

**THE IMPACT OF URBANIZATION ON THE LIVELIHOOD OF BOR
COMMUNITY IN BOR COUNTY OF JONGLEI STATE, SOUTH SUDAN**

BY

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DECLARATION

This Project Paper is my original work and has not been presented for award of degree in
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DEDICATION

I dedicate this work to my beloved Father, late Deng Garang Aleer and Mother, Nyandeng Garang Atem, and my brothers, who have supported me to complete this study successfully. To them I am very grateful.

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LIST OF ABBREVIATIONS

ADRA	Adventist Development and Relief Agency
CFSAM	Crop and Food Supply Assessment Mission
CINA	Community in Needs Aids
CIAT	International Center for Tropical Agriculture
CPA	Comprehensive Peace Agreement
DFID	Department for International Development
GOS	Government of Sudan
GOSS	Government of South Sudan
HDC	Humanitarian Development Consortium
IDPs	Internal Displace Persons
IIED	International Institution of Environment Development
JS/HAP	Jonglei State Humanitarian Action Plan
LAF	Livelihoods Analysis Forum
LBG	Local Government Board
LRA	Lord's Resistance Army
MAF	Ministry of Agriculture and Forestry
MARF	Ministry of Animal Resources and Fisheries
NHDF	Nile Hope Development Forum
RS	Republic of Sudan
RSS	Republic of South Sudan
SSC	South Sudan Census
UNOCHA	United Nations Office for the Coordination Affair
UNR	Upper Nile Region
SPLM/A	Sudan People Liberation Movement/Army

ABSTRACT

The increasing rate of urbanization in South Sudan as a result of a combination of natural urban increase and net in-migration to urban areas has an impact on the livelihood of the pastoral communities that live around the urban centres. This study addresses the impact of urbanization on the livelihood of the Bor community in Bor County. To achieve this aim, the study sampled 60 Bor community households using cluster sampling. In addition, the study sought further information from key informants and opinion leaders in the community. Quantitative and qualitative data was collected from the households using a questionnaire covering various aspects of the study's research objectives. The quantitative data was subjected to summary statistics, while the qualitative data was subjected content analysis. The study revealed that Bor County is indeed experiencing rapid urbanization due to its proximity to Juba city. The rapid urbanization of Bor County has led to increase in demand for land and increased land sub-division. As a result land use and land tenure has changed drastically, with both positive and negative impacts on the livelihood of the Bor community. Some of the positive impacts of urbanization identified by the Bor community include availability of goods and services; improved education facilities; employment opportunities; and easy access to banks. The negative impacts were environmental pollution; unemployment to the immigrants; sub-division of land; and soil degradation. These impacts have in-turn led to livelihood diversification and new livelihood strategies among the Bor community. The study recommends that there is need to undertake an integrated and community-driven urban planning framework for the County and other emerging urban centres.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In the last few decades pastoral communities in the world have been faced with many challenges such as loss of pasture land to farmers and urban areas, increased commoditization of goods and services, and out-migration of poor pastoralists to urban and settled areas. These changes have affected the pastoral communities' lives and livelihoods – directly or indirectly. This has been made worse by increased population growth and loss of grazing lands due to urbanization (Humphrey and Sneath, 1999). It is important to note that in South Sudan these pastoral communities still practice their pastoral way of lives even when they migrate to towns. For example, they continue to rely on their livestock as a source of food, transportation and for sale.

Furthermore, their migratory nature makes them move between urban and rural areas, depending on the seasons and therefore having mixed livelihoods and livelihood strategies, sometimes leading to resource conflicts and competitions. South Sudan has a population of 8.26 million people, half of whom are under the age of 18. Slightly more than one-fourth of households in South Sudan are female-headed. It is estimated that 83 percent of the population is rural and 78 percent of the households rely on agriculture and animal husbandry as their primary source of livelihood (Livelihoods Analysis Forum, 2006).

The country is inhabited by members of more than 54 tribes or ethnic groups, showing high socio-culture diversity. The large majority of the population lives below poverty line in both rural and urban areas (World Bank, 2011), while 9.7 percent are severely food insecure and 26 percent are moderately food insecure (FAO and WFP, 2010). Prevalence of acute malnutrition is relatively high among the food insecure groups (Harvey and Rogers-Witte, 2007). As said above, livestock has a unique and special importance to communities in South Sudan and their livelihoods. Furthermore, livestock is important to the economy (Sudan Tribune 2013). However, livestock keeping and production depends on many factors, including availability of pasture, fodder and water, more often than not based on seasons. South Sudan's climate provides an extensive and regular range of eco-zones for livestock keeping.

While there are no overall statistics on urbanization trends in South Sudan, there is clear evidence that cities and town are growing rapidly (Forojalla and Galla, 2010). Many people who were affected the war are now returning back to South Sudan and settling in the cities rather than in the rural areas. The Bor community is part of the Dinka tribe in South Sudan. They inhabit Bahr el Ghazal of the Nile Basin, Unity state, Jonglei State and Upper Nile region. They are largely agro-pastoralists, relying on cattle keeping at river side camps in the dry season and growing millet (*awuou*) and other grains (*rap*) in fixed settlements during the rainy season. The Dinka (*Muonyjang* = single and *Jieng* = Plural), are the largest tribe in the country with about 4.5 million people, occupying 18 percent of the country (Roberts and Bainbridge, 1963).

They are part of the River Lake Nilotic of the Nile valley and Africa Great Lakes region who speak Nilotic languages, including Nuer, and are noted for their great height. They have no centralized political authority, but instead they comprise many independent but interlinked clans. The Bor community has very rich cultural traditions, good sense of community, and a deep appreciation of the freedom won after a long struggle. Cultural practices are passed from one generation to another through story-telling and community rituals, ceremonies and activities. Boys are initiated into adulthood lifestyles including wealth ownership (mainly livestock) and participation in any clashes to protect their community. Girls of the age also go through carefully planned and supervised cultural orientation programs. (Winrock International, 2012).

1.2 Statement of the Research Problem

After nearly four decades of a civil war, the Republic of South Sudan became the world's newest country in 2011. The war had a devastating impact on the lives and livelihoods of the people of South Sudan. The country now faces a daunting challenge in overcoming these impacts (Livelihoods Analysis Forum, 2006). Rural farming was affected, a number of livestock were lost, access to markets and social facilities was disrupted, and diversified livelihood activities, such as fishing and hunting were constrained (FAO and WFP, 2010; Catley et al, 2005). Furthermore, the Government of Sudan's policy on oil producing regions affected the communities living in the Upper Nile region such as Upper Nile, Jonglei and Unity States. This region remains one of the most devastated in South Sudan and the process of recovery has been slower than in other area (Mackenzie and Buchanan-Smith, 2004).

