3.1. It is proposed that the rail line be extended from Bangula to Ngabu and Nchalo to ease transportation of cotton, sugar and its byproducts, cattle for beef and other products from the subregion. Ngabu would then become a rail-road transport interchange given that a bus depot is proposed there and such an arrangement would enhance its status as a subregional centre.

5.12.4 AIR TRANSPORT

5.12.4.1. It is recommended that any future resumption of scheduled flights to the subregion should give priority to Ngabu and Nsanje; Ngabu because it is the subregional centre and Nsanje because it is distantly located from Ngabu and Blantyre.

5.13. RIBBON DEVELOPMENT CONTROL ORDER

5.13.1. Because of the strong force of attraction that the main roads exert on commercial and industrial development in the subregion and the traffic hazard and environmental deterioration that this state of affairs entails, it is recommended that no development should take place 400 feet from the centre line of the main



MAP 9

	International Boundary		Main Road (old alignment)
	District Boundary		Mhor Road
	Project Boundary		River
	Controlled Area		Marsh
	Railway		Main Centre
	Main Road		

SCALE 5 0 5 10 Km

RAIL AND ROAD PROPOSALS.

A. ROAD PROPOSALS.

- Proposed Roads.
- Roads to be improved to all weather standard i.e. Tarmac.
- Roads to be improved to gravel standard.

B. RAILWAY PROPOSAL.

- Proposed Railway i.e. from BANGULA to NCHALO

MOZAMBIQUE

MOZAMBIQUE

roads except in centres recommended for development. In the latter cases it is recommended that development should take place at a minimum distance of 100 feet from the centre line of the carriageway ie. outside the road reserve.

5.13.2 CONTROL OF URBAN DEVELOPMENT ALONG MAIN ROADS

5.13.3 It is further recommended that wherever possible development should not be allowed to take place on both sides of main roads. In the case of centres recommended in this plan which cover both sides of the main roads it is recommended that development should be encouraged on one side of the road possibly where most of the development is already located. Development should be compact rather than dispersed reduce cost of providing services such as roads, water and electricity.

5.14. IMPLEMENTATION

5.14.1 Implementation of proposals is usually hampered by lack of machinery and finance. Some of the proposals and recommendations are expensive but it would be shortsighted to neglect them on that basis particularly when one realises that the problems and

proposals that have been highlighted concern largely basic needs and inadequacies of the subregion which ought to be met for a better growth and prosperity of the subregion. It must be understood that the basic reasoning behind the development strategy is to ensure that development takes place in appropriate areas or centres when money becomes available.

5.14.2 The development of centres is particularly crucial to the strategy since there are so many of them. This is particularly true of the subregional centre and the urban centres for these are the major growth centres in the subregion which will demand a substantial amount of financial backing in order to provide them with services and infrastructure commensurate with their expected functions, size and complexity.

5.14.3 Government backing in the development of the subregional centre (Ngabu) is inevitable but with regard to the proposed five major growth centres; the urban centres, namely Chapananga, Chikwawa, Makwira or Livunzu, Bangula and Nsanje, a certain amount of differential treatment for a time could be necessary to avoid waste of resources in as much as no one town

would gain the size and capital necessary for rapid growth. Consideration, therefore, needs to be given to population density, the demographic potential of the centres region, potential for agricultural development and agro-processing industries and transportation and communication access. Of greater concern also should be towns in areas such as Chapananga and the east bank which lack major centres with higher order services and facilities. The east bank deserves special consideration given the large population flow to that area in recent years due to the high agricultural activity in the area particularly resulting from the establishment of irrigation schemes in that area.

5.14.4. Just as it is important to exercise some differential treatment in the development of major centres in a situation of limited resources as mentioned above, so it is best to have a hierarchy of the major urban centres each with a special role rather than a large number of centres more or less alike in character and function.

5.14.5. For economic development or growth to take place in any particular centre there must be a balance among population, housing, infrastructure and jobs,

Investments in transportation and infrastructure should be made in such a way as to strengthen linkages between the major centres and the smaller centres and between the smaller centres themselves. However, these investments should be gradually made in response to need and demand.

5.14.6 It is important that each major centre i.e. the subregional centre and urban centre should, have its own local authority as soon as population and development merits. The local authority will be instrumental in mobilising fiscal resources and co-ordinating efforts to boost the development of a centre. The body will also be vital in encouraging efficient patterns of land use and promoting the development of land in response to demand among the other things.

