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LUSAKA

FACTORS ASSOCIATED WITH THE DEVELOPMENT OF CONURBATION BETWEEN NAKONDE AND TUNDUMA TOWNS

BY

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DECLARATION

I hereby declare that except for references to other people's work which have been duly acknowledged, this work is the result of my own research and it has neither in part nor in whole been presented elsewhere. All the views expressed in this study are not necessarily those of the University of Zambia but are personal as the author.

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CERTIFICATE OF APPROVAL

This dissertation of Gomezgani Kawonga has been approved as fulfilling the requirements or partial fulfilment of the requirements for the award of Masters of Arts Degree in Population Studies by the University of Zambia

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DEDICATION

I dedicate this dissertation to my husband Benjamin Maseko, my daughter Whanu Plaroma Maseko and my sons Yelatsani Burton Maseko and Lindizgani Benjamin Maseko for their patience and moral support. Also to my parents Mr. and Mrs. Kawonga for their support even when I thought things were impossible to achieve. To all my brothers Temwanani and Towani, my sisters Sekelani, Lumbani and Wezgani, my nephew Temwanani Jr. and my niece Chindikani.

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ABSTRACT

This study explored the term Conurbation and highlighted the factors associated with it in the context of Nakonde and Tunduma Towns in Zambia and Tanzania, respectively. A Conurbation is a region comprising a number of towns, cities or urban areas which through population growth and physical expansion of built up land have merged to form one continuous urban and industrially developed area.

The study was based on the assumption that the formation of a conurbation is associated with factors such as economic activities, likelihood to settle, marriage, children and fertility.

The main aim of the study is to investigate the factors associated with the development of conurbation between Nakonde in Zambia and Tunduma in Tanzania. The objectives are to establish the types of economic activities which encourage people to migrate into Nakonde and Tunduma towns, to establish how marriage, child bearing and fertility can affect population growth to lead to urban expansion in Nakonde and Tunduma and to ascertain the factors which may cause migrants to settle in Nakonde and Tunduma towns. The research questions are which economic activities encourage people to migrate into the conurbation of Nakonde and Tunduma towns? How can marriage, child bearing and fertility affect population growth to lead to urban expansion of Nakonde and Tunduma? And what are the factors which may cause migrants to settle in Nakonde and Tunduma towns? There are two hypotheses namely: People migrate to Nakonde and Tunduma due to the Economic activities which have contributed to the conurbation of the area and people settle in Nakonde and Tunduma due to the presence of services in the two towns.

This was an exploratory study comprising a sample size of 500 respondents confined to the ages 15 years and above for both males and females. Purposeful technique was used on key informants from the government departments and systematic random sampling for the respondents. Data collection was from primary and secondary data sets. Analysis of data was done with the use of Microsoft Excel, Statistical Package for Social Sciences (SPSS) version 16.0, Chi-square test, Binary Logistic Regression and the Brass Estimation of Fertility Method.

The results were that the economic activities which attract respondents to migrate to the study area are business, employment, education and others which confirms to the Lee's 'Pull and Push' model of migration. Migration has an impact on the migrants which has resulted in respondents settling in Nakonde and Tunduma due to services such as transport, electricity and piped water; as well as a variety of food which was also affordable. Lastly, marriage contributes to population growth through children born and also affects the fertility of the respondents which is at 3.8 and more than enough to cause a change in the population.

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LIST OF ABBREVIATIONS

CSO   Central Statistics of Zambia

GRZ   Government of the Republic of Zambia

MoFNP   Ministry of Finance and National Planning

SPSS   Statistical package for social sciences

TAZARA   Tanzania Zambia Railways Authority

TDHS   Tanzania Demographic Health Survey

TFR   Total Fertility Rate

TRA   Tanzania Revenue Authority

UN   United Nations

UNZA   University of Zambia

USA   United States of America

ZDHS   Zambia Demographic Health Survey

ZRA   Zambia Revenue Authority

CHAPTER ONE

INTRODUCTION

1.1   Background

The factors associated with the development of the conurbation of Nakonde and Tunduma towns in Zambia and Tanzania respectively is what this dissertation in all about. It brings out the issues surrounding the conurbation of two towns that are growing at a fast rate towards each in two different countries. These two towns are not industrial based as is the case with most of the known conurbations which have occurred in the world. The development of a conurbation is driven by several occurrences such as economic development, service delivery, infrastructural development, residential development, cultural development, social development only to mention a few. All these are essentials for the development of a conurbation though not all of them would curry the same amount of weight and places differ in their location and time. Hence, Nakonde and Tunduma's conurbation has occurred on its own location and time which is different from the other conurbations which have included economic developments, service delivery and the social aspect of it all.

Zambia attained her independence in 1964 with a very small population of 3.5 million people CSO (2011). The country has experienced growth in population since independence and the national population is now above 13 million people, CSO (2011). The country's increase in population   is evident in all the provinces, districts as well as towns. The Muchinga Province which consist of parts of former Northern and Eastern Provinces is no exception especially one of its towns Nakonde is an indicator of this increase. The town of Nakonde was pronounced as a district in 1994 after having initially been part of Isoka district since independence. The population progression for Nakonde at the time of this research was only available for the 2010 census whereas for the 2000 census it was enumerated under Isoka District. According to CSO (2011: 6), "Northern Province had a population of 1, 759, 600...has increased from 1, 258, 696 in 2000...indicates an annual population growth rate of 3.4 percent". Population increase has also paved way for other developmental issues such as increase in the need for housing, education, health services, good roads and other services. It is these issues which form the basis for the topic under study which was 'Factors associated with the conurbation of Nakonde and Tunduma towns'.

Conurbation is defined as a region comprising a number of cities, large towns and other urban

areas that through population growth and physical expansion have merged to form one continuous urban and industrially developed areas (Geddes: 1915).

The conurbation of Nakonde and Tunduma towns is a result of the high rate of urbanization and migration over the years. For instance, "Zambia is one of the most urbanized countries in the Sub-Saharan Africa. The proportion of the population that lived in urban areas was 40 percent in 1980, 39 percent in 1990 and 35 percent in 2000" (MoFNP (2007:5). This implies that most of the towns in Zambia especially those in the rural area have the potential of growing into urban area areas as they are attracting a large population as a result of development in very areas such as Education (building of a new learning institution), Health (building of health centers), Roads (construction and maintence of roads which are graved or tarred), Business centers (Building of well-established trading centers), Mining (opening of new or reopening of old mines) only to mention a few. Nakonde was also being urbanized at a very fast rate with its population density of 25.5 percent, a growth rate of 4.6 percent and 25, 063 houses to cater for a population of 138, 110 people (CSO: 2011).

Migration has also played a major role in the development of a conurbation of this area and this is mainly in reference to internal migration. This is because increased temporal urban-rural migration which has increased the size of population as people migrated to Nakonde just to do business. The rise in the number of government departments in Nakonde has also increased the migration of government workers through transfers within the various government ministries. This scenario dates back in time as, "the country has had a long history of internal migration, dating back to the colonial era" (MoFNP, 2007:4).

Tanzania gained its independence in 1961, with 31 regions of which Mbeya Region is in the southern part, (National Bureau of Statistics [NBS], 2006). Tunduma accounts for a small population of 36, 500 out of the total 2, 070, 046 of the Mbeya Region of Tanzania's Southern Province, (Tanzanian Government Statistic (Tageo: 2011). This is because it was the least developed and the people of Tanzania were not too keen to settle there. The people who migrate to Tunduma are mainly businessmen and women and also government workers for the Immigration and the Tanzania Revenue Authority (TRA). Therefore, it should be noted that most the developments are mainly on the Zambian side that is Nakonde.

However, in relation to the ever increasing population in Zambia, while the government has

been under a lot of pressure to reduce poverty and enhance development not only at the national level but also at family and individual levels, the standards of living were still very low especially for those in the low income earning group. Approximately 67 percent of Zambians are living in poverty even though the government has tried to reverse this scenario with the various policies to diversify the economy and reduce on the copper dependence (MoFNP: 2007). This development has led to the growth of towns in in terms of population and geographical area. The transport sector, that is road (Great North Road) and railway line (Tanzania–Zambia Railways) has also helped in the development of Nakonde and Tunduma as they are both in good condition and very accessible in both towns. A very good example of such a rural town growing was Nakonde which had also expanded towards Tunduma town leading to the formation of a conurbation between the two towns.

1.2   Statement of the Problem

The towns of Nakonde in Zambia and Tunduma in Tanzania have formed a conurbation which is between the border areas of the two countries. It is a well-known fact that this area has developed as a result of the transport system which included the Tanzania-Zambia Railways (TAZARA) and the Great North road. Despite not hosting any secondary industries as well as large commercial activities which are the main driving forces for conurbations, the urban expansion and growth in this border region is creating one. An ideal development of conurbation has well planned infrastructure, established industry base, international transport systems and a large population in other countries but for Nakonde and Tunduma which is between two countries, Zambia and Tanzania it has none of these but still conurbation is occurring.

There are some assumptions that this conurbation is also associated with factors such as economic activities, marriages and the high demand for housing units in Nakonde and Tunduma due to people migrating to this area. It is believed that the economic activities are a source of multiplier effects in terms of incomes generated, international trade, especially for agricultural produce, increased employment opportunities and construction of private houses. The booming small scale businesses have also brought about increased crime rates evidenced by vices like smuggling, robbery, prostitution and corruption. Marriage is assumed to have played its role in factors such as the size of families and the increased demand for housing units which are not planned for and have been built haphazardly. Against such a background, the researcher found it worthwhile to undertake this research and investigate the factors associated

with the conurbation which is forming between Nakonde and Tunduma towns and ascertain the assumptions by analyzing the economic activities, assess how marriage, childbearing and fertility affect population growth and ascertain the effects of migration on the likelihood to settle.

1.3   Aim

The main aim of this research was to investigate the factors associated with the development of conurbation between Nakonde in Zambia and Tunduma in Tanzania.

1.4   Objectives

i.   To establish the types of economic activities which encourage people to migrate into Nakonde and Tunduma towns.

ii.   To establish how marriage, child bearing and fertility can affect population growth to lead to urban expansion in Nakonde and Tunduma.

iii. To ascertain the factors which may cause migrants to settle in Nakonde and Tunduma towns.

1.5   Research Questions

i.   Which economic activities encourage people to migrate into the conurbation of Nakonde and Tunduma towns?

ii.   How can marriage, child bearing and fertility affect population growth to lead to urban expansion of Nakonde and Tunduma?

iv.   What are the factors which may cause migrants to settle in Nakonde and Tunduma towns?

1.6   Hypotheses

i.   People migrate to Nakonde and Tunduma due to the economic activities which have contributed to the conurbation of the area.

ii.   People settle in Nakonde and Tunduma due to the presence of services in the two towns.

1.7   Rationale

Governments need to fully understand factors that impact on population growth in the country in order to better provide services for their people. Appropriate policies can also be best made if challenges are identified and possible solutions found. The results of this research will,

therefore, add knowledge to the existing data especially on conurbation as there is little or no documentation on the existence of conurbation in Zambia and Tanzania though it occurs in various areas. Since the issues on migration play a very low profile in the census for Zambia, this research will show how it affects some geographical areas of Zambia. This study will also be a basis for other researchers in future, especially those who would want to improve, add or challenge the findings of this research. The policy makers such as the government of Zambia may also use the findings of this research to improve or remove some of the policies which have brought challenges in governance, programme implementation and ultimately the lives of the people.

1.8   Structure of Dissertation

This chapter brings out the main issues of this research by highlighting the flow of information for this dissertation in six chapters. Chapter one is on the background, the statement of the problem, aim, objectives, research questions, hypotheses and rationale; chapter two is on the literature review, conceptual and theoretical framework; chapter three looks at the methodology, chapter four brings out the study area, chapter five outlines the findings and chapter six gives a discussion of the findings, conclusion and recommendations. There is also the references which indicated all the quoted authors and the appendixes.

CHAPTER TWO

LITERATURE REVIEW

2.1   Introduction

The conurbation of towns or cities is a topic which has been there as far back as the 19th Century. Even if this has been the case, it has not received a considerable amount of publication for a common person to understand its meaning, how it came about and the factors that were associated with its development. Furthermore, its literature is scanty as well as almost unavailable to researchers and even the common person. Although, related topics have highlighted conurbation in brief in within the field of Urban Geography under urban sprawl, Borderlands and Transborder mobility. However, literature records that, Patrick Geddes in his book (Cities in Evolution) coined the term as a neologism in 1915, where he drew attention to the ability of the term then, as new technology of electric power and motorized transport to allow cities to spread and agglomerate together. Geddes (1915) gave an example of Midlandton in England, the Ruhr in Germany, New York in United States of America (USA) and the Greater Tokyo area and Taiheiyo in Japan.

This literature review further highlights on the global trends, regional trends, Zambian trends and the study area of conurbation by stating a number of examples about the development of conurbation. In addition, the vital concepts and theories are examined as they focused on how the subject matter is handled and the aspects which needed more emphasis as stated in the conceptual and theoretical framework.

2.2   Definitions

The main concepts that are used include conurbation, economic activities, marriages as well as migration which are the main or core of the topic under study. The understanding of the term conurbation came from the definition as given by Geddes (1915:67) as, "...a region comprising a number of cities, large towns and other urban areas that through population growth and physical expansion have merged to form one continuous urban and industrially developed area."

Nevertheless, a conurbation as defined above could only occur if there is the migration of the population and capital both liquid and fixed. Therefore, migration is a concept that should not

be left out in the investigation of conurbations. In simple terms, migration is the movement of people from one place of origin to another area of destination (Todaro, 2003). For this research, economic activities were those practices that helped in the development of an area. It could be trade, education, agriculture, mining and infrastructural development to mention only but a few, (Geddes, 1915). Lastly, marriage was considered to be a legally and socially sanctioned union, between a man and a woman, that was regulated by laws, rules, customs, beliefs, and attitudes that prescribe the rights and duties of the partners and accords status to their offspring (if any), (Encyclopedia Britannica, 2009). The universality of marriage within different societies and cultures was attributed to the many basic social and personal functions for which it provided structure, such as sexual gratification and regulation, division of labour between the sexes, economic production and consumption, and satisfaction of personal needs for affection, status, and companionship; perhaps its strongest function concerned procreation, the care of children and their education and socialization, and regulation of lines of descent. However, the forms of marriage that were important to this research were intermarriages. This is because marriage can be a way of contributing to population growth through child bearing especially when the issue of age at first marriage and the bias toward having many children is considered. It can also contribute to the physical expansion of settlements through the building of houses as the need for dwellings increases as people get married in most African settings.

2.3   Global Trends of Conurbations Formation

Global trends or examples of conurbations are many as they have occurred in different degrees in terms of time, population, space and number of cities involved. This literature reviewed eight conurbation occurrences at a global level.

In this regard, there was a list of conurbation examples in the United Kingdom which included Greater London and the Green Belt of England. Both occurred during the nineteenth and twentieth centuries and where as a result of industrial and housing growth of urban and later rural area.

Since the 1930s, there have been migrations of population from the inner cities to the suburbs in the United Kingdom. This was accelerated by improved public transport provisions and private car ownership which helped in the migration process. This was as a result of poor housing quality, traffic congestion, decline of older secondary industries, lack of open space, low income only to mention but a few (Waugh, 1995). The suburbs were able to offer the

opposite of what the inner cities where offering. However, recently there has been a reversal of this migration and the inner cities have become regenerated and attracted a counter current of migration to the inner cities. It leads to the development of both inner cities and suburbs and has created a conurbation of three cities that are Croydon, Bromley and Baxley known as the Greater London (Hall, 2002).

The other incidence of conurbation in the United Kingdom was that of the Green Belt which happened in the mid-1950s in the country side of England. This area had various cities involved and all of them experienced conurbation as a result of the urbanization of the countryside of England.

In most European countries, there has been an increase in the cross-border regions to form metropolitan areas with an example of Basel metropolitan area where the driving force for coordinating metropolitan and regional growth policies is the economic and functional interdependencies resulting from cross-border commuting patterns as the traditional restrictions that have hampered inter-jurisdictional housing choices and access to better paying jobs vanish, (Driscoll and Vigies, 2011). Basically this study highlights on the issue of the border always having a two-fold function of separation and also serving as an interface.

The Ruhr region in Germany was yet another global example of conurbation. It has a densely populated polycentric metropolitan region in the western part comprising the three sub regions of the Ruhr metropolitan region, Düsseldorf – Monchengladbach – Wuppertal region and Cologne/ Bonn Metropolitan region (Hall, 2002). All three are interlinked by a continuous urban settlement which at the same time houses different cultural and economic agendas. For instance, the Ruhr was into mining and the iron and steel industry while the second was into assembly and the third into manufacturing (Hall, 2002).

The United States of America (USA) also has four areas which clearly indicate the occurrence of conurbations. These are New York tri-state area, San Francisco Bay area, Greater Los Angeles area and Baltimore-Washington area. The New York tri-state includes New Jersey-Connecticut, Pennsylvania and New York State itself. These result in conurbation as several central cities expanded their economic activities and attracted new industries and services such as banking, insurance and government offices. There were also high levels of capital and technology which attracted a lot of in-migrants from the rural areas and the result was the

merging together of all these cities. The United States Census Bureau (USCB) (2007), affirmed to this conurbation where it stated that the New York metropolitan area (the tri-state region) centered around New York city including 30 cities which spread between New York state, New Jersey-Connecticut and Pennsylvania, with an estimated population of 21, 961, 961 in 2007 were approximately 1 out of 15 United States residents lived in the Great New York city area.

Francisco Bay area, known for its recreation and tourism was another conurbation which was a combination of the metropolitan areas of San Francisco, Oakland and San Jose. The Greater Los Angeles area known for its entertainment industry was a conurbation which consisted of several district central cities namely; Los Angeles, Santa Ana, Riverside and San Bernardino. There was also the Baltimore-Washington area which had shared suburbs and a continuous urbanization between the two central cities (USCB, 2007).

Conurbation had occurred in Japan in two major areas called the Taiheiyo belt and Greater Tokyo. The two areas not only had a continuous expansion of the area but also supported large populations and had well developed economic activities. The Taiheiyo belt was the largest in Japan extending from Ibaraki prefecture to Fukuoka prefecture running almost 1, 200km with a total population of 82.9 million while the Greater Tokyo were also known as Shutoken (the National Capital Region) was a metropolitan area in the Kanto region with estimated population of 35, 676, 000 in 2007. The latter was often referred to as the west populous and economically largest metropolitan area in the world (Hall, 2002). Another study related to this region was done on the Busan-Fukuoka trans-border network between South Korea and Japan which are found in different countries. This study identified that these two cities and their surrounding areas do not have marked differences in factor prices but instead their economic and other developmental similarities offer grounds to exchange ideas and build solidarity in a reciprocal way (Miller *et al*., 2012). As a result of these economic and other developmental similarities, the "cultural collaboration between the two cities is similarly thriving as evidenced by the similar liking for particular foods, art, values, marriages", Miller *et al*. (2012: 13). This clearly shows that conurbation can cause places to have similarities in so many similarities in terms of food, values and marriages.

Statistics Canada (SC) (2006), acclaimed to conurbation of the 'Golden Horseshoe' which was a densely populated and industrialized region centred on the west end of Lake Ontario in southern Ontario. It covered the Windsor-Quebec city corridor. By the year 2006, it supported

a population of 8.1 million people which made it slightly over a quarter (25.6 Percent) of the population of Canada and containing approximately 75 percent of Ontario's population (SC, 2006).

Asia is another global trend of conurbation with an example of India. With its rapid growing economy and population, it is definitely unavoidable to find cities merging together due to rural-urban migration. The National Capital Region New Delhi was the Tri-state region which was the name for conurbation area which encompassed the entire national capital territory of Delhi as well as urban areas ringing it in neighbouring states of Uttar Pradesh, Haryana and Rajasthan. It was one of the largest world conurbations with a total area of 33, 578 km² and an estimated population of 21, 961, 994 in 2007 (conurbation encyclopaedic.com).

Another appropriate example of conurbation is the Randstad of the Netherlands. The area was densely populated consisting of the four biggest cities (Amsterdam, Harlem, Hague and Rotterdam) of the country and several smaller cities, towns and urbanized villages. The area developed rapidly and attracted a large population from all over Europe due to "fertile soils which encourage intensive commercial farming and its proximity to a large domestic market," (Waugh, 1995: 448). This area produces a variety food which is affordable such that most of the people in this area settle here because they fell at home with the availability of any type of food.

There has also been conurbation on what is referred to as binational conurbation which occurs between two countries. A very practical one is the one between the United States (U.S.) and Mexico which is leading to a lot of issues such that, "this is particularly useful in transitional areas such as border regions, where physical, social, and economical fluxes, along with different political administrations and restrains, impose additional complexity to the process," (Flores *et al.,* 2013: 7). It has also noted that from 1975 to 2010 conurbation between the border of U.S. and Mexico has had a drastic change in both land use and also increase in population. The drastic change in land use has been as a result of high demand for land use for housing, offices and industrial use especially in the maquiladora industry and also it attracted a lot of population from migration of people who wanted to work in industries and also people who wanted to cross over into the U.S., (Flores *et al*., 2013). It is also stated that, "the economic and demographic changes in the border region have had a substantial impact on the natural, social, and built environments," (Pena, 2005:1). Tis clearly indicates that conurbation to take place

both the population and the land had a lot of changes that is it increased and more land was built on, respectively.