According to Bollig (1987) there exist a variety of ethnographic studies that discuss the interaction between pastoralists of Sub-Saharan Africa and their neighbors. In addition, anthropologists have undertaken a number of studies on African pastoral societies (i.e. Anderson, 2000; Coughenour et al, 1985). However, there exist limited studies on the impact of urbanization on the livelihood of the pastoral communities. According to Young Helen (2009), South Sudan is the home of one the largest pastoral communities in Africa – but hardly talks about the number of their herds because of cultural reasons. The Bor community continued reliance on pastoralism and livestock production is now being threatened because of urbanization. The community is taking up crop cultivation and livestock keeping on the bank of River Nile (Deng, 2002). There are a number of development assistance from various NGOs, CBOs and development partners who have emerged to assist the community cope with the changes in their livelihoods as a result of urbanization (Riesman, 1980). This study is an attempt to assess the impact of urbanization on the livelihood of the Bor community in Bor County of Jonglei State in South Sudan.

1.3 Research Questions

The study sought to answer the following questions:

1. What are the livelihood opportunities in Bor County?
2. What is the Bor community understanding and perception on urbanization?
3. What is the impact of urbanization on the livelihood of Bor County community?

1.4 Research Objectives

The specific objectives of the study are to:

1. To examine the livelihood opportunities in Bor County.
2. To investigate Bor Community understanding and perception on urbanization.
3. To assess the impact of urbanization on the livelihood of Bor County community.

1.5 Study Assumption

This study assumes that urbanization has an impact on the livelihood of the Bor community.

1.6 Scope of the Study

The study has been carried out on the Bor community in Bor County, Jonglei State of South Sudan. The Bor community is a pastoral community that occupy Bor County and have been affected by insecurity and conflicts that has resulted into forced migration to Bor Town. Bor Town is in Bor County. As such the study focusses on the impact of urbanization on the livelihood of the Bor community in Bor County of Jonglei State in South Sudan.

1.7 Justification of the Study

The urban population in Bor town will continue to grow, as well as attracting population of the rural pastoralists living around it. The immigrants now derive their livelihoods from Bor Town and the surrounding rural areas. Some of these economic activities are dependent on natural resources and trading opportunities provided by Bor-town. Crop

cultivation, livestock keeping, fishing and extraction of natural resources is done at subsistence level. Increased insecurity, inadequate roads, lack of markets and reduced rural opportunities has forced the concentration of people and activities in and around Bor town (Winrock International, 2012). This has threatened the livelihood of the Bor pastoral community and as such an understanding of this impact becomes important. The results of this study will also be used to formulate sustainable urban growth strategies for Bor Town.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of the relevant literature that has informed the framework of this study. The chapter begins with an overview of urbanization process generally and specifically to Sudan and/or South Sudan. This is followed by a brief discussion of the nexus between pastoralism, modernization and urbanization – within the context of modernization theory. The next section presents the key aspects of the livelihood concept and livelihood framework. This is followed by a discussion on the changing livelihoods of the pastoral communities and the gaps identified from the literature review. Lastly, the conceptual framework is provided.

2.2 Urbanization as an Inevitable Process

Rapid urbanization continues to have a powerful impact, changing the face of the planet and the lives of its inhabitants as human populations continue to grow and dominate ecosystems around the World (Horiuchi, 1992). The understanding of urbanization process is important in understanding the emerging challenges of urban growth (World Bank, 2011). The movement of people from the rural to urban areas have mixed opportunities and challenges in both source and destination areas (UN-Habitat, 1996; Roberts, 2014). Urbanization is not a modern phenomenon; it has been occurring since about 500BC and will continue to occur (Sjoberg, 1960; United Nation, 2002; Findley 1993; United Nations, 2008; World Bank, 1986). There is no doubt that urbanization

process, especially in Africa has resulted into a number of challenges that needs to be urgently addressed (Cohen and Garrett, 2009; Van Donk, 2006).

The process of urbanization has traditionally been understood as a natural by-product of economic development. While there is no doubt that economic expansion in the urban sector can stimulate rural-urban migration, hence urbanization, a strictly economic theory of the process fails to account adequately for the phenomenon of “urbanization without growth” observed in Sub-Saharan Africa in the 1980s and 1990s (Friedmann, 1961). Furthermore, urbanization in Africa has been widely misconceived and assumed that the African did not have the political sophistication and the organizational ability to build towns but rather lived one isolated settlement (Hull, 1976; Chanlder, 1994; Becker et al, 1994). As such, one of the problems of African urbanization was to decide how far urbanism as a way of life and urbanization as a social process were indigenous to a large part of Africa (Swanson, 1977).

Urbanization in Sudan is not a new phenomenon as urban centers in the country existed since 5000 BC with human settlements along the rivers. However, the history of urbanization in South Sudan begins in the late 19th and early 20th centuries. Juba was the first town established in the 1920s. With time, the population of Juba has more than doubled, especially after the signing of the Comprehensive Peace Agreement (CPA). It is estimated that the population of Juba town is around 600,000 people (Deng, 2010; Assal, 2008). The principal drivers of urbanization in South Sudan are forced displacement from conflict; drought-induced displacement; and seasonal rural-to-urban migration.

Table 2.1 reveals that South Sudan is 17% urbanized with a total of 1.4 million living in the urban centers compared the total national population of 8.3 million people. Central Equatoria, Upper Nile and Western Bahr El Ghazal states have the highest share of the urban population (54%). Jonglei State has about 130,000 people living in its urban centers compared to its total population of 1.3 million people. It has 9% share of the total urban population in South Sudan.

