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PROBLEMS OF PLANNING BORDER TOWNS:

A CASE STUDY OF TUNDUMA TOWN.

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A thesis submitted in "part" fulfilment for the requirements
of the Degree of M.A. (Planning) in the University of Nairobi.

JUNE, 1979

DECLARATION

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

(L.J.A. MWAIBALE.)

This thesis has been submitted for examination with my approval as University supervisor.

(E.D. NDEGWA.)

ACKNOWLEDGEMENTS

My sincere thanks are due to Mr. E.D. Ndegwa, my Supervisor, whose professional guidance has helped me accomplish this work.

I gratefully acknowledge my debt to the Lecturers in the Urban and Regional Planning Department for their time to time assistance given to me during the course of writing this thesis.

I also thank Mbeya Regional and District Officials, and Tunduma Ward Officials for availing to me some of the data that I required for the study. The people of Tunduma who tolerated to sit and answer the questions in my questionnaires, deserve a lot of gratitude from me.

Finally, thanks are due to Emily Wambui Waruhiu (Mrs.) who patiently and diligently typed this thesis.

L.J.A. Mwaibale.

ABSTRACT

One of the results of the colonial intervention in all of the pre-colonized countries in Africa was the introduction of political boundaries right across existing communities thereby dividing them, and placing them under different political systems. This was the case among the Bemba tribesmen who, as a community were placed under the British and German influences in Zambia and Tanzania respectively. After independence, African Governments began establishing new trade links among themselves. New roads and in some instances railways across international boundaries between various countries have been opened. In order to regulate the movements of people and goods between neighbouring countries, road and railway terminus service facilities, ^{have been provided and} as a result border towns have developed. However, since most communities across such borders come from the same stock, Governments have been experiencing difficulties in providing services to such towns because the local people from either country share any services that may be provided by either of the two Governments communally as in the past. This creates problems in that there is no easy way in which either Government can ensure that the services provided benefit their citizens. Furthermore, as there are no joint administrative and planning boards charged with the management of such towns, it has equally been difficult to co-ordinate development in such towns. The origin and development of Tunduma town has been the result of such situations.

Tunduma town is located on the junction of a highway and a railway line, all crossing the boundary between Tanzania and Zambia. The town spreads across both sides of the border with a foot path as an international boundary, across the middle of the town, splitting the Bemba

community into two groups, one under Tanzania, the other under Zambia. Despite the political boundary, the town is a single unit. There are deep socio-economic and cultural relationship among the people of both sides. Service facilities provided by either of the two countries to its side are shared with the people of the other side, yet the provision of such facilities by the two nations is not co-ordinated. Many families own property on both sides of the two countries. The people's movements and activities in the town are not limited to the political boundary across. The people in Tunduma feel that they belong to one community despite the fact that they belong to two different nations. It is this ^{un}co-ordinated provision of service facilities between the two nations that has resulted in the existing problems.

The study therefore, examines the factors which led to the development of Tunduma town, the existing land uses in the town identifying some land use conflicts, socio-economic and cultural relationships among the people of the two sides and then relates the identified problems to planning such border towns. Three alternative approaches to planning border towns have been considered. From the analysis, the alternative that appears reasonable is the diversion of high level services from Tunduma town to Vwawa, leaving Tunduma as a custom check post, and developing it to serve the needs of the local community.

TABLE OF CONTENTS

	Page
Declaration	ii
Acknowledgements	iii
Abstract	iv
Contents	vi
List of Maps	viii
List of Tables	viii
List of Figures	ix
Chapter One - Introduction	1
1.1 Significance of the problem	6
1.2 The Study Area	8
1.3 Objectives of the Study	10
1.4 Scope and Limitations	11
1.5 Methodology	13
Chapter Two - Historical Development of the Town	
2.1 East Africa Border Towns	15
2.2 Origins of Towns : Tanzania Outlook	16
2.3 The origin of Tunduma Town	20
2.4 The Importance of Tunduma Town	23
Chapter Three - Existing Land Use	
3.1 General existing Land Use	28
3.2 Some conflicts on the existing land Use.	
3.2.1 Town expansion	33
3.2.2 Communication Linkages	34

3.2.3	Land Use, Facility Locations	Page 35
3.2.4	Other Infrastructure	37

Chapter Four - Existing Socio-Economic Situation

4.1	Economic Base	39
	4.1.1 Agriculture	40
	4.1.2 Commercial	41
	4.1.3 Industrial	43
4.2	Social Base	
	4.2.1 Demographic Characteristics	48
	4.2.2 Housing	56
	4.2.3 Public Facilities	
	4.2.3.1 Education	58
	4.2.3.2 Health Services	66
	4.2.3.3 Water Supply	69
	4.2.3.4 Administration	70

Chapter Five - Problems Identified and their Implication to Border Town Planning

5.1	General Definition of Planning	73
5.2	Problems as implied to planning	75

Chapter Six - Proposals for Alternative Approaches

6.1	Creation of an entity Tunduma Town Growth	84
6.2	Creation of a Green Belt	90
6.3	Discouragement of further Town Growth	92

Chapter Seven - Conclusions

7.1	Summary	96
7.2	Recommendation for further Research	98

Bibliography	100
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Appendices	102
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VIII

List of Maps

No.

- 1 Tunduma Town, National context
- 2 Tunduma Town, Regional setting
- 3 Settlement Distribution in Mbozi District
- 4 East Africa - Border Towns
- 5 Tunduma as an International Transport Focal Point
- 6 Tunduma, Built up Area
- 7 Tunduma Town, Existing Land use, 1978
- 8 Tunduma, as an Entity Town
- 9 Tunduma, with the Green belt
- 10 Tunduma - Discouragement of its further growth

List of Tables

Table	Page
2.1 Allocation of Service Weights for Mbozi District Settlement centres	25
2.2 Settlement Status	26
4.1 Sectorial Occupation of Tunduma people	44
4.2 Monthly Household Income groups in Tanzanian Shillings	45
4.3 Other sources of People's incomes	47
4.4 Places of Birth - Tunduma people, Tanzanian side	51
4.5 Reasons for coming to Tunduma, Tanzanian side	52
4.6 Stay period in Tunduma, Tanzanian side	53
4.7 Population Age structure	54
4.8 Household Size	57
4.9 Education levels of Tunduma people, Tanzanian side	59

IX

Table		Page
4.10	Places where educated	60
4.11	No. of Daily Attending pupils : Tunduma Primary School	62
4.12	Tanzanian Pupils living on Zambian side but Schooling in Tunduma Primary School	63
4.13	No. of Daily Attending pupils: Mwaka Primary School	64
4.14	No. of Daily Attending pupils Mporomoko Primary School	65
4.15	Monthly Attendance, Tunduma Dispensary, July, 1977 - June 1978	68
4.16	Sources of Water Supply	70
6.1	Major Crop productions in Mbozi District, 1972-1975	81
6.2	Distribution of Livestock in Mbozi District, 1975	82

List of Figures

Figure		Page
4.1	Population Pyramidal Age Structure of Tunduma people, Tanzanian side	55

CHAPTER ONE

INTRODUCTION

For over 95% of its history, the bulk of the human species has resided in rural settlements involving small numbers of individuals living in spatially dispersed groups. Most human cultural institutions such as kinship organization, religious and ritual observances, territorial conventions and political structures evolved within such contexts. Thus human settlements of today both rural and urban, are basically complex organisms, composed of many man made elements performing complex functions set within social-economic natural environments. The natural and man-made features interact in complex ways within an environmental framework, and, the environmental problems that result are essentially the unavoidable by-products of developments.

The development of human settlements therefore, has resulted from the needs and the efforts of their populations to mobilize their resources and to choose the technology appropriate for achieving desired goals. This process inevitably results within a given environmental system. In many settlements, the ever increasing population has largely been managed by various communities depending on how they organize themselves in mobilising their resources to satisfy the growing population.

The colonial intervention in the process of settlements evolution resulted into two major impacts on the spatial distribution of settled communities. One was the artificial division of single communities into smaller units, often under different political systems. The other impact was the grouping of many communities into nation states under one political organization.

The grouping of different communities under the various colonizing powers affected the communities which happened to be invariably grouped together with the introduction of new territorial boundaries. Thus, efforts to unite the different communities become the earliest major task of the colonial rule in order to harness these communities to provide labour force and markets for the new economic systems. The introduction of the monetary economy to the hitherto subsistence economies played a major role in uniting the various communities. However, efforts to deculturalise the communities at the local levels was not successful. Thus while at the national level various communities were governed as single nations, at the local level various communities still identify as single units, irrespective of the new boundaries.

While trying to unite the different communities into single territories, there were, as we have noted, unfortunate instances where communities happened to be cut across by territorial boundaries, and split between more than one territory under different organizational policies. Still this did not destroy the functional and cultural links of the communities at their local levels. As a result, although such communities may be considered as belonging to different territories, nevertheless they often have continued to identify themselves as single communities. Some of the East African examples are the Masai community living in both Tanzania and Kenya, the Teso community living in both Kenya and Uganda, the Bemba community living in both Tanzania and Zambia, the Somali community living in both Kenya and Somalia. All these communities were split up by territorial boundaries.

At the global level, the factors of transportation have been related closely to the development of border towns and cities.

For example, railways crossing international boundaries have terminal points for checking the flow of goods and persons before crossing into another country. Likewise, roads crossing international political boundaries have terminal points. These terminal points act as gate ways to each country. They are provided with certain service facilities such as houses for custom workers, police posts and other facilities required by the population living in such settlements. Such facilities often attract people living around, thereby creating big settlements on either side of the border depending on the distance between them, and the level as well as the range of services, provided in any of them. If the terminal points on both sides are very near to the border line, a single settlement crossed by the border line, usually develops astride the border. In the end some communities which may have been sub-divided between two nations, re-merge as single communities on such focal points. Another observation is that, for security reasons, nations fear to invest in major services near international boundaries with the result that communities living near the international boundaries often lack high level service and infrastructural facilities. Hence the provision of service and infrastructural facilities on any one of these terminal points attract communities living on both side of the border. In some instances, a single large settlement, divided by an international boundary emerges. As populations on both sides grow, more service facilities are attracted, making border points grow into service centres and big towns. As A.E. Smaile points out, wherever conditions have led to the concentration of large numbers of people and wherever a large scale activity is geographically concentrated so as to give a localised basis for mass employment, a town or at least the assemblance of a town is created.¹

¹ A.E. Smaile; The Geography of Towns.

With East Africa, such cases are exemplified by the remarkable developed towns of Busia on the Kenya - Uganda border, Namanga on the border between Tanzania and Kenya and Tunduma on the border between Tanzania and Zambia. As stated earlier, local Communities had been divided between two nations. Such people were first to move into such border towns and are the same people who are now re-joining their counterparts from either side of the border thereby creating single settlements which are still divided by international political boundaries. The Socio-economic and cultural interaction between the people on the two sides of the border continue to draw these communities together. The people consider themselves as single units united by common languages, having same cultural backgrounds. Thus, they have no qualms upon sharing services provided by either of the nations. Apart from the international boundaries which in some cases are either footpaths across the towns or roads, the towns are single units. Movements of people to and fro either side of the two countries are difficult to control hence there is a common sharing of the resources and community facilities. Indeed, these settlements are single towns under different socio-economic and political systems.

This is the exact situation which exists in the above mentioned East African towns. Due to their locational positions, they have attracted many people from other areas of each of the two countries - who look for business across international borders, leading to the growth of the towns. With increasing population on either side of the two countries, more service facilities are needed which in return attract more immigrants to the towns, creating a need for planning such growing towns. As D.E. Christensen argues, the future of our Communities will be what we make them. If we are indifferent about them, if we show no concern over their present or future developments, they will be mediocre, perhaps ugly and congested places.

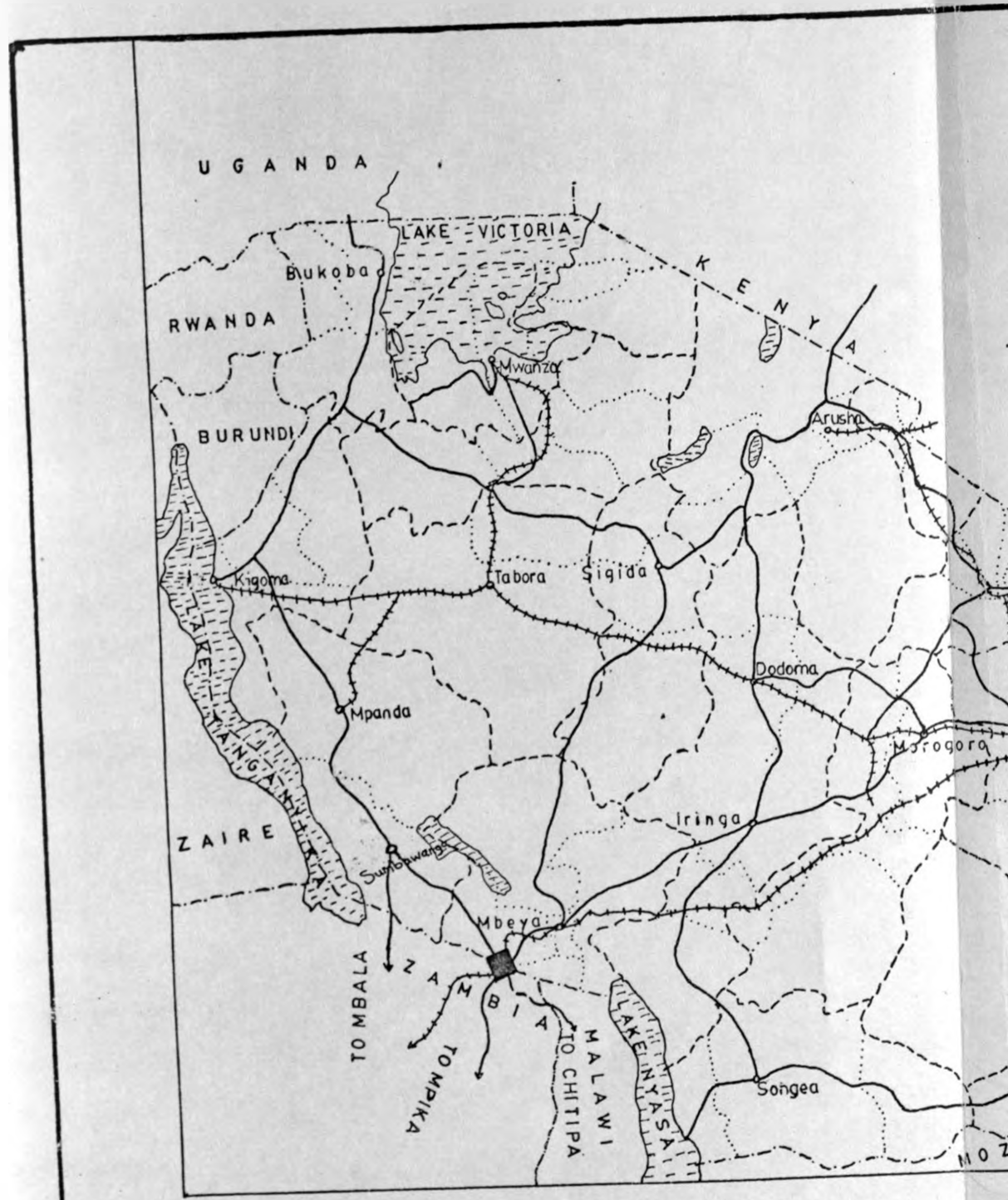
If we take active part in building up the Community and if we plan the present and future of our communities, they can be attractive and orderly places.² All the East Arican governments have realised the importance of making future plans of towns as well as regions for future developments. Hence, the need for planning such border towns.

² David E. Christensen : Urban Development.

Retd.

Signature

Name



SIGNIFICANCE OF THE PROBLEM

As stated above, governments realise the need for making town development plans to guide communities in the development of towns. The planning of towns within a Country presents fewer difficulties as compared to the planning border towns where the situation explained above exists.

When planning for towns within a nation, the planner knows exactly the available resources for the population of that particular town. In such cases, one can easily project both natural future population resulting from population increase and from immigration, and thus be able to project the demand for all basic services and facilities for the population, like land requirements, housing, water, employment, schools, hospitals, markets, transportation and all other public purpose and utility facilities.

On the other hand, when a planner thinks of planning for a border town, a number of problems come into a sharp focus. Some of these problems include the following: A planner from either of the two nations cannot adequately plan for the active settlement without the full co-operation of planners from the other side. In a situation in which, despite the political boundary, people within the town share Socio-economic and cultural activities, resources provided by either nation on either side would continue to be shared with the people from the two countries. In such a situation, population increase on either side increases the Socio-economic interaction within a single town, yet in most cases the two nations do not co-ordinate the planning and provision of resources and service facilities. The result is that without proper co-ordination, there is resource drainage from either side of the two nations depending on which provides more to its population.