A study was also done in Italy on conurbation in the area of Urban Sprawl which looked at the advancement of the towns into agricultural, forest, and rural areas to create built up spaces, Mancebo (2008). He further noted that after the Second World War, people's living conditions improved and gave raise to higher demand for living spaces; increase in individual mobility for work places to the outskirts which led to suburbanisation of population and work places within a conurbation. This encouraged zoning policies where urban spaces had houses being changed for use as offices and also new residential areas to separate them from others (Mancebo, 2008). This lead to the support of constructions of infrastructure in the outskirt such as roads, public buildings and schools (Mancebo, 2008). This study only looked at conurbation through urban sprawl by the development of new residential areas away from the work places within the same town. However, it did not bring out the possibility of towns growing towards each other in two different countries as a result of raising economic activities causing more need for housing or land space for building causing a conurbation.

Another study was done which not only looked at the sprawl but also the fragmentation of cities which depended on the geographic, economic and societal context in the metropolitan area of Medellin-Colombia. It analysed from the origins, their different manifestations and possible solutions of control within this context where the results highlighted on the negative effects of sprawl such as longer commuting times and greater consumption of fuel which increased pollution, increase in capital investment to accommodate population growth in space; acceleration of inner-city urban decline due to the abandonment of former urban space, social segregation manifestation in spatial mismatch of population (poor living in inner city, rich living in peripheral areas) which in turn lead to the increase of population, demand for housing, dilution of individual culture to a broad combined culture, improved transport infrastructure and also service provision in terms of water and sanitation, (Nuzzole *et al.*, 2012).

In the Upper-Silesian metropolitan area in Poland, Szanjowoka-Wysocka and Zuzanska-Zysko (2013) did a study whose basis was on the degree of centrality of cities and also the presence of certain metropolitan features as follows; embassies and consulates; four and five star hotels; sports events of international range; international clothing stores; exclusive car show rooms; banks (headquarter, branches or local offices exceeding 10 in one city); higher education;

technology parks; business incubators and innovation centres; entertainment and sports institution (entertainment parks- amusement parks, large shopping centres, aqua parks and golf course); Hospitals and specialised clinics or rehabilitation institutes of national range; and motorway junctions (existing or in progress and junctions of more important national roads and express-ways as well as international airports. This study brought out the fact that all the cities in the Upper-Silesian metropolitan would be unified, had an existing superstructure and common problems would be solved well (Szanjowoka-Wysocka and Zuzanska-Zysko, 2013). However, it was noted that cities in a conurbation don't cooperate but compete with each other, people of each city do not want to lose the autonomy of their own city, big cities (Warsaw) do not need competition, people of certain cities like Zaglebie were afraid of the dominant Silesian and also their historic conflicts made it impossible to be joint as one Szanjowoka-Wysocka and Zuzanska-Zysko (2013). This study over looked at the fact that a conurbation is not always planned for, small towns many not have all the international standards but still settlements can grow outwardly towards each other and also towns with different historical backgrounds can learn to coexist as a joint town as long as they have common benefits form the economic activities existing.

In a study on emergent international conurbation along Brazil-Uruguay borderline was done by using Space Syntax methodology and tools which examined the role played by cultural differences in shaping the spatial structure and granting configurational peculiarities in international conurbation where there are no geographical barriers with check points but have high permeability through and around the two settlements to provide evidence to discuss social and spatial life of those peculiar settlements, (Greene, Reyes and Castro, 2012).

2.4 Regional Trends of Conurbation Formation

Regional trends of conurbation were not so many in Africa as a whole as most of the cities and towns were still growing and are economically young. Sudan has a conurbation of two principal cities that was Khartoum and Omdurman. They did not cover a very extensive area but supported a population of 2, 919, 713 by 1993 (United Nations (UN), 2009). However, over the years this population had grown rapidly as there had been massive rural-urban migration especially from Southern Sudan were the war had dominated. Most of these migrants sought refuge from the war and looked for employment on a permanent basis according to Brinkoff (2006: 104), "Khartoum and Omdurman towns had a large influx of in-migrants who seek to find peace and jobs...they end up building permanent housing units on every land that has

space, hence expanding towns towards each other and providing labour to the agriculture sector and a few industries found in the area".

Another example of conurbation is in South Africa which extends from Pretoria, Witwatersrand and Vereeniging complex (Tyson, 1972). It was an extensive conurbation in southern Africa with the combination of urban and peri-urban areas covering an area exceeding 5, 000 km². This region had attracted an in-migrant and in-immigrant from within the country, Southern Africa and the world at large to its mining and iron industries. These not only provided employment but also housing units for the massive employees (Tyson, 1972). However, over the years the area has an economic agglomeration of industries which supported the mining sector such as commercial centers and service (banking and government offices). All these provided an added number of jobs and attracted a lot of migrants who were employment seekers.

Kinshasa and Brazzaville was another conurbation. However, it had a natural barrier the Congo River between the borders of the Democratic Republic of Congo (CDR) and the Republic of Congo (RC). Due to the advantage of the deep sea bigger port on the Republic of Congo coast with the Atlantic Ocean and the economic integration with the west of Africa, the two countries had signed an agreement on the project of the bridge road-rail Kinshasa to connect them, (www.skyscrapercity.com). This would boost the economic activities which already existed, activate the construction of buildings and also enhance the integration of the two cultures.

Another conurbation in Africa is the one in Ethiopia where Addis Ababa has spread outwards through its outlet towns of Nekemiti, Gojam, Oassia, Mojo and Jima. From an aerial view one can hardly tell the town of Addis Ababa starts and where it ends as it has become one. Due to this conurbation, the population of this area has grown with a growth rate of 6 percent as a result of migration from the villages and also increased built up land due to the increase in the demand for residential plots which has also increased the slums and squatter settlements in the periphery of Addis Ababa city (Kassa, 2014). This conurbation and urban sprawl has brought both positive such as improved lifestyles of farmers with the money gain from the sale of farmland for residential plots, opened new job opportunities for local people, cultural exchange of the new and old cultures, interdependency of production, housing and consumption, reclassification of illegal settlement to legal settlements through the government which provides infrastructural opportunities like roads, water, schools, electricity only to mention a

few and also metropolitan linkages between towns which provide availability and expansion of industry, infrastructure and housing; and negative effects such as farmers selling agricultural land for residential giving room to unhealthy conurbation, rural land decreasing and the adverse effects on the forests, ecology and the general environment, (Kassa, 2014).

2.5   Zambian trends of Conurbation Formation

Studies on conurbation have hardly been done in Zambia. This was evident by the limited availability of written documentation on its occurrence in Zambia. However, it is worth mentioning that similar studies on this subject had been conducted although such attempts had been partial and not fully satisfactory to the subject of conurbation. Chanda (1978) carried out a study on 'Rural-urban migration in Zambia: an economic Imperative?' This research brought out issues that were related to conurbation. For instance, if rural-urban migration was not controlled, it would have led to an expansion of urban areas in terms of space, population and stimulated numerous economic activities, (Chanda, 1978). This issue of rural urban migration as illustrated by Chanda (1978), clearly indicated an element of conurbation. It is important to note that even though studies have not been made but observed that Lusaka-Chilanga-Kafue, Ndola-Luanshya and Chiliabombwe-Chingola are also conurbation in the making.

2.6   Study Area of Conurbation Formation

Nakonde town was initially part of Isoka District until in 1994 when it was declared an independent district the late President Chiluba. However, it took about 16 years for it to be considered an independent town as most of the paper work had not changed. For example, the official counting of people in Nakonde was only considered for the 2010 Census, the government employees would travel to Isoka to collect their salaries as Nakonde had no bank until 2000, only to mention a few. As for Tunduma, it was part of Mbeya for a long time. This is because the area was not being developed by the Tanzanians as it was considered an agricultural area. However, when business started growing, Mbeya could no longer handle is affairs hence was separated in the early 1990. It is also noted that both Nakonde and Tunduma towns were one at one point and that is the reason for their having the development of a conurbation on a faster rate. This was confirmed by the Immigration officer who was interviewed in August 2011 and stated that: *the border was Mupemba River regarded as the tail of Muchinga Escarpment and all the people in this area were regarded as Namwangas and the last station by then was Tunduma. However, after independence for both countries in 1964 and 1961 for Zambia and Tanzania respectively, there was a need to repartition the boundaries.*

It is believed by the local and indigenous people that between 1964 and 1970 the boundary for Zambia was compromised, hence, Mupemba was cut off from Zambia. This was done as a result of the then republican presidents Kenneth Kaunda and Julius Nyerere for Zambia and Tanzania respectively being in-laws. Kaunda's son had married the daughter to Nyerere. Unfortunately, boundary issue brought a lot of problems as the people who were Zambians were misplaced and refused to move to the repartitioned Zambian border as they had no enough land for farming or cattle rearing. Therefore, they decided to stay in Tanzania but still maintained that they were Zambian. Therefore, this is the reason why the border area has the same languages that is Namwanga and Swahili, same names and the same Chief Wayitwika. For these reasons, the Immigration Office has a challenging task in ensuring that issues of migration are handled properly. This gives a history of the development of the conurbation that exists between Nakonde and Tunduma towns and verifies the reasons for the similarities in years of migration (Immigration Officer, 2011).

Unfortunately, this area had not seen any growth of large industries that could attract migrants as it had been the cases with other countries where conurbations have developed. Global trends of migration had shown that conurbation was stimulated by migration and also the presence of industries and a large population as shown in the section on Global trends. However, regional and Zambian trends on conurbation has shown very few areas of conurbation due to the fact that their cities and towns were still growing and were developing yet also had young economies. This research investigated the factors associated with the Conurbation of Nakonde and Tunduma towns and paid particular attention to the fact that these two towns were in different countries (Zambia and Tanzania) and did not have well-developed industries as was the case in all the conurbations reviewed in the literature.

The study area also has a lot of movements and interactions which take place there across the border of Zambia and Tanzania which does not only touch the circles of travels for business but also other dimensions such as friendships, acquaintanceships, marital relation and media consumption, (Centre for Regional Studies (CRS), 2010). In addition to this the as stated by CRS (2010:1), "permeability of the border serves the integration of economic and political macro systems of the main nation state…leading to the birth of an enlarging supernatural economic and political space, in which the free flow of persons, labour, goods and capital".

2.7   Conceptual Framework

The main concepts in this research were conurbation, economic activities, culture, migration and urbanization which are defined by the way they operated in this research.

2.7.1 Concept Definitions

Conurbation is a region comprising a number of cities, towns and other urban areas that through population growth and physical expansion has merged to form one continuous urban or industrially developed area.

Economic activities are those elements which run the economy such as business, trade, education (where it is seen as a business as well as a social service), agriculture and industries

Education is a place where learning takes place for the pupil while business takes place for the provider

Marriage is a legally and socially sanctioned union, between a man and a woman, that was regulated by laws, rules, customs, beliefs, and attitudes that prescribe the rights and duties of the partners and accords status to their offspring (if any)

Migration is the permanent change of residence by an individual or group.

Urbanization is the process by which large numbers of people become permanently concentrated in relatively small areas which may form cities.

Traditional Marriages are marriages built on traditional ideals.

Western marriages are marriages which are characterized by a white wedding with no traditions attached to it.

Businesses are those activities which provide a working environment with employers and employees

Own (Houses) refers to the self-built houses.

Likelihood to settle is to be able to live in one area without migrating.

2.7.2 Operational of concepts

Figure 2.1 illustrates how the factors associated with conurbation could be related to Nakonde and Tunduma towns. This is a simple typologies design to help understand the formation or development of conurbation from the eyes of the researcher. It shows how the relationship of conurbation with migration is enhanced through the factors associated with it. To begin with, conurbation development is enhanced through the factors associated with it such as economic activities and marriage. Economic activities are in the form of Business, Employment, Farming and Education while marriages enhances the children ever born and fertility, attitude towards

life through service provision and food which are brought about by migration.

Figure 2.1: Factors Associated With the Development of Conurbation of Nakonde and Tunduma

```
                    ┌─────────────────────┐
                    │    CONURBATION      │
                    └─────────────────────┘
                              ⇕
                    ┌─────────────────────┐
                    │  FACTORS ASSOCIATED │
                    └─────────────────────┘
                              ⇑
        ┌──────────────────┐  ⇕  ┌──────────────────┐
        │ Economic         │     │    Marriages     │
        │ Activities       │     │                  │
        └──────────────────┘     └──────────────────┘
              ⇑                          ⇑
┌──────────────────────┐        ┌──────────────────────┐
│  -  Business          │       │  -  Children ever born │
│  -  Employment        │       │     and Fertility      │
│  -  Farming           │       │  -  Attitudes of life i.e. │
│  -  Education         │       │     service and food.  │
│       ( MIGRATION )   │       │  -  Need for housing   │
│                       │       │     units              │
└──────────────────────┘        └──────────────────────┘
```
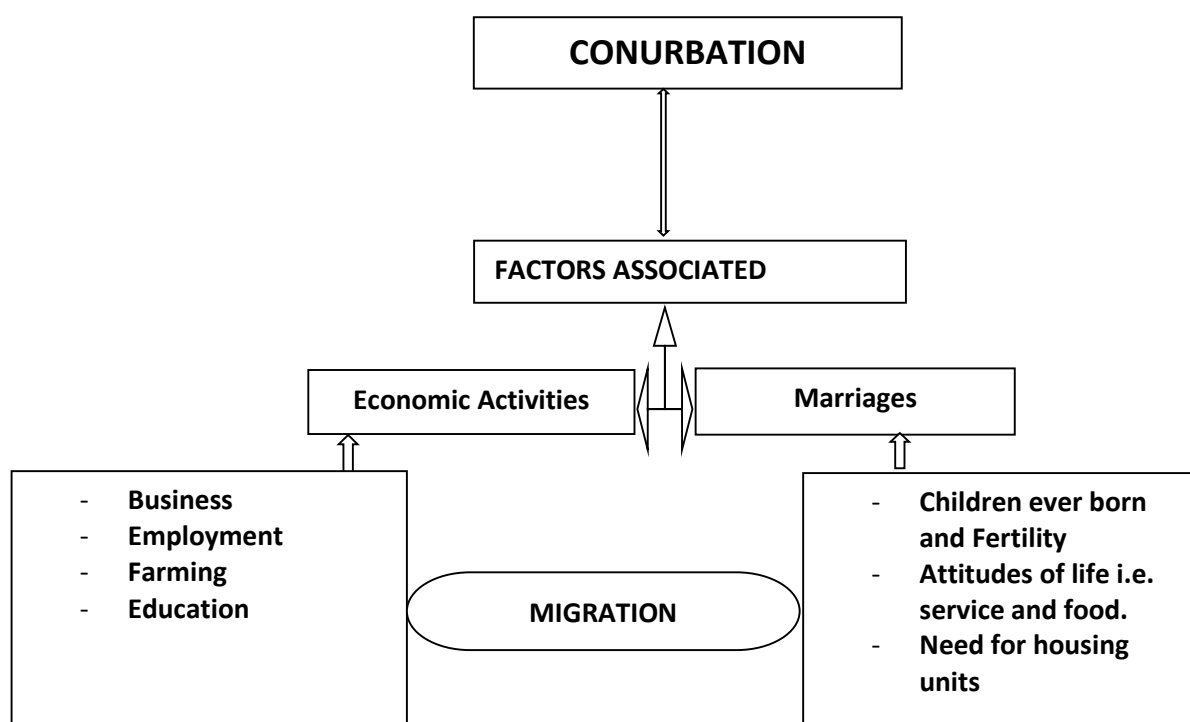
Source: Field Data, (2011).

2.8   Theoretical Framework

This theoretical framework adopted two theories of migration for the investigation of the topic at hand. These were Lee's (1969) theory of migration that is the revised 'Pull and Push model' and the Ravenstein (1885) theory of migration – migration laws.

Lee's theory on the pull and push model is used to explain a conurbation. The pull factors are those which encouraged people to migrate to towns or cities. The favourable conditions such as "better housing, job prospects, more reliable sources of food and better services in health and education" (Waugh, 1995, 343). This usually pulls people from rural areas to urban areas.

Therefore, it is a common trend today to be attached to a place with all the good conditions perceived to aid the improvement of one's life. It is in this process of migration that people migrated with their skills which they used and ended up developing the areas they migrated to. Hence, if there are two or more towns or other cities with the same trend, they grew outside till

they looked like one town from an aerial view there by forming a conurbation of towns. There are also the push factors which forced or encouraged people to move from the rural areas. These included the unfavourable conditions such as natural disasters as droughts, floods, earthquakes, the inability to own land due to stiff laws of the land, food shortages, unemployment and witchcraft only to mention but a few (Waugh, 1995).

In another theory by Ravenstein (1885), on migration laws, migration led to conurbation of towns. Even though the migration laws were based on his studies of migration within the United Kingdom, they could also be applied to other areas. For instance, one of his laws of migration was quoted by Waugh, (1995: 337), as, "migration occurs in waves and the vacuum left as one group of people moves out will later be filled by a counter current of people moving in". This could be related to conurbation as the population would never drop as long as the counter current of people moving in such places continued. This means that labour would always be there and also trade would equally continue. Hence, such areas will always grow economically.

Waugh, (1995: 337), also states that, "the longer the journey, the more likely it is that the migrants will end up in a major center of industry and commerce". The areas where conurbation has occurred usually received migrants from very far off areas. Therefore, these migrants are not likely to migrate back to their places of origin. Instead, they will cause more migration activities to take place especially of their close relatives as they reduced the cost of migration for them with the income they had made by sponsoring their journey and also the accommodation they have acquired. Such migrants are usually not the returning type, hence they migrate to urban areas on permanent basis. Therefore, for the fact that they are on permanent basis, they are able to provide labour on a permanent arrangement and also find or build permanent accommodation. Hence, if such happens there would be not only population increase but also the area under coverage would also spread in a conurbated area.

In most cases of conurbation, females migrate in greater numbers than males within their country of birth (Ravenstein, 1889). However, males did not only migrate within their country but to other countries. For this reason, most areas where conurbation had occurred had more males than females. The male are mainly involved in trade and also provide labour in the industries. These migrants usually move with different skills such as marketing, engineering, and management, while others had monetary capital (liquid capital). With these things, the area

that migrants moved to would not remain static in terms of development but would be dynamic. This was in line with Ravenstein migration law, which states that, "females migrate more than males within their country of birth, but males are more likely to move further afield," (Waugh, 1995: 337).

CHAPTER THREE

METHODOLOGY

3.1   Introduction

This chapter explains the research methodology based on an exploratory study design that used both qualitative and quantitative data sources. Baxter and Jack (2008: 547) define exploratory study design as "exploration of a phenomenon within its context using a variety of data sources…this ensures that the issue is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be relevant and understood." It explores the situations in which are being investigated and has no clear single set of outcomes. The exploration design always has the most important question of 'what if?' which can be a trendsetter of the possibilities outside the current paradigms whether these are paradigms of style, use, technology or economical boundaries which in turn provoke and criticize a current state of affairs for alternatives to the expected and traditional accepted paradigms (Fallman, 2008). This was the best option as it allows the researcher find alternative and new phenomenon to explain the development of conurbation instead of the focusing on the industrial activities, the transport development and well developed and established towns. Qualitative data sources are mainly informative information for description purposes while quantitative data sources are for the numerical information for statistical analysis. It also highlights the study population, sampling procedures, instruments for data collection and data analysis.

3.2   Study Population

The study population has both women and men who resided or migrated to Nakonde or Tunduma. It consists of the residents or traders who were in formal or informal employment and also the managers of some government departments. This selection is based on the fact that these are the kind of people (Immigration Officers, Municipal Councils Officers and Revenue Officers) who will help in bringing out the information on migration and likelihood to settle, services and Economic activities respectively on the factors associated with the development of the conurbation of Nakonde and Tunduma.

3.2.1 Sample Size and Procedure

The population for Nakonde is 138, 110 (CSO: 2011), and for Tunduma it is 36, 500 (Tageo: 2011). The sample size is 500 consisting of 250 people for Nakonde which has 124 males and 126 females and also 250 people from Tunduma consisted of 126 males and124 females. This

was basically for the purpose of achieving equity in the distribution of the sampled population in the two towns. The age group was confined to the ages from 15 and above. The sample size was determined by using computer aided software called the Survey System where both Nakonde and Tunduma have confidence level of 95 percent and confidence interval (also called margin of error) is 6.2. The confidence level will indicate that the results will reflect a 95 percent certainty while the confidence interval will be at 6.2 meaning that 50 percent of the initial population, if they answered the questions will lie between 43.8 percent (50 − 6.2) and 56.2 percent (50 + 6.2) in terms of accuracy. The formula used is as follows:

$$ss = \frac{Z^2 * (p) * (1 - p)}{c^2}$$

where:

ss = sample size

Z = Z values (1.96 for 95 percent confidence level)

P = percentage picking a choice, expressed in decimal (0.5 used for sample size needed)

C = confidence interval, expressed as a decimal (example 0.04 = ±4).

There are also 5 key informants who include one person from each of the Zambian government departments, Nakonde Municipal Council, Immigration and ZRA and one person from Immigration Department of Tanzania and one person from the Tanzania Revenue Authority.