Table 2.1 Trends of Urbanization in South Sudan

State	Urban population	Total population	Urbanization rate (%)	Share of urban population (%)
Central Equatoria	382,362	1,103,557	35	27
Upper Nile	243,976	964,353	25	17
Western Bahr El Ghazal	142,945	333,431	43	10
Jonglei	129,341	1,358,602	10	9
Unity	120,790	585,801	21	9
Western Equatoria	100,034	619,029	16	7
Warrap	84,887	972,928	9	6
Eastern Equatoria	80,420	906,161	9	6
Lakes	65,033	695,730	9	5
Northern Bahr El Ghazal	55,398	720,898	8	4
Total	1,405,186	8,260,490	17	100

Source: Sudan Population and Housing Census (2008)

The SPLM/A policy of taking towns to the people developed in 2004 to focus on rural investment and transformation. The policy was based on a decentralized model that

supports access to basic services and livelihood opportunities in rural areas and smaller urban centers, to be funded through oil revenue. It is also intended to help counteract the flows of rural-to-urban migration, as well as ease the pressure on services, housing, land and infrastructure in Juba. Land right in urban areas is managed exclusively through leaseholds with the state government. There is no community land in urban areas. While the legal framework recognizes the rights of people with formally registered leases, there is less protection for those residing in informal settlements (Deng, 2009; GoSS, 2010).

2.3 Pastoralism, Modernization and Urbanization

Nomadic communities are facing substantial pressure from external socio-economic change and migration to the urban areas. As such, sedentarization of nomadic pastoralists, that is the shift away from predominantly mobile form of existence to a more sedentary one, is an undeniable trend characteristic of the late 20th century. Salzman (1980) views this process of as a response to constraints and opportunities in the physio-biotic and cultural environments. Pastoralism is now viewed as an archaic form of production that will eventually vanish with development and urbanization (Barfield, 1993; Gharakhalou, 1996). Furthermore, as a livelihood strategy, pastoralism is facing unprecedented change and decline (Goodall, 2007).

Grossman (1992) attributes this decline to three major factors: socio-economic internal forces, political forces and external forces, including growth and prosperity among neighboring societies. This encompasses the growth opportunities in adjacent urban centers. Demographic processes, changes in the local economy, ecological changes and

social change will definitely affect pastoralism as a way of life. In many developing countries, the benefits of development such as health care and education are largely focused in the urban centers, or are only accessible in the large settled areas. This inequality elicits dissatisfaction among the pastoralists – making some of them to move to these urban centers.

According to Berliner (1977) modernization theory can explain the progressive transition from traditional to a modern society. The theory attempts to identify the social variables that contribute to social progress and development of societies and seeks to explain the process of social evolution. The theory stresses not only the process of change but also the responses to that change. This theory holds that modernization of states through economic development encourages others forms of development such as social and political development. According to Kendall (2007) Historians link modernization to the processes of urbanization. With the emergence of urbanization in South Sudan, the Bor Community are seen to adapt to new ways of life as a way of strengthening their economic opportunities.

The growth of towns in South Sudan has been accompanied by an increasing number of poor and vulnerable urban dwellers who live in appalling conditions in densely populated areas. Despite the positive impacts, urbanization in South Sudan has changed the social norms and behaviours of the community and in some cases resulted in break-down of family structures. As such, there are increased incidences of divorce, abandoning women and children, as well as a growing gang culture among the youth. There is now high

levels of insecurity, crime, conflict, political unrest and weak rule of law (UN HABITAT, 2009; JICA, 2009). Rapid urbanization has also affected the forest cover in South Sudan. It is estimated that an average of 40% of forest resources has been depleted, especially those surrounding the urban centres of Juba, Bor, Wau, Aweil, Rumbek, Torit, Bentiu and Malakal. Town dwellers depend on these forests for more land, firewood and charcoal (UNEP, 2007).

2.4 Livelihoods and Livelihood Strategies

Livelihood comprises of capabilities, assets and activities required for a means of living (Carney 1998). A livelihood is considered to be sustainable when it can cope with and recover from stresses, shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base (Lockwood, 1997). Painter (1996) defined livelihood strategies as how individual, households or other corporate groups gain access to use and exercise control over any number of resources that they identify as important for their wellbeing.

Livelihood strategies are the activities that people undertake and the choices they make to achieve their livelihood goals. However, livelihoods are becoming increasingly complex, multi-local and multidimensional (De Haan and Amers, 2003). The livelihood concept is a realistic recognition of the multiple activities in which households engage to ensure their survival and improve their wellbeing (Rakodi, 2002; Kaag et al, 2004; Dietz et al, 1992). When times are normal, people's activities are called livelihood strategies, but in times of crisis they change into coping or survival strategies. However, coping strategies

have become part of daily life and have changed into adoption strategies (De Bruin and Van Dijk, 2001, Sogoti, 2013).

Just as their rural counterparts, urban households have adopted a number of livelihood strategies in attempts to manage the changes in their economic, environmental, social and political context in which they live (Owuor and Foeken, 2002; Rakodi, 2002; Potts, 1997; Simon, 1997; De Haan and Zoomers, 2003; Elliot, 1994). The other aspect of livelihoods in the context of the present study is rural-urban linkages (Potts and Mutambirwa, 1990). Rural-urban interactions are not a new phenomenon in sub-Saharan Africa (Okali et al, 2001; Nelson, 1999; Fall, 1998).

These linkages have been documented in broader migration studies and are also definitely occurring in South Sudan (Forojalla and Galla, 2010). These linkages determine poor households' access to resources and decision making (Banuri, 1998). Many urban households have a rural component to their livelihoods and retain strong links with rural areas, while some keep part of their asset base in rural areas (Owuor, 2005; Tacoli, 2002; Foeken and Owuor, 2001). As such, rural livelihoods sources by urban households are embedded in the linkages, interaction and reciprocity that is evident between them and their rural household members (Diyamett et al, 2001; Lerise et al, 2001; Okali et al, 2001).

A household's livelihood strategy, and so its level of well-being depend on the assets or resource it has access to, the factors that mediate their access and contextual factors

(Rakodi, 2002). Livelihoods are also subject to a multitude of influences from a broader national and international economic, social and political context (De Haan and Quarles van Ufford 2002). The five vital assets needed for a means of living include human, natural, physical, financial and social assets or resources (Rakodi, 1995; Rakodi, 2002).

Natural resources include land, pasture, water and plants and are more important in the rural areas (Meikles, 2002, Payne, 2002). Human resources include capabilities, skill, experience, labor, knowledge, creativity and health. For example, lack of skills and education may affect the ability to secure a livelihood. Physical resources include basic infrastructure and services such as shelter, transport, water, energy, communication, hospitals, equipment, tools, inputs and household assets (Payne, 2002). Financial resources include savings, loans, credit, wages/salaries, pensions and remittances. Social resources include formal and informal networks from which various opportunities and benefits can be drawn by people in their pursuit of livelihoods (Devas, 2002).