A dilemma facing a planner in such a situation is this : Supposing a planner has been given the task of making a development plan for such a town by his government bearing in mind the limited national resources, should the planner devote himself to making a plan and providing service facilities to the population falling within his national side only when he knows that he is providing for two national sides, or how can he, in such a situation, control development so that limited national resources can be used for the benefit of the population on his Country's side only ? This is the dilemma which the author believes, faces any planner in such a situation. Thus unless some guidelines are formulated, planners in such situations will continue to face such problems. This study hopes to provide such guidelines based upon the experience of Tunduma Township.

THE STUDY AREA

The study aims at examining Socio-economic and cultural interaction of the people of a single town, Tunduma which is in two different nations, Tanzania and Zambia.

Tunduma town has been selected because it is a typical representative of any town on the border of two countries. Economically, the town is very important to the two countries because it is a trade link between the two countries. Another reason for selecting the town as a case study is that the author has lived in the town for a long time and therefore has observed with keen interest the Socio-economic and cultural interactions among the people of the two sides of the Countries within the town. As a result of this interest, the author was prompted to carry out a research in that town.

Tunduma town is located in the South fringe of Tanzania, 102 Kilometres from Mbeya township, the Regional headquarters for Mbeya Region, and 25 Kilometres from Vwawa, the District headquarters. On Zambia side, it is in the Country's northern fringe, in the Northern province, 4 Kilometres from Nakonde, one of the big towns in Zambia's northern Province. Tunduma town is on the international boundary between Tanzania and Zambia. It is a divisional as well as Ward headquarters for Ndalambo division and Tunduma Ward respectively, of Tanzania. In 1977, the Tanzania side of the town had a population of 7,410 which had been growing at the rate of 6.0% per annum. The Section of the town within Zambia nation has an estimated population of 5,600. This figure was derived from household units, surveys conducted by the author. Thus, the entire town of Tunduma has a population of 13,010³

³ Estimated from the Surveys conducted on the field.

The town covers about six hundred hectares on Tanzania side and about five hundred hectares on Zambia side,⁴ with only a footpath across the town demarcating the international political boundary. Originally, Tunduma was a single settlement occupied by a single community, the Bemba tribe who now live on both sides of the two Countries.

Politics aside, the town is really a single unit. There are deeply rooted cultural relationships between the people on both sides. As is usually the case with other tribes, there are intermarriages among the people on both sides hence relatives are found on either side of the town. Most of the resources and activities are shared. Heads of household own land, houses, shops, hotel and many other facilities on both sides of the town. Some families have wives or husbands on either or both sides of the town, especially husbands with more than one wife. People's movements are unrestricted, services and facilities such as water, education, medical facilities, religious facilities and many others are currently being shared; but the provision of such facilities by the two nations is not co-ordinated. Both Tanzania and Zambia currencies are used locally on both sides of the town. All these factors point to the Socio-economic and cultural homogeneity of the people of Tunduma town; despite the fact that they belong to two different nations.

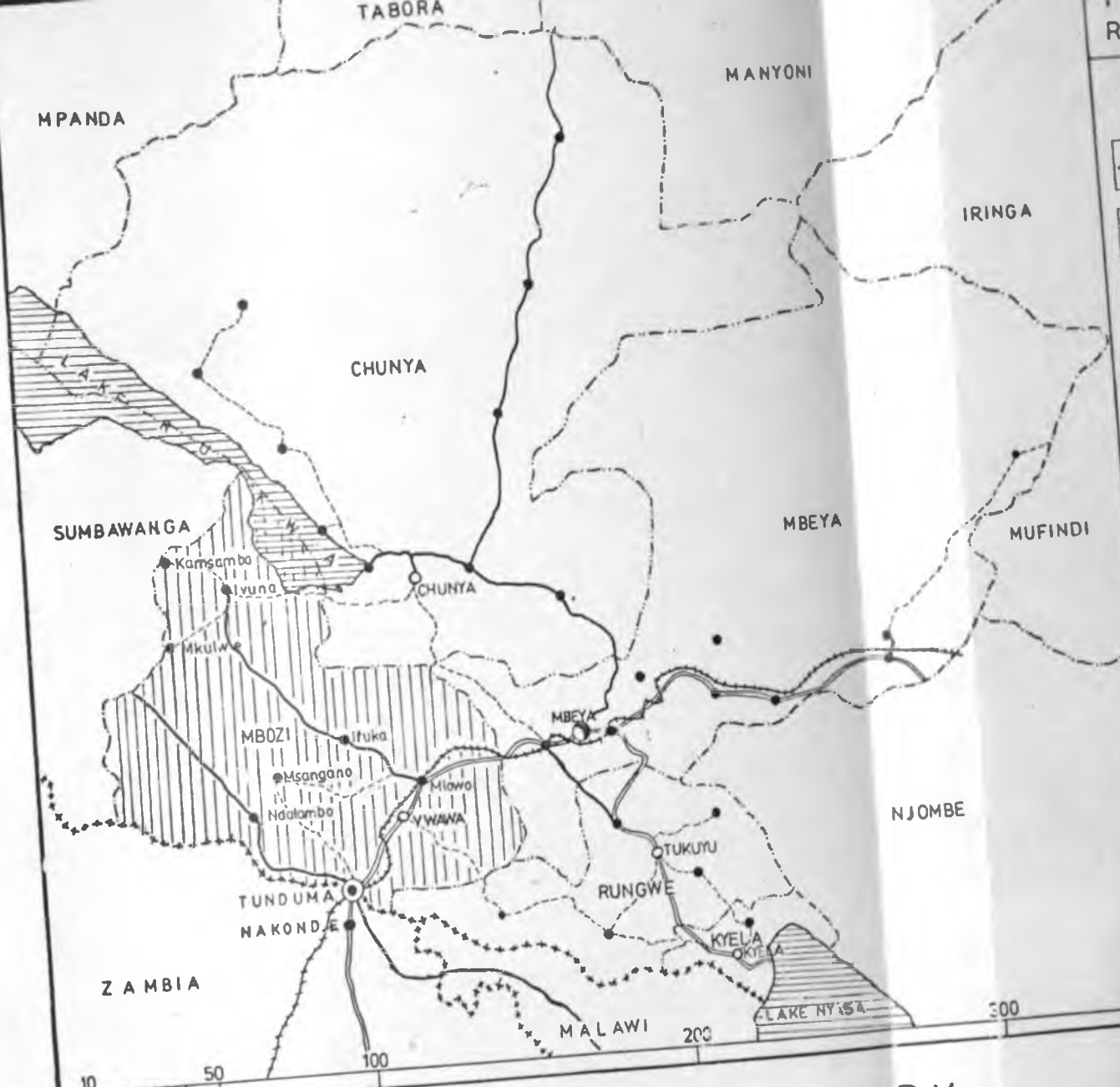
⁴ Estimated from the Surveys conducted on the field.

OBJECTIVES OF THE STUDY

Given the situation and the problem observed in Tunduma, the objectives of the study therefore are :









- i) To examine the existing land use of the whole Tunduma town and land use conflicts arising from the existing situation.
- ii) To examine and point the existing Socio-economic and cultural interactions among the people of the two sides of the Countries.
- iii) To identify problems arising from the existing Socio-economic and cultural interactions among the people of Tunduma as these problems relate to the planning of border towns.
- iv) To suggest alternative approaches to the planning of Tunduma border town⁵

⁵ The intention of the author is NOT to come out with either of the town side's land use development plan, BUT to come up with policy guide lines for successful border town plans.



REGIONAL SETTING

LEGEND

-  INTERNATIONAL BOUNDARY
-  REGIONAL BOUNDARY
-  DISTRICT BOUNDARY
-  RAILWAY - TAZARA
-  MAJOR ROAD, TARMAC
-  OTHER MAJOR ROAD
-  MINOR ROAD
-  REGIONAL CENTRE
-  DISTRICT CENTRE
-  STUDY CENTRE
-  OTHER SETTLEMENT
-  STUDY DISTRICT



THIS IS MAP
NO 2

Scale 1: 1250000

10 50 100 200 300

TUNDUMA BORDER TOWN STUDY

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REGIONAL PLANNING
M.A. PLANNING 1974/79

1.4 SCOPE AND LIMITATIONS

1.4.1 Scope

The study focuses on the examination of the Socio-economic and cultural homogeneity existing in Tunduma town, identification of the resultant problems and relates them specifically to planning border towns. And, then suggesting alternative approaches for the solution to the problem.

The study is organised into seven chapters. Chapter one, the introduction, deals with defining the problem and showing its significance, objectives of the study, scope and limitations, description of the methodology used in the study and giving reasons for choosing Tunduma town as a case study.

Chapter two deals with the historical developments of towns. Factors leading to the origins and developments of towns in Tanzania. The chapter examines the related factors leading to the origins and development and importance of two other border towns in East Africa, that is Busia and Namanga. Lastly, the chapter also examines factors which explain the origin and development of Tunduma town and its importance to both Tanzania and Zambia nations.

Chapter three describes the existing land use of Tunduma town and identifies some of the existing land use conflicts. The aspects covered include town expansion, communication linkages, location of service facilities and other infrastructure.

Analysis of the socio-economic and cultural interactions of the people of the two sides is looked at in Chapter four. In this chapter, information collected in the field regarding physical, social, economic and cultural aspects will be analysed so as to show how resources and service

facilities are shared among the people of the two sides.

Chapter five will identify the problems arising from the sharing of service facilities among the people of both sides of the town as related to planning.

Chapter six will discuss alternative approaches in planning border towns. The proposals made will focus on physical, Socio-economic and cultural characteristics and organizational set up which affect border towns.

The last chapter will be the summary conclusions and recommendations for further researches.

1.4.2. Limitations

The study, especially the questionnaire surveys were limited to Tanzania side only, the author's country. Due to time limit, the author was unable to obtain permission from Zambia government which would have taken him a very long process because it is another country altogether. Hence, the author could not carry out any questionnaire surveys on Zambian side. However, a general land use survey for the whole town was easily carried out because the base map for the town derived from aerial photographs, used by the author during his research, covers both sides of the town.

Also, the study was limited to the Tanzanian side of the town only due to limited financial resources and time. As noted above, it was not possible to include in the sample, residents from the Zambian side which could have represented the estimated total population of the whole town. Thus, the 10% sample is restricted to the population of Tanzania side only.

1.5 RESEARCH METHODOLOGY

In this study, several methods were adopted in obtaining information. These include a general land use survey of the whole town which was made by the author, informal conversation with government and party officials: the Tunduma Ward Secretary, Divisional Secretary and District and Regional officials. Information was also obtained from discussions with some of the prominent businessmen on both Tanzania and Zambia sides. Information was also obtained from questionnaires, through readings of District, Regional and National annual reports.

Three types of questionnaire were used, a household questionnaire, individual questionnaire and institutional questionnaire. A total of 200 households comprising a population of 820 persons were interviewed. This population represents 10% sample of the total population of Tunduma, Tanzanian side.

The questionnaire on household was intended to investigate household sizes, incomes, house ownerships and source or location of some of their public utilities and facilities hence understanding the sharing of facilities. The questionnaire on individuals was intended to investigate population characteristics, hence the Socio-economic and cultural interaction of the people. The institutional questionnaire was intended to investigate the number of people from Zambian side using the institutions on Tanzanian side and ownership of the institutions.


















The questionnaires used in the study are included as appendices.

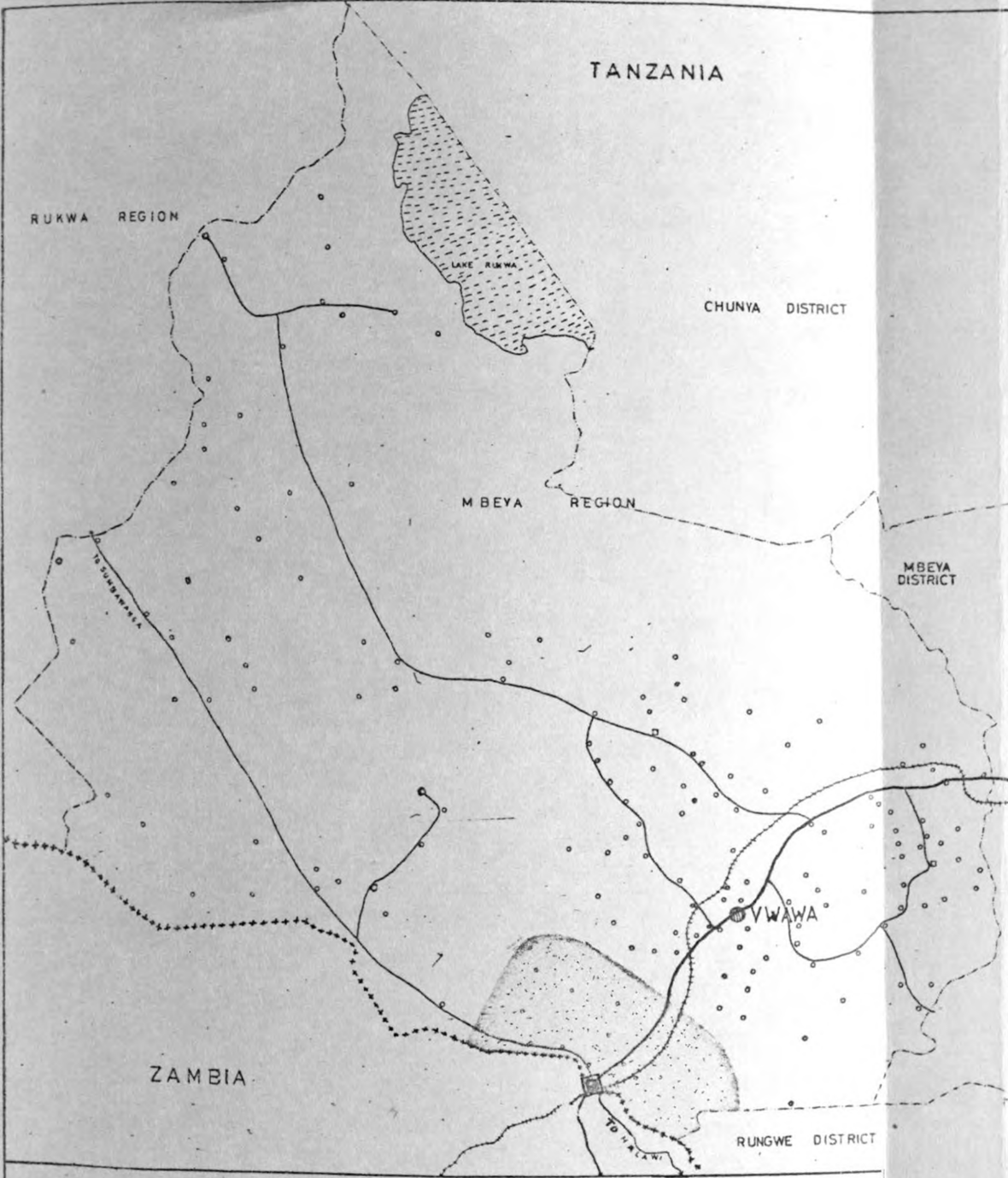
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SETTLEMENT
DISTRIBUTION
MBOZI

LEGEND

-  TUNDUMA
-  TUNDUMA DIVISION
-  DISTRICT
-  VILLAGE
-  TAZARA
-  TANZANIA
-  OTHER
-  DISTRICT
-  REGIONAL
-  INTERNATIONAL
- 
- 
- 
- 
- 
- 
- 



TUNDUMA BORDER TOWN STUDY

CHAPTER TWO

HISTORICAL DEVELOPMENT OF TUNDUMA TOWN

2.1 East African Border Towns:

The already mentioned two remarkably growing border towns in East Africa, Busia and Namanga, have come into being due to transport locational factors. Busia, despite the fact that it is on the border, it is a district centre for Busia district on Kenyan side with a population of 3,000 people. On the other hand, Namanga on both Tanzanian and Kenyan sides, is designated as a rural centre (service centre).

They are all of a result of trade linkages through transportation network among East African Countries. They had also started as settlements occupying both sides of Uganda and Kenya for Busia and, Tanzania and Kenya for Namanga. Their transport location importance have attracted many people and many commercial activities on each side. Their growth potentialities therefore depend largely on the growth of the inter trade linkages among the East African States and their neighbours.

2.2 ORIGINS OF TOWNS : TANZANIA OUTLOOK

A town may be regarded first and foremost as a community of people pursuing a distinctive way of life as compared with the rural population of the country side, or it may be considered as part of the earth's surface differentiated from rural surroundings by a particular type of human transformation with buildings and other distinctive structures. The town therefore, consists 'of an organized group of people in which normally the main occupations are concerned with commerce and industry as opposed to agricultural pursuits.' Similarly, W. Christaller emphasises commerce, administration and small businesses, but he relegates industry to second place. This definition fits exactly with that of a town in Tanzania.

Early cities were centres of marketing and trade, and of government administration. City size was limited by ability of surrounding agricultural areas to support economically the urban population mass. With the flowering of the industrial Revolution in the mid of 19th Century, Urban areas began to develop a new and independent role. With the coming of rail roads, concentrated centres of population became ideal locations for industry. Such contexts provided workers, markets, other related industries, transport facilities and supporting services such as banking, police protection and education opportunities. The economic opportunities created by these developments caused and are continuing to cause migration from rural areas to urban areas.