The sampling procedure followed Systematic sampling method in selecting the 500 respondents for the research. The method used the following formulas to come up with an interval when collecting data from the population as indicated below:

$$iv = \frac{p}{ss}$$

where: iv = interval between respondents

p = total population

ss = sample size

However, it should be noted that the interval obtained for Nakonde is 552.44 and Tunduma 146

which was too big for an interval, therefore, they were both divided by 100 in order to reduce the interval to a manageable size. These were selected in a household population of 25, 063 (CSO, 2011) for Nakonde and 20, 086 (tageo, 2011) for Tunduma. It should be noted that in these households (both Nakonde and Tunduma) have behind the owners businesses or shops. The results were Nakonde 6 and Tunduma 1. The starting point for Nakonde was done with a simple random sampling Rotary where numbers 1 to 6 where put in a box and the first number which was picked was the starting point. As for Tunduma it was automatically person number 1. Initially this was how it was planned, however, when the researcher into the field to collect data, the house were not numbered and the residential areas are not well defined.

A purposeful technique was used on the key informants in gathering information which was specific especially that the topic touched some very sensitive issues hence the use of personnel from the government departments. These came from the Municipal councils, Immigration offices and Revenue Authority both in Nakonde and Tunduma towns.

3.3   Data Collection Methods

There were two sources used for the collection of data, namely; primary and secondary sources.

3.3.1 Primary Sources

This was the information that was first hand to the researcher by the use of a questionnaire and non-scheduled interviews.

3.3.1.1   Questionnaire

This was the principal source of data collection from the residents and traders. The questions were both open ended questions and closed-ended. Open ended questions gave the respondents freedom to express their views without restrictions, guidelines or suggestions while closed-ended questions helped in gathering facts and confirming already known facts. They were also designed so as to achieve the objectives of the research on economic activities, marriage patterns and the effects of migration on the likelihood to settle.

3.3.1.2   Non-Scheduled Interviews

This was used for key informants from the government departments as they were providing very sensitive information. The questions were closed in order to confirm facts and some were open ended to solicit for clarity on migration with the likelihood to settle, service delivery and

also economic activities through revenue collection to outline how the business bring revenue that related to the research at hand. The information was mainly concerned with the objective on coping mechanisms developed by the Zambian government's departments (Nakonde Municipal Council, Immigration and Zambia Revenue Authority) and the Tanzanian government departments (Tunduma Municipal Council, Immigration and Tanzania Revenue Authority) in dealing with the consequences of the conurbation of Nakonde and Tunduma towns. It also provided the background information on the development of the town in terms of when it was established, the functions of the government departments and how they have contributed to the development of the towns.

3.3.2 Secondary Sources

This information was collected from the available literature such as research reports, books, articles, journals, publications and other academic materials from the library and the internet. This information was based on data which was analyzed, criticized and also interpreted in an academic manner. The literature reviewed provided insight on the topic of the development of conurbations in the world.

3.4 Data Analysis

The data was analyzed using quantitative methods which were computer based. The computer statistical software which was used for data analysis was Microsoft Excel, Statistical Package for Social Sciences (SPSS) for categorizing and cross tab data, Chi-square test significance levels to determine the relationship between variables that Business, Education, Employment and others (Farming and visiting), Binary Logistic Regression on the likelihood to settle as it is able to determine how one independent variables are able to affect the dependent variables and the Brass Estimation of Fertility Method as it can be used even on a small population and it is the most precise method for fertility measurement. These helped in presenting the data in tables, graphs and flow charts to show relationships or patterns. The Qualitative data was used to clarify certain facts, verify statements and also to confirm the actual things on the ground.

3.5 Variables

Variables included both the independent and dependent variables. The independent variables were economic activities, marriages, child bearing (although these variables can be dependent to variables such as age, Gender, Residence only to mention a few) and fertility among the people in Nakonde and Tunduma towns. The dependent variables were migration and the

services provided in Nakonde and Tunduma.

3.6   Ethical Consideration

Firstly, approval to carry out the research was obtained from the Research Ethics Committee in the Department of Post Graduate Studies at the University of Zambia. Secondly, written permission to carry out the study was obtained from the Nakonde Municipal Council, Immigration departments, ZRA, Tanzanian Embassy and Ministry of Foreign Affairs. Lastly, strict confidentiality was maintained and observed at all times and respondents were assured that responses were purely for academic purposes. This was done by informing the respondents that the information collected was for academic purposes only and that the all the responses given would remain confidential and that their participation would not pose any risk to them. The respondents were further assured of anonymity, and that, although some of the information they provided may be published, their names would not be associated with the publication.

3.7   Challenges of the Study

The undertaking of this research was not easy due to the limited time and finances. There was one main challenge was the language barrier especially when dealing with foreign traders and those who could neither speak neither English nor Bemba. The researcher staying in the area for a month in order to collect data and also used the help of research interpreters who were residents of Nakonde and also spoke Swahili to help me in the translation of English to Swahili. There was also the aspect of hostility on the Tanzanian side as people thought that the study was under the government of Zambia and likely to reduce their business at the border. This was handled well as the researcher followed the right channels in getting written permission to undertake this research from the department, Ministry of Foreign Affairs and lastly the Tanzanian Embassy. Due to these measures which were taken, the results were not affected in any way as there was a solution for each of the challenges faced as stated above.

CHAPTER FOUR

THE STUDY AREA

4.0   Introduction

This section will highlight on the location and importance of the study area in relation to the development of a conurbation in Nakonde and Tunduma towns. The location will show the geographical position of Nakonde in Zambia and Tunduma in Tanzania. The importance of Nakonde and Tunduma towns being an exceptional border area where the development of conurbation has taken place in two different countries and also the business which is the major reason for trade.

4.1   Location

Nakonde town is located in Muchinga Province (includes parts of Northern and Eastern Provinces) and located to the north east of Zambia while Tunduma town is located in Mbeya region also referred to as the Southern Province and located to the south west of Tanzania as shown in Figure 4.1. Geographically, the area under study was Nakonde which is located 9 degree 19 minutes south of the equator and 32 degrees 46 minutes East of Greenwich meridian (9 19S 32 46E) while Tunduma is located 9 degree 19 minutes south of the equator and 32 degrees 47 minutes East of the Greenwich meridian (9 19S 32 47E). These two towns border the two countries of Zambia and Tanzania.

Both towns have a tropical climate with three distinct seasons that is the warm wet season from November to April (Rain season), a cool dry winter from May to August (Cold season) and the hot dry season during September and October (Hot season). The main seasons are winter and summer as it is found in the tropical region of the world. During the rainy season the area received rainfall above average that was above 2000 mm while in the hot season temperatures are as high as 38 degrees Celsius.

Typhoid is one of the diseases which has brought numerous medical concerns in the study area. This has been mainly as a result of poor water and sanitation services in this area. Most of the people has built houses and sunk borehole which are near the pit latrines in most cases hence there is continuous contamination of underground water.

Figure 4.1: Location of Nakonde and Tunduma

Location of study sites in Zambia and Tanzania
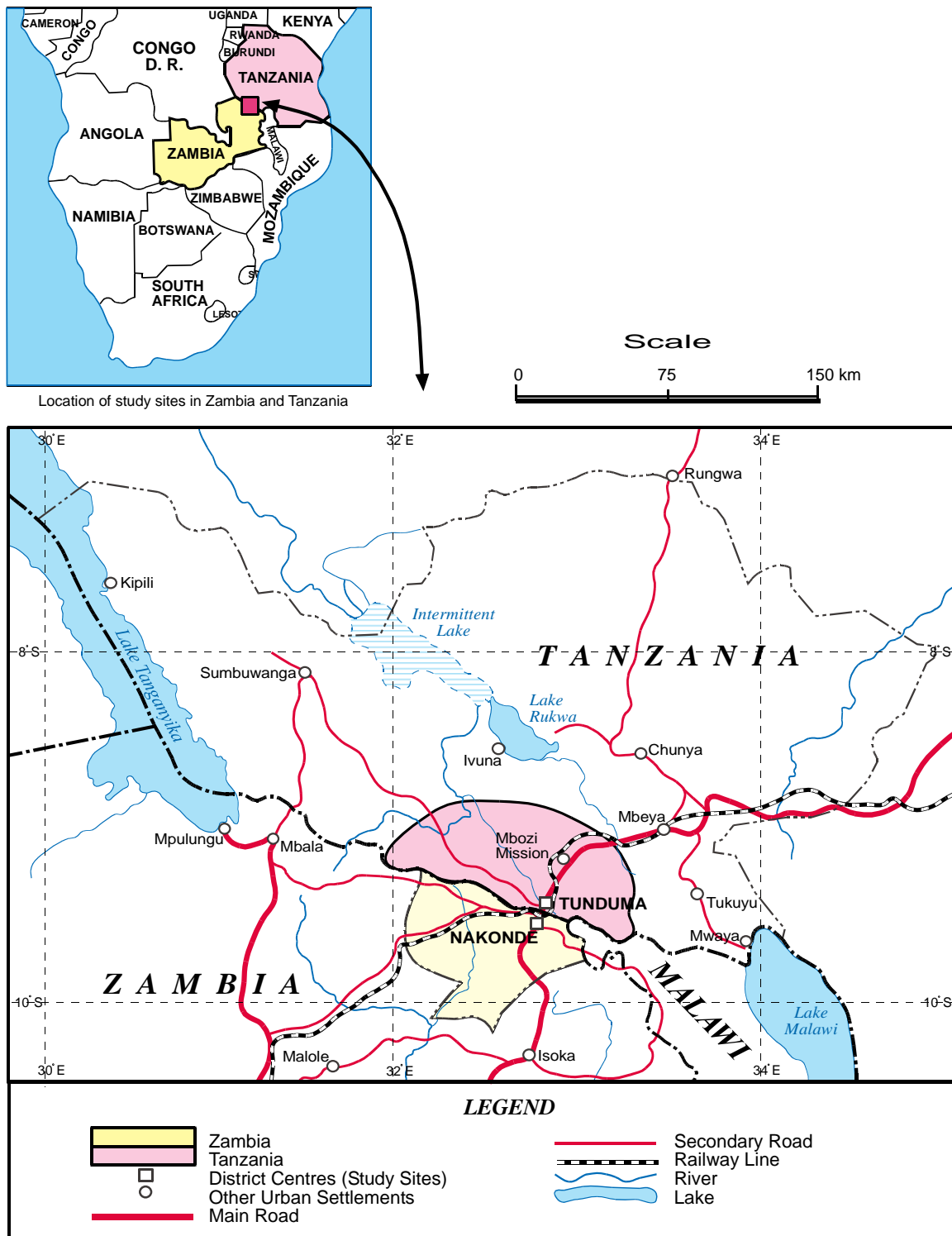
Source: Field data, (2011).

The area also has a tropical vegetation consisted of woodlands and also grasslands. The woodlands are covered with forests endured with different kinds of trees while the grasslands

are covered with short and tall grass.

Soils of the study area are characterized by black alluvial and loamy soils which are very fertile. These soils are very good for any type of agriculture as most type of crops are able to grow, (Trapnell, 1996).

4.2   Importance of Nakonde and Tunduma Towns

Nakonde and Tunduma towns are of great importance to the development of conurbation as they are very unique due to the fact that they are found in different countries, their boarder has no physical barrier like a river or mountain and above all has no major industries such as mining, manufacturing industry only to mention a few which are the main driving force for the development of conurbation as sited in the literature review in chapter two.

In addition, the two towns are important because of the booming business which has been in existence in agricultural products such as rice, potatoes (sweet and Irish), onions; car business through clearing and forwarding firms; cloths, auto ware, hardware and general goods business from Dubai; and the building of houses and guest houses. Due to this a lot of people have migrated to Nakonde and Tunduma as these act as the pull factors for the towns.

4.3   Physical Expansion of Built up Land in Nakonde and Tunduma Towns

Since the actual number of houses or guest houses were not provided by the council nor any other authority for authentic data, the researcher just collect satellite images to shows that indeed the conurbation of the two towns Nakonde and Tunduma have occurred without any reasonable doubt. The satellite images show the development of the study area from 2004 to 2005 Figure 4.2, 2004 to 2010 Figure 4.3 and 2004 to 2013 Figure 4.4. Due to the fact that these images where taken at different times of the year, they have different shades of colour. The polygons show how the original area of built up land has expanded out wards. Figure 4.2 is the base image for Figure 4.3 and Figure 4.4 as it gives a guide on how the infrastructural developments have has progressed into the formation of a conurbation. The aerial view of this area truly proves that the development and formation of a conurbation of Nakonde and Tunduma towns is very evident and as it stands it is still growing.

Figure 4.2 Built up Land for Nakonde and Tunduma Towns Between 2004 to 2005

Source: Google earth (2015).

Figure 4.3 Built up Land for Nakonde and Tunduma Towns Between 2004 to 2010

Source: Google earth (2015)

Figure 4.4 Built up Land for Nakonde and Tunduma Towns Between 2004 to 2013

Source: Google earth (2015)

CHAPTER FIVE

PRESENTATION AND ANALYSIS OF RESULTS

5.0   Introduction

This chapter gives a presentation and analysis of results in four sections namely; Social, Economic and Demographic characteristics; Economic activities in relation to migration; Services and likelihood to settle; and Marriage, Children and Fertility. These are presented and analyzed to show how they have attributed to the formation of the conurbation of Nakonde and Tunduma Towns the study area.

5.1   Social, Economic and Demographic Characteristics

This section presents the findings on the background information, countries (Zambia and Tanzania); and demographic characteristics such as sex, age, marital status and education level; and housing (type and number) of the study area.

5.1.1 Country

The countries involved are Zambia and Tanzania. In Zambia, the findings are from the town of Nakonde in the new province called Muchinga Province which was recently formed in 2012 while in Tanzania it was done in the town of Tunduma in the Southern Province also referred to as the Mbeya region was the study area.

In Zambia all the residential areas in Nakonde urban were considered namely; Wulonga with 67 respondents, Ntindi with 75 respondents, Mukoma with 80 respondents and Katozi with 28 respondents. As for Tanzania the residential area was Tunduma town with 250 respondents as called by Tanzanians who live closer to the border area with Zambia.

5.1.2 Demographic Characteristics

This shows the demographic characteristics of the sample population by illustrating the compositions in terms of sex, age, marital status and level of education.

This section will highlight the characteristics of the population and how it is distributed in Nakonde and Tunduma with the effects that they have towards the development of conurbation. The entire demographic characteristic will show how they affect and contribute to the factors

associated with the conurbation of Nakonde and Tunduma towns as the chapter progress.

Table 5.1: Demographic Characteristics in Nakonde and Tunduma.

Demographic Characteristics	Nakonde		Tunduma		Total	
	Number	**Percentages**	**Number**	**Percentage**	**Number**	**Percentage**
Sex						
Female	124	49.6	126	50.4	250	50
Male	126	50.4	124	49.6	250	50
Age Group						
15-19	18	7.2	36	14.4	54	10.8
20-24	36	14.4	39	15.6	75	15
25-29	47	18.8	31	12.4	78	15.6
30-34	39	15.6	26	10.4	65	13
35-39	45	18	21	8.4	66	13.2
40-44	32	12.8	38	15.2	70	14
45-49	16	6.4	22	8.8	38	7.6
50+	17	6.8	37	14.8	54	10.8
Marital Status						
Single	69	27.6	89	35.6	158	31.6
Married	147	58.8	105	42	252	50.4
Formerly Married	34	13.6	56	22.4	90	18
Educational Level						
Primary	44	17.6	53	21.2	97	19.4
Secondary	115	46	75	30	190	38
Higher Education	91	36.4	122	48.8	213	42.6
Housing						
Rented	73	29.2	70	28	143	28.6
Employer's	54	21.6	36	14.4	90	18
Own	83	33.2	88	35.2	171	34.2
Parent's	40	16	56	22.4	96	19.2

Source: Field Data, (2011)

Table 5:1 has been is explained in the sections below in order to analyze it.

5.1.2.1   Sex

The sex composition of the sample populations of Nakonde 138, 110 (CSO, 2011) and Tunduma 36,500 (tageo: 2011) had 250 females and 250 males with the distribution of 124

females at 49.6 percent and 126 males at 50.4 percent for Nakonde and 126 Females at 50.4 percent and 124 males at 49.6 percent for Tunduma giving a total of 500 respondents. This composition was shown in Table 5.1.

5.1.2.2   Age

The age is classified in age groups starting from 15-19 up to 50+. The age groups are shown in the Table 5.1 indicating the number of respondents in each. The age ranged from 15 to 84 years, however, there is concentration of respondents in the reproductive age groups of 15-19 to 45-49. The highest is 15.6 percent (25-29). Since the highest age group is in the reproductive age groups of 15 to 49, this shows a large portion of the sample population has the ability to grow very fast through child bearing. When high birth rates exist, it increases the population and contributed to the conurbation of Nakonde and Tunduma in terms of increased population.

5.1.2.3   Marital Status

Marital status of the respondents varied from single, married and the formerly married (divorced, separated and widowed). All these are found in the study area and have respondents represented by 31.6 percent for single, 50.4 percent for married and 18 formerly married as shown in Table 5.1.

There is also an indication of more married respondents in Nakonde 58.8 percent than Tunduma 42 percent, single respondents are higher in Tunduma at 35.6 percent than Nakonde at 27.6 percent and the formerly married widows respondents are higher in Tunduma at 22.4 percent than Nakonde at 13.6 Apart from the married respondents, Tunduma had more than Nakonde in the rest of the marital status categories.

5.1.2.4   Education Level

The Education levels among the respondents in the study area as a whole ranged from primary to higher education (college and university). All of the Educational levels were present namely; primary 19.4 percent; secondary 38 percent; and higher education 42.6. The distribution was illustrated by study area in a Table 5.1.

On comparison between the two towns, Nakonde and Tunduma, Nakonde has the distribution of educational levels in descending order as secondary 46 percent, higher education 36.4 percent and primary 17.6 percent while Tunduma has higher education 48.8 percent, secondary

30 percent and primary 21.2 percent. These statistics show that there were more respondents with higher education in Tunduma with 48.8 percent than Nakonde with 36.4 percent. However, Nakonde also indicates that there were more respondents there who have attained secondary education than Tunduma.

5.1.3 Housing

The housing for Nakonde town is that the only houses which were built by the government are institutional houses (Tanzania Zambia Railways, Immigration office and the Municipal council quarters, most of the land is under customary land as the council has no land), as for Tunduma town there is no houses provided by the government all the houses are self-built (this was part of Mbeya town hence this area was mainly for agriculture and the government did not build any houses). For Nakonde town there has been infilling of the empty spaces and also gentrification within pre-existing residential areas and also the lands outer periphery given by the chief through the headmen which has brought about the expansion of settlements. Whereas for Tunduma area started as a small trading area with small quarter for temporal settlement and as time went on these same houses where improved and the more land was given on the outward areas of Tunduma town. However, the housing situation in the study area is captured by the type and also the number of houses which the respondents have built. The categories are 'rented' meaning a rented house; 'employer's' meaning a house provided by the employers; 'own' meaning a house for the respondent (built or bought by the respondent); and 'parent's' meaning a house provided by the parents/guardian of the respondent. The total distributions for the whole study area are as follows rented 28.6 percent; employer's 18 percent; own 34.2 percent; and parent's 19.2 percent as indicated in Table 5.1.

However, by comparison it also indicates that most of the respondents live in their own houses (35.2 percent and 33.2 percent) which gives a clear indication that there is high home ownership in the study area, although there were more respondents for Tunduma than Nakonde, Rented houses (29.2 percent and 28 percent) and Employers houses (21.6 percent and 14.4 percent) where Nakonde has more than Tunduma respectively while those who live in Parent's houses (22.4 percent and 16 percent) where Tunduma has more than Nakonde.

Figure 5.1 indicates that respondents who have built houses for both Nakonde and Tunduma decreased as the number of houses increased from 1 to 5+.

Figure 5.1: Respondents by Houses Built In Nakonde and Tunduma
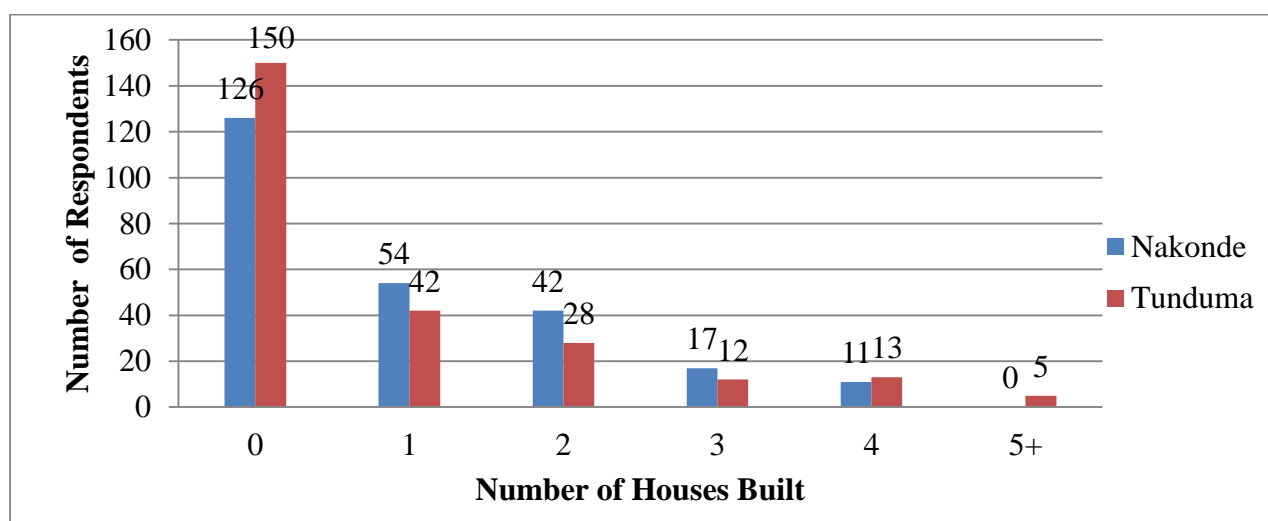
Source: Field Data, (2011).