5.14.7 In order to effect the general proposals and recommendations co-operation between the Town Planning Department and other Government Departments, Ministries and also outside agencies is important. The Town Planning Department could be instrumental in three ways:-

1. preparation of zoning plans and detailed plans especially for major centres.
2. put forward recommendations in project submission for urban development and provision of infrastructure.
3. granting or rejection of lease application passed to the Department from Lands Department. This would ensure that urban type development does not take place outside the recommended centres unless there is a very strong reason for doing so.

5.14.8. Other departments could also help by consulting the Town Planning Department on suitable locations for developments which they intend to carry out before even submitting lease applications. In this way delays could be avoided and development would proceed much quicker.

CHAPTER 6

6.0 SUMMARY AND CONCLUSION

6.1 The pattern of urbanisation in the Lower Shire has undergone rapid changes within two decades of independence. From a neglected poor region with three main centres of Chikwawa, Chiromo and Nsanje linked by a poor gravel road in the colonial period, the region has experienced an economic improvement with the opening of the sugar estate and factory in 1966 which has resulted in the growth of one of the main centres in the subregion. Infrastructural development and other agricultural development projects elsewhere in the subregion have ^{precipitated} ~~precipitated~~ a mushroom of centres which has surpassed the expectation and resources of the planning authorities in the country. This is in fact a national phenomenon which calls for an immediate design of a strategy for urban development. In a number of cases the emergent towns such as Nchalo in the Lower Shire and Dwangwa in the central region seem to have more potential for development than the old administrative centres. Whilst each centre has a role to play in the development of the country, it has to be appreciated that there is need to draw up a strategy of national spatial organisation that would

facilitate location of services, industries and promote overall national economic growth.

6.2 The designation of a few growth points or centres is not enough. It must not be forgotten that more than 90% of the nation's population live in the rural areas and the situation is not likely to change very much for sometime to come. Most of these people eke a living from subsistence farming and face a lot of problems with regard to employment opportunities and accessibility to services including health and education facilities. It is therefore, only proper that these people should benefit from the limited public resources from the government. These resources can only be properly distributed in a planned hierarchy of centres with strong interlinkages.

6.3 Although the government has made a big headway in rural development through commissioning of agriculture projects throughout the country the input of urban development strategy in these projects has not been fully conceptualised and understood beyond simple market or service centres. The function and role of centres in promoting rural development and providing job opportunities as they grow cannot be neglected in rural areas which are

experiencing a high outmigration of population to major centres. There is, therefore, need for closer co-operation between the town planning department and the Ministry of agriculture in ensuring that the implications of urbanisation in rural agricultural development projects are taken care of.

6.4 The existing planning legislation does not augur well with the pattern of urban development and region growth. The legislation puts more emphasis on development control in statutory planning areas but is lamentably unhelpful in supporting or giving legal backing to regional planning. This has resulted in haphazard and poor urban forms in the rural non-statutory planning areas. There should be legal powers of controlling urban development one way or the other. When planning comes too late on the scene, the proposals become difficult to implement due to prohibitive costs of compensation needed for effecting orderly development. It is in this light that the strategy for urbanisation for a region assumes importance because it gives a reasoned view of expected growth which can be planned for well ahead.

It is hoped that the strategy of urbanisation of the Lower Shire subregion will serve as a valuable input into the overall national physical development plan of Malawi.

6.5 In the development strategy of the lower Shire of which the urbanisation strategy is only part of an integrated approach certain aspects of the region will need more understanding or even research.

6.6 One of these bewildering aspects concerns the flooding problem. Generally from observation it would appear that more and more areas are becoming flood-stricken. The Elephant marsh itself seems to be growing bigger and bigger in area. It is important to carry out a study of the flood problem and its future implication for urban development.

6.7 Another aspect that may have adverse effects on urban development is water supply. The Lower Shire because of its drought problem is one of the few areas in the country with heavy reliance on borehole water supply. Apart from the urgent need to keep an efficient labour force for so many boreholes (about 480) for water supply in the sub-region, it is strongly recommended that the water

Resources Division should carry out the following exercises:-

1. find ways of purifying saline water which is a problem currently being experienced in various parts of the subregion such as the Ndakwera and Nchalo areas.
2. establish the density threshold for boreholes beyond which underground water supply could run out due to lowering of water table. This would help identify areas that have low potential and high potential of underground water supply.