Factors of transportation have also been related closely to site factors in the development of towns and cities. The better the natural and cultural factors affecting transportation, the better the settlement's

chances for rapid, continuing growth.

During the past century, the habitat of many people has shifted from dispersed, primarily rural settlements to concentrated urban settlements for trade and employment opportunities among other reasons. In the preceding years, the rate of urbanization has greatly exceeded the rate of population growth. During this period, the growth of cities has been a result of migration of individuals from rural to urban areas. In the industrialized countries, cities are still increasing in size but, the increase is primarily due to natural population increase. On the other hand, the developing countries are experiencing serious problems as a result of rapid urbanization mainly because such developments have proceeded industrialization. In these countries, as a consequence of too rapid demographic growth, which in many cases is not accompanied by the creation of employment opportunities, the inhabitants of rural districts are flooding into towns and cities. As cities in developing countries lack the resources to provide the new comers with jobs, decent housing, minimum public services, with even the rudimentary protection for health and hygiene, the migrant populations have created wide belts of miserable slums around most towns and cities.

The distribution of towns in Tanzania was confined largely to the coastal areas. These were settlements created by Arab traders, as their trading centres or ports. In the nineteenth century, the Arab traders started penetrating into the interior, establishing towns along their trading routes across the country, that is from the east coast to the Western part of the country, as their trading centres.

Despite emphasis on the policy of rural development in Tanzania, urban growth is necessary both for development as growth centres and administration. Although the tradition of towns in Tanzania goes back for nearly thousand years, the best expressions and developments were not long lived. A limited population, constrained economic exchange, internal riverly, the arrival of Portugues, slave trading and other exploitative forms of trade were some of the reasons why most of the towns degenerated after their marked existences.

During the German rule in Tanzania (1890 - 1918), the establishment of an administrative structure, the evolution of communication networks and some social services, the development of commerce and monetary economy, all contributed to laying the foundation of an urban network and to making towns more wide spread. However, because of the importance of overseas connection to the colonial governments, the precedent was set to emphasising port towns.

Under the British rule (1919 - 1960), administrative centres continued to expand and other many were established. It was during this period when for the first time, a township ordinance was passed, whereby, townships proclaimed had boundaries, could fix and levy rents and had comprehensive laws pertaining to health and government. Since the second World War, Urban growth in Tanzania has been about 6 - 7% annually. But, after independence, 1961, the average urban population growth rate has remained 6% per annum which is still the national average. The rate has remained constant with time since independence, due to the government policy of rural development which retards the increasing rural - urban migration.

The recent urban history of Tanzania is part of the country's colonial experience. It was under European colonialism that the present configuration of Tanzania's urban system was firmly established. Though the colonial powers and their agents were largely responsible for the initial location of Tanzanian towns, the degree to which they consciously and systematically directed the growth of these centres was small; their basic concern was to ensure their efficient functioning as centres for the siphoning of rural surplus to the metropolitan countries. In support of this role, towns in colonial Tanzania acted principally as centres for collection and trans-shipment of rural produce, as centres of military and civil control, as centres for the distribution of imported commodities and as residential enclaves for the colonial rulers and administrators.

After independence, 1961, town policy changed. The growth of towns had to be related to developments in the surrounding countryside such as providing markets for rural products, offering services and in general, stimulating and providing employment opportunities. Thus, towns in Tanzania act as service centres from which goods and services can be distributed to their hinterlands. Therefore the need to integrate the Country's economy and to integrate interior trade, made it desirable to develop urban settlements all over the country. In the second Tanzania Five Year Plan, 1969 - 1974, the national emphasis was the extension of economic co-operation with other African States hence the construction of both the TANZAM highway in 1969 and the TAZARA railway in 1975, linking Tanzania with Zambia. Along these transportation routes, service centres have been designated, one being Tunduma.

2.3 The Origin of Tunduma Town:

Most of the existing service centres in Tanzania have evolved as a result of the interplay of several factors. In different parts of the country, different factors account for the growth of settlements. Three major factors can be identified. They include, the decision to develop a network of administrative centres, the location of raw materials notably agricultural potential and the network of transportation, communication facilities and energy supply. However, centres have developed because of one or more factors and they become visible because of goods and services they provide for their complementary areas. In this process of development, the economics of agglomeration have dictated that for most of the services, there will be size hierarchical order of service centres. Theoretically, this means that large centres are functionally more complex and contain higher order services than smaller centres; that increasing functional complexity is accompanied by increasing size of the urban complementary region; and that services at the highest level will handle only major matters requiring a large supporting population, but, services at lower level will handle more routine matters, requiring smaller supporting population.

Some service centres have developed as a result of factors such as location at road junctions of all weather roads, and railway stations because these sites often attract developments around them. Settlements in Tanzania consist of Regional administrative centres, district, divisional and ward headquarters and villages. In classical central place theory, and in some modern version of it, the mere presence of functions does not automatically give a settlement status as a central place. This means that when studying the central place function, interest is not focused

on size alone, it is focused on the relative importance of settlements as centres, that is the settlements serve as providers of goods and services in excess of those demanded by the centre's own inhabitants. The formation of central function can therefore be described within the help of the two following concepts : locational qualities, that is physical and geographical qualities of a place, and this can be seen at road junctions, good accessible roads, etc.; and, in many places like Tunduma, these locations have developed as service centres. The other concept is the service facilities which a place can maintain. It happens that Tunduma qualifies for the two concepts and, places where these two elements meet, have better resources for development than others do. These places are more functional and relatively more able to receive future urban growth.

Before the construction of both the Tanzania - Zambia (TANZAM) Highway and the Tanzania - Zambia Railway (TAZARA) from Tanzania to Zambia, all which happen to cross the international boundary at Tunduma; Tunduma was only a settlement, occupying both sides of the two countries. The crossing of the highway through Tunduma in 1966 made Tunduma a terminus point on either side of the two countries. This means that some road terminus service facilities were provided. These facilities included petrol stations on both sides, parking places, godowns on both sides, Custom houses, hotels, police posts and other related facilities like houses for workers, water, etc. With these facilities, more people from surrounding and far areas were attracted hence forming a town on both sides. However, on Tanzanian side, it was found that the growth of Tunduma was so high that in 1973 it became a Ward headquarters for Tunduma ward which included other four villages around.

The railway line (TAZARA) was launched to give Zambia an alternative access to the Indian Ocean after Rhodesia's declaration of independence in 1965, when Zambia was locked to the sea. Survey of the railway started in 1968 and construction started in 1970. From Tanzania it crossed the border into Zambia through Tunduma in 1973 and it was completed in 1975. The TAZARA was aimed at stimulating economic growth wherever it passes. Railway stations were designated as growing into service centres for their hinterlands. Growth centres along the railway (railway stations) on Tanzania side, have been designated and Tunduma being the terminal railway station, with all its terminal facilities on both sides of the two countries, received an important international functional services as a result, on Tanzanian side, Tunduma was designated as an urban centre in 1975 and it became a divisional headquarters. It should also be noted that the building of the railway (TAZARA) has provided the Tanzania government an excellent reason for moving the people from scattered home steads into settlements along the line of the rail for the provision of infrastructure.

2.4 The Importance of Tunduma Town

Located in the Southern fringe of Tanzania, on the Tanzania - Zambia border, Tunduma is an important border town being the gate way to Zambia as well as to Tanzania. Its location at the junction of roads going to Zambia, Malawi, Dar-es-Salaam and to Rukwa region, makes Tunduma town an important transport focal point both at National and international levels. It is also an important trade and distribution centre for its immediate hinterlands and the Rukwa region in Tanzania. Located 102 Kilometres from Mbeya, the Regional headquarters and 25 Kilometres from Vwawa, the district centre, on Tanzania - Zambia highway and the Tanzania - Zambia Railway (TAZARA), Tunduma forms a very good trade link between the two countries.

As a service centre on the Tanzania side, Tunduma town serves a population of 37,355 people in its divisional hinterland. It is also a market for Zambia side and neighbouring villages across the border. It is the only designated urban centre in Mbozi district, apart from Vwawa, the district headquarters, and it has the status of being both a Ward and divisional centre. The town itself has a population of 7,410 (on the Tanzania side) which is higher than that of the district centre Vwawa which is 4,580. Most of the commercial activities have been drained from Vwawa to Tunduma. Vwawa town, which has no industry so far, now remains more an administrative than commercial centre. As, in an interview with Mbozi District Land Officer, the officer remarked that, while Vwawa town is commercially dying a natural death, Tunduma town is growing very rapidly and is commercially becoming more active than Vwawa. It is mainly due to its functional and locational importance that Tunduma town has had a very rapid growth.

According to the National Settlement Analysis (Tanzania), Growth Centres are those centres with most viable and potential services for their hinterlands. The service weights given to growth centres range from 21-30 points. Growth points are those centres with service weights ranging from 10-20 points and which are expected to grow in future owing to their locational linkages and trading activities and also, commanding sizeable area and population. On the other hand, a rural market centre with service weights ranging from 0-9 points, serves a much smaller area and acts as a market, basically for agriculture produce goods within its vicinity and, provides for day to day needs of the people (Table 2). As indicated in table 2.1 below, only Vwawa, the district centre and Tunduma town qualify for the status of growth centres in the district. It is largely due to its locational advantages that Tunduma has extraordinary high attraction of services in its own administrative class.

Economically, the region around Tunduma has very good potentiality for agricultural development. Due to its location, it is the major agricultural produce collecting centre for the whole division within Mbozi District and, the division is the greatest producer of maize and finger millets. Tunduma, because of its transportation connectivity has been made the collecting centre of the products processed by the National Milling Co-operation (Tanzania) for transportation to the rest of the country - either by road or by railway. Again, because of its locational advantages, Tunduma is the only outlet through which all Rufua region produce passes to the rest of the nation. Being a terminus station, Tunduma is also a distribution centre for agricultural inputs and other services to its hinterland. Likewise, Tunduma is a collecting and distributing centre for agricultural outputs and inputs, and other services for its hinterland on the Zambia side. Hence, one

might conclude that improved means of transportation and communication networks have a tendency potential for broadening catchment areas of towns that they are capable of encompassing neighbouring governmental units,

TABLE 2.1

ALLOCATION OF SERVICE WEIGHTS FOR MBOZI
DISTRICT SETTLEMENT CENTRES

SETTLEMENTS CENTRES	ADMINISTRATION	LEGAL	POLICE	HEALTH	EDUCATION	ROAD	RAILWAY	BUS SERVICE	HOSPITAL	MARKET	WATER	ELECTRICITY	TOTAL	HIERARCHY RANK
VWAWA	3	2	3	1	3	3	2	2	3	2	3	-	27	I
NDALAMBO	2	-	1	-	-	2	-	2	1	2	-	-	10	II
KAMSAMBA	2	-	1	-	-	2	-	2	2	2	-	-	11	II
TUNDUMA	2	2	3	2	1	3	2	2	3	2	3	1	26	I
MKULWE	-	-	1	-	-	1	-	-	2	2	-	-	6	III
MIUNGA	-	-	1	-	-	2	-	2	1	2	-	-	8	III
IGAMBA	2	-	1	-	1	2	-	2	1	2	-	-	11	II
MSANGANNO	2	-	1	1	-	1	-	-	1	2	-	-	8	III
NAMBINZO	-	-	-	1	-	2	-	2	1	-	-	-	6	III

Source: UHURU CORRIDOR REPORT: MINISTRY OF LANDS, TANZANIA 1977

TABLE 2.2

SETTLEMENT STATUS

STATUS OF THE SETTLEMENTS	POINTS GAINED	GRADATION
1. GROWTH CENTRES	21 - 20	I
2. GROWTH POINTS	10 - 20	II
3. RURAL MARKET CENTRES	0 - 9	III

Source : National Settlement Analysis (TANZANIA), 1977.

out across states and provincial boundaries and, even in some instances, like Tunduma, break international borders.







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TUNDUMA AS AN INTERNATIONAL TRANSPORT FOCAL POINT.



LEGEND

-  TUNDUMA TOWN
-  INTERNATIONAL BOUNDARY
-  RAILWAY TAZARA
-  TANZAM HIGHWAY
-  INTERNATIONAL TRUNK ROAD
-  NATIONAL TRUNK ROAD



THIS IS MAP
NO
5

SCALE 1 : 2000,000

TUNDUMA BORDER TOWN STUDY

L·J·A· MWAI BALE
DEPARTMENT OF URBAN AND
REGIONAL PLANNING
M·A· PLANNING 1978/79

CHAPTER THREE

EXISTING LAND USE

3.1 General Existing Land Use

The site on which Tunduma town has developed is fairly flat with the land sloping into valleys on both sides of the two countries. The land is generally quite suitable for urban development except for areas further from the common boundary, where the land drops into the river valleys. There is ample room for linear expansion on both the Tanzanian and Zambian sides along the common ridge following the alignment of the TANZAM highway on Zambian side and along the Sumbawanga road on Tanzanian side. The town is surrounded by small farmlands.

The existing land uses can be divided into six categories: residential, commercial, industrial, public facilities, transportation and public utilities.

The town is basically a commercial centre. The residential development is concentrated in an area around crossing points of both the highway and the railway. The residential area extends along the international boundary both to the west and eastwards, (see map). Other residential areas have been developed along the highway towards Nakonde town on Zambian side and along Sumbawanga road on Tanzanian side. On both the Tanzanian and Zambian sides, residential area covers about 20.6% of the total land use. Due to the fact that the town is very new,

except for the workers' houses and commercial buildings along the highway, residential buildings are not in an arranged order. Although most of them are permanent, as there has been no town plan to guide developers, buildings are scattered all over the town, each facing any side.

Tunduma town does not have any big industry. However, there are small industries on Tanzanian sides. There are three carpentry workshops and a workshop for the Ministry of Works. A site for the Tanzania National Electric Supply Company (TANESCO) for an electric generator has been already ear-marked. On Zambian side, there is a workshop for the vehicles using the highway managed by the Zambia - Tanzania Road Services Company. On both sides of the two countries, there are terminus railway stations and each has a railway repairing workshop. Also, on both sides of the town, there are watch repairers and shoe makers who serve the town. Tailoring is another industrial activity which is carried out on both sides of the town.

As stated earlier, Tunduma is a commercial as well as an administrative town. On both sides, most of the Commercial activities are concentrated along the TANZAM highway, and on Tanzanian side, along the Sumbawanga road. Commercial activities include shops, hotels and lodgings, bars, butcheries and markets.

There are big shops on both sides of the two countries all selling general commodities both at retail and whole sale levels. Each side however, sells commodities from its country. There are twelve hotels/lodgings on Tanzanian side and two on Zambian side. There are fewer hotels on the Zambian side because most of the big hotels are found at Nakonde town, only four Kilometres from Tunduma. There are ten butcheries

on Tanzanian side which serve the whole town. Each side has its own market but the one on Tanzanian side is bigger and well supplied with commodities than that on Zambian side. And, infact the Tanzanian market is the supplier of market commodities to that of Zambia.