5.2 Economic Activities in Relation to Migration

This section highlights the economic activities that have attracted people into Nakonde and Tunduma hence leading to the conurbation that exists in the area. The research brings out issues such as the Year and Duration of Migration, reasons for migration, other activities engaged in apart from their reasons for migration, and booming business as a multifaceted effect of economic activities.

5.2.1 Year and Duration of Migration

The year of migration illustrates how migration has been progressing over the years. It actually shows that the numbers of people who migrated to the study area have been increasing over the years although there are some years when migration slowed down. The distributions of migrants to the study area are indicated Figure 5.2. The year of migration shows the year in which the respondents migrated to the area under study which is from 1953 to 2011. Migrants have been fluctuating over the years especially with reference to the years 1953 to 1999 (Figure 5.3). However, in 1994 the highest influx was recorded as this year was an exceptional year because Nakonde had just been realigned as an independent town and district away from Isoka district (reflection Isoka inclusive of Nakonde) and also in 2000 (for Nakonde only as there are 2000 Census results to confirm it). Therefore, there is an increase in the number of people that migrated to this area in order to search for job prospects and also business hence acted as a pull factor for Nakonde and also Tunduma.

Figure 5.2: Respondents by Period of Migration into Nakonde and Tunduma.
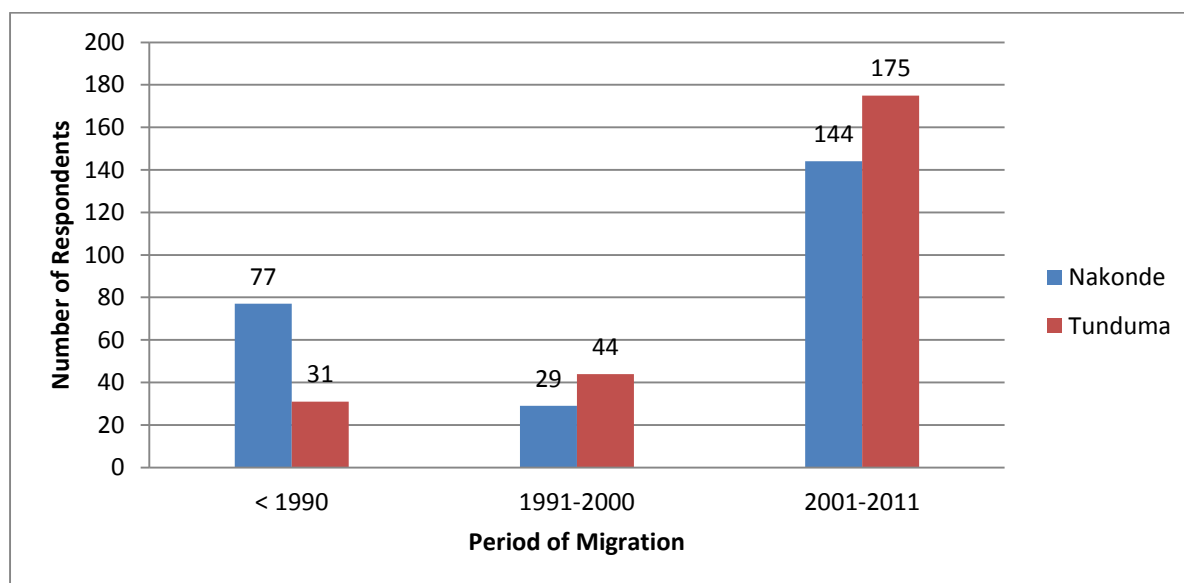
Source: Field Data, (2011).

Figure 5.3 shows a comparison in migration trends between Nakonde and Tunduma. It brings out a clear indication of a steady increase in the trends of migrants from 1990 to 2011 for both towns.

Figure 5.3: Respondents by Year of Migration for Nakonde and Tunduma
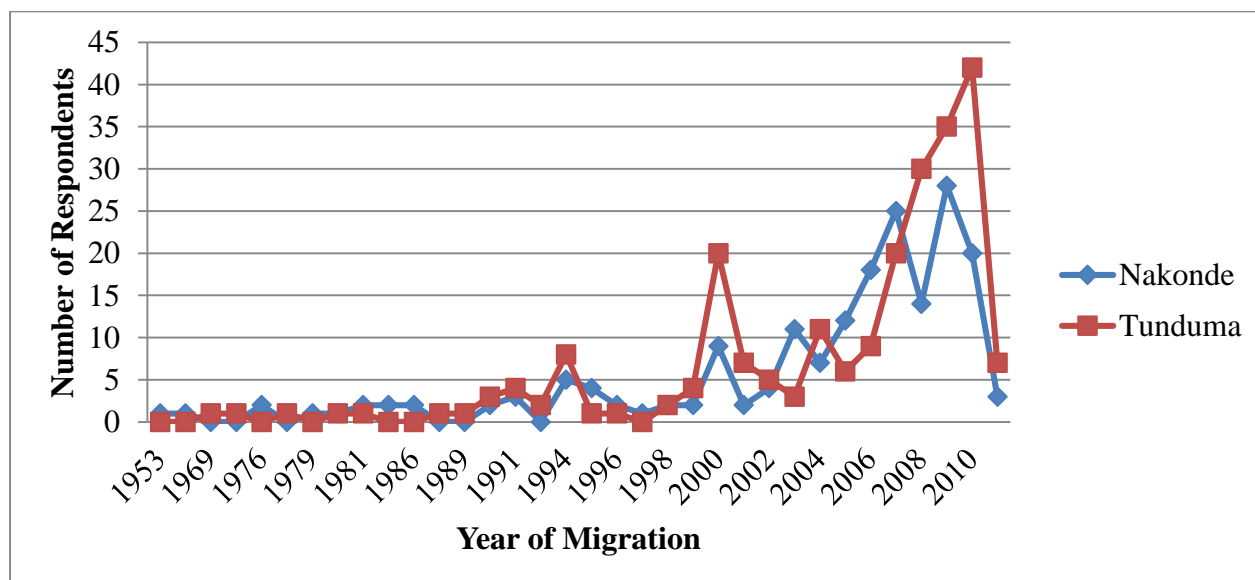
Source: Field Data, (2011).

Figure 5.3 continues to indicate subdivisions of responses into three periods of Migration which

includes the years before 1990 (<1990) the Prsident Kaunda Era; years from 1990 and 2000 (1991-2000) the President Chiluba Era; and years from 2001 and 2011 (2001-2011) the Presidents Mwanawasa and Banda Era. The distribution for the periods of migration is as follows <1990 with 77 and 31 respondents; 1991-2000 with 29 and 44 respondents; and 2001-2011 with 144 and 175 respondents for Nakonde and Tunduma respectively.

The migration duration indicates the duration of stay for the respondents in the study area in relation to the years before 1990, between 1990 and 2000 and after 2000. The periods Are put into three categories namely; the years before 1990 (22+), years between 1990 and 2000 (11-21) and years after 2000 (1-10). Table 5.1 indicates that there are 103 who migrated to the study area in the years before 1990 (22+) accounting for 21 percent, 78 who migrated between the years 1990 and 2000 (11-21) equal to 16 percent and 309 who migrated in the years after 2000 (1-10) corresponding to 63 percent as indicated by Table 5.2.

Table 5.2: Respondents by Migration Duration for Nakonde and Tunduma

MIGRATION DURATION (YEARS)	NAKONDE		TUNDUMA		TOTAL	
	Number	**Percentage**	**Number**	**Percentage**	**Number**	**Percentage**
1-10	141	57	168	69	309	63
11-21	31	13	47	19	78	16
22+	75	30	28	12	103	21
Total	**247**	**100**	**243**	**100**	**490**	**100**

Source: Field Data, (2011).

5.2.2 Reasons for Migration

People migrate to Nakonde and Tunduma for various reasons namely business, employment, education and others (farming and visiting). On a general view for the whole area, there are 157 respondents represented by 31.4 percent whose reasons from migration is Business, 205 respondents represented by 41 percent whose reason is Employment, 103 respondents represented by 20.6 percent whose reason is Education, 35 respondents represented by 7 percent whose reason is others. These figures are showing for Nakonde and Tunduma as a combined one study area.

These finding for migration due to business were confirmed by the Zambia Revenue Authority (ZRA) and Tanzania Revenue Authority (TRA) which changed in 1994, was originally been called the Customs Service Division at independence. Their main functions were to control the

movements of goods across the border, collect Import and Export taxes and make policies in order to enforce the laws of health, agriculture, environmental issues and all the departments with interest in Imports. However, the two offices ZRA and TRA further noted that business through trading had increased the clearance of goods mainly for both Zambians and Tanzanians and others included those that are involved in the mining industry for Zambia such as the Indian, Europeans for Lumwana, Canadians for First Quantum and Chinese for Chambeshi and Luanshya while for Tanzania are Canadians for Barack Gold, Americans for Geita Gold, South Africans Tanzanite and Williamson Mwaduyi and Australians for Resolute. The offices also not only noted business through trading but also the creation of employment in other sectors apart from ZRA and TRA. These include drivers, Clearing and Forwarding agents and hospitality industries. In addition, the goods which go through the ZRA and TRA offices included everything except for the prohibited goods. The trading of goods (business) has been evident in the revenue collection; it has increased over the years such that 80 billion kwacha per month for Zambia and 2.8 billion Shillings per month for Tanzania is raised as in the year 2011. Though the revenue collected is not directly used for the benefit of the communities' around the border but central government controlled how it is used, it clearly shows that indeed there is good business. This highlighted that business which is being seen through revenue collected which is high indicates that indeed it was one of the reasons for migration.

Figure 5.4: Respondents by the Reasons for migration In Nakonde and Tunduma
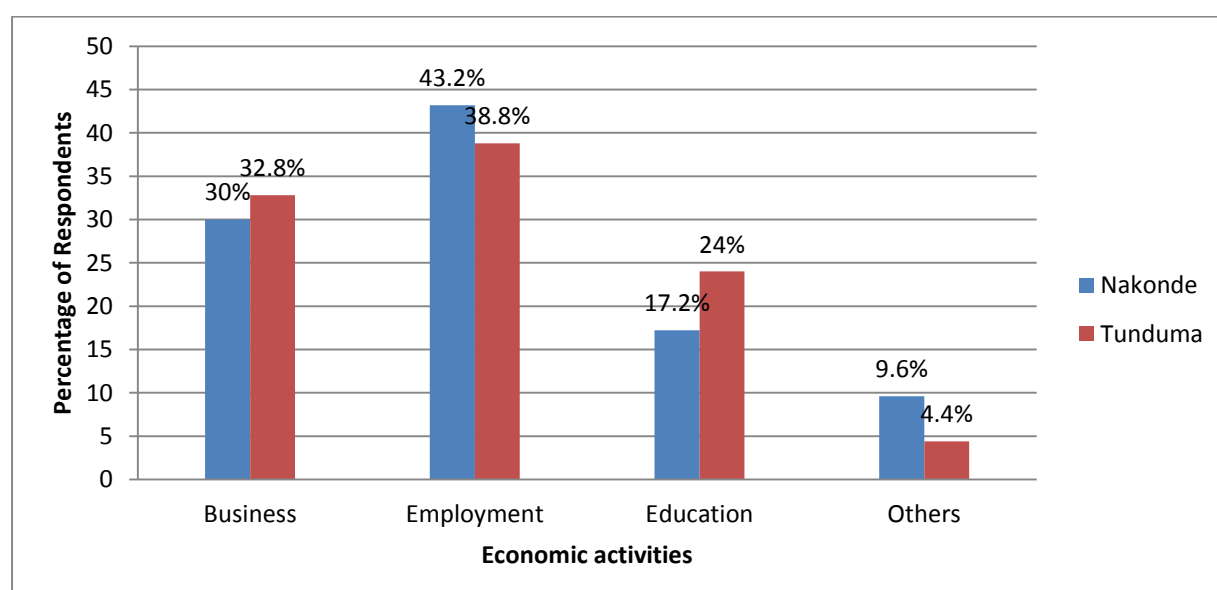
Source: Field Data, (2011).

For Nakonde and Tunduma towns, Figure 5.4 indicates that Employment is the highest reason with 43.2 percent and 38.8 percent followed by Business with 30 percent and 32.8 percent, then Education with 17.2 percent and 24 percent, Others with 9.6 percent and 4.4 percent.

Table 5.3: Respondents by Reasons for Migration and Selected Background Characteristics

Background Characteristics	Reasons For Migration				
	Business n.(%)	Employment n.(%)	Education n.(%)	Others n.(%)	Total n.
Sex*					
Female	75(30)	91(36.4)	71(28.4)	13(5.2)	250
Male	82(32.8)	114(45.6)	32(12.8)	22(8.8)	250
Age*					
15-19	2(3.7)	1(1.9)	51(94.4)	0(0)	54
20-24	21(28)	10(13.3)	40(53.3)	4(5.3)	75
25-29	29(37.2)	36(46.2)	7(9)	6(7.7)	78
30-34	28(43.1)	33(50.8)	2(3.1)	2(3.1)	65
35-39	24(36.4)	36(54.5)	0(0)	6(9.1)	66
40-44	24(34.3)	40(57.1)	1(1.4)	5(7.1)	70
45-49	14(36.8)	22(57.9)	1(2.6)	1(2.6)	38
50+	15(27.8)	27(50)	1(1.90)	11(20.4)	54
Marital Status*					
Single	29(18.4)	30(19)	93(58.9)	6(3.8)	158
Married	94(37.3)	130(51.6)	8(3.2)	20(7.9)	252
Formerly Married	34(37.8)	45(50)	2(2.2)	9(10)	90
Education Level*					
Primary	60(61.9)	19(19.6)	5(5.2)	13(13.4)	97
Secondary	69(36.3)	34(17.9)	75(39.5)	12(6.3)	190
Higher Education	28(13.1)	152(71.4)	23(10.8)	10(4.7)	213
Housing*					
Rented	72(50.3)	49(34.3)	17(11.9)	5(3.5)	143
Employer's	3(3.3)	78(86.7)	6(6.7)	3(3.3)	90
Own	76(44.4)	69(40.4)	3(1.8)	23(13.5)	171
Parent's	6(6.3)	9(9.4)	77(80.2)	4(4.2)	96
Towns+					
Nakonde	75(30)	108(43.2)	43(17.2)	23(9.2)	250
Tunduma	82(32.8)	97(38.8)	60(24)	11(4.4)	250

Note: Others means Farming and Visiting

Significance=+p<0.10; *p<0.050; **p<0.01; ***p<0.000

Source: Field Data (2011)

Table 5.3 indicates the interaction of selected background characteristics such as sex, age,

marital status, education level, religious affiliation, accommodation type and town with the reasons for migration which include economic activities such as business, employment, education, farming and visiting which pulled respondents into Nakonde and Tunduma. The significance was at 0.000 for sex, age, marital status, education level and accommodation type and town was also less than 0.10. Table 5.3 gives out a better understanding of how migration has a relationship with each economic activity by applying a Chi-square test. The independent economic activities variables which include Business, Employment, Education, others (Farming and Visiting) are included in the analysis. The dependent variable migration status is used to show how it relates with all the independent variables.

Table 5.4 shows Significance (Sig) as the likelihood of having migrated due to various reasons as the economic activities. A ***$p<0.000$ indicates a 100 percent likelihood that migration took place as a result of the economic activity, **$p<0.01$ indicates a 99 percent likelihood that migration took place as a result of the economic activity, *$p<0.050$ indicates a 95 percent likelihood that migration took place as a result of the economic activity and +$p<0.10$ indicates as a 90 plus percent that migration took place as a result of the economic activity. The reasons for migration which are significant are Business, Education and Others when evaluating the combined or whole study area while for Nakonde they are Business, Employment, Education and Others where significant and Tunduma has only Education as significant.

Table 5.4: Respondents by the Reasons for Migration in Nakonde and Tunduma

s/n	REASONS FOR MIGRATION	NAKONDE			TUNDUMA			TOTAL		
		Non migrant n.(%)	Migrant n.(%)	Sig	Non migrant n.(%)	Migrant n.(%)	Sig	Non migrant n.(%)	Migrant n.(%)	Sig
1	Business	28(37.3)	47(62.7)	0.005	11(13.4)	71(86.6)	0.107	39(24.8)	118(75.2)	0.003
2	Employment	21(19.4)	87(80.6)	0.052	9(9.3)	88(90.7)	0.973	30(14.6)	175(85.4)	0.174
3	Education	1(2.3)	42(97.7)	0.000	2(3.3)	58(96.7)	0.071	3(2.9)	100(97.1)	0.000
4	Others	14(58.3)	10(41.7)	0.000	1(9.1)	10(90.9)	0.990	15(44.1)	20(57.1)	0.000

X^2=+$p<0.10$; *$p<0.050$; **$p<0.01$; ***$p<0.000$ reference category; Reasons for migration/Migration status.
Source: Field data< (2011).

Figure 5:4 further shows what is actually involved in the reasons for migration. Some of the other reasons for migration included cross border trading (these include all the activities that involve crossing the border especially trading in goods such as cars, cloths, food stuffs and other commodities), customs (these include all who are involve in custom activities such as customs officers, immigration officers, clearing and forwarding officers), government worker

these include teachers, nurses, doctors, police officers), farm produce (these include all vegetables, cereals, tubers, animals, birds), entrepreneur (marketers, venders, shop owners for auto spares, convenience products, electrical hardware), Driving (includes drivers of taxis, trucks and buses) and studying (students at school or college).

Table 5.5 on the salient (the secondary reasons for migration) issues for the reason for migration indicates the highest involvement in cross border trading with 23.6 percent (118 respondents) and the lowest is driving with 0.4 percent (2 respondents). It simply indicates the various things that the respondents found in Nakonde and Tunduma are involved in especially when one looks at the broad perspective of reasons for migration only. They reflect exactly what is actually involved in the reason for migration on specific terms for anyone to understand it and make evaluations.

Table 5.5: Respondents by the Salient Issues for the Reasons for Migration.

S/N	Salient Issues for Reasons for Migration	Number	Percentage
1	Cross Border	118	23.6
2	Custom	84	16.8
3	Government Worker	102	20.4
4	Farm Produce	34	6.8
5	Entrepreneur	56	11.2
6	Driving	2	0.4
7	Studying	104	20.8
		500	**100**

Source: Field Data, (2011).

5.2.3 Other Activities engaged in apart from the Reason for Migration.

Almost half of the respondents are engaged in other activities apart from their main reasons for migration. This means that their reasons for migration are not the only activities they are engaged in but that they have other activities that they are engaged in. However, 131 respondents represented by 26.2 percent did Business, 90 respondents represented by 18 percent did Farming, 25 respondents represented by 5 percent are Landlords, 1 respondent represented by 0.2 percent as part time teaching, 2 respondents represented by 0.4 percent are drivers and 251 respondents represented by 50.2 percent are not engaged in any activity. All these distributions are indicated in the Table 5.6.

It is discovered that some of these people who migrated to this area are also engaged into other

activities. Even though more than half are not engaged in anything, there are others who have something else to do. The distribution is as follows: none are 50.2 percent; those in businesses have 26.2 percent, farming 18 percent, land lords 5 percent, part time teaching 0.2 percent and driving 0.4 percent.

Table 5.6: Respondents by Other Activities engaged in apart from the Reason for Migration in Nakonde and Tunduma

OTHER ACTIVITIES	NAKONDE		TUNDUMA		TOTAL	
	Number	Percentage	Number	Percentage	Number	Percentage
None	116	46.4	135	54	251	50.2
Business	72	28.8	59	23.6	131	26.2
Farming	35	14	55	22	90	18
Land lord	25	10	0	0	25	5
P/Time Teaching	1	0.4	0	0	1	0.2
Driving	1	0.4	1	0.4	2	0.4
Total	**250**	**100**	**250**	**100**	**500**	**100**

Source: Field Data, (2011).

5.2.4 Rapid Business Expansion as a multifaceted effect of Economic Activities

The evidence of the presence of rapid business expansion by the response of 'Yes' or 'No' from the respondents in the study area is able to show whether it is a fact or just a pronouncement. Some of the respondents were actually involved in the some form of business especially those from Tunduma while others responded according to what they have observed or witnessed. The findings are that there are 92.8 percent respondents who have noticed the rapid business expansion while only 7.2 percent indicates that they have not noticed any rapid business expansion. These statistics are from the field in Nakonde and Tunduma at the border area of Zambia and Tanzania. The Rapid business expansion is one of the multifaceted effects of the existence of the economic activities in this area. The evidence on the ground justifies the fact that there has been Rapid business expansion through the growing trade between the two towns, the infrastructural building, increased food production and increased in this area as 92.8 percent of the respondents acknowledged that they had noticed it and only a small proportion of 7.2 percent had not. Furthermore, ZRA and TRA both confirmed that there has been rapid business expansion as their major revenue came from the imports taxes which are from the

mines in both countries and the second is from the clearance of vehicles which are bought by the Zambians mostly. The transport system has also been supported even though it has caused congestion at the border area. This is because the border clears over 260 vehicles per day which in itself gives a clear indication that transport especially road transport has contributed to the development of conurbation in Nakonde and Tunduma towns.