2.5 The Changing Livelihoods of the Pastoral Communities

Pastoralist populations are facing more pressures to their way of life than ever before (De Haan and Amer, 2003). Population growth; loss of pasture land; urbanization; increased commoditization and rising inequality within the livestock economy; and out migration of poor pastoralist and periodic dislocations brought about by drought, famine and civil war, collectively threatening a way of life that has proved in the past to be a highly adaptive food production system. Although the driving forces vary widely from state to state, virtually all these trends result in to declining mobility of livestock which places in

jeopardy in the sustainability of both range land resources and pastoral livelihoods (Sogoti, 2013; Little and Brokensha, 1988).

According to Potkanski (1994) a combination of factors has led to the breakdown of the traditional resource management systems in response to the changing face of pastoralism. In North-West India, the nomadic pastoralists in Ladakh are changing their lifestyles as they are increasingly drawn into national and international economies, especially around the district of Leh (Chatty, 1996; Goodall, 2007). For a long time, the government of Sudan development initiatives focused on large scale agricultural expansion that promoted the settlement of migratory pastoralists (Deng, 2002).

Land was often sold to private sector corporations to implement mechanized agricultural schemes, which forced smallholder farmers and pastoralists to cultivate marginal lands, triggering livelihoods related conflicts (Pantuliano et al, 2009). Since the secession of the Republic of South Sudan from the Republic of Sudan, livestock has taken an increasing national importance, in term of contribution to the national economy and exports. The decline in national revenues from petroleum following the closure of the oil pipeline by the Republic of South Sudan in January 2012 reduced oil processing in the north and subsequently hit revenues hard.

As such, livestock represent one of the few opportunities for filling this revenue gap. In February 2013, the Ministry for Livestock, Fisheries and Range in Sudan reported that the country's livestock exports had increased by 96.6% in 2012, earning the country

about \$408 million (Sudan Tribune 2013). The national policy focus has now shifted to livestock production and not pastoralism nor pastoralist system of production (Egemi, 2013; GOS/NCSP 2007). In fact, the government's modernization and development strategies are running hand-in-hand with the settlement of pastoralists. This national modernizing drive towards settlement of pastoralists' contrasts with more locally driven initiative to support livestock mobility, through opening of livestock corridors and reallocation of land from mechanized farming to livestock pastures (Gebrus, et al 2013).

In North Kordufan one of the major livestock producing states in the country, settled sheep producers are strategically moving their livestock to benefit from the variable distribution of pastures, minerals and crop residues (UNEP, 2012, 2013). The Abyei Protocol recognized the Misseriyia right to their livestock migration and other nomadic people to retain their traditional rights to graze cattle and move across the territory of Abyei. Despite the recognition of pastoralist rights, since South Sudan's independence a large number of northern pastoralist migration routes have been affected by the new border (GOS/SPLM, 2004).

Livelihood strategies in South Sudan is linked to rich and abundant natural resources, as well as the terrible consequence of civil conflict (Livelihoods Analysis Forum, 2006). As such, agriculture and pastoralism are the two main primary livelihood sources in the country, especially for the poorest quintile. The wealthiest quintile has more diverse livelihoods portfolio, including salaried employment (World Bank, 2011; WFP, 2010). The spatial variation of these livelihood strategies depend on the agro-ecological

conditions, mobility, access to trading opportunity, and local culture, traditional practices (FAO and WFP, 2010; Livelihoods Analysis Forum, 2006).

South Sudan is divided into six livelihood zones. These are (1) the Greenbelt Zone, also known as the bread basket, where households rely mainly on agriculture; (2) the Arid Zone where households practice mainly pastoralism and migrate seasonally for water, pasture and trading opportunities; (3) the Hill and Mountains Zone where households practices both agriculture and pastoralism; (4) the Western and Eastern Flood plain Zone where households rely on livestock, agriculture, supplemented by fish and wild foods; (5) the Ironstone Plateau Zone where households rely mainly on crop production; and (6) the Nile and Sobat Rivers Zone where households rely on crops, livestock, wild foods and fish (Livelihoods Analysis Forum, 2006).

In the recent times, livelihood strategies are changing as many households; especially returnees choose to settle in the urban and peri-urban areas of South Sudan rather than in rural areas (Forojalla and Galla, 2010). The main attractions to the urban and peri-urban areas include: economic and employment prospects due to the presence of regional government, international organizations and private businesses; perceptions of better access to health and social services; the location of Sudan People Liberation Army/Movement (SPLA/M) headquarters in Juba; drought in the rural areas; insecurity from the Lord's Resistance Army (LRA) attacks; and cattle raiding (Martin and Mosal, 2011; Matus, 2007; Maxwell and Burns, 2008).

Young males tend to migrate to Bor town and Juba to look for work, which partly explains the rise in the number of female headed households in rural areas (Martin and Mosel, 2011). Many of those who migrated to urban and peri-urban areas during the conflict have now decided to stay in towns largely because of difficulties in accessing land in rural areas and re-adapting their livelihoods after having lived in urban areas for so long (Matus, 2007, Maxwell and Burn, 2008). However, the migration of South Sudan population to the urban centers is creating animosity between them and the large majority of skilled and unskilled foreigners (from neighbouring countries) who rushed to live and work in South Sudan after the signing of the Comprehensive Peace Agreement (CPA) (World Bank, 2009; Martin and Mosel, 2011).

2.6 The Theoretical Framework

This study relied on the urban bias theory. This theory shifts emphasis of urban development from economic perspective to political perspective. This perspective spearheaded by Lipton (1977) argues that policies favour the urban areas to the detriment of the rural areas; hence the concentration of facilities and the creation of favorable conditions in the urban areas. Furthermore, agricultural products in the rural areas are overtaxed due to price twists. Overtaxing works through state controlled marketing boards who buy agricultural products from local farmers at an artificially low price and then resell these products to the consumers at the prevailing higher market price. The difference is often used to provide facilities in the urban areas.