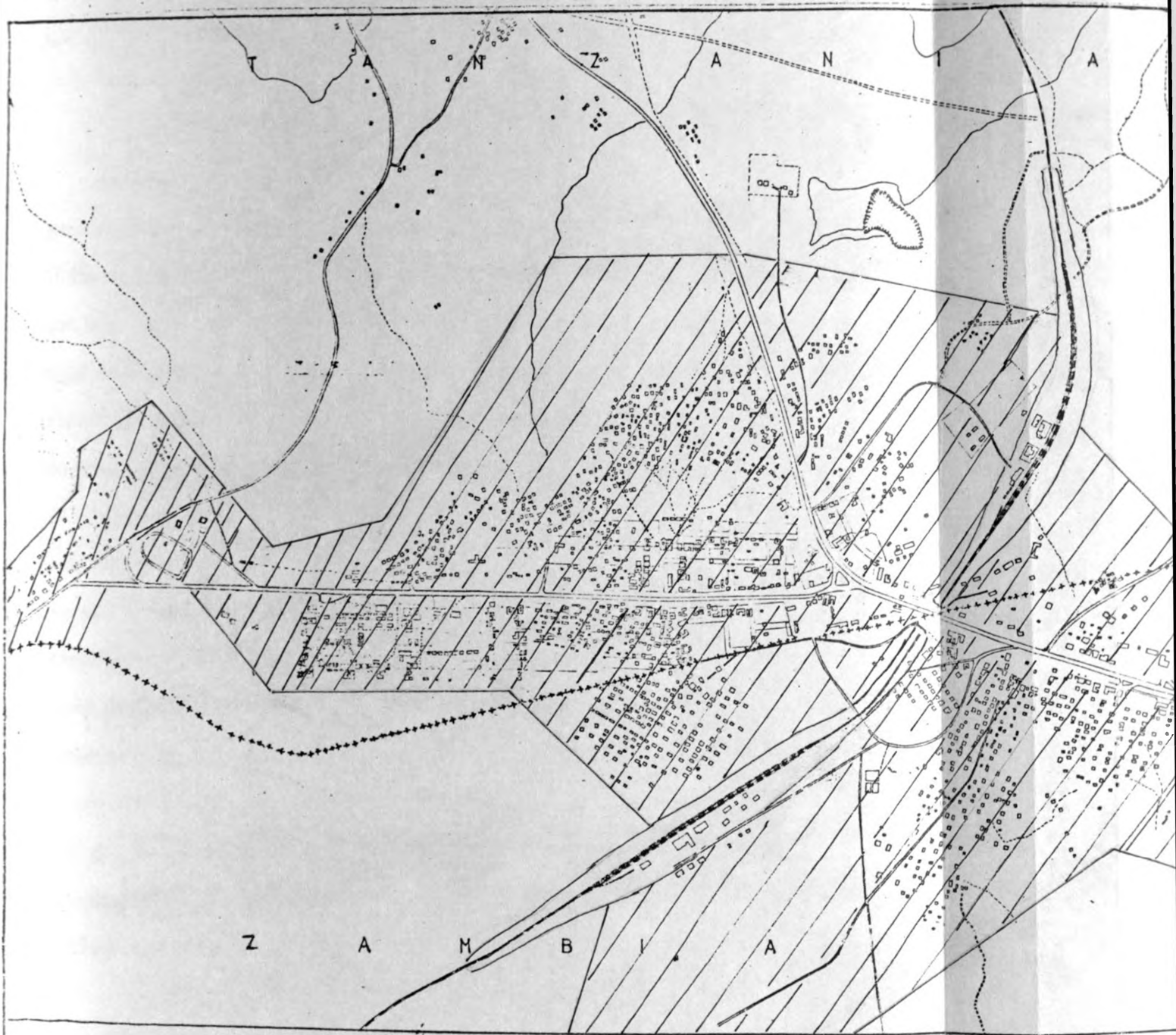
Public facilities existing in Tunduma include schools, a dispensary, administrative offices, churches and mosques and a cemenetry. There are four primary schools in Tunduma out of which only one is on Zambian side. The primary school on Zambian side is a little bit outside the town centre while the three on Tanzanian side are within the town centre. Although it was not easy for the author to find out whether there are some Tanzanian pupils studying in the Zambian primary school, in the field survey, it was found that a good number of Tanzanian primary schools' pupils are either Zambians, or Tanzanians living on Zambian side. However, there is no doubt that some Tanzanians are schooling on Zambian side. With regard to health services, the people on Zambian side depend on Nakonde hospital, four kilometres away while on Tanzanian side, there is a dispensary with ten beds. However, despite the fact that medical treatment is free of charge in both Tanzania and Zambia, due to the distance between Tunduma and Nakonde, most Zambians in Tunduma get their medical treatment from the Tanzanian dispensary which is within the town. Administratively, the Zambian side of the town is administered from Nakonde, while, as stated earlier, on Tanzanian side, Tunduma is both a ward and divisional centre. There are three Churches in the town, two on the Tanzanian side and one on Zambian side. However, all the three are used by people from either of the two sides. There are three cemeneteries, one on the outskirts of

the town on *Zambian side* and two on *Tanzanian side*. However, one of the two *cementeries* on the *Tanzanian side* is now filled up but a new one has already been planned on the outskirts of the town. Even the new one however, is still located very close to border.

Tunduma as a whole is not well supplied with public utilities. Piped water is supplied on both sides by the two governments. On *Tanzanian side*, piped water was supplied as early as 1974 but due to its rapid growth of population, at present there is a very acute water shortage problem. However, piped water supplies on the *Tanzanian side* is supplemented by well water and supply from the *Zambian side*, where a piped water system was installed in 1976. As a result, water shortage problem is not yet as acute on the *Zambian side* as on *Tanzanian side*. The *Zambian part* of the town has already been supplied with electricity from *Nakonde*, up to the border, but there is no electricity on *Tanzanian side*. Other public utilities like sewerage, storm water drainage, refuse collection and disposal, are not yet significant problems. Most households depend on latrines while storm water follows natural drainage system.

Tunduma town is located at the junction of two major roads, the *TANZAM highway* and the *Sumbawanga road*. Apart from these, the town is served with only paths or small roads which originate from the major roads to other areas of the town. Parking facilities are provided on both sides along the *TANZAM highway* and along the *Sumbawanga road*. Apart from the roadnetwork, *Tunduma* is a railway terminus station. As a result, on both sides some land has been reserved by the railway authority for the expansion of the stations.

Surrounding the town is agricultural land. Formerly, the land was communally owned and used. There was thus no distinction as to who cultivated land on both the Tanzanian and the Zambian sides. But later, due to population growth conflicts arose in agricultural land use.



TUNDUMA BORDER TOWN STUDY

3.2

Some Conflicts on the Existing Land Use

3.2.1 Town expansion

As said earlier, there are two towns in one under two different governments. Each town is administered by its own government with different policies. On account of the international boundary, each town has had to expand away from the boundary. As it is remarked of the city of Berlin in Germany,¹ while the extension of many cities is determined by natural limits, Berlin city expansion is quite unnatural. The natural extension of Berlin city is limited by the wall built as an international boundary between West and East Germany, which cuts across the city dividing it into West and East Berlin.¹ Although Tunduma town is not divided by any wall, the international boundary creates unnatural limitation to its expansion on each side. Despite the fact that the town could expand along the roads which originate from the town into the interior of each country, has been noted that each side of the town tends to expand along the international boundary. This might be due to the fact that most of the people in the town are traders and businessmen and therefore want to be near the border for trading activities with either side of the two countries.

3.2.2 Communication Linkages

Perhaps the greatest single factor upon which the success of human organisations depend is the ability to communicate.

In Tunduma, each side of the two countries has its own roadnetwork, some crossing the international boundary and some originating from it. At local level, communication within the town is observed through language media, free movement of the people across the boundary and, local use and exchange of the two currencies. However, at international level such communication is limited by the international political boundary. Each side of the town communicates more easily with its country than with the side of the town, though within the same town. There are no bus services within the town but each side is a terminus for traffic originating from its interior. This means that even if there were town bus services, there could be a problem of changing buses when travelling to the other side of the town. For instance, a telephone call within the town, originating from the Tanzanian side to the Zambian side, just across the boundary line which is not more than a few metres away to Zambian side; must be channeled to Mbeya town, 102 Kilometres away for exchange control. Similarly, a call from the Zambian side to Tanzanian side, must be channeled through Nakonde, 4 Kilometres away. Even for emergency needs like fire services, especially on the Tanzanian side where the district headquarters is far away, instead of telephoning direct to Nakonde, which is only 4 kilometres away, one has to get clearance from Mbeya or Vwawa which is 25 Kilometres away. Thus, while at the local level, Tunduma is a single town, at the national level, there are two towns very far apart from each other.

3.2.3

Land Use

There had been some agricultural land use conflicts which have been observed with time, as said earlier. Before the construction of the railway, the local people in Tunduma, used to cultivate on either side of the two countries. The increase of population from other parts of the two countries on either side meant more agricultural land had to be cultivated to feed the growing population. This led to some conflicts on the land. The major reason for the conflict was that as Tunduma has no industries, when people migrate into the town, they first engage themselves in agricultural activities before turning into trading activities. Between 1975 and 1976, five land cases were reported in Tunduma. Happily, these land disputes were settled by leaders from both sides. All the cases were of the immigrants who had acquired pieces of agricultural land on either side without any consultation with the local people. However, since then, no such case has been reported yet.¹

We noted earlier that there are two cementeries on the Tanzanian side. One of these cementeries is exactly on the border and this was expected to be fully used up by 1982 under the assumption that it was to be used by the people on the Tanzanian side only. This assumption has not worked because, due to the location of the cemetery and the existing situation in the town, whereby people from both countries share in the use of the facilities, the cemetery was also being used by the people of Zambian side. This resulted in the cemetery being fully used up before its planned period.² A new cemetery has now been allocated to the residents of Tunduma, Tanzanian side, but even this one is not far from the border and, the same problem might be faced.

¹ Report from the Tunduma Ward Secretary, Tanzania.

² Report from the Mbozi District land Officer.

The Tanzania - Zambia Highway is controlled by the Zambia - Tanzania Road Services Company which is a joint venture by the two countries with its headquarters in Dar es Salaam, Tanzania. Although it is a joint venture, each country maintains the highway on its side. After the construction of the highway, it was found important by Tanzania government to put a petrol service station at Tunduma, Tanzanian side so that vehicles could refuel either before crossing the boundary into Zambia and therefore retain Tanzanian money within the country, and to assist motorist from Zambia before reaching Vwawa, the district headquarters, where there were such services. A petrol service station was supposed to be located as near to the road side as possible. And, besides, the site had to be provided with adequate parking facilities. As it turned out, no site on Tanzanian side satisfied these requirements. As a result, the alternative was to locate the petrol service station across the boundary on Zambian side. Thus a petrol service station, owned by Tanzanian government was constructed in Tunduma on Zambian side in 1969. The resultant problem is that despite the fact the petrol service station is owned by the Tanzania government, being on Zambian side, only Zambian currency is accepted. The result is that travellers from the Tanzanian side have to change Tanzanian currency into Zambian currency in order to buy the petrol. Such exchange of currencies is done locally because, except for the Post Office Serving Bank on Tanzanian side, which does not provide any foreign currency, there is no other bank for such exchanges in Tunduma. For official foreign exchange service, one has to go to Mbeya, the regional headquarters, 102 kilometres away on Tanzanian side; and to Nakonde, four Kilometres away, on Zambian side.

3.2.4 Other Infrastructure

Although there have been no conflicts so far on the existing infrastructure like storm water drainage, garbage and refuse collection and, other sanitary facilities, it is important while making a plan for a town to consider the provision of such infrastructure. The present case of Tunduma, makes allowance of the collective use of common infrastructure and other services. However, a planner who chooses to make a plan for only one side of a border town faces the problem of how to control developments and other influences emanating from the other side.

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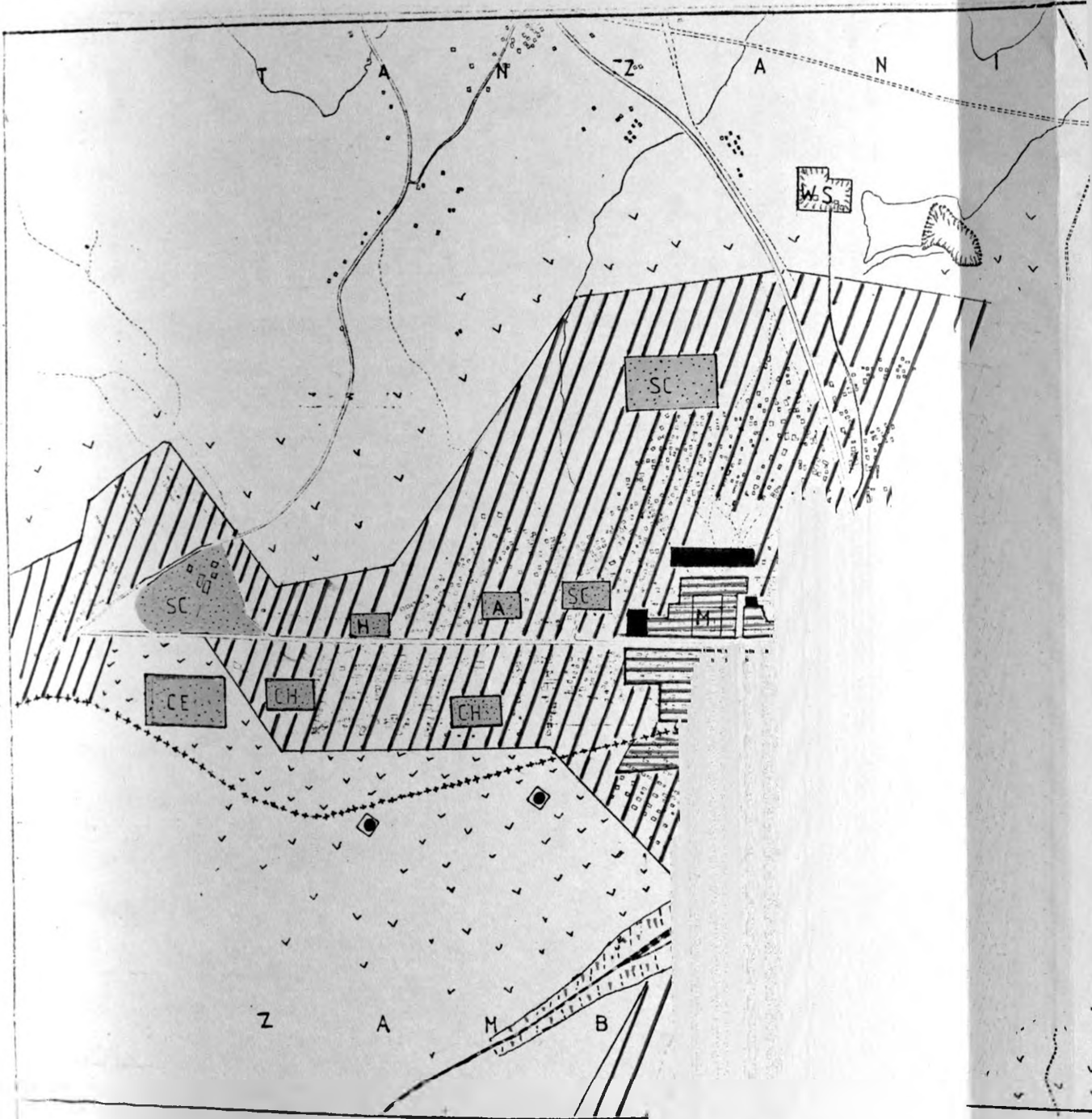
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CHAPTER FOUR

THE EXISTING SOCIO - ECONOMIC SITUATION

4.1 ECONOMIC BASE

The urban economy is regarded as a system of production, distri-



TUNDUMA BORDER TOWN STUDY

CHAPTER FOUR

THE EXISTING SOCIO - ECONOMIC SITUATION

4.1 ECONOMIC BASE

The urban economy is regarded as a system of production, distribution and consumption within an urban centre and that part of its hinterland which is dependent to a marked degree on facilities and services available in the town. Productive activity thus refers not only to manufacturing, agriculture, fishing and extractive activities in which products are processed and, or marketed, utilising facilities and services of the town, but also trade, finance, transport, government and other services using the town as a base of operations.

The scale of economic activities carried out in any town depends on activities within the town and on the economic activities carried out in the hinterland. This means that there is always a complementarity between the town and its hinterland. While the Urban centres supply goods and services to their hinterlands, in return, their hinterlands are suppliers of agricultural goods and raw materials for urban industrial development and direct consumption by urban dwellers, i.e. agricultural foods. The destiny of an urban centre therefore is controlled by the extent and character of its productivity or income producing activity and by its general vitality. Studies of the economic basis for the income producing activities hold the key to how the town has developed, where it is today and what its future prospects are. Most towns flourish because they serve as centres for the production and distribution of goods and services. In turn, production and distribution functions create jobs and employment opportunities which attract people into the town. An economic explanation of Urban land use patterns therefore, must involve a consideration of the structure and functioning of the urban economy as it fits into the broader economy of

of the region and the nation at large. It is therefore the extent to which an urban centre commands income beyond its borders which is the key element in its growth.

The economic base of Tunduma town, like many other towns, can be divided into four categories: agriculture, commercial, Industrial and public sector. These are the major sources of Tunduma people's incomes. Before discussing the people's incomes and the sources, it is here important to note that both Tanzanian and Zambian currencies are circulative in both sides of the two countries. Goods are exchanged locally and so are the currencies. The two currencies therefore are localized within the whole town of Tunduma. People of either side can buy any goods from either side using any of the two currencies.

4.1.1. Agriculture

Mbozi district lies in a rich agricultural belt, hence Tunduma serves its surrounding agricultural hinterland. Tunduma town itself, is basically an agricultural commercial centre serving both its Tanzania and Zambia hinterlands. In Mbozi district agriculture and forestry are the main productive sectors in the district's economy.

The common crops cultivated around Tunduma town include maize, finger millet, beans, sweet potatoes, cassava, vegetables and fruits. These are grown both as main food crops and as cash crops. Due to the fact that Tunduma is an agricultural commercial centre in the district, most of the people in the town are engaged in agriculturally based activities from which they earn their living. Trade, especially with the people on Zambian side is also important. From the sample,

it was found that about 65.63% of the total population were engaged in different economic sectors out of which 37.7% were in the agricultural sector. This is a descriptive picture because employment in agriculture sector is only seasonal and the same workers are engaged in non primary activities during off - seasons. The farms are mostly around the urban area and the people included in the sample did not differentiate between full time and part time employment in agriculture. However, most of the farms are small in size and no family can exist financially only on agriculture and hence possibilities of dual occupation i.e. business/trade, can not be ruled out. But as Tunduma lies in a potential agricultural area of the country, agriculture and its allied economic activities are bound to become important in future and hence marketing and its allied activities, especially now that the region has been linked with the National economy by the highway, are likely to grow much faster as compared to that of industries.