Table 5.7 shows the reasons given by the respondents who noticed the rapid business expansion in Nakonde and Tunduma. There were 36 respondents represented by 7.2 percent who do not notice any rapid business expansion, 294 respondents represented by 58.8 percent had high turnover and variety of goods as their reason, 60 respondents represent by 12 percent had quality goods and improved buildings as their reason, 93 respondents represented by 18.6 percent had affordable prices for business and variety of goods as their reason and lastly, 17 respondents represented by 3.4 percent had high demand for guest houses and houses as their reason. All these reasons are related to business hence give an element to the reason why rapid business expansion was noticed in Nakonde and Tunduma.

Table 5.7: Respondents by Reasons for the Rapid Business Expansion in Nakonde and Tunduma

s/n	REASONS FOR RAPID BUSINESS EXPANSION	NAKONDE n.(%)	TUNDUMA n.(%)	TOTAL n.(%)
1	None	6(2.4)	30(12)	36(7.2)
2	High turnover and variety of goods	165(66)	129(51.6)	294(58.8)
3	Quality goods and improved buildings	17(6.8)	43(17.2)	60(12)
4	Affordable prices for business and variety of goods	50(20)	43(17.2)	93(18.6)
5	High demand for Guest houses and Houses	12(4.8)	5(2)	17(3.4)
	Total	**250(100)**	**250(100)**	**500(100)**

Source: Field Data, (2011).

As it is normal to expect setbacks, the business in the two towns of Nakonde and Tunduma has also attracted its share of problems which are also in one way or another connected to the conurbation of the two areas. The common problems associated with business were theft, prostitution (on the part of traders misusing the capital on prostitutes), shortage of land and lack of accommodation. All these problems were given by all the 500 respondents of the total sample population with a percentage of 100 percent for each of the problems.

Figure 5.5 on problems associated with Rapid Business Expansion per case in Nakonde and Tunduma, shows Theft at 98.2 percent, Prostitution at 73.7 percent, Shortage of Land 26.9 percent and Lack of Accommodation 42.3 percent. The distribution of problems clearly indicates that the most frequent of all the problems is theft and the least is shortage of land. All these problems indicate per case meaning that these problems were done for the whole area that Nakonde and Tunduma towns.

Figure 5.5: Respondents by Problems Associated with Rapid Business Expansion per Case in Nakonde and Tunduma
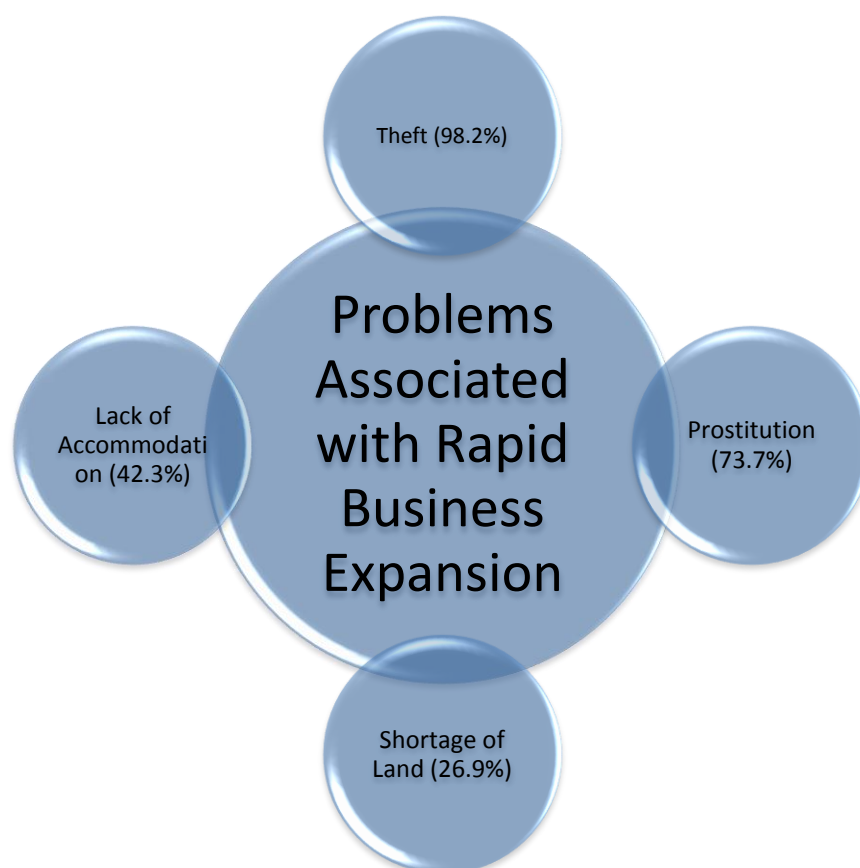
Source: Field Data, (2011).

5.3   Services and Likelihood to Settle in Relation to Migration

This section highlights the services (its availability or its presence), Food and its effects on the likelihood for migrants to settle, perceptions on the most development town between Nakonde and Tunduma, and their relation to migration issues in the conurbation of Nakonde and Tunduma towns.

5.3.1 Services

The services provided to the respondents with their migration status being non migrant or migrant which are believed to enhance their likelihood to settle include piped water, transport and electricity in Nakonde and Tunduma towns. All the services provided are considered out of the total of 500 and 100 percent for each one of them or in other terms they are considered per case.

The services which this area provides are piped water, transport and electricity. All these are the services which made living in this area easy and more comfortable than the rural alternative and acts as the pull factor and also as a reason for settlement according to Lee's 'Pull and push model' and also 'Ravenstien's Migration Laws'. In order to find the likelihood of migrants settling in Nakonde and Tunduma towns, the Binary Logistic Regression model is applied to indicate the strength of this relationship. The odds ratio is the basis of this analysis where the reference category has the odds ratio of 1. If the odds ratio value Exp (B) exceeds 1 then the likelihood of the respondents settling in Nakonde and Tunduma towns is high and if the odds ratio value is less than 1 then the likelihood of the respondents settling in Nakonde and Tunduma decreases. The binary logistic regression analysis was done on each service (pipe water, transport, electricity and accommodation) as dependent variables and how they relate to the selected background characteristics (sex, age, marital status, educational level, town and migration status). Eventually, if the variance is falling in the range of 0.10 to 0.000 it means that the services are significant in relation to the conurbation of Nakonde and Tunduma towns and may have acted has 'pull factors'. In specific terms $+p<0.10$ means a 90 percent significance, $*p<0.050$ means a 95 percent significance, $**p<0.01$ means a 99 percent significance and $***p<0.000$ means a 100 percent significance as indicated in Table 5.8.

In connection with the provision of services and how important they are, the Municipal council of Nakonde had this to say:

"*This is as a result of the presence of the Great North Road and the railway (TAZARA) which makes provision of transport easy. The road is ever busy as it is used by transporters of goods and passengers. A lot of trucks transport different kinds of goods while luxury buses and private cars transport people. It takes just a day to reach Nakonde or Tunduma either from Lusaka or Dar es Salaam. The everyday travelers are mainly businessmen and women. Therefore, the*

government of Zambia or Tanzania makes sure that the road is always accessible so that their people continue to use it. The TAZARA is also always used though of late it has not been very reliable in terms of service delivery. However, passengers and goods are still being transported even though most of its customers mostly opted to use road transport which is expensive but faster at the same time…access to electricity especially for those who are building their own houses, guest houses, restraints, bars, butchery only to mention but a few. All these business ventures need the use of electricity and in one way or another…for Nakonde water is provided by the Chambeshi water company where as for Tunduma it is the government. Unfortunately, water supply is erratic and most people have alternative sources of water such as wells and boreholes" (Municipal Council Officer: 2011).

Table 5.8: Binary Logistic Regression Odds Ratio of Services with the selected background characteristics in Nakonde and Tunduma

Background Characteristics	Service					
	Piped Water		Transport		Electricity	
	n.(%)	Exp(β)	n.(%)	Exp(β)	n.(%)	Exp(β)
Sex						
Female ǂ	132(52.8)	1.000	232(92.8)	1.000	205(82)	1.000
Male	115(46)	1.467*	229(91.6)	1.231	193(77.2)	1.799*
Age						
15-24 ǂ	56(43.4)	1.000	114(88.4)	1.000**	87(67.4)	1.000
25-34	82(57.4)	1.169	127(88.8)	0.571	117(81.8)	0.709
35+	109(47.9)	1.687	220(96.5)	0.110**	194(85.1)	0.602
Marital Status						
Single ǂ	65(41.1)	1.000+	143(90.5)	1.000	108(68.4)	1.000
Married	141(56)	0.467*	235(93.3)	2.348	215(85.3)	0.470*
Formerly married	41(45.6)	0.568	83(92.2)	3.756+	75(83.3)	0.657
Education Level						
Primary ǂ	37(38.1)	1.000**	94(96.9)	1.000	77(79.4)	1.000
Secondary	91(47.9)	0.614+	176(92.6)	2.648	140(73.7)	0.662
Higher Education	119(55.9)	0.429**	191(89.7)	3.627*	181(85)	0.519+
Towns						
Nakonde ǂ	134(53.6)	1.000	242(96.8)	1.000	181(72.4)	1.000
Tunduma	113(45.2)	1.264	219(87.6)	4.352**	217(86.8)	0.288***
Migration Status						
Migrant ǂ	199(48.2)	1.000	376(91)	1.000	322(78)	1.000
Non migrant	48(55.2)	1.593+	85(97.7)	2.326	76(87.4)	2.892**
Constant		1.086		0.007***		0.411

+p<0.10; *p<0.050; **p<0.01; ***p<0.000, Reference Category= ǂ

Source: Field Data, (2011).

5.3.2 Food

This illustrates how the variety and affordable food are related to each other in that the variety of food will make each migrant to feel at home as they would find their staple food whereas for affordability would refer to the situation where a tin (meda) of rice will cost K 12, 000 to K15, 000 in Tunduma and Nakonde in Lusaka the same would cost K30, 000 to K35, 000 as at August, 2011. The statistic from the field show that there are 449 respondents whose response is a variety of food which is affordable, 21 respondents' response is no variety of food but affordable, 17 respondents' response is a variety of food which is not affordable and also 13 respondents disputed that there is neither a variety of food nor affordable food.

Table 5.9: Respondents' Responses on Food

s/n	Respondents' Response on food	Number	Percentage
1	Variety and affordable	449	89.8
2	No variety and affordable	21	4.2
3	Variety and not affordable	17	3.4
4	No variety and not affordable	13	2.6
	Total	**500**	**100**

Source: Field Data, (2011).

In Nakonde and Tunduma the types of food that were readily available range from vegetables, cereals, tubers and meat. The types of food were as follows:

i. Vegetables such as cabbage, rape, Chinese cabbage, pumpkin leaves, tomato, beans;

ii. Cereals such as rice, millet, and maize;

iii. Tubers such as cassava, yams, sweat potatoes and Irish potatoes;

iv. Meat such as beef, pork, goat, sheep, chicken, fish; and

v. Fruits such as oranges, apples, pineapples, cocoa nuts, bananas, lemons, mangoes, grapes, granadillas.

5.3.3 Development of Nakonde and Tunduma

The two towns have changed from just being mere border rural towns with a small population and a bit of infrastructures to towns with a large population and massive infrastructure construction. This is evidence from the responses given by the respondents in terms of level of development and also the reasons for its development.

The responses are in three sets of Nakonde, Tunduma or both (Nakonde and Tunduma). However, the findings indicate that there were 232 respondents represented by 46.4 percent who see Nakonde as more developed, 242 respondents represented by 48.4 percent who see Tunduma as more developed and lastly 26 respondents represented by 5.2 percent who see both (Nakonde and Tunduma) towns as developed. These responses are generated from the respondents' answers to the question 'which town is more developed between Nakonde and Tunduma?

Figure 5.6: Respondents for the Perception of More Developed Town between Nakonde and Tunduma
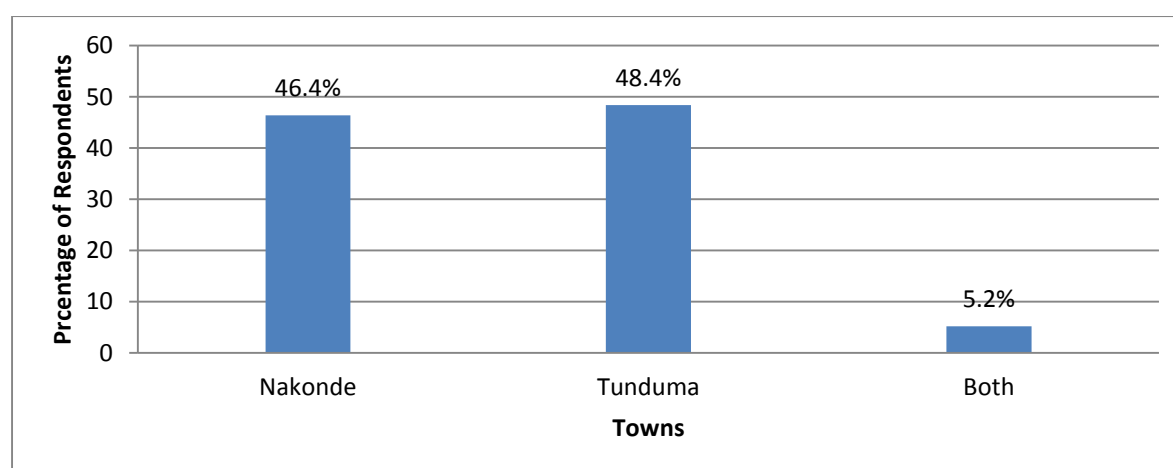
Note: Both means Nakonde and Tunduma Towns
Source: Field Data, (2011)

There are various reasons given by the respondents on their perception of a more developed town between Nakonde and Tunduma. The responses are as follows; good life, business and modern business; modern infrastructure, qualitable goods; business, variety of goods and modern infrastructure; water and sanitation; water; and sanitation. The highest in the ratings is business, variety of goods and modern infrastructure while the lowest is good life, business and modern infrastructure.

The reasons for more developed town between Nakonde and Tunduma are the same for both towns which show as if the respondents see the same things but from different angles. The reasons given are; business, variety of goods and modern infrastructure; qualitable goods; modern infrastructure; water and sanitation; sanitation; water; and good life, business and

modern business. This very evident the not only figure 5.7 but also figure 5.8 which shows no demarcation between the two towns.

Figure 5.7: Respondents by Perception of More Developed Town
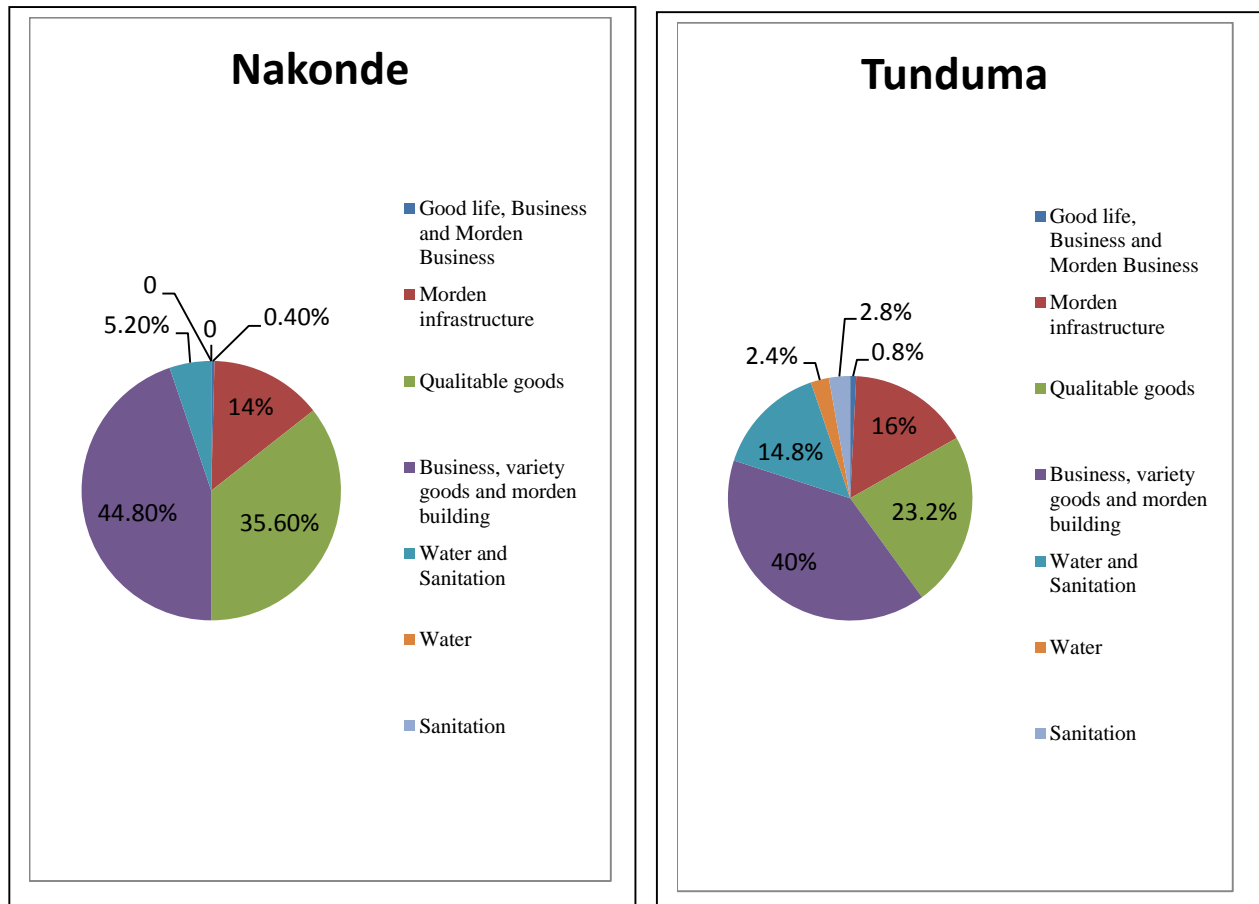
Source: Field Data, (2011).

Figure 5.8 shows a pictorial view of Nakonde and Tunduma towns taken from a distant area on a bear land. It indicates that there is infrastructural development of the area. From the top left of the picture, there are tall buildings which are making the area to look more attractive. Also the continuous built up land across the picture shows that indeed the area is forming a conurbation.

Figure 5.8: Pictorial view of Nakonde and Tunduma Towns

Source: Field Data, (2015)

5.4   Marriage, Children and Fertility

The section highlights the results for issues relating to marriages, children and fertility. In order to explore the development of conurbation of Nakonde and Tunduma towns, the following have to be examined which include intermarriages, patterns of marriage, customary practices in traditional marriage arrangement, number of children ever born and total fertility rates in Nakonde and Tunduma towns.

5.4.1 Intermarriages between Zambia and Tanzania

The intermarriages between Zambia and Tanzania are in relation to Nakonde and Tunduma. This subject clearly shows occurrences of intermarriages as those who said 'Yes' are 99.6 percent while those who said 'No" are only 0.4 percent. Therefore, the intermarriages exist in both towns of Nakonde and Tunduma. This is because in issues of intermarriages there is a higher chance that it happens between people with common interests, culture and also life styles. With such a high percentage of the perceived intermarriage occurrences in this study area, it is also a clear indication that the traditions and culture in terms of marriage are similar as this area was one at one point and people in this area do not consider themselves as separate people.

Similarly the Nakonde Immigration officer had this to say:

"80 percent to 90 percent of families are of intermarrages hence have problems in getting their National Registration Cards (N.R.C.) because the family has no record statement to prove that they area Zambians or Tanzanians. They take it forgranted that when their marriage is recognized by their chief (Waitwika for both Nakonde and Tunduma) then it is automatic for their children to get N.R.C. from the Zambian Immigration office without considering were the parents are from. However, this office is guided by law that their children have the right to settle either in Zambia or Tanzania by 21 years" (Nakonde Immigration Officer, 2011).

5.4.2 Type of Marriage in Nakonde and Tunduma

The types of marriage are in terms of traditional, western or both (meaning that a respondent had the traditional and western type of marriage). The observation was that most of the respondents followed the traditional type of marriage as findings indicate that Nakonde has 41.6 percent and Tunduma has 44.4 percent, western type of marriage Nakonde has 31.2 percent and Tunduma has 18.4 percent and both types of marriages are only in Tunduma with 1.2 percent. Those who are not married yet indicate that Nakonde has 27.2 percent and Tunduma has 36 percent.