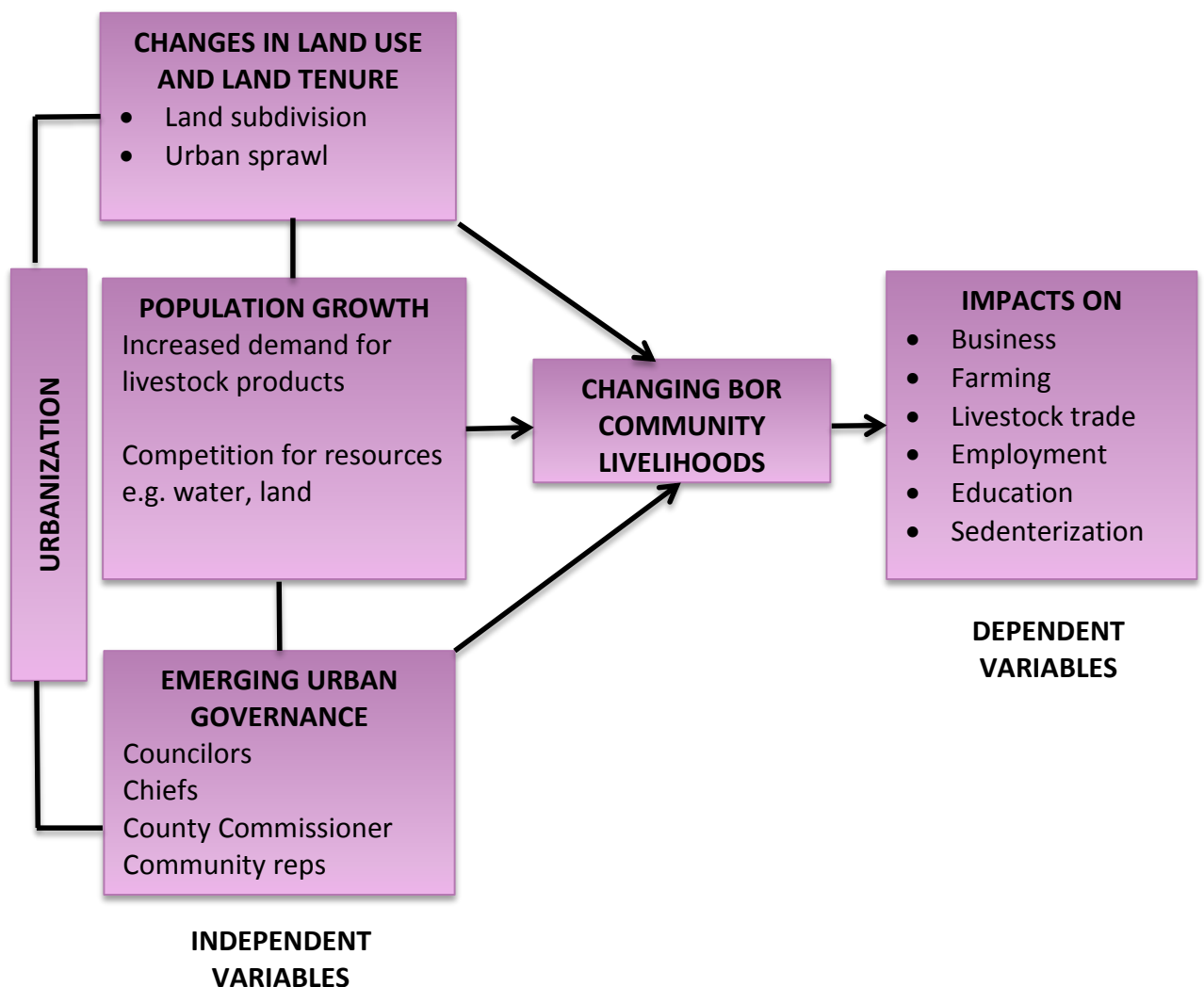
In addition, governments in developing countries tend to invest domestic capital on the provision of development facilities. These facilities are largely located in the urban areas while a larger proportion of the population is found in the rural areas. The facilities include hospitals, schools, libraries and other government/semi-government facilities. In this study, it is evident that areas around urban centers have more social amenities and improved infrastructure than in the rural areas. There is no doubt that policies in South Sudan and in Bor County favour the urban areas to the detriment of the rural areas; hence the concentration of facilities and creation of favorable conditions in the urban areas in line with the urban bias theory.

2.7 The Conceptual Framework

This section presents a conceptual framework that seeks to capture the main components of the present study and their interrelationships (Figure 2.1). The conceptual framework cannot claim to be exhaustive but should be treated merely as a guide or lens through which to view the world (Rakodi, 2002). Urbanization is characterized by changes in land use and land tenure; population growth and emergence of new urban governance structures in traditional pastoral lands of Bor County. Urbanization results into land use and land tenure changes. For example, the former rural and agricultural land is transformed into urban land use and as a result the land tenure changes. For Bor town, some of the community members and outsiders start purchasing land in the urban centre. Population growth leads to demand for livestock products as well as competition for natural resources. The development of Bor town means emergence of new forms of urban governance that do not necessarily support pastoralism way of life.

The three independent variables will affect Bor community's livelihoods in a number of ways – socially and economically. The end result is potential impacts on their livelihood options and opportunities such as farming, business, livestock trading, employment, education and sedenterization.

Figure 2.1 Conceptual Framework



Source: Adopted from DFID, 2000

2.8 Gaps in Literature Review

Literature review reveals that over the years the pastoral way of life has been suitable for communities in the arid and semi-arid lands. Mobility of the pastoral communities is a way of coping with the harsh environment in which they occupy. Though they practice a variety of livelihoods and livelihoods strategies they have been affected in various ways. State policies, historical injustices and urbanization have had an impact on the lives of the pastoral communities. Many of them have lost their livestock and have been forced to move to the urban areas. Urbanization has led the pastoral communities to change their livelihoods, lifestyles and therefore engage in various sources of livelihoods. This study intends to find out the changing pastoral livelihood of the Bor Community in Bor County.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