B I B L I O G R A P H Y

1. Shire Valley Agricultural Development Project:
An Atlas of the Lower Shire Valley,
Malawi.
2. Gille, F.B.: Basic Thinking in Regional
Planning.
3. Glasson, J.: An Introduction to Regional
Planning.
Hutchinson of London.
4. Hoyle, B.S. (Eds.): Spatial Aspects of
Development.
John Wiley and Sons.
5. Moseley, M.J.: Growth Centres in Spatial
Planning
Pergamon Press.
6. Ratcliffe, J.: An Introduction to Town and
Country Planning.
Hutchinson Educational.
7. Office of the President and Cabinet, Malawi:
Statement of Development Policies 1971 - 1980.
8. National Statistical Office : Malawi Population
Census 1966 Final Report.
9. National Statistical Office : Malawi Population
Census 1977 Final Report.
10. Ninth Commonwealth Science Council :
Seminar on Role of Infrastructure in
Rural Community Development, 1976,
Sri Lanka.

11. J.B. Anderson: Toward a Plan for the Lilongwe Region.
12. Physical Planning Department : Human Settlements in Kenya. A strategy for Urban and Rural Development.
13. Z. Maleche : Development of Spatial Policies in Kenya (unpublished paper).
14. Department of Geological Survey : A review of Mineral Resources in Chikwawa and Nsanje Districts. Report R.R.M./17.
15. Government of Kenya : 1974-78 Development.
16. Ministry of Agriculture and Natural Resources: National Rural Development Programme Policies, Strategy and General Features September, 1977, Malawi.
17. Shire Valley Agricultural Development Authority: Shire Valley Development, July, 1978.
18. Town Planning Department, Malawi : Lilongwe Urban Structure Plan.
"Settlement Strategy for the Lilongwe Subregion".
19. The Urban Edge, Facts and Ideas. Vol. 2 No.10 December, 1978.
20. The Urban Edge, Facts and Ideas, Vol.3 No. 5 May, 1979.
21. Lockwood Survey Corporation of Toronto, Canada: Kasinthula Irrigation Project, Technical and Economic Feasibility.
22. Shire Valley Agricultural Development Authority: Retailing in the Lower Shire Valley.
23. McLoughlin, J.B.: A Systems Approach to Planning.

APPENDIX 1

POPULATION

	1966			1977		
	Total Pop.	Area (sq. miles)	Persons per sq. mile	Total pop.	Area sq. mile	Persons per sq. miles
CHIKWAWA DISTRICT	158,145	1,894	83	205,873	1,836	112
Ngabu	63,610	473	134	58,322	399	146
S/C Lundu	8,582	70	123	27,436	70	392
Chapananga	24,114	783	31	34,361	501	75
Massea	7,215	71	102	9,429	56	168
Katunga	7,298	61	120	8,668	61	142
Kasisi	12,550	270	46	11,117	233	48
Makwira	23,093	135	171	45,751	149	307
S/C Thomas	10,781	27	399	See note 2 below		
Chikwawa urban	902	-	-	2,857	4	714
Ngabu urban	-	--	-	4,823	13	371
Lengwe Nat. Park	-	-	-	109	350	0.3
NSANJE DISTRICT	101,234	751	135	113,333	750	151
Ndamera	14,058	74	190	14,589	74	197
Chimombo	5,175	11	470	5,087	11	462
Nyachikadza	3,476	36	97	3,130	36	87
Mlolo	23,571	119	195	43,603	116	376
Tengani	14,696	224	66	12,411	225	55
S/C Mbenje	14,704	172	85	12,866	173	74
Khuluvi council	24,181	115	210	See below		
Nsanje urban	1,373	-	-	6,091	6	1,015
				In the 1977 Pop. Census Khuluvi Council was split up into three chieftainships as follows:		
Malemia				7,060	55	128
S/C Makoko				3,409	28	122
Ngabu				5,087	26	196
Total	259,378	2,645	98	319,206	2,586	123

- Notes: (1) It appears there have been a number of boundary changes to chief's areas since 1966.
 (2) S/C Thomas is now part of Thyolo District and not Chikwawa District as in 1966.
 (3) Persons per sq. miles for the whole Lower Shire in 1966 excluding S/C Thomas which is now part of Thyolo Dist. is 95.