Figure 5.9: Respondents By Types of Marriage followed at Marriage in Nakonde and Tunduma
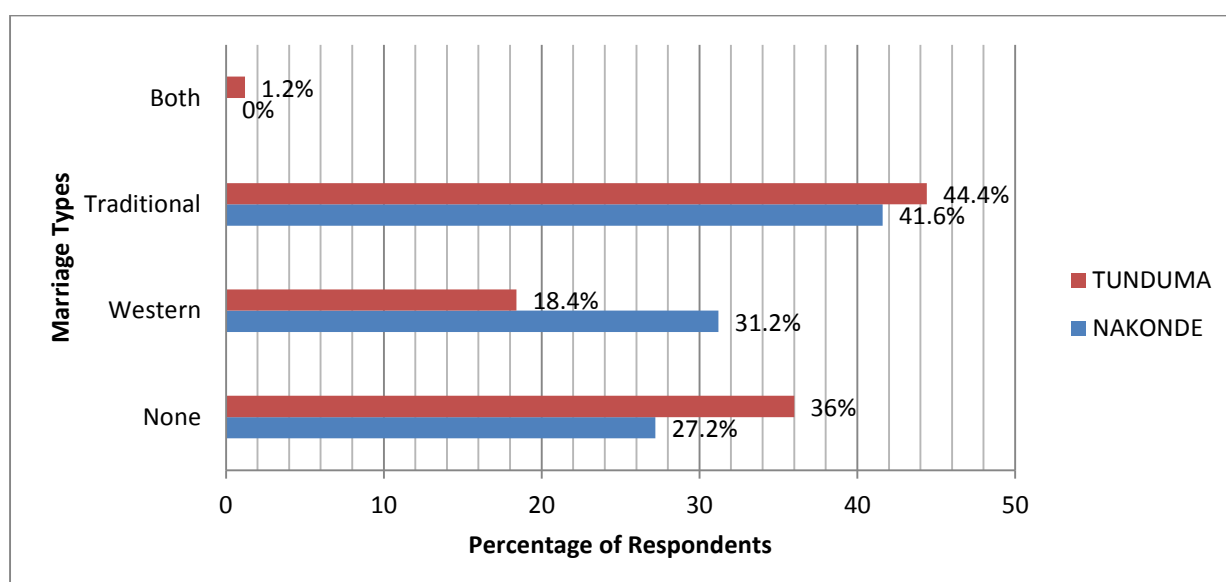
Note: Both means Traditional and Western

Source: Field Data, (2011).

In order to justify how a types of marriage can influence the number of children in a marriage, Figure 5.10 is used to display this relationship. It compares the number of children between traditional and western type of marriages between Nakonde and Tunduma towns and indicates the one which has accounted for a lot of children among respondents. Traditional marriages support more children than western marriages as it was confirmed among the respondents in Figure 5.13 shows which clearly indicates that Traditional marriages both in Nakonde and Tunduma the number of children increased as the steadily even with 5+ children whereas for western type of marriage the number of children decreased as the number of children ever born increased from 1 to 5+. For instance, traditional marriage in Nakonde increased from 9 respondents with 1 child to 29 respondents with 5+ children while Tunduma increased from 6 respondents with 1 child to 48 respondents with 5+ children.

Figure 5.10: Respondents by Number of Children Ever Born In Types of Marriage
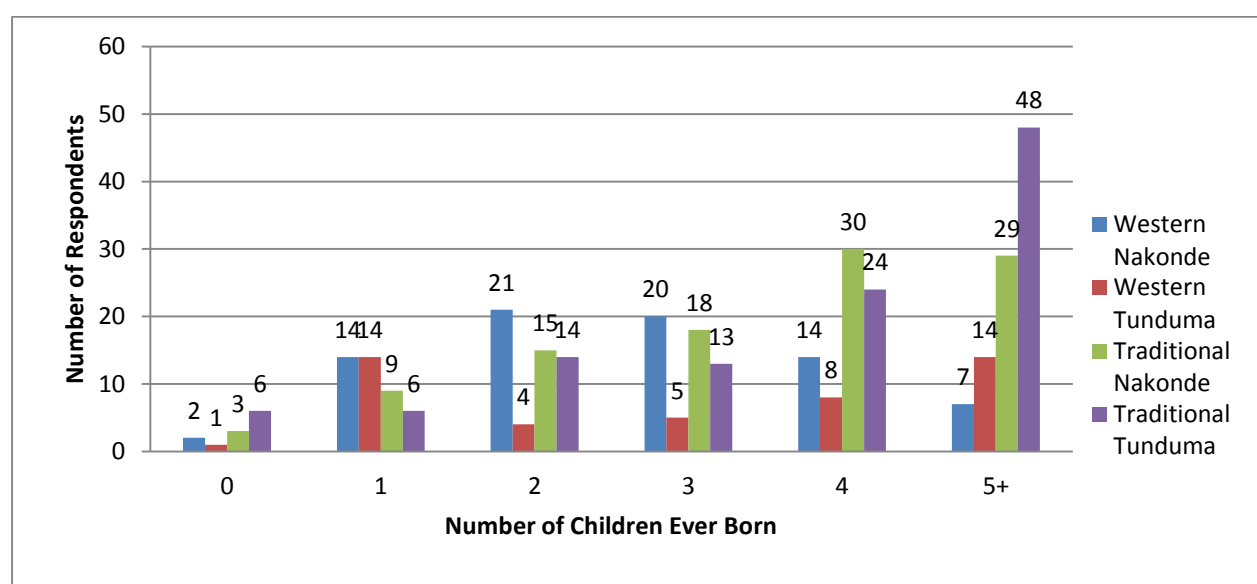
Source: Field Data, (2011).

Table 5.10: Views on Acceptance of Childless marriages Based on Perceptions

s/n	Childless Marriages	Towns	
		Nakonde	**Tunduma**
1	Accepted	34.4	31.6
2	Not accepted	65.6	68.4
	Total	**100**	**100**

Source: Field Data, (2011)

The respondents views the acceptance of childless marriages differently especially when it

comes to the Types of marriage. There were respondents who accepted and those who did not accept childless marriages based on perceptions. The respondents who accepted are represented by 34.4 percent for Nakonde and 31.6 percent for Tunduma while those who did not accept are represented by 65.6 percent for Nakonde and 68.4 percent for Tunduma.

The reasons for the acceptance of childless marriages are many and are placed in two groups namely 'those who accepted childless marriage' and 'those who did not accept childless marriage'. The respondents who accepted childless marriage have the following reasons, God gives children, Love, Adoption and that a second wife could be married while respondents who did not accept have the following reasons, that's the reason why people get married, brings in the second wife for children bearing, God gives, carry on their business and a source of happiness. It should be noted that reasons for respondents who accepted childless marriages were fewer than those who did not accept the childless marriages. There are also universal reasons from the two groups of respondents on 'second wife for children' and 'God gives children'.

Figure 5.11: Reasons for Acceptance and None Acceptance of Childless Marriages
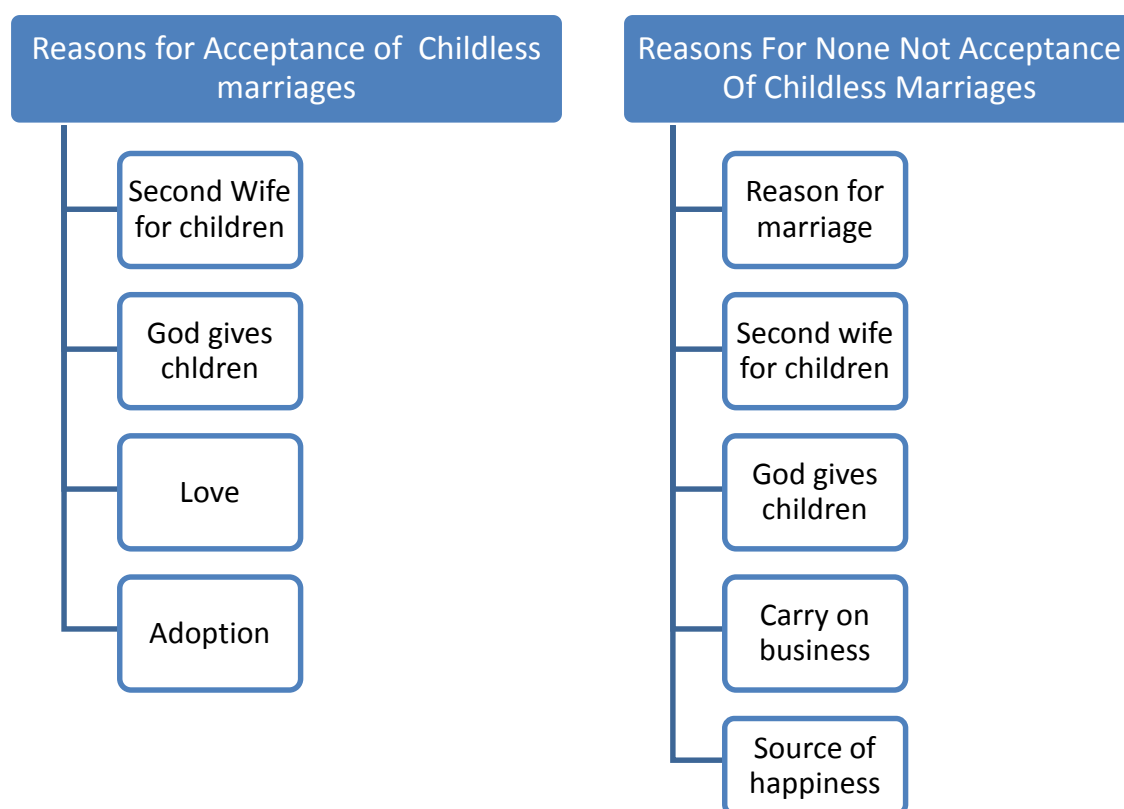
Source: Field Data, (2011).

5.4.3 Age at First Marriage

The age at first marriage for Nakonde and Tunduma falls in the reproductive age group of 15 to 49 years as it ranged from 15 to 35 years from the respondents. However, the researcher's concern is on the females' age at first marriage as this will be helpful in determining the length of the child bearing years will in marriage. The female respondents in Nakonde are married between the ages of 16 to 34 while in Tunduma they are between 15 and 39.

Table 5.11: Respondents by Age at First Marriage for Nakonde and Tunduma.

| Age Group | Age at first Marriage | | | | |
| | Nakonde | | Tunduma | | |
	Female	Male	Female	Male	Total
15-19	17	12	7	15	51
20-24	43	39	21	35	138
25-29	25	32	23	34	114
30-34	4	11	15	17	37
35-39	0	0	3	0	3
Total	**89**	**94**	**69**	**101**	**343**

Source: Field Data, (2011).

5.4.4 Awareness of the Presence of Customary Practices in the Traditional Marriage arrangements

The awareness of the presence of customary practices which are common in the traditional marriage arrangements are very wide and these includes arrangement of marriage by parents, eloping, both male and female pass through tradition marriage rites, older male than female at marriage, payment of dowry, payment of virginity, pregnancy before marriage and before the child is born the couple stays with the in-laws at the male's parents. These numbers of responses are out of 500 respondents for each customary practice. Among all the respondents, 87.2 percent acknowledged arranged marriages, 5.4 percent acknowledged eloping, 9 percent acknowledged both male and female pass through the traditional marriage rites, 98.2 percent acknowledged older males than female at marriage, 99 percent acknowledged payment of dowry, 97 percent acknowledged payment for virginity and 0.6 percent for before a child is born couple stayed with the in-law at the male's parents.

Table 5.12: Respondents by Customary Practices

S/N	Customary Practices	Number of Responses	Percent of Cases
1	Arranged marriage by parents	436	87.2
2	Eloping	27	5.4
3	Both male and female pass through traditional marriage rites	485	97
4	Older male than female at marriage	491	98.2
5	Payment of dowry	495	99
6	Payment for virginity	485	97
7	Before a child is born couple stays with the in-law at the male's parents.	3	0.6
	Total	**2422**	**484.4**

Source: Field Data, (2011).

The differences in awareness of the presence of customary practices for traditional marriages are derived from the responses given by the respondents in terms of the acknowledgement of whether they have noticed any differences in the customary practices in Nakonde and Tunduma towns (these were used to indeed verify that these people (Zambians and Tanzanians) live like one and there is really not much difference). These help to ascertain if these would indeed show that the settlements are bonded by customary practices to cement the development of a conurbation in Nakonde and Tunduma As a result of these, there were 4.4 percent of respondents confirmed to have noticed difference while 95.6 did not confirm to have noticed any differences.

Figure 5.12: Differences in Awareness in the Presence of Customary Practices in the Traditional Marriage arrangements
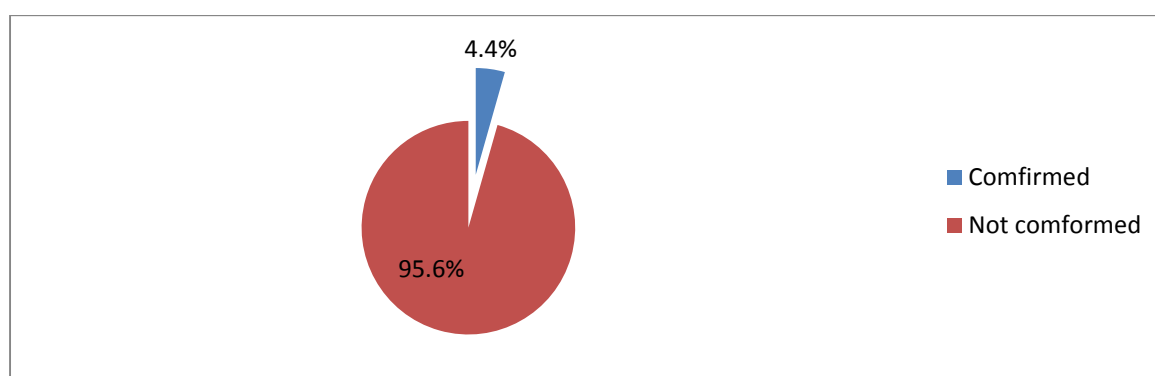
Source: Field Data, (2011)

5.4.5 Number of Children Ever Born and Fertility Rate in Nakonde and Tunduma

In order to understand the issue of fertility the issue of the number of children ever born and the desired number of children have to be taken into consideration. To begin with, the number of children ever born is an indication of the number of children that an individual respondent has and for this area they ranged from 1 to 14. Out of all the respondents, 31.2 percent never had children at the time of the data collection (includes both who are yet to have children and those who did not just have children), those who have the number of children as 1, 2, 3, and 4 are represented by 10.4, 11.6, 11.4 and 15.4 percentages respectively, those who have children between 5 and 6 are represented by 5.6 and 6 percentages respectively, and lastly those who have 7, 8, 9 and 10+ children are represented by 1.2, 2.8, 1.2 and 3.2 percentages respectively as indicated in the Figure 5.13.

Figure 5.13: Respondents By Number of Children ever born In Nakonde and Tunduma
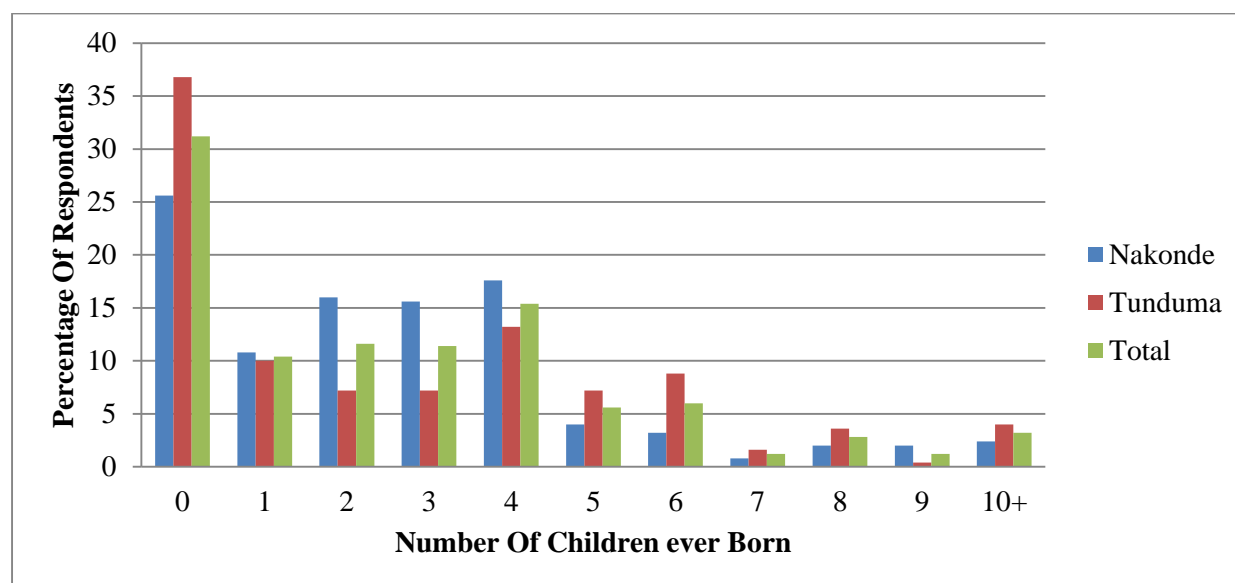
Source: Field data, (2011).

The desired number for future children is another aspect which brought out issues on the perception of the projected number of children in the future. 288 respondents preferred to have no more children in future, and the rest wished to have children ranging from 1 to 5+ children. The desired number for future children indicates the need to have more children among the respondents. However, more respondents with no desire to have children in the future as the ones they had are enough. Fortunately, there are those who have the desire for more children

ranging from 1 to 5+ children. Although the desired numbers of children are many, the magnitude reduces as the number of children increase for the study area.

Table 5.13: Desired Number of Children for Nakonde and Tunduma

Desired number of future Children	Town					
	Nakonde		Tunduma		Total	
	Percentage	Number	Percentage	Number	Percentage	Number
0	53.2	133	62	155	57.6	288
1	20.8	52	10.4	26	15.6	78
2	14.4	36	10.4	26	12.4	62
3	8	20	6.4	16	7.2	36
4	3.2	8	7.6	19	5.4	27
5+	0.4	1	3.2	8	1.8	9
Total	100	250	100	250	100	500

Source: Field Data, (2011).

The issue of fertility can never be left out as it is the only sure way to state how children born in an area may have an effect on the population. However, it should be noted that the population will only increase if the fertility is 2.0 or more, (Hinde: 1998). In this study, the Brass P/F Ratio method was used to estimate the Total Fertility Rate (TFR) for the study area. It exposed the population of Nakonde and Tunduma to reduce potential errors in the data collected especially on children ever born in the last 12 months or past year. This is based on the following assumptions:

1. Fertility has been constant in the recent past,
2. Reference period error with respect to last year's births is not a function of mother's age,
3. Parity is correctly reported for women in the 20s and low 30s, but may be under reported by the older women.

In addition to these assumptions the data used was;

1. The number of women in each age group from 15-19 to 44-49,
2. Children ever born
3. Births in 12 months preceding the survey.

For this study the information available was the number of children ever born and the number of women in the child bearing age groups from 15-19 to 44-49 years. However, the number of

children born in the last 12 months was not available, hence, the numbers of children ever born from the 2010 preliminary results for census being used in order to estimate the number of children for children ever born for the study area. This was done using a simple mathematical equation as shown below:

$$C(12m) = \frac{\text{number of C(12m)from 2010 census to women age i} * \text{number of women in age i}}{\text{number of women in 2010 census}}$$

Where C (12m) is the number of children born in the last 12 months

Hinde (1998:97)

This was also used to make comparison s between the Fertility level between Nakonde and Tunduma towns. The results indicates that the Total Fertility Rate (TFR) is presented in three ways fi as TFR without adjustments, fi* as TFR which is adjusted using P2/P2 in order to increase the current fertility by 50 percent and fi** TFR is adjusted by using the P1/P1 in order to reduce the TFR lower.

The results indicate that the fi TFRs for Nakonde is 5.6, Tunduma 3.4 and the total 5.5. All these TFRs were closer to the TFR for Nakonde which is at 5.3 as per 2010 Census Preliminary results, (CSO: 2011). The fi* TFR for Nakonde is 2.5, Tunduma is 4.4 and the total is 3.3 are established in order to reduce the number of misreported information on the number of births in the past one year as a result of the reference period error especially that some women have a poor concept of 'in the last year'. Lastly, the fi** TFR for Nakonde is 3.2, Tunduma is 3 and the total is 3.8 which is a further way of reducing the misreporting of the children in the past 12 months or 1 year. The actual calculations are indicated in the appendix c.

Table 5.14: Total Fertility Rates Extracted by using the Brass Indirect Estimation of Fertility method

S/N	Total Fertility Rate	Nakonde	Tunduma	Total
1	Fi	5.6	3.4	5.5
2	fi*	2.5	4.4	3.3
3	fi**	3.2	3.0	3.8

Source: Field Data, (2011).

CHAPTER SIX

DISCUSSION AND CONCLUSION

6.1 Introduction

This chapter gives a discussion and conclusion of the presented and analyzed results from chapter five on social, economic and demographic characteristics; economic activities in relation to migration; services and attitudes towards the standard of living; and Marriage, children and fertility. It also gives an interpretation of what was found in the field as illustrated in chapter five in relation to the objectives on the factors associated with conurbation in Nakonde and Tunduma.

6.2 Economic Activities in Relation to Migration

The discussions are based on the economic activities with emphasis on the year of migration, migration duration, reasons for migration, salient issues in the reasons for migration and other activities engaged in apart from the reason for migration. The level of satisfaction for the respondents, booming business, reasons for booming business and problems associated with the business also added their own share in the discussion.