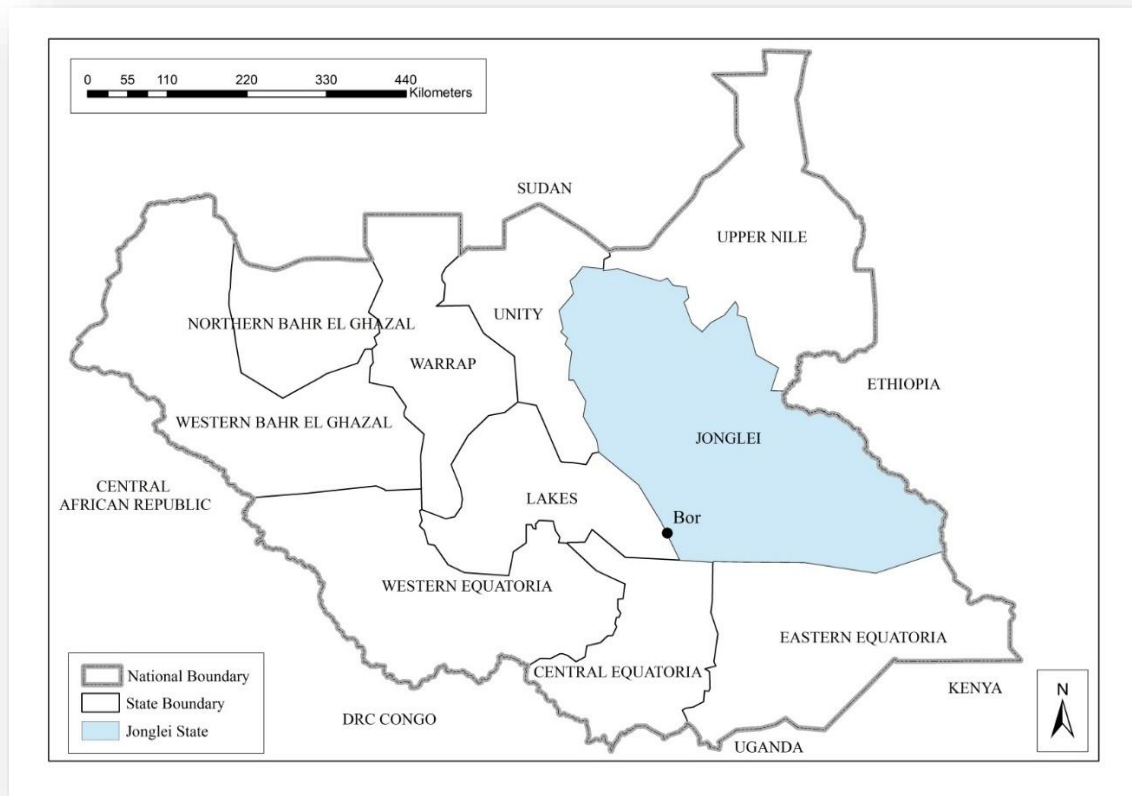
This chapter outlines the research methodology adopted by the study. It describes the research design and methods employed in the study, looking at the data sources, sampling design and procedure and the data collection, processing and analysis methods used. However, the chapter starts by presenting background information on the study area – Bor County – in terms of its geographical, demographic and socio-economic characteristics.

3.2 The Study Area

3.2.1 Locational Characteristics

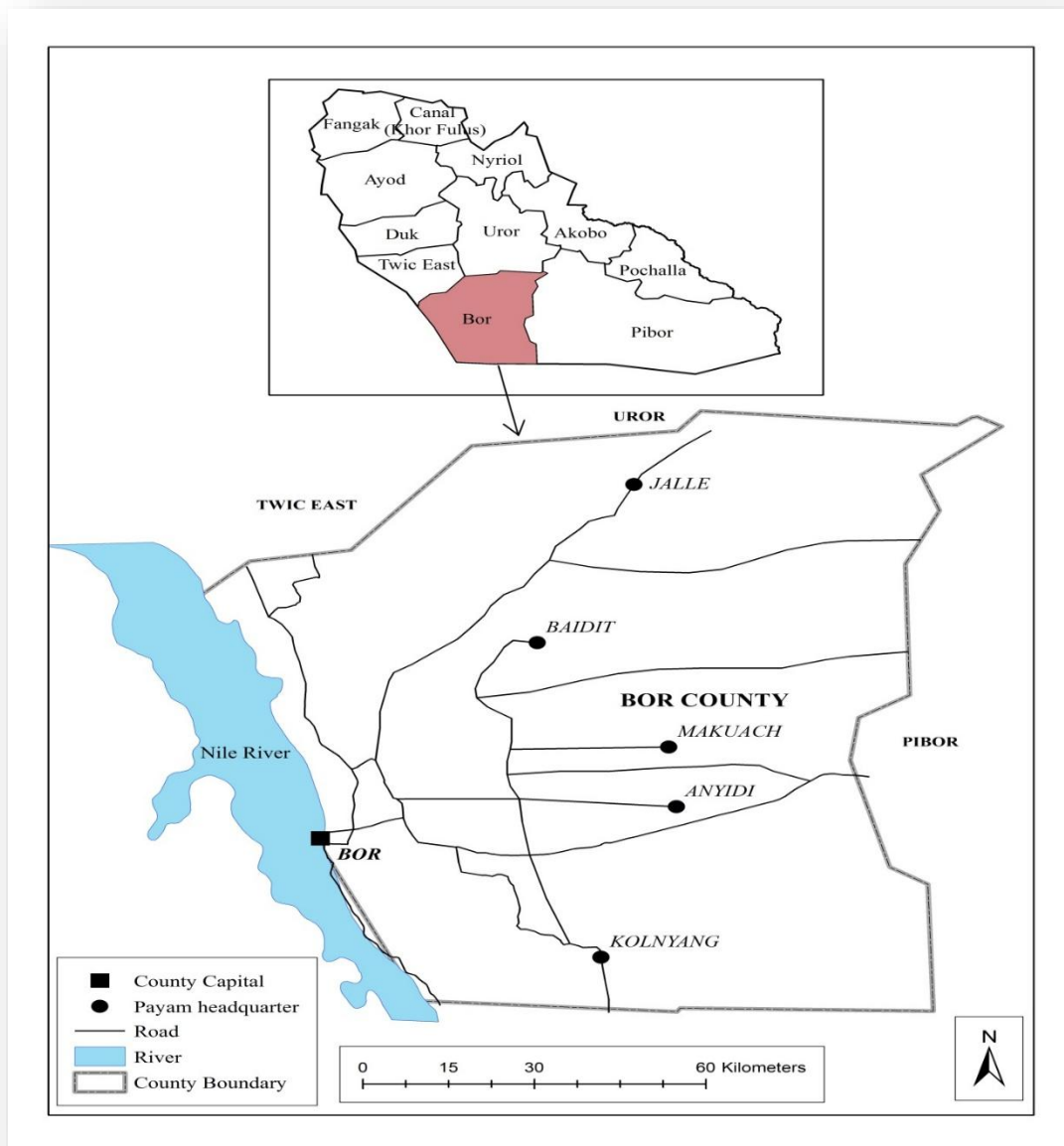
The study area is Bor County. The county is in Jonglei State of South Sudan. The county borders Eastern Equatorial State to the south-east, Central Equatorial State to the south, Lakes State to the west, Twic East County to the north and Pibor County to the east (Figures 3.1 and 3.2). Bor County forms the south-western end of River Nile and Swamp (Toch) flood plains in Jonglei State. Bor County occupies an area of about 120,000km² and is generally flat with an altitude of 320 meters above the sea level. Because of the low lying nature and heavy clay soils, the county is prone to flooding during the rainy season. Bor County has six (6) payams, namely, Anyidi, Baidit, Kolnyang, Makuach, Jalle and Bor Town. The first five payams are rural with only Bor Town being urban.