Source: (1) Malawi Population Census 1966
 Final Report - National Statistical Office

	Education	Health	ADMARC and Produce Market	SVADP and District Admn.	Protection	Justice	Wholesale & Retail	Banking	Postal Services	Water and electricity	Agric. Research	Public Transport	Hotels & Tourism	Others Comments etc.
CHIKWAWA DIST. T.A. Chapananga (Pop. 37,470) Dzimponje	Jun. P. Sch.	Hlth. Unit	ADMARC							Well				ADMARC Market to be abandoned
Kunyondo	Full P. Sch.	Hlth Unit	ADMARC Market							Well				Tax office ADMARC Market to be abandoned
Chitungwani	Jun. P. Sch.	Hlth. Unit								Well				ADMARC Market to be abandoned
Changoima	Jun. P. Sch.	Hlth.	ADMARC Market Centre	SVADP Unit Centre						Well	Crop/ weather observation			at junction
Chapananga	Full P. Sch.	Hlth. Unit	ADMARC Sub-depot	SVADP unit centre	Police post	Trad. court	Retail		Postal Agency	bore hole	Crop/ weather observation	bus (seasonal)		Chief's residence health unit to be upgraded
Pwadzi/ Misomali	Jun. P. Sch.	Hlth. Unit	ADMARC market	SVADP Unit Centre						Piped water	Crop/ weather observation	bus (seasonal)		Mission
Kakoma		Hlth. unit	ADMARC market	SVADP unit centre						Piped water	Crop/ weather observation	bus (seasonal)		Malawi Young Pioneer base

Manda Lado	P. Sch.	post	market	unit centre						hole			
Ndakwera	Jun. P. Sch.	Health Sub. centre	ADMARC market							bore hole	Crop/ weather observation	bus (seasonal)	Service centre for Ndakwera settlement scheme
T.A. Kasisi (Pop. 13,974) Kasisi	Jun. P. Sch.		ADMARC market centre	SVADP unit centre		Trad. court				bore hole			
Mikolongo	Full P. Sch.		ADMARC market	SVADP unit centre			Retail			bore hole		bus (seasonal)	Facilities scattered
Chikwawa	Full P. Sch. Sec. Sch.	Pri. centre	ADMARC market and major depot produce market	SVADP area H/Q Dist. Adm. Centre	Police station Division H/Q	Magi. strate	Whole-sale and Retail	Perma- nent	Post office	Electri- city from 11KV line piped water	Crop/ weather observation	bus	Facilities scattered
T.A. Katunga (Pop. 8,668) Kasinthula		Health unit								Piped water	major research station and crop/ weather	bus	rice, fish farm irrigation
T.A. Masea (Pop. 9,429) Naperera			ADMARC market	SVADP unit centre			Retail			bore hole	Research sub-station and crop/ weather observation	bus (seasonal)	

Sande	Full P. Sch.						Retail			bore-hole	pesticide residue study	bus		A number of shops built recently along the tarred road
Masea			ADMARC market	SVADP unit centre			Retail			bore-hole				Chief's residence
Mlombwa	Full P. Sch.					Trad. court				bore-hole		bus		at junction
S.C. Lundu (Pop. 27,436) Tomali	Full P. Sch.	Health post	ADMARC market + Produce market	SVADP area H/Q.		Trad. court				piped water	Research sub-station crop/weather observation	bus (seasonal)		Tax office health post to be upgraded
Nchalo	Full P. Sch.	Pri. centre	ADMARC market + produce market	SVADP unit centre	Police post	Trad. court	Wholesale + retail	Permanent	Postal agency	Electricity piped water		bus	Rest House	Tax office sugar refinery airstrip
T.A. Makhuwira (Pop. 45,751) Mafumbe	Jun. P. Sch.		Produce market				Retail			bore-hole		bus (seasonal)		
Nkhate	Jun. P. Sch.	Health unit	ADMARC market	SVADP unit centre			Retail			bore hole	Crop/weather observation	bus (seasonal)		Staff, houses, garage and petrol station under construction facilities scattered.