6.2.1 Year and Duration of Migration

In Nakonde there has been a fluctuation in migration such that there were more respondents who migrated in the period <1990 but reduced in the period 1991-2000 and then increased in 2001-2011. It shows that the reduced number of migrants in the period 1990-2000 has a lot to do with the economic hardships which existed such as economic wage freeze and the new economic programs of liberalization and privatization of parastatals which brought a lot of uncertainties for many people in Zambia. However, the trend changed in the period 2001-2011 as this is the period of benefits from the hardships of the previous period as people then became more enlightened and open minded by stopping their dependency on the government for everything in order to survive. There was also a lot of diversification of the local economy with a huge reduction on the dependency on copper which led to an increase in agricultural production. The transport and communication sector also improved and enhanced the fast and efficient delivery of goods and services. In addition, the population increased from 78, 000 in 2000 to 121, 000 thousand in 2010 as was observed by the Nakonde Municipal Council. This showed a clear indication that the population of this area had definitely increased there by contributing to conurbation of the study area.

As for Tunduma, the migration period shows a steady increase from <1990, 1991-2000 and with the highest being in the period 2001-2011. This scenario has an inclination for the increased business ventures at the border of Nakonde and Tunduma which increased the cross border trade between Zambia and Tanzania.

The year of migration as presented in Chapter five in Figure 5.2 gives a clear picture of the similarities in the migration trends in both Nakonde and Tunduma towns. In addition, the Immigration offices for both Zambia and Tanzania, which opened in 1967 when a need to control and monitor the movements of people in and out of both countries was seen, confirmed these similarities in migration trends for both Nakonde and Tunduma. The offices confirmed that as a result of Nakonde and Tunduma being in one country (Zambia before independence) as indicated in letereture review on the study area conurbation.

Migration duration of the respondents in the 22+ years category was the President Kaunda era which is represented by 21 percent (as per year for data collection and analysis 2011). It records such a high percentage because of the policies which existed at that time that is 'back to the land' where those who had retired and the unemployed migrated back to their villages. For Tanzania it was also the same as with a policy on 'Ujama' which was a system of establishing people in farming settlements especially those who were not in formal employment and it was mainly established in the Southern Province which is regarded as the farming area because of its fertile soils and rain patterns which were favourable for agriculture. These policies encouraged people who were not in formal employment to go back to their villages and farm. Therefore, these are the reasons for a high record of migration into Nakonde and Tunduma areas. These migrants settled in Nakonde mainly to start farming and in the process contributed to an increase in the population and also built village houses which contributed to the physical expansion of the built up the land which led to the conurbation of Nakonde and Tunduma.

As for 11-21 years migration duration, it is a revival period for Zambia which changed its government to that of the late President Chiluba. This era is characterized by liberalization of the economy and privatization of most of the government owned companies. A lot of companies were taken over by the private sector especially the transport sector which directly affected Nakonde and Tunduma as they were opened up for business and settlement. However, all these were not easily achieved as they were accompanied by things such as wage free and high import

taxes which also contributed to the hard times that were experienced. This is the reason for the observed low migration percent of 16.

For 1-10 years migration duration, this is under three Presidents namely; Mwanawasa, Banda and Sata. All these are in the post era of liberalization and privatization, hence, enjoyed their benefits. Special interest is directed to the transport sector and also private business sector. Those two opened up the study area further such that people from all over Zambia and also Tanzania easily accessed Nakonde and Tunduma in one day coupled with the good rates in terms of import taxes which pulled a lot of migrants to this area. As a result of the increased population, the conurbation of this area has made it look like one area with no boundaries.

6.2.2 Reasons for Migration

Figure 5.3 shows those who migrate as a result of employment move because this area is promising to whoever employed them. On comparison bases between the two towns in terms of employment, Nakonde has 43.2 percent higher than Tunduma which is at 38.8 percent. This shows that the majority of the migrants in both towns moved as a result of employment opportunities which act as a pull factor according to Lee's 'Pull and Push Model'. As a result of this, most of these migrants would need accommodation and definitely settle for a long period. In the end, this contributes to population increase and also the demand for accommodation which are factors associated with conurbation.

Business as the main notable reason for migration shows that Tunduma at 32.8 percent was higher than Nakonde with 30 percent. Both towns are on a higher side for business as a reason for migration as any area which has the potential for business always pull people. As for this area, it already has a large population which consisted of permanent and transit population to provide a good market and high demand for goods of any sort. With such advantage, it has made the area to pull a lot of people which leads to population increase and provision of business for the transport sector. These findings are confirmed by the ZRA and TRA as indicated in chapter for presentation and analysis of findings. It is also important to note that business does not only stand on its own but is able to stimulate the creation of other forms of employment.

Education as a reason for migration Tunduma was 24 percent which is higher than Nakonde at 17.2 percent. This disparity was mainly due to the fact that more Tanzanians preferred to send

their children to schools in Zambia while Zambians had a variety of school choices even in other towns such as Isoka (Isoka high school), Chinsali (Chinsali Girls Secondary school) among others. In addition, these were mainly students who were seasonal migrants who always returned to their areas of origin. However, this disparity was also confirmed by the Immigration offices for Zambia and Tanzania who indicated that there were many Tanzanians who had acquired education permits for their children through their offices even though some did so illegally.

Others (includes all the other reasons such as accommodation, transport, electricity only to mention a few) indicated that Nakonde had 9.6 percent which is higher than Tunduma with 4.4 percent. This difference and also low percentage for both towns was due to the fact that most of the respondents took farming as a secondary reason for migrating to this area while their primary reason was business. However, farming had also contributed to the development of conurbation in this area as it provided the farm products such as rice, Irish potatoes, Sweet potatoes, onions that are used in trading. The products had also pulled people as they are very affordable and readily available.

All in all, these are the pull factors for Nakonde and Tunduma which encouraged migration of people to this area. They are factors which are also associated with the development of a conurbation as they directly contributed to population increase and physical expansion of the land through the building of either houses or offices.

Table 5.3 indicates that all the selected background characteristics are significant. This gives the impression that the respondents' who migrated were greatly influenced by the background characteristics and are being pulled by Business, Employment, Education and Farming into Nakonde and Tunduma. As the Lee's 'pull and push' factor indicates that there are main ways in which a population can be encouraged to migrate to a place with positive and attractive things which are better than those found where they are currently stationed.

On a general view, sex shows that all the reasons for migration have more males than females except for education. The reason for this is that generally males are mostly the bread winners of families and therefore tend to migrate more often than their female counterparts who mostly take care of their households hence the reason for more of the males in business, employment, farming and visiting. However, education had more females than males mainly as a result of

the presence of the Mwenzo Girls' Secondary School.

Age also show more respondents between the ages of 15 to 24 who migrated as a result of education and also between ages 20 to 50+ migrated as a result of business and employment. Those who were married mostly migrated as a result of business and employment while many of the single respondents migrated due to education. In terms of education levels, there were more respondents who had a secondary and college education level, although as a whole most of the respondents migrated for business and employment.

Business as an economic activity was a pull factor which contributed to the migration of people into the study area. Despite the fact that business was significant enough to have caused the respondents to migrate into the study area, the scenario was not mutual for Nakonde and Tunduma separately. Nakonde had business as the reasons for migration and not Tunduma. Therefore, this means that the respondents were attracted to Nakonde because of business ventures, thereby conforming to the Lee's 'Pull and Push' model which states that people migrated to another area because they are attracted to the positive things such as business, employment, education opportunities and in this case business conforms.

Employment is also an economic activity, but the question is did it really pull respondents to the study area? The Chi-Square analysis shows that it did not cause migration of people to the whole area. However, in comparison between Nakonde and Tunduma, it did pull respondents to Nakonde with a significance of 0.052 although very weak while for Tunduma it did not. For Nakonde it was due to an increase in the employment sectors such as the clearing and forwarding and hospitality industry.

Education as one of the economic activities had pulled respondents to the study area as a whole as it was very significant at 0.000 in terms of migration. However, Nakonde at 0.000 was greater than Tunduma 0.071 significance. This is due to the fact that Nakonde had a lot of schools especially at secondary level which attracted people 15 years and above as per the ages for this study. Some of the secondary schools included Mwenzo and Nakonde Day. These are schools which attracted people not only in Zambia but also Tanzania as it was noticed that most of the Tanzanians preferred to attend Zambian schools as they offered better quality education than those in their country. In addition, Tunduma had little significance as most of the respondents migrated to Tunduma for research or attachment. Therefore, it is an indication that

education had also contributed to the conurbation of Nakonde and Tunduma by increasing the population although the number of students migrated as a result of Education.

Others also pulled people to the study area, hence is one of the economic activities which caused respondents to migrate. For the whole study area the significance is 0.000 hence it caused migration for those who are in search of other things such as Farming. However, only Nakonde has a significance of 0.000 unlike for Tunduma with 0.990. This is as a result of Nakonde having a lot of land for agriculture especially that the land was not owned by the council but by the chief. Therefore, headmen gave out land to their people so that they could grow crops and sustain their families. In addition, the soils were among the most fertile in Zambia and hence had attracted a lot of farmers. As for Tunduma, farming was mainly done in the areas which were closer to the equator as they received rainfall throughout the year.

The main economic activities which caused migration of respondents to the study area were business, education and employment. These are the pull factors of this area which had contributed to the conurbation of Nakonde and Tunduma through population increase and physical expansion of built up land. However, on comparison basis, Nakonde had the economic activities which caused migration including business, employment, education and others while Tunduma has only education as it was the only activity which was significant according to the regression analysis as shown in Table 5:4.

The salient issues which were the secondary reasons for migration are very wide in every aspect. To begin with, those who were employed government workers included nurses, doctors, teachers and police officers; customs include immigration officers, ZRA workers and those for clearing and forwarding; and driving. Those who were in business had cross border and entrepreneur who were either in big business ventures or who owned big shops or worked at the market and street venders. Those in education were mainly studying at secondary, college or university. Finally, farming involved the production of farm produce which were used for various activities such as provision of food in homes and also goods for business.

A combination of customs, government workers and driving (as taxi, bus or truck driver) had a large proportion. Those involved in cross border and entrepreneurs were second. These were followed by those who were studying and lastly the farm produce. All these salient issues in the reasons for migration give a clear picture that Nakonde and Tunduma are multifaceted in

terms of means to earn a living. Therefore, the pull factors are into various circles of life thereby contributing to the development of a conurbation of the study area.

6.2.3 Other Activities engaged in apart from the Reason for Migration.

The pattern was also almost the same in the comparison of Nakonde and Tunduma. However, Nakonde had fewer respondents who were not engaged in other activities while business, farming, land lord, part time teaching and driving were in descending order in terms of magnitude. Whereas for Tunduma there were more respondents who were not engaged in other activities and only business, farming and driving are also represented in descending magnitude.

The idea was to make a verification that respondents in the study area also noticed the potential for a lot of ways to make money hence they took the opportunities presented to them and migrated to this area. This is the reason why they found alternative or extra ways of making an extra income and made them decide to stay longer in the area and probably build permanent structures such as houses. Therefore, when it happened, a contribution has been made to the conurbation through population increase and physical expansion of the built up land through building with reference to landlords.

In addition to the economic hardships found in most of the developing countries, the respondents indicated that they could also earn extra income not only through one activity but in many ways so as to make ends meet. This is in line with a saying that states, 'do not put eggs in one basket'. Therefore, the more extra activities they engaged in, the more likely they would stay in Nakonde and Tunduma for a longer time. Others would also hire people to work for them and stay for a long time.

6.2.4 Rapid Business Expansion as a multifaceted effect of Economic Activities

The Rapid business expansion is as a result of the growing business activities in Nakonde and Tunduma towns as the results showed that more than three quarters of the respondents acknowledged this fact. It can be also confirmed that a number of businessmen and women in both Zambia and Tanzania had been travelling to the border of Nakonde and Tunduma to do business. For example, in Lusaka and Kitwe the number of long distance buses increased especially the ones that head to Nakonde such that some companies (Jordan Motors) ended up sending two big buses on the same day for people and also the transportation of goods. They

further acknowledged that trade was ventured into different kinds of things such as cloths, hardware, automobile ware, electronic goods and also food. All these are evidence enough to say there is booming business in Nakonde and Tunduma.

This booming business attracted a lot of respondents. It can be traced back to the reasons for migration were business had 30 percent for Nakonde and 32.8 percent for Tunduma and to add on to this some people were employed in these same businesses are part of booming business meaning that a percent on employment where Nakonde has 43.2 percent and Tunduma 38.8 percent can be added to business. As the business is booming the number of people being pulled to this area are too numerous to mention and state that they add to the population thereby increasing it hence contributing to the conurbation of Nakonde and Tunduma.

The reasons for booming business were all in line with business. The highest are those who stated 'business and variety of goods' represented by 58.8 percent. The second stated 'good prices for business and variety of goods' with 18.4 percent. 'Quality goods and nice buildings' indicated 12 percent. The lowest of all reasons was 'high demand for guest houses and houses' with 3.4 percent.

All the reasons given depend on a market and high demand which cause the booming business. Therefore, the market and high demand is provided by the population found in this area (not forgetting that some traders are from other areas where there is also a market and demand for goods in the study area) and maintained the business meaning that the population will always be on the increase just to satisfy the market. Eventually, this in itself gives a justification that the population of this area is still growing and there is physical expansion of the built up land through the building of infrastructure such as guest houses and houses.

The comparison in terms of reasons for booming business between Nakonde and Tunduma shows the same pattern. They both have more respondents who confirmed that the reasons for the booming business are business and a variety of goods. This indicates that indeed the two towns have the same causes for booming business hence the reasons for the whole area still stands for each town.

The problems that were associated to business in the study area are theft, prostitution, shortage of land and lack of accommodation. Out of all these problems the most prominent ones were

theft and prostitution (it may bring moral decay, spreads HIV/AIDS, breaks marriages and they are sometimes thieves). This has been mainly because in any area with booming business, these two vices cropped in as a negative force of business. The Nakonde Municipal Council also confirmed that through the council police a lot of cases involving theft and prostitution had been recorded. They have been attributed to none existence of a visible physical separation at the border between Zambia and Tanzania. The experiences in theft are in terms of vehicles being stolen and burglary especially for shop owners. It was reported that prostitution was on the rise due to the increased number of guest houses in the area and also the number of truck drivers in transit. It was noticed that they made a lot of money hence the vulnerable women on business trips engaged themselves in prostitution for an extra income or a room to rest as they did their business.

The shortage of land was only common to areas close to the border area as there existed structures already. However, it is noted that since the township boundaries are not yet gazette, most of the land is under customary tenure or is under traditional chiefs. The allocation of land is through the chief and the council comes in only to place it on their plan. As a result of this, the area had a lot of unplanned settlements which did not have passable roads. Consequently, the area from Nakonde to Tunduma looked like one continuous settlement with no proper physical boundary. In addition, the Nakonde Municipal Council had no authority on the development of the land which contributes to the conurbation of Nakonde and Tunduma towns as it has experienced a lot of challenges. Some of the challenges lay in the planning of the land that is allocated to people before roads into residential areas are constructed or even plaaned which in turn led to the mushrooming of unplanned settlements. This also affects the planning for infrastructure such as hospitals, clinics and recreation area, collection of garbage which has been exacerbated by the increase in population which also leads to the outbreaks of typhoid and also failed to collect levy especially from those who operated on the black market (unlicensed or unregistered markets). With such a report from the municipal council it is clear that the area has formed a conurbation and building of various infrastructures has also contributed.

6.3   Services and Likelihood to Settle In Relation to Migration

This section highlights the services (its availability or its presence) and how it enhances likelihood to settle, food , how perceptions on the more development town between Nakonde and Tunduma and their relation to migration issues in the conurbation of Nakonde and

Tunduma towns.

6.3.1 Services

The services (piped water, transport and electricity) available act as 'Pull factors' which make people migrate to or decide to settle in this area. The end result in most cases is that the area attracts migrants thereby increasing the population and hence the development of conurbation of the area. This was analysed using the odds ratio of the binary logistic regression.

The presence of piped water in relation to sex, the male respondents have odds ratio 1.467 more likely than females to settle in Nakonde and Tunduma. This conforms to the Ravenstien 'laws of migration' which emphasizes that males migrate to far lands across the known boundaries than their female counterparts. Such that as the migrants move to the nearest small town the find services which attract them to settle and maybe before they decide to move to a more developed area than Nakonde and Tunduma towns. As for the age groups, 25-34 has 1.169 and 35+ has 1.687as their odds ratio which are both more likely to settle than the age group 15-24 as a result of piped water in Nakonde and Tunduma. This is as a result of the fact that the older the respondents are the more stable and independent about their lives in terms of issues of settlement than the young ones. The married and the formerly married respondents are odds ratios 0.467 and 0.568 respectively less likely to settle than the single in terms of piped water. This is because they can source for alternative sources of water such as bore holes, wells and rivers. The significance for marital status is at 0.10 for both married and formerly married which shows how important they are to the study. As for Educational level, secondary odds ratio 0.614 and higher education odds ratio 0.429 less likely than those who have primary education to settle as a result of piped water in Nakonde and Tunduma. In terms of towns, the respondents from Tunduma odds ratio 1.264 are more likely than those from Nakonde to settle as a result of piped water. The non-migrants also have an odds ratio of 1.593 likely than the migrants to settle in Nakonde and Tunduma which is the more reason why they have even remained in the area.

The respondents who had settled in Nakonde and Tunduma as a result of the availability of transport as a service in relation to the selected background characteristics are sex, age, marital status, educational level, town and migration status. In specific terms, the males odds ratio 1.231 more likely to settle than the females; 25-34 has odds ratio 0.571 and 35+ has odds ratio 0.110 less likely to settle than the age group 15-24; married and formerly married respective

odds ratios are 2.34 and 3.756 more likely to settle than the singles; the respondents with secondary and higher education respectively odds ratios 2.648 and 3.627 more likely to settle than those who only had primary education; the respondents from Tunduma are odds ratio 4.352 more likely to settle than those from Nakonde; and lastly, the non-migrant are odds ratio 2.326 more likely to settle than the migrants. Transport is one of the most important factors associated with the conurbation of Nakonde and Tunduma especially that the area has no natural physical barrier such as a river. This is because it is able to attract a lot of settlements especially along the road which in turn has expanded the built up area. In the same manner the growth of the population has also been on the increase.

Electricity as a service is an essential element which can make people settle or migrate to a place where it is being provided. In relation to selected background characteristics; males odds ratio 1.799 are more likely to settle than the females; age groups with their respective odds ratios where25-34 has 0.709 and 35+ has 0.602 are more likely to settle than those in age group 15-19; the married odds ratio 0.470 and the formerly married odds ratio 0.657 are less likely to settle than the single; respondents from Tunduma odds ratio 0.288 are less likely to settle than those from Nakonde; and non-migrants are odds ratio 2.892 more likely to settle than the migrants.

6.3.2 Food

Food is very important to any country, town, culture, or individual. The study area has a variety of food which is at the same time affordable. Most people believe that Nakonde and Tunduma are very rich in food because they are both not only business areas but also agricultural areas. As a result of Agricultural activities in this area people tend to settle in this area

Both towns have very fertile soils and good rainfall to support any kind of farming. Since most of the food is produced in this same area there is reduced transport costs making it is affordable and people find it cheaper to settle in this area thereby pulling a large population and also creating a large domestic market (demand) for the food. An example an area which developed into a conurbation as a result of food produced due to its fertile soil is the Randstad of the Netherlands (Waugh, 1995). As a result, people spend less money on food and invest the rest of their funds in different things ranging from building houses to businesses. Therefore, Nakonde and Tunduma are developing into a conurbation and one of the facilitating factors is affordable food which has attracted a large population which in turn has attracted a lot of

construction especially of roads and housing which has led to a continuous expansion of the built up area.

The area has a wide variety of food. The types of food included vegetables, cereals, meat, tubers and fruits. Among the vegetables were cabbage, rape, tomatoes, beans and onion; cereals included rice, maize and millet; meat included beef, pork, goat, sheep, chicken and fish; tubers included cassava, yams sweet and Irish potatoes; and fruits such as oranges, apples, cocoanuts, bananas, lemons, mangoes, grapes and granadillas. From all these types of food any dish from any country could be made as the basics ingredient of most of the dishes are found in this area.

6.3.3 Development of Nakonde and Tunduma

The physical development of these two towns is noticeable on the ground as the area has developed over the years from a predominantly rural to an urban area. The visible development is mainly the number of infrastructures that have been constructed in the area. These include the 'One stop office' for Immigration and ZRA, banks, insurance offices, shops and houses.

Even though it is perceived that Tunduma is more developed than Nakonde, the difference between them according to the responses from the respondents is only 2 percent which is very small. Those who acknowledged that both (Nakonde and Tunduma) are developed are only 5.2 percent. Therefore, these results show that the differences in development are very minimal and can be approached as if the respondents are viewing the same area from different sides. In a nut shell, it will be very appropriate to say that the development of each of these towns compliment the other and there was a lot of biasness in the observations made from different towns.

To start with, business is the most prominent reason followed by modern infrastructure. These complimented each other because business is the one which attracted the building of modern infrastructure. The business component brings in the aspect of population increase while the component of modern infrastructure brings in the aspect of building which leads to the physical expansion of the built up land in the area. Therefore, both reasons are the factors associated with the conurbation of the two towns in terms of population increase and expansion of physical built up land through buildings such as banks, houses, offices, guest houses only to mention a few.