From the sample, it was found out that 24.8% of the people in Tunduma depend on the sale of agricultural products which they either sell to traders within Tanzanian side or trade directly with Zambian people on the other side. It was found therefore that 19.92% of the people are engaged and earn their incomes from trade. They buy agricultural goods from either the surrounding areas of Tunduma or even from other districts within Tanzania for trade with Zambia.

4.1.2

Commercial

Tunduma town is basically a commercial centre and therefore one expects a big percentage of the people in the town to be engaged in

the commercial sector. The market at Tunduma is well supplied with agricultural goods from all the districts in Mbeya region. Due to its location, Tunduma town has attracted trade from the whole region hence agricultural goods found at the market are from all over the region. Among others, they include rice, oranges, mangoes which mainly come from Kyela district which is the major producer in the region; Bananas from Rungwe and Mbeya districts. Finger millet and maize are produced within Mbozi district but most of them come from Rukwa region. Also Rukwa region is the great supplier of fish to the market. As stated earlier, the Tanzanian side market is also the supplier of market goods to that of Zambian side market, hence most of these commodities are also found in the Zambian market. The market on Zambian side also serves people of Nakonde town, four kilometres far. So, Tunduma market on Tanzanian side is a great distributor of commodities for both its environs and Zambian side. Surrounding the markets are big shops and except for the whole sale, most of the retail shops accept both currencies.

Although Tunduma town is newly settled and small, it has ten butcheries which serve both sides of the two countries and all of them accept both currencies. All the butcheries are owned by Tanzanians and they are supplied with cattle from within the district and also from nearby districts, especially Chunya and Sumbawanga.

As a terminus point, Tunduma town is served by twelve hotels with bed number ranging from 15 to 30. They help especially people crossing the border from and to either side. Out of the twelve hotels, five of them or 41.7% of the total, are owned by Zambians who are living on Tanzanian side.

4.1.3

Industrial

The industrial sector in Tunduma is small and therefore does not generate much income to the people. However, the six flour mills which employ a few of the people as well as the carpentry workshops generate some income to the people. The two carpentry workshops employ a total of 16 people out of whom 5 or 31.25% of the total are Zambians. The two workshops sell most of their furniture on Zambian side. The two workshops are under SIDO.- Small Scale Industry Development Organisation (Tanzania) but the organization has failed to control the marketing of the workshops' furniture. This is because the furniture is locally sold to another country within the town.

Table 4.1

SECTORAL OCCUPATION

OCCUPATION BY SECTOR	NO. OF PEOPLE	%
AGRICULTURE	203	24.80
COMMERCIAL	163	19.92
PUBLIC SECTOR	22	2.68
INDUSTRIAL	19	2.30
SELF EMPLOYED	131	15.93
STUDENTS	136	16.63
NON-EMPLOYED	146	17.74
TOTAL	820	100.00

Source : Field Survey, 1978.

The above table shows that about half of Tanzanians in Tunduma are engaged in Agriculture, commerce and self employments.

From sectorial occupations, household incomes of Tunduma people, Tanzania side, range from Tanzanian shillings 0 to Tsh 1,500 and above. See table below.

Table 4.2

MONTHLY HOUSEHOLD INCOME GROUPS
IN TANZANIAN SHILLINGS

INCOME (Tsh)	NO. OF HOUSEHOLDS	%
0 - 199	40	20.0
200 - 399	62	31.0
400 - 599	39	19.5
600 - 799	30	15.0
800 - 999	22	11.0
1000 - 1499	5	2.5
1500 & ABOVE	2	1.0
	200	100.0

Source : Field Survey, 1978

The income groups table above shows that about half of Tanzanians in Tunduma earn less than TSh 400 per month which is less than the national minimum wage for any employed person. The national minimum wage is TSh 380 per month. Although the income groups are generalised, the big percentage of the low income groups arise from the fact that 24.8% of the people are engaged in subsistence agricultural production which, although exchanged with the people on the Zambian side, does not generate much incomes. Apart from agricultural sector, and the non employed people (17.74%) who include housewives; commercial sector is the major employer of the people and therefore a big income generating sector in the town. The self employed group which account for 15.93%, are those people engaged in small businesses like local brewing, independent carpenters, masons, shoerepairers, watch repairers and bicycle repairers.

It is noted that unlike the experiences in other towns, where the big income generating sectors are public sector and the industrial and commercial sector, in Tunduma, the situation is different. While it can be said that as a town, apart from agriculture, commercial activities dominate, it is difficult to draw group demarcations for each sector. This is because the word 'commerce' has been taken as the act of exchange at any level. However, here it has two meanings: those who just wait for customers at the same place, i.e. in shops and at the market are those who have been said being involved in commercial sector and earn their incomes from that. There are those who are moving with goods looking for customers especially in Tunduma, across the border and those are referred to as traders or businessmen. From this point therefore, it was found that out of those whose occupation

is commerce (19.92%), 29.5% of them are engaged in business or trade with the people of the other side, and out of 24.8% whose occupation was reported to be agriculture, 19.6% earn other incomes from trade with the people on Zambian side.

Table 4.3

OTHER SOURCES OF PEOPLE'S INCOMES

SOURCE	NO. OF PEOPLE	%
BUSINESS/TRADE	242	29.5
AGRICULTURE	161	19.6
NONE	417	50.9
TOTAL	820	100.0

Source : Field Survey, 1978

Table 4.3 above shows that apart from the people's occupations, the other sources of their incomes are trade across the border and agriculture. Hence, one can conclude that it is this uncontrolled trade with the people across the border which has attracted many people from other districts into the town leading to rapid population growth of Tunduma town.

SOCIAL BASE

4.2

4.2.1 Demographic Characteristics

Due to the fact that Tunduma town is very new, population growth data is not available. However, in 1967 census, the population of Tunduma (Tanzanian side) was 1,127 and in 1977, ten years later, it was 7,410, an annual growth rate of 6% as compared to 2.71%, the district annual growth rate.

There are two great phenomenon on urban population growth, natural growth and migration. The relative importance of these two factors varies according to the region, period and type of a town or city. In those regions which have been urbanized for a long time and now include a high proportion of town dwellers, natural growth plays the main part. In great cities and towns of developing countries, where the increase in urban population is greater, the role played by migration appears to be a determining factor.

The growth of urban population in Tanzania is around 6% annually, for the period 1957 - 1967, which is a sign of considerable migration. Since the natural increase is about 2% per year, the extra four percent means that two thirds of the urban growth in Tanzania is the result of migration.

Immigration in Tunduma town can be seen at two levels, at national and international levels. At national level, that is rural to urban migration, most of the people have moved into Tunduma for economic reasons. Tunduma, unlike many other towns, does not have

any employment opportunity attraction, yet its population growth rate reaches that of the average national urban growth rate, 6% per annum. However, the relationship between inward and outward movements of people and the change in employment is complex. It is not simply a matter of employment growth attracting the migrants. People are very diverse in their skills, taste, preferences, desire for different ways of life, social contacts, climate and land scape, and therefore their motivations for moving are just as complex, (Chapin, 1965). From the survey carried out by the author, it was found that those who migrated from within Tanzania, the main reason for migrating to Tunduma was either looking for employment or to trade with the people across the border, Zambia.

Measuring international migration especially in a town which is on the border of two nations is somewhat more complicated than of any other towns. This is because the indogenous people do not feel that within the whole town, they are politically separated. Relatives are on either side of the two countries and therefore there are both family and individual movements across the border to either side.

Basing on the above point therefore, though the question of place of birth, especially for the people born on Zambian side, might not be a good measure of international migration, it is the only alternative to find out cultural relationship between the people of the two sides. From the survey carried out by the author, while 18.5% of the people were born within Tunduma town on Tanzanian side, 16.6% were born either within Tunduma on Zambian side or in the rest of Zambia. Most of those reported as coming from other countries are mainly from Malawi.

The immigrants from neighbouring countries are partly individuals looking for temporary work, partly individual families or group having the intention to settle more permanently in Tanzania and partly might be refugees; yet in all, in Tunduma especially, there is no registration. However, in discussing international migration, the sample data provides only one side of the coin, namely the intering of people into the country side. On the other side, emigration is more difficult to estimate as long as it is recorded in the receiving country. All the same, as border movements tend to go to fringe areas of the country, the migrants are spread in the bordering regions and towns.

...	211	25.7
...	177	22.7
...	134	16.7
...	41	5.1
...	863	108.2

Source: ... 1978

...

Table 4.4

PLACE OF BIRTH - TUNDUMA PEOPLE
TANZANIAN SIDE

PLACE	NO. OF PEOPLE	%
TUNDUMA TOWNSHIP TANZANIAN SIDE	152	18.5
MBOZI DISTRICT	215	26.2
OTHER DISTRICTS IN TANZANIA	277	33.7
ZAMBIA	136	16.6
OTHER COUNTRIES	40	5.0
TOTAL	820	100.0

Source : Field survey, 1978

Both at national and international levels, the immigrants into Tunduma town, apart from those who migrated to Tunduma to look for business or trade across the border : others come to live or stay with relatives. Although the town has no attractive employment opportunities, apart from trade across the border, a good percentage of people, 15.8% said their reason for coming to Tunduma was to look for employment.

Table 4.5

REASON FOR COMING TO TUNDUMA (TANZANIAN SIDE)

REASON	NO. OF PEOPLE	%
LOOKING FOR EMPLOYMENT	144	17.7
TRANSFER	20	2.4
BUSINESS/TRADE	154	18.6
STAY WITH RELATIVES	145	17.8
OTHERS e.g. MARRIAGE	205	25.0
BORN IN TUNDUMA (TANZANIAN SIDE)	152	18.5
TOTAL	820	100.0

Source : Field survey, 1978

Both the length of stay and the age structure of the Tanzanians in Tunduma from the sample survey, proves two phenomenon. One that Tunduma town, though small and new a town, has a very high growth rate, i.e. 6% per annum and two, that there is free movements of the people from either sides of the two countries, due to the fact that people have relatives on either side. For example, from the sample survey,

despite the fact that out of the total population, only 32.8% are married, 25% of the married couples, either the husband or the wife had moved or had been born on Zambian side. And, it is this percentage of people, 25% who either own houses or land on both sides of the two countries. While 17.43% of the people had lived in Tunduma for only less than a year, 45.33% had lived for six years in Tunduma (Tanzanian side), that is from one year to seven years and, only 18.5% had been born within Tunduma town.

Table 4.6 STAY PERIOD IN TUNDUMA (TANZANIAN SIDE)

PERIOD	NO. OF PEOPLE	%
2 weeks - 1 month	50	6.13
1 month - 1 year	93	11.34
2 years - 3 years	74	9.17
3 years - 5 years	120	14.60
5 years - 7 years	102	12.43
7 years - 10 years	72	8.78
Above 10 years	80	9.75
Those born in Tunduma (Tanzanian Side)	152	18.50
	820	100.0

The length of stay in Tunduma has also affected the age structure of the people living in the town. The table below shows that the majority of the people are those of an age between 19 years and 35 years compared to those below 10 years. This is unlike other many African population structure situation where the population pyramid narrows with age; the situation where many are born but very few survive to an age above 50 years.

Table 4.7

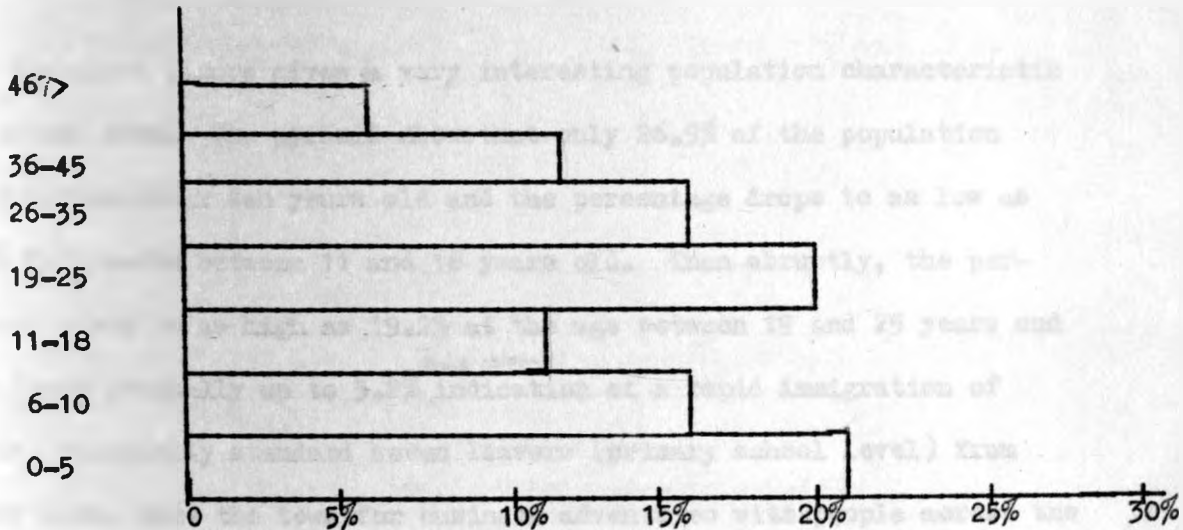
POPULATION AGE STRUCTURE

AGE (YEARS)	NO. OF PEOPLE	%
0 - 5	166	20.3
6 - 10	134	16.3
11 - 18	87	10.6
19 - 25	157	19.2
26 - 35	140	17.1
36 - 45	93	11.3
46 AND ABOVE	43	5.2
TOTAL	820	100.0

Figure 4.1

Population Pyramidal Age Structure

AGE



Percentage of the total population

Source : 1978 Field Survey

This shows that most of the people in Tunduma have immigrated at the age of 18 years and above, that is after primary education. The table also shows the rate of immigration in Tunduma town especially for the youths, hence from the sample survey, it was found that 67.2% of the people were single.

The above figure gives a very interesting population characteristic of Tunduma town. The pyramid shows that only 26.9% of the population are children under ten years old and the percentage drops to as low as 10.6% for youths between 11 and 18 years old. Then abruptly, the percentage rises to as high as 19.2% at the age between 19 and 25 years and then drops gradually up to 5.2%. ^{This is an} indication of a rapid immigration of youths, especially standard seven leavers (primary school level) from either side, into the town for business adventures with people across the border.

4.2.2

HOUSING

While the reasons for housing conditions vary among developing countries, the dominant factor governing the quality of housing is the income level of the populace.

Tunduma is a newly created town without many income generating activities. So, the houses found in the town are newly built, most of them small in size, yet only few are permanent. From the sample survey carried out by the author, it was found that the average household size was 4 persons per household. A household is here taken as a group of persons who live together and share their living expenses. Usually this will be the husband, wife and children. Other relatives, boarders, visitors and servants present on the household on the interview night, are

included as members of the households. Following the above definition, the real situation in Tunduma is that most of the persons comprising households are single youths, who form the majority of the population, living many in one room. This is because there is a big housing problem in the town due to a big inflow of people. Despite the fact that the average household size is 4, 49.5% of the total households sampled comprised of more than four persons.

Table 4.8

HOUSE HOLD SIZE

No. of Persons Per Household	No. of Households	%
1 - 2	46	23.0
3 - 4	55	27.5
5 - 6	54	27.0
7 - 8	32	16.0
9 and more	13	6.5
TOTAL	200	100.0

Source : 1978 Field Survey

A part from few government staff houses, many houses in Tunduma are privately built by people who later rent to those in need. From the sample survey, it was found that 47.5% of the total household heads lived in their own built houses while 35% lived in rented houses. Only 17.5% lived in government staff houses. However, from the total 200 household heads interviewed, 27 (13.5%) owned other houses on Zambian side which they either also rented or were being used by their relatives.

4.2.3. PUBLIC FACILITIES

Specifically, these include education, health, religious institution and water supply. Others have been discussed somewhere in the earlier chapter.

Tunduma is a small town having very few facilities yet serving a large area which includes the town and villages across the border - Zambia. These facilities therefore are being utilized by a much greater population which is difficult to quantify.

4.2.3.1 Education:

There are three primary schools in Tunduma (Tanzanian side) and only one on Zambian side. The three primary schools are attended by both Tanzanians and Zambians living on either side of the two countries.

However, before discussing the existing educational institutions, it will be important first to know the existing educational levels of all the people and also to know from where they obtained their education.

Table 4.9

EDUCATION LEVELS OF TUNDUMA PEOPLE (TANZANIAN SIDE)

EDUCATION LEVEL	NO. OF PEOPLE	%
No Education	280	34.2
Primary Education	468	57.0
Secondary Education	72	8.8
High School Education	0	0.0
University Education	0	0.0
TOTAL	820	100.0

Source : Field Survey, 1978

Table 4.10

PLACE WHERE EDUCATED

WHERE EDUCATED	NO. OF PEOPLE	%
TUNDUMA TOWNSHIP (TANZANIAN SIDE)	155	18.9
MBOZI DISTRICT	84	10.2
OTHER DISTRICTS IN TANZANIA	186	22.6
IN ZAMBIA	90	10.9
OTHER COUNTRIES	25	3.2
NO EDUCATION	280	34.2
TOTAL	820	100.0

Source : Field Survey, 1978

The table 4.9 above shows that the majority of Tunduma dwellers, 57.0% have had only primary level education while the rest, except 8.8% of the total population, have not been to school at all. On the other hand, table 4.10 shows that those interviewed are either Tanzanians or Zambians (Zambians by origin but of the same Bemba tribe occupying both country sides), but all live on Tanzania side; a considerable percentage of them, 10.9% had been educated in Zambia. The table also shows that the majority of the immigrants who come from within Tanzania, 22.6%, into Tunduma town, are primary school leavers. Again one goes back

to the reason of being attracted by business or trade opportunities across the border.