Livunzu	Jun. P. Sch.	Health sub-centre	ADMARC market	SVADP unit centre	Police post	Trad. court	Retail		Postal agency	bore hole	Crop/ weather observation	bus (seasonal)		
Ledza/ Mitondo	Full P. Sch.	Health post	ADMARC produce market	SVADP unit centre			Retail			bore hole	Crop/ weather observation	bus (seasonal)		Facilities scattered
Masenjere	Full P. Sch.	Health unit	ADMARC and produce market	SVADP unit centre			Retail		Postal agency	bore hole	Crop/ weather observation	bus (seasonal)		
T.A. Ngabu (Pop.58,322) Ntowe			ADMARC market	SVADP unit centre						bore hole	Crop/ weather observation			
Thereere	Jun. P. Sch.	Health post	ADMARC market	SVADP unit centre			Retail					bus (seasonal)		Terminus of district road
Mwala	Full P. Sch.		ADMARC market	SVADP unit centre						bore hole				
Mikalango		Health unit	ADMARC market	SVADP unit centre			Retail			bore hole	Crop/ weather observation	bus (seasonal)		at junction of district roads
Goma	Full P. Sch.						Retail			bore hole		bus		junction to Thereere covers both sides of tarred road M.8

Nsomo	Full P. Sch.	Health post	ADMARC market	SVADP unit centre						bore hole	Crop/ weather observation			
Saopa		Health post	ADMARC market	SVADP unit centre						bore hole	Crop/ weather observation			Too close to Ngabu
Ngabu	2 Full P. Schs	Pri. Centre Lep. rosy control station	ADMARC Divisional H/Q + market produce	SVADP H/Q	Police Station	Trad. court	Whole sale + retail	Perma- nent	Post office	Piped water elect. ricity from 11 KV line	Major research station	bus	Dist. Council rest house + Govt. air conditioned rest house with cattering facilities	Airstrip, petrol filling station H/Q. of fisheries Dev. programme.
Nsangwe			ADMARC and Produce market	SVADP unit centre			Retail			bore hole	Soil productivity	bus		Covers both sides of M.8 road. Junction to Dolc and Masanduko
Masanduko	Jun. P. Sch.	Health post	ADMARC market	SVADP unit centre						bore hole	Crop/ weather soil productivity pesticide study			

Dolo		Health post	ADMARC market	SVADP unit centre			Retail		bore hole	Crop/ weather observation			Health post to be upgraded
Nsanje Dist. T.A.Mlolo (Pop. 43,603) Mlolo	Jun. P. Sch.	Health unit	ADMARC market	SVADP unit centre		Trad. court	Retail		bore hole	Crop/ weather observation			Close to Mlolo irrigation scheme
Muona	Correspondence Coll. 2 F.P Schs.	Pri. health centre	Produce market				Retail		bore hole		bus (seasonal)		Mission (Bishop's res.) Nurses Training Centre).
Sankhulani	Full P. Sch.								bore hole		Railway station		
Makhanga		Health sub-centre	ADMARC sub-depot, produce market	SVADP area H/Q			Retail		piped water	major research station	Railway station bus (seasonal)		Fisheries station
Chiromo	Full P. Sch.	Health post			Police station		Retail	Post office	bore hole	Pesticide residue study	Railway station bus		Fisheries Station
S.C.Mbenje (Pop. 12,866) Sorgan	Full P. Sch.	Health sub centre	ADMARC and produce market	SVADP area H/Q			Retail Mobile	Postal agency	bore hole	Crop/ weather observation	bus		

Dande	Jun. P. Sch.	Health post	ADMARC market	SVADP unit centre						bore hole	Crop/ weather observation			
Bangula	Full P. Sch.	Health sub-centre	ADMARC major depot + produce market			Trad. court	Whole sale + Retail	Perma- nent		bore hole	Railway station bus			Ginnery complex SUCCOMA depot Southern bottlers depot oil station M.B.C.transmitter
Phokera	Full P. Sch.	Health post	ADMARC + produce market	SVADP unit centre		Trad. court	Retail			bore hole	Crop/ weather observation	Railway station		Chief's res. tax office, facilities scattered within traditional buildings
T.A. Tengani (Pop. 12,411) Tengani	Full P. Sch.	Pri. Centre	ADMARC sub-depot + produce market	SVADP area H/Q		Trad. court	Retail			piped water	Crop/ weather observation	bus		
T.A. Malemia (Pop. 13,151) Nsanje	Sec. Sch. Corr- espon- dence 2F.P. Schs.	Pri. Health centre Distr. hosp. under construction	ADMARC and produce market	SVADP area H/Q Distr. Admin. centre	Police station	Magi- strate	Whole sale + Retail	Perma- nent	Post office	Piped water elect. rici ty from engines	Research sub station crop/ weather observation	Railway station bus	Distr. council rest house + catering facilities	Airstrip immigration office army camp