Water and sanitation are the two most important aspects which are very cardinal to the development of any area which includes the area under study. The Nakonde Municipal Council reported that these two are there, however, where it failed to reach out the people have opted for wells, bore holes and the use of septic tanks. However, when the septic tanks are full for both towns, vacuum tanks from Tanzania service them. However, the on separate terms water and sanitation are not represented in Nakonde but only in Tunduma as same parts of Tunduma have water only while others have only sanitation.

6.4   Marriage, Children and Fertility

This section interprets the topic at hand 'factors associated with the conurbation of Nakonde and Tunduma towns' in relation to marriages, children and fertility. It looks at intermarriages between Zambians and Tanzanians, patterns of marriage, age at first marriage, customary practices in traditional marriage arrangements, number of children ever born and total fertility rate in Nakonde and Tunduma towns. All these issues help in the discussion of the findings in relation to the topic at hand and how they contributed to the conurbation of Nakonde and Tunduma towns.

6.4.1 Intermarriages between Zambia and Tanzania

Intermarriages contributed to the conurbation of Nakonde and Tunduma towns as they brought out the need for accommodation and children. In terms of accommodation, it leads to a situation where the married rent or build houses. The houses will increase the area of built up land and cause the physical expansion for built up land especially that it is done on the land towards the border between Nakonde and Tunduma thereby contributing to the development of a conurbation. In addition, these intermarriages would encourage a family to settle within the same area which is similar to them. In terms of children who are born in these intermarriages, they contribute to the population thereby increasing the number of people in Nakonde and Tunduma towns and causing a direct contribution to the development of a conurbation in terms of population.

6.4.2. Types of Marriage in Nakonde and Tunduma

While there are more respondents who are married, inclination was towards those who followed the traditional marriage types as they were most likely to uphold the importance of children in a marriage. The fact that traditional marriages were more than the other types, it meant that their ideologies about a family were mainly based on the bearing of children. This

is because child bearing is one of the measures of marriage in the traditional matters. Therefore, with these aspects on marriages, it simply leads to the fact that respondents with traditional type marriages have to bear children who in turn will contribute to the population increase of this area and also enhance the development of conurbation. In addition, the respondents are more likely to have more children in the traditional type of marriage than those who in the western type of marriage. The children contribute to the population increase of the area thereby enhancing the development of a conurbation.

In order to justify how a pattern of marriage can influence the number of children in a marriage, Figure 5.9 is used to display this relationship. It compares the number of children between traditional and western type of marriages between Nakonde and Tunduma towns and indicates the one which had attracted a lot of children among respondents. In general, traditional marriages support more children than western marriages as it was confirmed among the respondents in Figure 5.9 shows which clearly indicates that traditional marriages both in Nakonde and Tunduma the number of children increased as the steadily even with 5+ children whereas for western type of marriage the number of children decreased as the number of children ever born increased from 1 to 5+. For instance, traditional marriage in both Nakonde increased from 9 respondents with 1 child to 29 respondents with 5+ children while Tunduma increased from 6 respondents with 1 child to 48 respondents with 5+ children.

These percentages show that children in marriages are desired based on the fact that the results have more respondents who did not accept childless marriages. This can be an indication that Nakonde and Tunduma towns are dominated with the traditional beliefs mostly because children are regarded highly in most traditional marriages. Therefore, if all the marriages especially the traditional marriage patterns, who have showed in Figure 5.9, that they have more respondents with more children (more than 5+ children) then it will mean that should all the women have these children in their life time, they will have the potential to grow in size in terms of population increase. As a result of this, the population of this area will increase and the built up area expand as more land will be needed for housing thereby making a continuous conurbation between Nakonde and Tunduma.

The two universal reasons send a message that the desire to have children in the marriage is present. For example, a childless marriage is accepted because it is not the end of a marriage but a second wife or children is the solution. This also applies to those who did not accept

childless marriages. As for the reason 'God gives children', it has different meanings. that is those who accepted God decides to give children or not while those who did not accept God must give children. Furthermore, those who accepted childless marriages show that 'love' and 'adoption'. For those who did not accept the childless marriages, the other reasons are 'the reason for marriage', 'carry on business' and 'source of happiness'. The first looks at children as the only reason why people get married and this is to discourage children out of wedlock. The second put children as the inheritance of all that they achieve in their life time and also as helpers when they are older. The third put children as the only ingredient for happiness in the marriage.

In all these, children are important as long as they are born in the marriage. Therefore, the issues of fertility are important for the study area. In terms of women among the respondents bearing children of more than 5+ in their life time can lead to population increase which can also contribute to the development of a conurbation. Therefore, children are important in marriages as they contribute to the population increase and also the high need for accommodation as it expands the built up area which are the main factors associated with conurbation according to Patrick Gobbes.

6.4.3 Age at First Marriage

This area has the potential to grow as most of the respondents are married within the child bearing ages of 15 to 49 years. In additional, the number of years before the respondents in age groups 15-19, 20-24 and 25-29 reached 49 years are many, hence, has the potential of contributing to the population increase if all the female respondents are having more than five children with a spacing of 2 years between children. Eventually, this may lead to population growth which in turn contributes to the development of a conurbation and can also be a case of Nakonde and Tunduma towns.

In terms of age at first marriage of the female respondents, Nakonde had 89 and Tunduma 69 giving a total of 158 females. These females have the potential of increasing the population of the study area if they are able to have live births with a spacing of 2 years between children. However, these are not the only female respondents who have the potential to contribute to population increase but also single females who have never been married before and have children. Therefore, it can be more prudent to suggest that the female respondents' age at first marriage has the potential to increase the population which is one of the factors which helps

the development of a conurbation in this case of Nakonde and Tunduma.

6.4.4 Awareness of the Presence of Customary Practices in the Traditional Marriage arrangements

Table 5.12 shows Nakonde and Tunduma respondents being aware of the same customary practices which try to consolidated and cement traditional marriages. In both towns issues of marriage are very serious and children outside marriage are not encouraged as no respondent acknowledged that pregnancy before marriage is part of the customary practices. Hence those who want children enter into marriages which are well established as per traditional circles. It also brought out the issue that married people usually have children who in turn contribute to the population growth of the area which is also one of the factors which lead to the development of a conurbation. Since 252 respondents are married while 90 respondents are formerly married (Table 5.1) or 342 respondents have been married before, hence, there is a high possibility of increased demand for houses (however, this is not to say single respondents will not need houses but the issue at hand is customary practices in traditional marriage arrangements). The combination of population increase from the children born in traditional marriages coupled with the building of houses to meet the increased demand clearly shows that they are the factors associated with the development of conurbation through population increase and expansion of the built up land of Nakonde and Tunduma towns.

The results indicate that a lot of respondents did not notice any differences in the customary practices in the traditional marriage arrangement. This implies that the customary practices were similar between Nakonde and Tunduma towns. This means that the conurbation of Nakonde and Tunduma towns can also be noticed in customary practices in the traditional marriage arrangements. The areas that are close to each other tend to have some common practices in a lot of things because people are like one. The case for Nakonde and Tunduma towns is not different as the area has developed into a conurbation which makes it look like one. This can also be attributed to the fact that the area has one common chief who resides in Tanzania be oversees the two towns and a common language *Namwanga* which is between Nakonde and Tunduma. Therefore, as the two towns developed into a conurbation, their customary practices have no differences as the respondents have been living as one big family in one big area although in different countries.

6.4.5 Number of Children Ever Born and Fertility Rate in Nakonde and Tunduma

The findings show that the fertility rate is relatively high in this study area as most of the respondents prefer to have between 1 to 4 children. Such high numbers of children may contribute to the population growth which in turn is one of the factors associated with development of a conurbation. Therefore, the number of children ever born has a direct effect on conurbation through population increase which can also be the same with Nakonde and Tunduma towns.

The number of children ever born which goes up to 10+ children among the respondents is a clear indication that female respondents had more children born from one individual in their life time. This can also give an impression that the respondents have a lot of children due to the fact that their age at first marriage is within the child bearing ages between 15 and 35 years hence have a lot of years in which to consider having children.

The desire for future children should be handled with caution as it should be noted that these are just desired number of children among the respondents, hence, only the real numbers of children are the only justifiable measure to warrant an effect on the rate of population increase. Therefore, the issue of fertility has to be brought out in order to show how the number of children born has an effect on population which is a measure of the development of conurbation. However, parents' desire to have more children due to the benefits generated from child service is also a factor. Additional services can be obtained extensively by having additional children or intensively by devoting additional resources to the upbringing of existing children and thereby raising the level of quality per child. The cost of unit of child service is determined by the quality and price of each input (parental time, various goods and services) used to produce the unit of child service' (Snyder, 1994: 613).

As the results indicated in Chapter five, it indicates that the population of Nakonde and Tunduma towns will have a positive effect on the population by increasing it as it shows that the TFR for Nakonde and Tunduma are above 2 even after the final parity adjustments are done. As for the whole study area it also indicates that the population will increase as it is also more than the 2.

Therefore, the TFR for the study area is more than 2 hence will increase the population which will eventually contribute to the development of the conurbation of Nakonde and Tunduma towns. The issue at hand is that the population of the study area is a growing population and will continue to grow as most of the female respondents are in the reproductive age group of 15 to 49 which gives them more time to contribute to the population.

6.5   Conclusion

The factors associated with the development of the conurbation of Nakonde and Tunduma towns is a very challenging topic to explore and fortunately the results posed a mind opener to what people tend to overlook or under estimate when it came to the topic at hand. To begin with, the progression of conurbation involves the merging of towns that is Nakonde and Tunduma through population growth and physical expansion of built up land to form a continuous urban and industrialized area is the back born of this study. The issue is to find out if this is on the ground and indeed it is with an exception on the part of industrially developed area which is not there as there are no industries whatsoever in Nakonde and Tunduma. Despite all this a conurbation has been formed against all odds.

The factors which are associated with conurbation are the economic activities enhanced by migration. People migrate to Nakonde and Tunduma towns because they are responding to what Lee called the 'Pull and Push model'. It supports the fact that people are pulled or pushed to a certain area because they are attracted to better housing, job prospects, more reliable source of food, or education or are pushed because they are not there. As for this area, people migrated to this area as way back as 1953 to 2011 although the numbers were in the last 10 years of this period. Most of them migrated because of business, employment, education and others as these are the economic activities which pulled them to this area. Of all these, those who migrated because of business and employment are far more than the rest. This is a clear indication that these economic activities contribute to the development of the conurbation of the area. Hence, they tend to make long term investments such as building houses and also having children. These in themselves contributed to population growth and also physical expansion of built up land to form a continuous urban area.

The other factors are linked to the likelihood to settle in Nakonde and Tunduma. These include services which indicate that all of them are more likely to settle as their odds ratio is exceed 1, food and development of the area. The area is able to provide services such as transport that is

road and rail, electricity and piped water which pulled people to this. These services are complimented by other things such as a variety of foods which are affordable and also the area is developing into an urban area as there has booming business and also expansion of modern infrastructure.

Marriage, children and fertility are also the main contributor to population growth. Basically, intermarriages occur between Zambia and Tanzania which shows that people from both countries are free with each in terms of them staying together for a life time despite them having different nationalities. This clearly shows that their ideals about having children are almost the same.

The types of marriage which are mostly followed are the traditional marriages even though there are a few who also followed western marriages. It gives a conclusion that traditionally a lot of children are encouraged. In addition to this, the age at first marriage ranged between 15 years and 35 years and these are child bearing ages.

Customary practices followed in traditional marriages are similar between Nakonde and Tunduma because most of the respondents confirmed that there were very few differences. People in both towns did not believe in bearing children outside marriages, hence promoted marriages. The fertility rates are high that is above 2 which means that they are able to contribute to population growth by having a lot of children who ranged from 1 to 10+ children. Most of the respondents had children between 1 and 4 and a large group of them did not have prospects of having more children in the near future. In addition, this is an area which encouraged people to have children in marriages as most of them did not believe in childless marriages.

6.6   Recommendations

The following were the recommendations which came out as some of the ways of exposing the topic to the public and calls for further investigation as:

1. The government of Zambia should gazette part of the customary land especially the one closer to the border to the municipal councils so that they regulate the mushrooming of illegal settlements and monitor the development of conurbation.

2. Further research is carried out on mechanisms of how to monitor migration and its effect on the economic development of Nakonde and Tunduma.

3. There is need for the government and other stakeholders to expand economic and business opportunities to cater for growing population. Also increase the use of contraception to curb natural population increase.

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APPENDICES

APPENDIX A

QUESTIONNAIRE

**THE UNIVERSITY OF ZAMBIA
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
POPULATION STUDIES DEPARTMENT**

RESEARCH TOPIC: **FACTORS ASSOCIATED WITH THE CONURBATION OF NAKONDE AND TUNDUMA TOWNS.**

Dear Respondent,

My name is Gomezgani Kawonga pursuing my studies in Masters of Population Studies at the University of Zambia. I am researching on the 'factors associated with the Conurbation of Nakonde and Tunduma towns'. All the responses that will be given to the questions will be treated with utmost confidentiality and will only be used for academic purses only. Therefore, I will be very grateful for your participation and the information that you will provide as it will help me in writing my dissertation and finish my course.

INSTRUCTIONS

1. Tick in the brackets for the appropriate answer. [   ]
2. Write in the spaces provided.
3. Use ink when writing.

No	BACKGROUND	RESPONSES	SKIP TO
Q01	Country	………………………………………	
Q02	Province	………………………………………	
Q03	District	………………………………………	
Q04	Residential	……………………………………	
Q05	Date of Interview	..../…./………	
Q06	Indicate your Sex	…………………………………………	
Q07	Indicate your Religion	…………………………………………	
Q08	How Old are you?	…./…./……..	
Q09	When were you born?		
Q10	What is your Marital Status?	Single ……………………………………1 Married……………………………………2 Divorced……………………………………3 Separated……………………………............4 Widowed………………………….............5	
Q11	What is your highest level of Education?	Primary………………………….................1 Secondary………………………………….2 College……………………………............3 University……………………….................4	
Q12	What type of accommodation do you have?	Rented House…………………………………1 Employer's House………………………….2 Own House…………………………………3 Others Specify…………………………………9	

Q13	Do you own a house in this town?	Yes……………………………………………………1 No…………………………………….……..............2	⇦ Q15
Q14	If 'yes' how many?	…………………………………………………...	
	ECONOMIC ACTIVITIES		**SKIP TO**
Q15	When did you come to this town?	…………………………………………………..	
Q16	How long have you stayed in this town?	……………………………………………	
Q17	Which currency do you use for purchasing goods?	Zambian Kwacha………………………………1 Tanzanian Shilling………………………..............2 United Status Dollar…………………………..3 All the above…………………………………….4	
Q18	What are your main reasons for coming to this town?	Business………………………………………….1 Employment…………………………………….2 Education……………………………………….3 Farming………………………………………….4 Others specify…………………………………….9	
Q19	What is involved to your response in question '18'?	……………………………………………… ……………………………………………… ……………………………………………… ………………………………………………	
Q20	What do you do apart from what you have mentioned?	……………………………………………… ……………………………………………….. ………………………………………………... ………………………………………………..	
Q21	How satisfied are you with what you do?	Very satisfied……………………………………1 Satisfied………………………………………….2 Unsatisfied……………………………………….3 Very unsatisfied………………………………….4 Don't know………………………………….....5	
Q22	Have you noticed the booming business in this town?	Yes…………………………………………………1 No…………………………………………………2	⇦ Q24
Q23	Why?	………………………………………………… ………………………………………………… ………………………………………………… …………………………………………………	
Q24	Tick the problems are associated with business in this town.	Theft……………………………………………1 Prostitution………………………………………2 Lack of Business………………………..............3 Shortage of land…………………………………4 Lack of accommodation………………………5	
	ATTITUDES TOWARDS STANDARD OF LIVING		**SKIP TO**
Q25	Tick the services that this town provides to make your life comfortable.	Piped water……………………………………….1 Easy transport……………………………………2 Electricity……………………………………..........3 Accommodation…………………………………4	

		Others specify……………………………………9	
Q26	Were the above services present in the town where you came from?	Yes…………………………………………1 No……………………………………….........2	
Q27	Do you have a variety of food?	Yes…………………………………………1 No……………………………………………2	
Q28	Are they affordable?	Yes…………………………………………1 No……………………………………….......2	
Q29	List the food types.	…………………………………………….. …………………………………………….. …………………………………………….. …………………………………………….	
Q30	Which town is more developed between Nakonde and Tunduma?	……………………………………………	
Q31	Why do you say so?	…………………………………………….. …………………………………………….. …………………………………………….. ……………………………………………	
	MARRIAGE AND CHILDREN		**SKIP TO**
Q32	Do intermarriages between Zambia and Tanzania take place?	Yes…………………………………………1 No…………………………………………2	
Q33	Tick the marriage arrangement which you followed when you were getting married?	Traditional marriage…………………………..1 Western marriage………………………………2	
Q34	How old were you when you first got married?	……………………………………………..	
Q35	Tick the customary practices that are common in the traditional marriage arrangements in your country?	A. Arranged marriages by parents………...1 B. Eloping……………………….......2 C. Both male and female pass through traditional marriage rites……………...3 D. Older male than female at marriage…...4 E. Payment of dowry………………………5 F. Payment for virginity…………………6 G. Pregnancy before marriage……………7 H. Before a child is born couple stays with the in-laws at the male's parents………………………………....8	
Q36	Are there any differences in the above listed customary practices with the other country?	Yes…………………………………………1 No…………………………………………..2 Not so much……………………………….....3	
Q37	How many children do you have?	…………………………………………….	
Q38	How many children did you have in the last 12 months	……………………………………………..	

Q39	How many more do you wish to have in future?	……………………………………………..	
Q40	Do you accept childless marriages?	Yes……………………………………………1 No……………………………………………...2	
Q41	Why?	………………………………………….. …………………………………………. …………………………………………. ………………………………………….	

Thank you for your time and co-operation. May God bless you.

APPENDIX B

NON-SCHEDULED STRUCTURED INTERVIEW

MUNICIPAL COUNCIL

<div align="center">

THE UNIVERSITY OF ZAMBIA
SCHOOL OF HUMANITIES AND SOCIAL SCIENCES
POPULATION STUDIES DEPARTMENT

</div>

RESEARCH TOPIC: FACTORS ASSOCIATED WITH THE CONURBATION OF NAKONDE AND TUNDUMA TOWNS.

Dear Respondent,

My name is Gomezgani Kawonga pursuing my studies in Masters of Population Studies at the University of Zambia. I am researching on the 'factors associated with the Conurbation of Nakonde and Tunduma towns'. All the responses that will be given to the questions will be treated with utmost confidentiality and will only be used for academic purses only. Therefore, I will be very grateful for your participation and the information that you will provide as it will help me in writing my dissertation and finish my course.

INTERVIEW QUESTIONS

1. What is the name of this government department?
2. When did its operation commerce?
3. What is your position in this office?
4. What are the functions of your office?
5. What are some of the challenges in the following:
   a) Land allocation
   b) Illegal settlements
   c) Water provision
   d) Sanitation
   e) Crime

<div align="center">

Thank you for all your responses.

</div>

IMMIGRATION OFFICE

THE UNIVERSITY OF ZAMBIA

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

POPULATION STUDIES DEPARTMENT

RESEARCH TOPIC: **FACTORS ASSOCIATED WITH THE CONURBATION OF NAKONDE AND TUNDUMA TOWNS.**

Dear Respondent,

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INTERVIEW QUESTIONS

1. What is the name of the government department?
2. When did it start its operations?
3. What is position do you hold in this office?
4. What are the main functions of your office?
5. How does your office monitor the movement of people in and out of Zambia and Tanzania?
6. How do you deal with the issues of illegal immigrants?
7. How is the trend of immigrants since 2000?
8. How do you store your records?

Thank you for all your responses.

REVENUE AUTHORITY

THE UNIVERSITY OF ZAMBIA

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

POPULATION STUDIES DEPARTMENT

RESEARCH TOPIC: FACTORS ASSOCIATED WITH THE CONURBATION OF NAKONDE AND TUNDUMA TOWNS.

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INTERVIEW QUESTIONS

1. What is the name of his government department?
2. When did it start its operations?
3. What is your position in this office?
4. What are the functions of this government department?
5. How do you monitor the collection of revenue on the Nakonde/Tunduma border?
6. What are the types of goods that pass through the Nakonde/Tunduma border?
7. What are their countries of origin?
8. What are some of the challenges that you face in collecting revenue?

Thank you for all your responses.

APPENDIX C

PICTORIA VIEWS ON NAKONDE AND TUNDUMA

One Stop Shop for The Revenue Authority and Immigration Offices

Source: Field Data, 2012.

Immigration Staff Houses overlooking the built up area for Nakonde and Tunduma

Source: Field Data, 2012.

No mans land between showing no demarcation between Nakonde and Tunduma

Source: Field Data, 2012.

Open Maize and Rice market overlooking the built up area of Nakonde and Tunduma

Source: Field Data, 2012.

No mans land between showing no demarcation between Nakonde and Tunduma

The Black market overlooking Nakonde and Tunduma Towns

Source: Field Data, 2012.

A Hill view overlooking the built up land of Nakonde and Tunduma

Source: Field Data, 2012.

Loaded truck of Maize and Rice bags Overlooking the the built up land for Nakonde and Tunduma

Source: Field Data, 2012.

A view as you enter Nakonde showing the built up land of Nakonde and Tunduma

Source: Field Data, 2012.