Tunduma town (Tanzanian side) has three existing educational institutions - Primary Schools named Tunduma Primary School, Mwaka Primary School and Mporomoko Primary School. Since some Tanzanians had been educated in Zambian Schools, it is here important to know how many Zambians are being educated on Tanzanian schools within Tunduma. However, before going further, a note should be made that Kiswahili, Tanzania National language, is the only language being used in primary schools. But because the whole Tunduma town is a one unit, comprising both sides of the two countries, both Bemba language and Kiswahili are spoken in the whole town and therefore the problem of language in schools is minimized. Moreover, in both Tanzania and Zambia, education is free at all levels.

(a) TUNDUMA PRIMARY SCHOOL:

The school was started in 1954 and it now has seven classes. There are 627 pupils in total and eight teachers, all Tanzania teachers.

Table 4.11

NO. OF DAILY ATTENDING PUPILS : TUNDUMA PRIMARY SCHOOL

STANDARD	TANZANIA PUPILS FROM WITHIN TUNDUMA TOWNSHIP		ZAMBIAN PUPILS (FROM ZAMBIAN SIDE)		TOTAL NO.	
	NUMBER	%	NUMBER	%	NO.	%
STD. I	180	98.37	3	1.63	183	29.18
STD. II	161	96.41	6	3.59	167	26.64
STD. III	82	92.14	7	7.86	89	14.20
STD. IV	57	95.00	3	5.00	60	9.57
STD. V	39	90.70	4	9.30	43	6.86
STD. VI	38	99.47	3	0.53	41	6.54
STD. VII	42	95.50	2	4.50	44	7.01
TOTAL	599	95.54	28	4.46	627	100.00

Source : Head Teacher's reports

Tunduma Primary School, 1978

Within the Tanzanian pupils from within Tunduma township, there are a number of them whose parents are Tanzanians but are living on Zambian side. This means that they always attend school from Zambian side and are registered as Tanzanians at school.

Table 4.12 TANZANIAN PUPILS LIVING ON ZAMBIAN SIDE BUT
SCHOOLING IN TUNDUMA PRIMARY SCHOOL

STANDARD	NO. OF PUPILS	% OF THE TOTAL TANZANIAN PUPILS IN CLASS
I	0	0.00
II	8	5.00
III	3	3.66
IV	5	8.77
V	6	15.38
VI	2	5.26
VII	3	7.14
TOTAL	27	4.50

Source : Head Teacher's Report
Tunduma Primary School, 1978

(b) Mwaka Primary School:

It was started in 1975 and it now has only four classes with five teachers, all Tanzanians.

Table 4.13 NO. OF DAILY ATTENDING PUPILS : MWAKA PRIMARY SCHOOL

STANDARD	TANZANIAN PUPILS FROM TUNDUMA (TANZANIAN SIDE)		ZAMBIAN PUPILS FROM ZAMBIAN SIDE		TOTAL NO.	
	NO.	%	NO.	%	NO.	%
I	102	96.3	4	3.7	106	20.87
II	200	97.6	5	2.4	205	40.35
III	94	95.0	5	5.0	99	19.49
IV	95	97.0	3	3.0	98	19.29
TOTAL	491	96.7	17	3.3	508	100.00

Source : Head Teacher's reports
Mwaka Primary School, 1978

In Mwaka Primary School, there are also among the Tanzanian pupils, those who live with their relatives on Zambian side, three of whom are in Standard two (II) and four of them are in Standard three (III).

(c) Mporomoko Primary School:

The school was started early 1977 and it has only one class with one teacher. The school has 96 standard one pupils out of whom four (4) are Zambians.

Table 4.14 NO. OF DAILY ATTENDING PUPILS : MPOROMOKO PRIMARY SCHOOL

STANDARD	TANZANIAN PUPILS FROM TUNDUMA (TANZANIAN SIDE)		ZAMBIAN PUPILS FROM ZAMBIAN SIDE		TOTAL NO.	
	NO.	%	NO.	%	NO.	%
I	92	95.4	4	4.6		

Source : Head Teacher's report
Mporomoko Primary School, 1978

Although in both Tanzania and Zambia, education is free at all levels, there are some differences in the approach to the major goal, e.g. to provide education to all the people. For example, in Tanzania, schools are being built through self help projects whereby parents build schools and government provides teachers and school facilities. But it becomes difficult to contact the people across the border for such projects. It also brings administrative problems to teachers when they fail to have any control over Zambian pupils. For example, in Tanzania, pupils are not allowed to

loiter around market places, bars or even to involve in trade or business, especially after school time. It becomes difficult to impose these conditions on pupils of another nation when there is no direct communication. In Tanzania, for any pupil being absent for a long time, i.e. three days continually, or failing to have a proper school uniform, it is the parent of the pupil who is sent to court for charges and not the pupil himself. But for pupils from across the border - Zambia, another nation all together, there is no interference because the policies are limited to Tanzania nation. So, the teachers have no direct control over pupils from Zambian side. However, everything is being done locally and in most cases, the rules have no effect on Zambian pupils. On top of that, the three primary schools face a critical shortage of teachers and school facilities, but this point will be detailed in the next chapter.

4.2.3.2

Health Services:

Tunduma town (Tanzanian side) being a Ward centre, is served by one dispensary, which therefore serves the whole ward of 15,000 people, Also being a divisional centre, Tunduma town is supposed to be having a Rural Health Centre, but this is only a proposal.

The Tunduma dispensary with only 10 beds at present, was built in 1972. It has only one Medical Officer assisted by three Nurses. But, despite that the dispensary serves the population of the town (7,410) and the whole ward, it also acts as a reference for the whole division of a total population of 37,355 (Tanzanian side only); it also serves a big number of people from Zambian side. This is because, despite the fact that in both Tanzania and Zambia health services are free of charge, on Zambian side (Tunduma) for health services, people have to go as

far as Nakonde, four kilometres from Tunduma. So, the preference is the nearest one, which is within Tunduma town, on Tanzanian side. From the Survey conducted, 26.5% of the total year attendants to the dispensary were **Zambians** (July, 1977 - June, 1978) see table below.

Year	Male	Female	Total	Zambians	Tanzanians
1977	100	100	200	50	150
1978	100	100	200	50	150
1979	100	100	200	50	150
1980	100	100	200	50	150
1981	100	100	200	50	150
1982	100	100	200	50	150
1983	100	100	200	50	150
1984	100	100	200	50	150
1985	100	100	200	50	150
1986	100	100	200	50	150
1987	100	100	200	50	150
1988	100	100	200	50	150
1989	100	100	200	50	150
1990	100	100	200	50	150
1991	100	100	200	50	150
1992	100	100	200	50	150
1993	100	100	200	50	150
1994	100	100	200	50	150
1995	100	100	200	50	150
1996	100	100	200	50	150
1997	100	100	200	50	150
1998	100	100	200	50	150
1999	100	100	200	50	150
2000	100	100	200	50	150
2001	100	100	200	50	150
2002	100	100	200	50	150
2003	100	100	200	50	150
2004	100	100	200	50	150
2005	100	100	200	50	150
2006	100	100	200	50	150
2007	100	100	200	50	150
2008	100	100	200	50	150
2009	100	100	200	50	150
2010	100	100	200	50	150
2011	100	100	200	50	150
2012	100	100	200	50	150
2013	100	100	200	50	150
2014	100	100	200	50	150
2015	100	100	200	50	150
2016	100	100	200	50	150
2017	100	100	200	50	150
2018	100	100	200	50	150
2019	100	100	200	50	150
2020	100	100	200	50	150
2021	100	100	200	50	150
2022	100	100	200	50	150
2023	100	100	200	50	150
2024	100	100	200	50	150
2025	100	100	200	50	150
2026	100	100	200	50	150
2027	100	100	200	50	150
2028	100	100	200	50	150
2029	100	100	200	50	150
2030	100	100	200	50	150

Dispensary, Nakonde, Zambia - 1977-1978

Table 4.15

MONTHLY ATTENDANCE: TUNDUMA DISPENSARY, JULY 1977 - JUNE 1978

YEAR	MONTH	TOTAL ATTENDANTS	ATTENDANTS FROM WITHIN TANZANIA	ATTENDANTS FROM ZAMBIA	
				NUMBER	% OF THE TOTAL ATTENDANTS
1977	JULY	1,416	1,146	270	19.06%
	AUGUST	2,219	1,867	352	15.86%
	SEPTEMBER	2,505	2,085	420	16.76%
	OCTOBER	1,424	1,173	251	17.62%
	NOVEMBER	3,008	2,388	620	20.61%
	DECEMBER	3,088	2,418	670	21.69%
1978	JANUARY	3,733	2,980	753	20.17%
	FEBRUARY	4,182	2,561	1,621	38.76%
	MARCH	N.D.	N.D.	N.D.	N.D.
	APRIL	N.D.	N.D.	N.D.	N.D.
	MAY	4,326	3,116	1,210	27.97%
	JUNE	3,139	1,609	1,530	48.74%
	TOTAL	29,040	21,343	7,697	26.50%

The dispensary therefore serves so big a population that it cannot cope with demand. This is because apart from Tanzanian side population which is known, that of Zambian side is not known. Thus the dispensary is always faced with staff and facility shortages.

4.2.3.3 Water Supply :

Water is one of the major public facilities provided to the people by any government. Tunduma, both on Tanzanian and Zambian side has been provided with piped water by their respective governments. The Tanzanian side had been provided with water earlier than that of the Zambian side and due to the rapid population growth, water shortage is a major problem on Tanzanian side. However, people are being subsidised by three wells, one a little far from the border line on Tanzanian side and two, on Zambian side, very close to the border line. Apart from those who use the wells, there are people who share piped water on Zambian side. From the survey, it was found that 17% of the sampled households got piped water from Zambian side and 18% draw water from the two wells located on Zambian side.

Table 4.16

SOURCE OF WATER SUPPLY:

SOURCE	NO. OF HOUSEHOLDS	% OF THE TOTAL
PRIVATE PIPED	32	16.0
SHARED - PIPED TANZANIAN SIDE	60	30.0
SHARED - PIPED FROM ZAMBIAN SIDE	34	17.0
WELL ON TANZANIAN SIDE	36	18.0
WELL ON ZAMBIAN SIDE	38	19.0
TOTAL	200	100.0

Source : 1978 Field Survey

4.2.3.4

Administration:

In any settlement, the co-ordination of different activities within the community is very important. Hence, most of the towns are under local authorities or town councils. Tunduma town, as a whole is under two nations and therefore under two different town authorities. This brings administrative problems, especially when there is free movements of people from one side to another. Criminals from one side of the town shift to the other side of the town and nobody interferes, they become safe. There are also people who have houses and relatives on either or both sides of the two countries.

There are some policies which can not be easily be implemented in Tunduma situation. For example, in Tanzania, beer drinking time is restricted to after working hours, but in Zambia, there is no such policy. So, Tanzanians move to Zambian side for drink any time of the day and in the evening when drinking time on Tanzanian side approaches, they shift back to the Tanzanian side. All these were but few of the many problems reported by the Ward Secretary.

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CHAPTER FIVE

PROBLEMS IDENTIFIED AND THEIR IMPLICATION TO BORDER TOWN PLANNING

5.1 General Definition of Planning

The attitude of planning started as early as man organized himself and settled at one place. It is believed that from the earliest times, wherever man congregated together, there were settlements and an order was being imposed on the layout of each settlement.

In its broader sense, planning can be said to be a process of re-organizing resources within the community for present and future use and therefore it is directly related to people's activities. In planning, socio-economic structure must be related to the physical structures. The process involves the assessment of present resources, a prediction of future needs of Society and accommodating all activity changes which take place on land. It is a process to achieve the goals and objectives of a community through the rational and efficient use of available resources. It involves the maximization of the use of the available resources for the beneficial of the society. Any maximization process involves identification of limitation or constraints to be taken into consideration. If there were no limitations of resources available, there would be no problem. It is this limitation of resources for development which has brought about the concept of scarcity of resources in discussion on development. The problem we are concerned with therefore is how to maximize the objective use and combination of these scarce resources in order to maximize the objective function of maximizing the social value of consumption. Scarce resources taken as a whole are used not only to make consumption goods now or in the near future, but also to ensure sustained yields so that many more consumption goods can be produced

later on through the process of investment.

A general land use plan is a guide to orderly town development so as to promote health, safety, welfare and convenience of a community. It assists in the organization and co-ordination of the complex relationships between urban land uses and charting the path for growth and change. It expresses the aims and ambitions of a community, deliveating the form and character it seeks to achieve. Reflecting the policies by which the goals may be reached, it directs the physical development of the community and its environs in relation to its social and economic characteristics for the attainment of desired goals. Since it affects the future of all the people and property in the town, the plan represents the policy which directs future growth and development of a town, for the protection of the public welfare and investmnet in Urban Community.

A land use plan therefore should aim at

- (i) Creating a total environment which is functional, efficient, healthful and aesthetically satisfying in setting for human activities;
- (ii) promoting the large interest of the community as a whole;
- (iii) Serving as a policy framework to fulfil the needs and aspirations of the community;
- (iv) affecting co-ordination between physical, economic, socio-cultural and political forces that govern the structure of the community and the technical means to regulate it; and,
- (v) formulating short range and long range action programmes with a view to injecting long term consideration into short term actions.

Problems as implied to planning

It is in the light of the above definition that discussions on the planning problems of border town are based. As planning is future oriented, knowledge of future population and that of resources to meet the future population is very important. To know the number of people to be served by a certain limited amount of resources at a given time of period is equally important for a successful plan. It is on the basis of present and the anticipated population data that the resource allocation is made, hence the importance of population projection.

As noted by Chapin, population projection is perhaps the single most important population study required for planning purposes. Very many important factors of the future situation facing the community on which the planner must advise, are derived directly from the population projection. It forms a framework for a great deal of the subsequent work of devising, testing, evaluating and implementing the plan. Most of the important decisions about major land uses and services are derived from population estimates. For instance, the demand for water, power and the supply of labour, possible recreational demand, as well as other requirements, can be estimated from the projected population. Yet in a situation like Runduwa, where two nations are involved in the planning of one town, a planner has great problems in obtaining reliable data on present and future population. The major difficulty is that the local community will be providing resources not only to the one country where projected population may have been used to determine service levels and requirements, but also to the unknown population of the other nation. Such problems are very unlike to be experienced when planning for towns in the

interior of a country where population projection takes into account both natural growth rate and migration rates and patterns within the same nation. The former situation is the situation in Tunduma, Thus projecting the population on the Tanzanian side and therefore providing service facilities for that estimated population only when he is aware that the resources are to be used by another unpredictable population of another nation is one of the major problems facing a planner in planning border towns.

In Tunduma town, resources are drained from one nation to the other. As we have seen, resources provided by one nation are utilized by people from the two nations. As a result, it becomes difficult for a planner to quantify his national resource requirements for the population which lives in the town. In Tanzania, the standard primary school educational ratio is 1:45 i.e. one teacher to 45 pupils. In Tunduma, the existing ratio is 1:88. Furthermore, a total of 49 or 3.1% of the pupils in primary schools on the Tanzanian side come from Zambia. If we use the Tanzanian standard ratio, then Zambian pupils need one teacher. Moreover, the Zambian pupils use school facilities provided by Tanzania government. Again in Tanzania, the planning standard for health services is that one health unit should serve 5,000 population. Besides, one to two beds are provided for every 1,000 people. But in Tunduma, one is not able to plan for such services when he can not quantify the population of the community. This makes it difficult for a planner to apply the planning standards in such situation. This is because the actual population is not accurately known. In spite of such difficulties, a country has a responsibility towards the people living in border towns.

We have also noted that planning means co-ordination of different activities within a community. The plan must be well administered so as

to achieve the goals and objectives of the community. In a situation like the one found in Tunduma town, where people's movements across the bordering line are not controlled and where people from the two countries live and own property on either or both sides of the border, it is difficult for a plan to be co-ordinated and controlled at implementation level. The provision of public utilities like storm water drainage, sewerage and garbage collection to one side only will affect the other side and is likely to bring conflicts in land uses and may therefore make it very difficult for the plan developments to be controlled and implemented.