Chididi	Full P. Sch.	Health unit	ADMARC market	SVADP unit centre										Mission health unit to be upgraded
T.A. Ngabu (Pop.5,087) Mbenje	Jun. P. Sch.	Health sub-centre	ADMARC + produce market	SVADP unit			Retail			bore hole	Crop/ weather observation	bus (seasonal)		
T.A. Ndamera (Pop.14,589) Ndamera	Full P. Sch.	Health sub-centre		SVADP						bore hole		bus (seasonal)		Chief's residence Tax and licencing office
Lulwe	2 F.P. Schs.	Health unit	ADMARC market											Mission
Marka			Produce market				Retail		Postal agency	bore hole		bus (seasonal)		Customs and excise office 2½ miles from border railway station and ADMARC market

APPENDIX 3 (a)

LOWER SHIRE SUBREGIONAL STUDY

CUSTOMER SURVEY

NAME OF MARKET/COMMERCIAL CENTRE -----

PLACE OF SURVEY (MARKET, SHOP ETC.):-----

DATE -----INTERVIEW No.-----

INTERVIEWER -----

1. Age and Sex of Customer: -----

2. Marital status and number of children -- -----

3. Highest level of education attained -----

4. Employed/self-employed/Both (Tick whichever is applicable and state nature of employment)-----

5. Origin of Customer (State place, T.A. and District).-----

6. Approximate distance in Kms./Mls.: -----

7. Mode(s) of transport used for coming to the centre -----

8. (a) Main purpose for coming to the market/commercial centre (e.g. shopping, entertainment, visit friends and relatives etc. State in order of priority)-----

(b) (For those who come for shopping) What items do you purchase normally?-----

- 9. Frequency of trips to centre (i.e. daily, weekly, monthly etc.)-----
- 10. How long do you stay at the centre on each visit (i.e. 1 day, 2 days, 1 week, 2 weeks, etc)-----
- 11. Where do you stay overnight (i.e. with friends and relatives, Rest House, others)-----
- 12. How much do you spend at the centre on each visit?-----
- 13. What other centre(s) do you go to and for what reason(s)? -----
- 14. How often do you go there -----
- 15. What mode of transport do you use -----
- 16. What general Problem(s) do you encounter on visiting this centre?---- -----
- 17. Do you have any additional comments or remarks to make on the centre?-----

APPENDIX 3 (b)

LOWER SHIRE SUBREGIONAL STUDY

VENDOR SURVEY

NAME OF MARKET/COMMERCIAL CENTRE -----

PLACE OF SURVEY (MARKET, SHOPS ETC.) -----

INTERVIEWER -----

DATE -----

1. Age and Sex of Vendor -----

2. Marital status and number of children -----

3. Highest Level of Education attained -----

4. Employed/Self-employed or both (tick whichever
is applicable and state nature of employment)?

5. Origin/village of Vendor (state village, T.A.
and District) -----

6. Approximate distance in Kms/mls. -- -----

7. Type of goods sold: -----

8. Source of goods (specify source of each good and
distance from sources) -----

9. How often do you bring goods to the shop or market?

----- Times per day

----- Times per week

----- Times per month.

10. Mode of transport used -----
11. Do you own another shop or sell goods elsewhere
Yes/No.
If yes specify place and nature of business

12. How much money do you make?
K----- to -----per week
K----- to -----per month
13. Which place of business do you like most and why?

14. Which is the best period for business and why
do you think so? -----

15. How many employees do you have? -----

16. When and where did you start business?-----

Centre/Village -----T.A-----
District -----
17. (If the vendor started the business elsewhere)
why did you move to this place?-----

18. Are you happy with this place or do you intend
to move to another place? If so where and why?

19. What general problems do you encounter in
operating your business at this centre? -----

20. Do you have any additional comments or
remarks to make on the centre? -----

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