Figure 3.1 Map of South Sudan



Source: Bor County Profile (2012)

Figure 3.2 Map of Bor County, Jonglei State



Source: Bor County Profile (2012)

3.2.2 Physical Characteristics

The vegetation of the county is predominantly savannah. Tree and grass cover is not even across the county, although compared to other parts of Jonglei state Bor County has

dense vegetation cover. The county has a diversity of grass cover, indigenous tree species like mahogany and exotic trees such as fruit trees. All Payams have similar fruit trees except for Kolnyang which has coconut trees. In terms of density, Jalle Payam has the least tree and grass cover.

The county is characterized by black cotton, clay, loam and sandy soils. Clay soil is predominantly found on the eastern side of the county from the south up to Jalle. Loam and sandy soils are found along the western side of the county along River Nile and the Toch (swamps). Sandy soils are also found in the western parts of Kolnyang, Anyidi and Makuach Payams. In general, the soils in Bor County are sticky/impermeable and short of stones.

The county has four climatic seasons in a normal year. These are January to March (dry, hot, clear skies, and temperatures of between 40 to 45⁰C); April to June (heavy rains, light cloud cover, heavy westerly winds and temperature between 36 and 39⁰C); July to September (heavy rains, flooded and muddy lands that are often impossible, high humidity and temperature between 30 and 35⁰C); and October to December (light rains, clearer skies and temperatures of between 20 and 30⁰C) (Bor County Profile, 2012). The county experiences shortage of water and green pastures from February to April, which at times triggers conflicts over access to grazing lands.

3.2.3 Demographic Characteristics

According to 2008 Population Census Bor County had a population of 221,806 in 31,354 households (seven numbers per family compared to eight for the state) (Bor County Profile, 2012) (Table 3.1). The population constitutes 16 per cent of Jonglei State. More than a quarter (27.6 percent) of the population stays in Bor town and this figure may have increased given the returning of state citizens who come through Bor town (Jonglei State Humanitarian Action Plan- JS/HAP, 2011).

Table 3.1 Bor County Population Distribution

Payam	Female	Male	Total
Kolnyang	22,011	18,008	40,021
Anyidi	13,219	10,816	24,036
Makuach	16,181	13,239	29,420
Baidit	28,073	22,968	51,042
Jalle	7,266	5,945	13,212
Bor Town	33,673	27,550	61,224
Total	104,920	116,186	221,806

Source: Bor County Profile (2012)

3.2.4 Socio-Economic Characteristics

The county resources includes its people, fertile land for crop production and animal rearing, wildlife, water from River Nile and its tributaries, ox-bow lakes and vegetation. The mix of available resources has been exploited through main livelihood activities of farming, fishing, trade and natural resource extraction such wild fruits, sand and charcoal. Most local produce and fish are marketed through Bor Marol Market, which is the

biggest market in the state. In the past there were thriving irrigation schemes. However, some individuals have started to establish small-scale farms and plantations in the county. Per capita livestock ownership is high though commercial value chains are low. Generally, pastoralist practices are dominant in the county.

3.3 Research Methodology

3.3.1 Sources and Methods of Data Collection

The study used both primary and secondary data to achieve its specific objectives. The collection of primary data involved the use of (1) personal interviews of randomly selected households using a standardized pre-coded questionnaire; (2) informal interviews with Bor elders and Bor County officials; and (3) direct field observation by the researcher and recorded by the use of a field note book and camera. The pre-coded questionnaire sought information on household demography, urbanization, livelihood, social network, livestock production, transport, land, water, energy and access to healthcare and education. On the other hand, the collection of secondary data involved reviewing and utilization of existing literature, government publications and maps relevant to the study problem.

3.3.2 Sampling Procedure

The target population was the 31,354 households in Bor County. Simple random sampling procedure was applied to get a sample of 60 households from five Payams in Bor County, namely: Kolnyang, Anyidi, Makuach, Baidit and Bor Town. All the Payams in Bor County were considered during sampling to get a spatial representation of the county. At the end of the survey, the researcher managed to interview 10 households in

Kolnyang, 10 in Anyidi, 10 in Makuach, 10 in Baidit and 20 in Bor Town. The simple random sampling procedure was done based on the security situation, accessibility to some of these areas, availability of respondents and willingness to respond to questions. Because of severe security reasons, the researcher could not access Jalle Payam.

3.3.3 Data Processing and Analysis

The field questionnaires were checked and subjected to a close scrutiny for inconsistencies and errors before coding and data entry. A code book was designed and generated to translate the entries in the questionnaires to a spread sheet. The spreadsheet data were then converted to electronic form in Statistical Package for the Social Sciences (SPSS) platform. The resulting dataset was further subjected to cleaning based on the preliminary frequency distributions. The data was then subjected to descriptive statistics. That is, analysis was done to generate frequency distributions which were then presented in tabular and graphical format.

3.4 Study Limitations

The study experienced a couple of limitations due to the nature of the study area. South Sudan is the youngest African state and therefore there was limited data on the study area. The history of the urban morphology of South Sudan is poorly documented because many towns and cities were destroyed during the invasions, abandoned and/or submerged by the damming of the River Nile in Egypt (Ahmad, 2000; Born, 1980; Winter, 1977). This study relied on the limited sources of data. The study also faced financial constraints, insecurity problems, and lack of reliable transport to some parts of the study

area. All efforts were done to make sure that these limitations had minimum effect to the study by seeking help from Dr. John Garang Memorial University of Science and Technology and Oxfam GB in Jonglei State.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Introduction