A successful plan, projects total community needs. This encompasses not only a careful balance of variety of residential units and businesses and commercial facilities, but full provision for other facilities such as schools, churches, medical facilities, appropriate distribution of shopping areas and recreational facilities. If a planner therefore is a master allocator of resources, he must ask himself on whose behalf he administers his country's wealth. This is a problem which faces a planner involved in planning only one side of Tunduma town. As in other situations, the planner plays the role of arbiter between conflicting claims made by groups and individuals, hence, planning is an attempt to provide for people equally against negative known and unknown factors. The planner therefore is concerned not only with the physical environment, but he is also equally deeply involved with the efficient functioning of the economy, the growth of communities and the correct use of the scarce resources for which there is competition from many directions. The central problem then is planning itself: how can planners manage the process of change in towns in order to achieve the objective of increasing the welfare of those who live there.

In Tunduma town, a planner would still be faced with a dilemma as to whether to restrict his plan to his national side only when he exactly knows that he is allocating his national resources not only to his people but also to the people of the other nation. Without co-ordination between the two sides, the planning of border towns can be a very futile exercise indeed. In the next chapter, we shall discuss some alternative approaches to the planning of border towns.

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CHAPTER SIX

ALTERNATIVE POLICY APPROACHES

Basically, all the main considerations with regard to the problems of planning border towns have been covered up in the foregoing chapters. In proposing alternative policy approaches, for successfully planned border towns, it is important that while emphasis is on the socio-political and economic characteristics, physical characteristics of the area should also be used to provide guidelines for the planned proposals. The resource availability for the town growth and plan implementation should also be ascertained. Alternative policy approaches proposed for Tunduma town should act as guides for planning other border towns.

Tunduma town lies on the Fipa plateau which covers the whole of the Mbozi district, crossing the border line to Norther areas of Zambia in the South and eastwards into Malawi where it is called Nyika plateau. The result is that the surrounding areas of Tunduma on all sides have the same agricultural potentialities. The differences in production per individual might be due to National policies on agriculture and the existing economic activities in the three countries.

On Tanzanian side, all the earlier mentioned agricultural products from the whole of Mbozi district, are being bought by the National Milling Co-operation (NMC), Tanzania, for further processings and there are two collecting centres in the district, Vuwawa and Tunduma. For the whole district, total acreage productions and total sales of some of the products between 1972 and 1975 are indicated in the table below.

Table 6.1

MAJOR CROP PRODUCTIONS IN MBOZI DISTRICT, 1972-1975

YEAR	CROP	TOTAL ACREAGE IN THE DISTRICT	TOTAL PRODU IN TONS
1972/73	MAIZE	30,000	10,500
1973/74	"	44,450	17,000
1974/75	"	50,000	20,000
1973/74	BEANS	21,000	3,600
1974/75	"	38,500	22,500
1973/74	FINGER MILLET	23,800	5,000
1974/75	" "	26,000	5,200
1973/74	RICE	NOT KNOWN	600
1974/75	"		1,040

Source : Mbozi District Agricultural Office

Report, 1972 - 1975

Apart from being rich in agricultural crops Mbozi district has a large number of livestock. For instance, in 1975, Mbozi District had 307,58

Table 6.2

DISTRIBUTION OF LIVESTOCK IN MBOZI DISTRICT, 1975

TYPE	NUMBER	% OF THE TOTAL
COWS	47,177	15.33
BULLS	16,984	5.51
OXEN	13,671	4.44
HEIFERS	25,491	8.28
GOATS	8,922	2.96
SHEEP	10,026	3.25
PIGS	8,057	2.64
POULTRY	177,260	57.59
TOTAL	307,588	100.00

Source : Berry, L. Tanzania in Maps, 1975

Being a service centre, trading centre and a market centre for agricultural produce from all its surrounding areas and, a road and railway terminus town for both countries and therefore a distributing centre for agricultural inputs; with its excellent transport facilities both by road and rail, Tunduma town is bound to grow into a very big town very rapidly,

Although Tunduma town has no big industry so far, there exists potentialities which can lead to the emergence of many significant industrial activities. The railway stations on both sides for example, have some repairs, railway yards and their related functional activities. Big warehouses are to be built as functional activities increase to accommodate the increasing income and outcome goods before they are transported to where they are needed. Inevitably, this will lead into the expansion of the stations and further attract other related industries to the town. The smallscale industries like carpentry, shoe repairs, tailoring, etc.; existing on Tanzanian side which employ some Zambians, have also potentialities for growth. This is because both raw materials for industries and markets for the finished products can be obtained from both countries.

Because of its rapid growth, especially in the field of commerce, a National Bank of Commerce has been proposed to be built on the Tanzanian side, at Tunduma. Apart from economic activities within the town, there is a need to establish banking facilities at Tunduma, since the bank that is currently serving Tunduma people is at Vwawa, 25 Kilometres away.

On the other hand, in Zambia, it is said that the failure of the rural economy to grow has been accompanied by a great expansion in economic infrastructure in towns along the line of railways. Between 1963 and 1969, 336,000 persons or about 14% of the rural population of Zambia

were estimated to have migrated from rural to urban areas along the line of rail alone. During the same period, the urban population in Zambia grew by 8% per annum between 1963 and 1969. This was before the construction of the TAZARA. There can be no doubt that the construction of TAZARA has attracted infrastructure in urban areas along the rail. This has resulted in the attraction of more people from rural areas. Tunduma has been no exception. These trends indicate that Tunduma, left to grow naturally, will grow into a big town.

ALTERNATIVE APPROACH 1

6.1 Creation of an entity Town:

Though there are some political differences between Tanzania and Zambia, the fact that Zambia is a land locked country means that Zambia depends on Dar-es-Salaam port of Tanzania for her imports and exports. This economic relationship between the two countries started as early as 1964 when an oil pipeline, Tanzania-Zambia Pipeline, (TANZAM - pipe line) was constructed from Dar-es-Salaam, Tanzania to Lusaka in Zambia, so as to supply Zambia with oil. An oil refinery was built at Dar-es-Salaam to supply refined oil both to Tanzania and Zambia, as a joint venture between the two countries. Tankers empty crude oil at Dar-es-Salaam port and after being refined, some oil is sent to Zambia through the pipe line. The pipe line to Zambia passes through Tunduma where there is a major control point before it crosses the border into Zambia. The pipe-line is run by both countries, the headquarters being in Dar-es-Salaam and a sub-headquarter in Lusaka. In 1969, again, Zambia was linked to the

sea by the construction of a highway from Dar-es-Salaam to Lusaka, the Tanzania - Zambia (TANZAM) Highway, designed to carry imported goods to Zambia and goods for export from Zambia. The responsible company is the Zambia-Tanzania Road Services, another joint venture, with its headquarters in Dar-es-Salaam with a sub-headquarters in Lusaka. The highway also passes through Tunduma. Later, it became clear that the highway was not able to handle all the goods from and to Zambia. As a result, a railway (TAZARA) was constructed in 1975. The TAZARA is also a joint venture between the two countries, run by TAZARA Authority, represented by both countries. Its headquarters are in Dar-es-Salaam, Tanzania and Kapiri Mposhi, Zambia. The Regional Managers from each country meet after every two months to discuss the running of the railway.

It is from this economic relationship between Tanzania and Zambia that Tunduma town has developed and it is from this relationship that the town is very important to the two countries. On top of being an important centre for both countries, Tunduma town, being located in an agriculturally rich area, will inevitably grow fast on both sides of the two countries and therefore, because infrastructure dominates the services and facilities within an integral part of the life of an urban community, the need for co-ordination of the two sides when planning the town is of a great importance. A co-ordinated plan will help to provide a good infrastructural system for the whole community in the town.

The economic relationship between Tanzania and Zambia at international level and the earlier mentioned socio-economic and cultural interaction of the people at the local level argues well for the creation of an entity town. This would imply, planning and administering Tunduma as a single town under one administrative machinery, where representatives of the two

governments would contribute resources to run the town. This would result in co-ordinated planning and project implementations. As the two countries have managed to run the three joint projects, the unification of Tunduma settlement into a single town appears feasible. Since settlements are dynamic entities rather than static phenomenon, they are subject to various types of forces, physical, economic, social and administrative which influence their form and structure. If these forces are to operate freely, then an entity settlement, is the one option that would facilitate the natural development of Tunduma.

It is from an entity town that a successful plan can be achieved. As Geddes points out, planning is not a matter of design and construction, but of adopting the physical environment to the changing needs of the society. The plan documents would include a single unified general physical design for the community clarifying the relationship between development and socio-economic goals of the community. At planning and implementation levels, Tunduma town would be a corporate entity.

It is by making an entity town under one administrative machinery that the population of the people served with basic infrastructure can be known, hence its total growth rate, i.e. both natural and migration, computed and reliable population projection can be made. With the projected population, facility provision could also be easily projected. Projection for housing, employment, education, health, religious facilities and all service facilities for the population would also be relatively easy. For example, when building schools, hospitals and their locations, and, the provision of manpower needed to manage the facilities, proposals would be discussed and decided upon by two government representatives in the town council. Each

government would contribute resources equally to any project in the town so as to benefit the whole population in the town and therefore maintain the integrity and importance of the town to the two countries.

Co-ordinated planning would make it possible to assess total town land requirements. Residential, industrial and commercial areas could thereafter be allocated within the total environment of the town. Housing standard which should be localised to suit the local situation can be decided upon by the town council. While the two currencies should be as localised within the town as it is the case at present, commercial activities would also be integrated and localised within the town. Industries which are likely to succeed most would be those meeting the needs of both countries. Examples, include road services and motor repairings - for the highway, pipeline repairing services, railway workshops and other joint projects. Thus, instead of locating joint services either in Dar-es-Salaam or Lusaka, such services could be located at Tunduma so that instead of the occasional meetings held either in Dar-es-Salaam or Lusaka, joint meetings would be held on the site at Tunduma. With regard to town expansion and agricultural land use, the joint town council would demarcate a single land unit on both sides of the border. Surrounding area would be considered jointly in the future for further expansion of the town.

Such co-ordination at local level would strengthen the sense of community belonging among the residents of the town. This would further strengthen the economic relationship of the two countries. Moreover, the joint administration of the town by the two Nations would further cement the economic relationship between the two countries and may indeed prevent any future political stress between the two countries.

It is by co-ordinating the whole town land uses into one single unit that a well planned urban land use can be achieved. Street arrangements can be laid to make the town appear beautiful, unlike the existing situation when there is no proper co-ordinated planning. Planned street layout will facilitate the provision of sewerage and disposals and, also ease the construction of storm water drains, garbage and refuse collections for the whole town. If there is co-ordination, instead of installing another electric generator on Tanzanian side, electricity can be tapped from the existing power station on Zambian side. Similarly, water problems which for example face the Tanzanian side, could be solved through a joint venture water project for the total population.

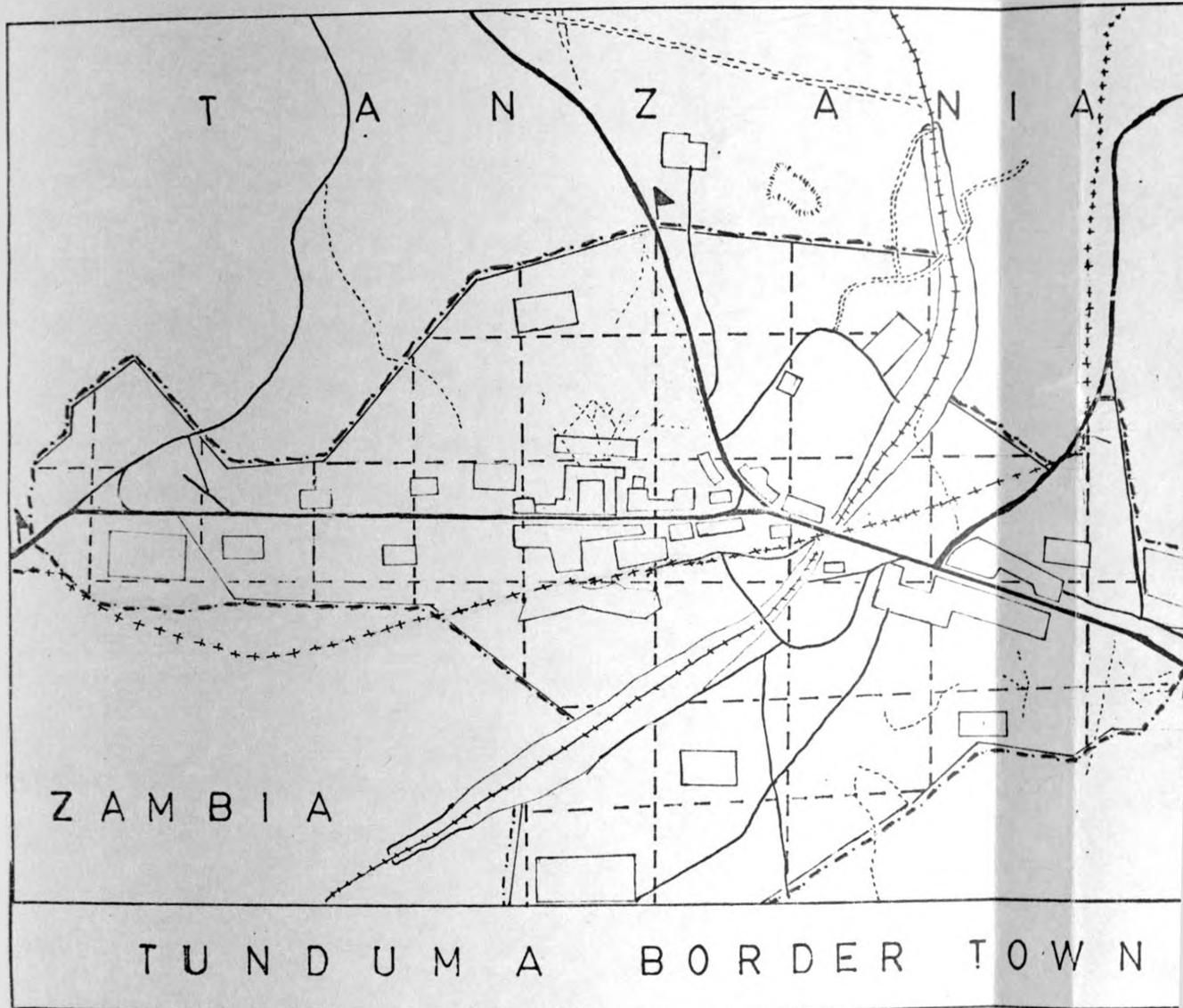
It is thus clear that by creating an entity town at Tunduma, a well planned town environment can be achieved. The survival and social evolution of the local community, the Bemba, is now in the hands of the two nations and the future of Tunduma town should be a symbol of the socio-cultural and economic co-ordination of the two countries. In order to have a plan that will be well implemented, it is fundamental that the people should be involved at all stages in the planning process, that is, the formulation of objectives, identification of policy priorities and implementation of the plan. This calls for good communication and co-ordination between the people and the leaders of the two nations. It

will equally be necessary to educate the people and to draw from the experience of the local people about their environment. What are needed for an entity Tunduma town as well as for any well planned border town, therefore, are commitment, competent and co-ordinated localised laws, manpower and financial resources as well as an effective joint administration within the town with sufficient powers and resources for carrying out all the township activities.

This approach implies that the two governments would be responsible for the running of the entity town. However, there are some problems which must be overcome for an effective joint administration. In the first place, there might be unequal number of people of the two countries in the town, hence resource provision by the two governments might be unproportional. This can be solved by nationality registration of the people of each nation and therefore resources by each government should be contributed proportionally. However, this might involve some registration and administrative costs.

At present, on Tanzanian side, there are three check points on the highway before Vwawa, 25 Kilometres from Tunduma. For an entity town, there should be three check points at each side of the town so as to check for all goods out of the town and therefore control local border crossing business which might arise with the outsiders of the town. This means that check points might have to be moved to the edges of the town as the town grows. And, this would result in some costs.

TUNDUMA AS AN ENTITY. TO
ALTERNATIVE MODEL ONE



its own government. This means cutting off the socio-economic and cultural interactions which exist in the settlement. The green belt should be a controlled open land so that the interaction and movements of the people are controlled. By doing so, there would be no resource drain from one country to another and therefore each country's plan can achieve its goals.

ALTERNATIVE APPROACH 11

6.2 Creation of a green belt :

While the first approach proposes for a unified single Tunduma town administered by a single machinery, the second alternative approach proposes for the separation of the two towns. This approach has already been attempted by two governments in Tunduma town. Before the author went for field work in the town in 1978, the two governments had reorganized the existing problems which face them. As a result, the government officials from the two countries had met twice early in 1977 to discuss the problems facing them. The conclusion arrived at was that the town should be separated to form two towns, one on the Tanzania side, the other on the Zambia side with a green belt of two kilometres between the two towns, with a distance of one kilometre away from each side of the border. The two kilometre distance had been deliberately chosen so as not to make a total communication cut off between the two towns. Although they had reached such conclusion, it could not be implemented. This is because Tunduma is very well established on both sides and demolishing so as to separate, it was found to be too expensive. The result was that the town was left as it is.

By creating a green belt, each town can be planned on its own side by its own government. This means cutting off the socio-economic and cultural interactions which exist in the settlement. The green belt should be a controlled open land so that the interaction and movements of the people are controlled. By doing so, there would be no resource drain from one country to another and therefore each country's plan can achieve its goals.

Although this approach so far has failed to solve for Tunduma town problems mainly due to the fact that the town has already established itself, yet in the long run this approach would appear to be what the two governments would prefer.

ALTERNATIVE APPROACH III

6.3 Discouragement of Further Town Growth:

The agricultural potentialities of the Tunduma town hinterlands, which extend as far as Rukwa region, have already been discussed.

As stated earlier, Tunduma is the only centre with a way through from and to its divisional hinterland as well as Rukwa region. All roads from its hinterlands pass through Tunduma before they connect with the highway and the railway to the rest of the country. The third alternative would mean cutting off the town from its hinterlands by constructing roads to connect the region with Vwawa and thus closing the existing channels to Tunduma. Such an approach would slow the growth of Tunduma town and its importance. Re-routing all roads to Vwawa which also has both the highway and a railway stations, would make Vwawa the new collecting and distributing service centre for the whole Mbozi district as well as Rukwa region. This would effectively discourage the growth of Tunduma town as the town would be cut off from its hinterland. The functions currently carried out at Tunduma would be channeled to Vwawa. By so doing, Tunduma's importance as a collecting and distributing service centre for its hinterland and therefore its potentiality for its growth would be removed.

In order to discourage further the growth of the town, industrialisation would be discouraged, leaving Vwawa, the district headquarters of Mbozi and Nakonde in Zambia as the effective growth centres. Furthermore, higher order services such as hospitals, schools and other services would be discouraged from Tunduma, leaving only the low level and localized services at Tunduma. By doing this, it will be very unlikely for

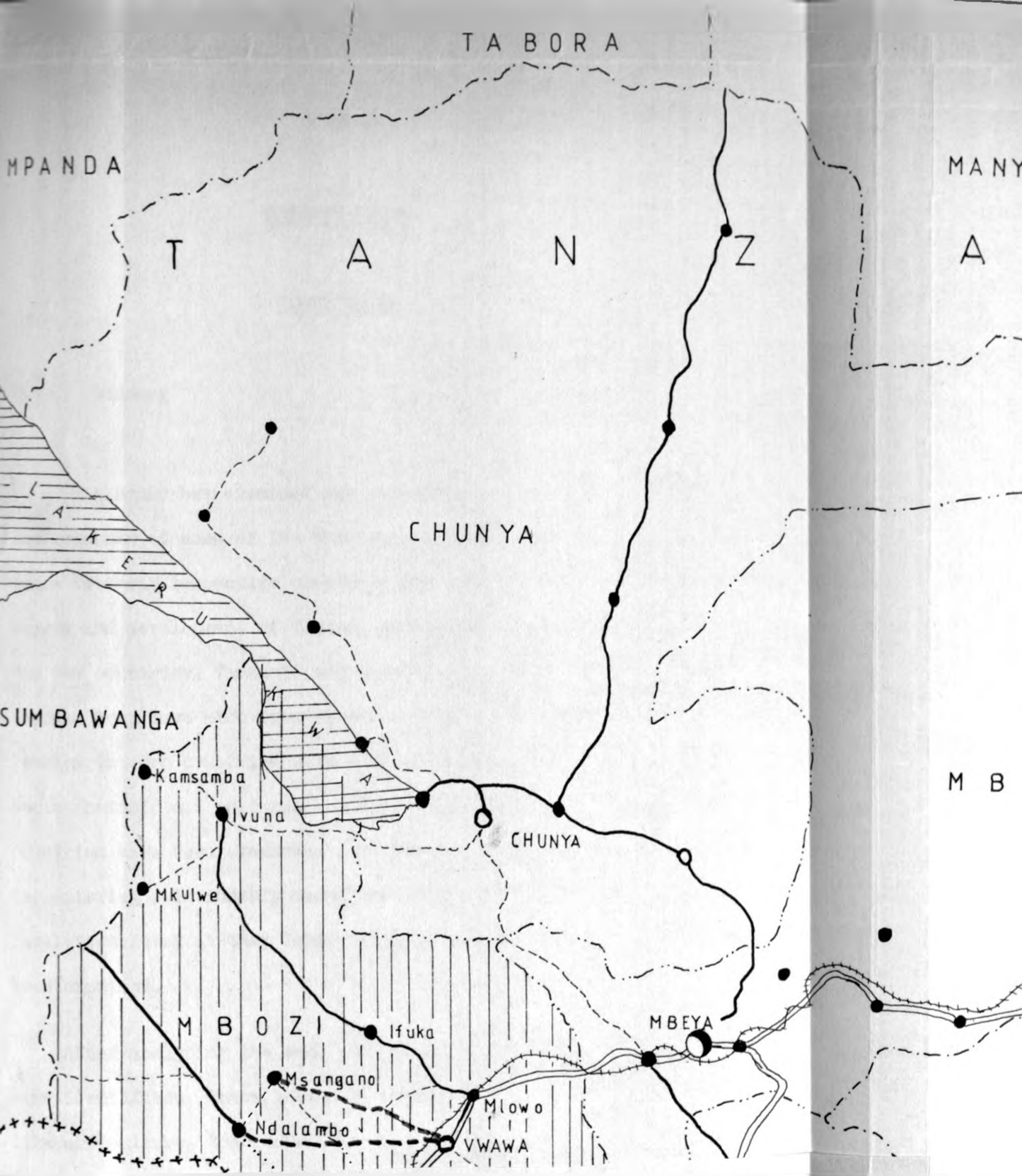
Tanzanians living in Tunduma to be referred to Nakonde hospital in Zambia, and this would give new impetus to Vwawa hospital to grow. Education in Tunduma town would also be limited to primary level without any higher level education institution provided in Tunduma town. Big economic institutions like banks, insurances, etc. would also be discouraged and instead encouraged to locate in Vwawa and Nakonde towns respectively. By cutting Tunduma off its hinterland, the town would only retain its retail trade to serve the people within the town. Thus by discouraging the growth of Tunduma and encouraging the growth of Vwawa and Nakonde towns, Tunduma's growth will be slowed down; leaving it as a crossing point for the TANZAM highway and the railway to and from Tanzania and Zambia with police posts and custom duty offices on both sides, with minimum service facilities for the people working there. Therefore, there won't be any need of planning for such crossing point.

By doing so, the growth of Tunduma as a border town will be discouraged hence avoiding the border town planning problems. Also this will cut off the feeling of border people that they belong to both nations hence making them identify with one of the two countries. By re-orienting the border people into the interior, it is also likely that illegal trade across the border will be minimized. As a district headquarters, Vwawa would be commanding a big population and the whole Mbozi district hinterland both administratively and economically. Therefore by discouraging the growth of Tunduma, the population and the commercial activities which had been drained from Vwawa, will be re-directed back to Vwawa. Unlike the present situation where Tunduma and Vwawa have the same levels of service weights, Vwawa as a district headquarters which is more at national level than Tunduma

with its localised socio-economic and cultural interaction between the two countries' people; would be supplied with more services, thus establishing it as the effective nerve centre of the region. However, it must be stressed that the construction of roads to the remote parts of Mbozi district and the re-routing of existing road network to Vwawa would be very expensive.

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CHAPTER SEVEN

CONCLUSIONS

7.1 Summary

This study has examined the factors leading to the origins and developments of some of the East Africa border towns and their importance to their respective countries and then factors which explain the origin and development of Tunduma border town and its importance to the two countries, Tanzania and Zambia. The general land uses of Tunduma town have also been examined from which some land use conflicts between the two countries have been identified. Also the existing socio-economic and cultural activities shared by the people of the two countries have been examined. Furthermore, the problems arising from the existing relationship among the people of the two countries at its local town level as they imply to the planning of the town, have also been examined.

After analysing the data collected in the field, a number of problems were identified. These included: conflicts in the existing land uses like agriculture, town expansion on both sides, poor communication within the town, conflicts in locating public facilities, utilities and other infrastructure on either side of the town; National resource drainage to either side through sharing of service facilities provided by either of the two governments, administrative problems and, more important, the problem of forward planning whereby population projection can only be made on

the basis of individual countries, while the provision of services is for the two sides or nations. It should be remembered that it is population projections on which the projections for all the basic facilities is based, hence the problems implied for future planning.

These problems are not unique to the study area; they are common to all border towns, especially in the pre-colonized countries in which the colonization process had to cut across many communities in order to achieve political administrative boundaries. However, alternative approaches to planning Tunduma town have been suggested. The first is that the two governments should be involved in planning an entity town hence creating a unified town plan. Second, separation of the town by the creation of a green belt of two kilometres so as to cut off the existing socio-economic and cultural relationship among the people of Tunduma. Finally, the discouragement of further town growth by minimizing Tunduma's area of influence thus reducing its importance.

While the first alternative approach might be the best one, it is likely to result in expensive and complicated administrative problems in running the town. This is because, instead of the two governments concentrating on the development of more demanding national programmes, special attention will be paid to Tunduma town whose problems are largely of a local nature. Furthermore, the creation of a green belt might prove to be very expensive for an established town like Tunduma. This is because to create such a belt, a lot of structures would have to be demolished in the town in order to provide the required green belt. However, this alternative approach can be taken and used as a pre-condition

for the development of border towns where there are no substantial developments. We are thus left with the third alternative, which we consider suitable for Tunduma town. Despite the fact that this would cost Tanzanian government a lot of money in the construction of new roads, it will in the long run be one way of opening up the agriculturally rich areas of Mbozi district. Moreover, because most of the service facilities on Zambian side are located at Nakonde, four kilometres away, it is services provided on Tanzanian side which might be attracting Zambians into Tunduma town. Consequently, by developing Vwawa, the growth of Tunduma town can be retarded.

Alternative models to achieve the planning of border towns, i.e. the three alternative approaches discussed above are presented in chapter six. The author however, believes that these alternative models should be applied flexibly in achieving any reasonable border town plan, depending on the physical, socio-economic, political and cultural characteristics of the environment.

7.2 Recommendations for Further Research

One of the problems experienced in this study was lack of information on border towns within the East African Context. The author therefore recommends further research on bordering towns so that both planners and the governments of East Africa and other areas may be assisted in knowing the major considerations to be taken into account in planning border towns. Since there are a large number of border towns even within the East African context, such studies should not be limited to one single

border town study, but should cover representative border towns so as to develop guidelines applicable to a wide range of conditions.

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APPENDIX 1A

PROBLEMS OF PLANNING BORDER TOWNS

A CASE STUDY OF TUNDUMA TOWN

HOUSEHOLD SURVEY QUESTIONNAIRE:

INTERVIEW NO.

DATE

1. Household number	<input type="text"/>	<input type="text"/>	<input type="text"/>	1 - 3
2. Number of people in household	<input type="text"/>	<input type="text"/>	<input type="text"/>	4 - 6
3. Number of Adults in household		<input type="text"/>	<input type="text"/>	7 - 8
4. Number of Children in household		<input type="text"/>	<input type="text"/>	9 - 10
5. Monthly household income, T\$:-				
0 - 199	1			
200 - 399	2			
400 - 599	3		<input type="text"/>	11
600 - 799	4			
800 - 999	5			
1000 - 1499	6			
1500 & above	7			
6. House ownership :-				
Self owner	1			
Rented	2		<input type="text"/>	12
Govt. Staff House	3			

7. Source of Water :-

Source of Water	Number	Percentage	Total
Private piped	1		
Shared/piped on Tanzania side	2	<input type="checkbox"/>	13
Shared/piped on Zambian side	3		
Well on Tanzanian side	4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Well on Zambian side	5	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	
Individual handpump		<input type="checkbox"/> <input type="checkbox"/>	
Public standpost		<input type="checkbox"/> <input type="checkbox"/>	
Water - Sale	1		
Family	2	<input type="checkbox"/>	
Shared water in			
Shared	1		
Single	2	<input type="checkbox"/>	
Diverged	3		
Block of public			
Dedicated	1		
Shared	2		
Water Tanzania side	3	<input type="checkbox"/>	
Zambia	4		
Other (Specify)	5		
Block of public (continued)			
Dedicated	1		
Shared	2		
Water Tanzania	3	<input type="checkbox"/>	
Zambia	4		
Other (Specify)	5		

APPENDIX 1B

PROBLEMS OF PLANNING BORDER TOWNS

A CASE STUDY OF TUNDUMA TOWN

<u>INDIVIDUAL SURVEY QUESTIONARE:</u>	<u>INTERVIEW NO.</u>	<u>DATE</u>
1. House number	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	1 - 3
2. Individual number	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	4 - 6
3. Age in years	<input type="checkbox"/> <input type="checkbox"/>	7 - 8
4. Sex : - Male 1	<input type="checkbox"/>	9
Female 2		
5. Marital status :-		
Married 1		10
Single 2	<input type="checkbox"/>	
Divorced 3		
6. Place of birth :-		
Tunduma township 1		11
Mbozi District 2		
Other Tanzania Dist.3	<input type="checkbox"/>	
Zambia 4		
Other(Specify) 5		
7. Reason for coming to Tunduma :-		
Employment 1		12
Transfer 2		
Trade/business 3	<input type="checkbox"/>	
Stay with relatives 4		
Education 5		
Other (Specify) 6		

8. Length of stay in Tunduma :-

Less than two weeks	1		
Two weeks to one month	2		
1 month to 1 year	3		
1 year to 2 years	4	<input type="checkbox"/>	
2 years to 3 years	5	<input type="checkbox"/>	13
3 years to 5 years	6		
5 years to 7 years	7		
7 years to 10 years	8		
Over 10 years	9		

9. Occupation :-

Industrial	1	<input type="checkbox"/>	
Public Sector	2		
Commercial	3		
Trade	4	<input type="checkbox"/>	14
Transportation	5		
Agriculture	6		
Student	7		
None	8		
Other (specify)	9		

10. Nature of occupation :

Permanent	1		15
Temporary	2	<input type="checkbox"/>	

11. Monthly income in T\$:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16-19
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12. Any other source of income :-

Business	1		
Agriculture	2		
Commercial	3	<input type="checkbox"/>	20
Trade	4		
Other (Specify)	5		
None	6		

13. Education level :-

Primary School	1		
Secondary School	2		
High School	3	<input type="checkbox"/>	21
University	4		
None	5		

14. Where educated :-

Within the town ship (Tanzania side)	1		
Within Mbozi District	2		
Other Districts in Tanzania	3	<input type="checkbox"/>	22
In Zambia	4		
Other(Specify)	5		

15. Religion :-

Christian	1		
Moslem	2		
Other (Specify)	3	<input type="checkbox"/>	23
None	4		

16. Activities after working hours :-

Games and Sports	1	<input type="checkbox"/>	24
Other recreation (specify)	2		

APPENDIX I C

PROBLEMS OF PLANNING BORDER TOWN

A CASE STUDY OF TUNDUMA TOWN

INSTITUTIONAL SURVEY QUESTIONNAIRE

INTERVIEW NO.

DATE OF INTERVIEW

A. EDUCATIONAL

1 PRIMARY SCHOOL

1. Name of the School
2. When was it started, year
3. Number of Classes
4. Number of pupils by class and origin :-

CLASS	NO. OF PUPILS FROM MBOZI DISTRICT	NO. OF PUPILS FROM OTHER DIST. IN TANZANIA	NO. OF PUPILS FROM ZAMBIA	TOTAL
I				
II				
III				
IV				
V				
VI				
VII				
TOTAL				

5. Number of Teachers
6. Number of Tanzanian teachers
7. Number of Zambian teachers
8. Planned capacity of the school
 - Number of classes
 - Number of pupils
 - Number of teachers
9. Problems faced by the school
10. Future plans for the school

B. HEALTH

1. Name of Dispensary/Clinic/Hospital/Health Centre
2. When was it built, year
3. Total number of workers
4. Number of workers obtained profession in Tanzania
5. Number of workers obtained profession in Zambia
6. Average attendants per month
7. Average attendants from Zambia, per month
8. Average attendants from within Tanzania, per month
9. Number of beds
10. Planned capacity of the institution
 - Number of attendants per month
 - Number of attendants per Doctor/Medical Officer, per month ...
11. Problems facing the institution
12. Future plans for the institution

C. RELIGIOUS INSTITUTIONS

CHURCH/MOSQUE

1. Name of Institution
2. When was it built, year
3. Average number of users per week
from Tanzanian side from Zambian side
4. Total number of workers from Tanzania
5. Total number of workers from Zambia
6. Planned capacity :
 Number of users
- Number of workers
7. Problems facing the institution
8. Future plans for the institution

D. COMMERCIAL FACILITY - HOTEL/LODGING

1. Name of Hotel/Lodging
2. When was it built, year
3. Ownership - Tanzanian/Zambian
4. Number of beds
5. Number of Tanzanians used the facility in the last 12 months
6. Number of Zambians used to facility in the last 12 months
7. Number of Tanzanian workers
8. Number of Zambian workers
9. Planned capacity
 Number of workers
- Number of beds

10. Problems facing the Hotel/Lodging
11. Future plans for the facility
12. Average income per month