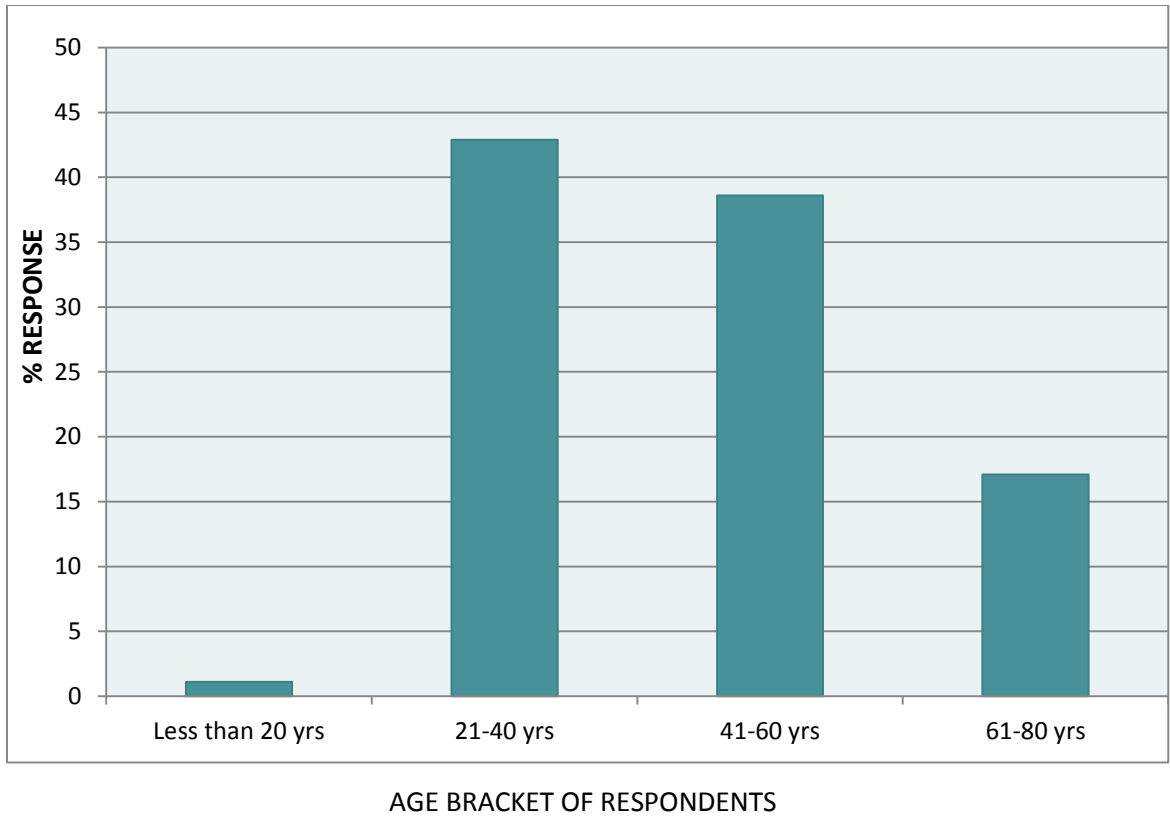
This chapter presents the study results and discussions based on the specific objectives of the study. These are (1) the livelihood opportunities in Bor County; (2) Bor community understanding and perception on urbanization; and (3) the impact of urbanization on the livelihood of Bor County community. However, the chapter starts by giving an overview of the characteristics of the sampled respondents and households.

4.2 Demographic Information

The large majority of the respondents were male (78.3%) and opposed to females (21.7%). This is because most of the women refused to respond to the questionnaire due to the culture of male dominance. Males are viewed as the heads of households and by extension the family spokespersons. Some women responded to the questionnaire with permission from their husbands. Less than half of the respondents (42.9%) were aged between 21-40 years old, 38.6% were between the ages 41-60 years, and 17.1% were between 61-80 years. One respondent was below 20 years old (Figure 4.1).

Three-quarters of the respondents were in monogamous (58.3%) and polygamous marriages (16.7%), while the rest were either single, divorced or widowed (Table 4.1). More than half of the respondents had attained University education, 21.7% had not attained any level of education, 13.3% had secondary education and 10% had primary education (Table 4.2).

Figure 4.1 Ages of Respondents



Source: Fieldwork (2017)

Table 4.1 Marital Status of Respondents

Marital status	Frequency	Percentage (%)
Single	11	18.3
Married (monogamous)	35	58.3
Married (Polygamous)	10	16.7
Divorced	1	1.7
Widowed	3	5
Total	60	100

Source: Fieldwork (2017)

Table 4.2 Level of Education of Respondents

	Frequency	Percentage (%)
University	33	55
Never went to school	13	21.7
Secondary school	8	13.3
Primary	6	10
Total	60	100

Source: Fieldwork (2017)

Less than half (40%) of the respondents had lived in Bor County for more than 5 years, 28.3% between 1-2 years, 21.7% between 3-5 years and 10% less than one year (Table 4.3). These respondents came from different parts of South Sudan (Equatoria, Upper Nile, Central Equatorial, Lake State) and neighbouring countries (Kenya, Uganda, Sudan, DRC, Ethiopia).

Table 4.3 Duration Lived in Bor County

Duration	Frequency	Percentage (%)
More than 5 years	24	40
1-2 years	17	28.3
3-5 years	13	21.7
Less than 1 year	6	10
Total	60	100

Source: Fieldwork (2017)

4.3 Livelihood Opportunities

4.3.1 Access to Land

Most of the households (63.3%) in Bor County have adopted a sedentary lifestyle, 21.7% are nomadic, while 15% are semi-nomadic. When asked about access to own land, 43.3% had access to 2-3 acres of land, 16.7% had less than an acre, 11.7% had 1-2 acres, 15% had more than 3 acres and 13.3% had no access to land in the County (Table 4.4). Less than half of the households had title deeds (48.3%), 36.7% did not have a title deed, while 15% had access to communal land given to them by the local government of the county.

Table 4.4 Access to Land

Size of Land (in acres)	Frequency	Percentage (%)
None	8	13.3
Less than 1 acre	10	16.7
1 – 2 Acres	7	11.7
2 – 3 Acres	26	43.3
More than 3 acres	9	15
Total	60	100

Source: Fieldwork (2017)

Those who did not have title deeds lived on communal land which they claimed possession of land title deed. The land was either own ancestral land (31.6%); purchased from the local community (41.7%); acquired from the government (8.3%); or acquired from a cousin (5%) (Table 4.5)

Table 4.5 Acquisition of Land

	Frequency	Percentage (%)
Purchased	25	41.7
Acquired from a cousin	3	5
Ancestral land	19	31.7
Government	5	8.3
No	8	13.3
Total	60	100

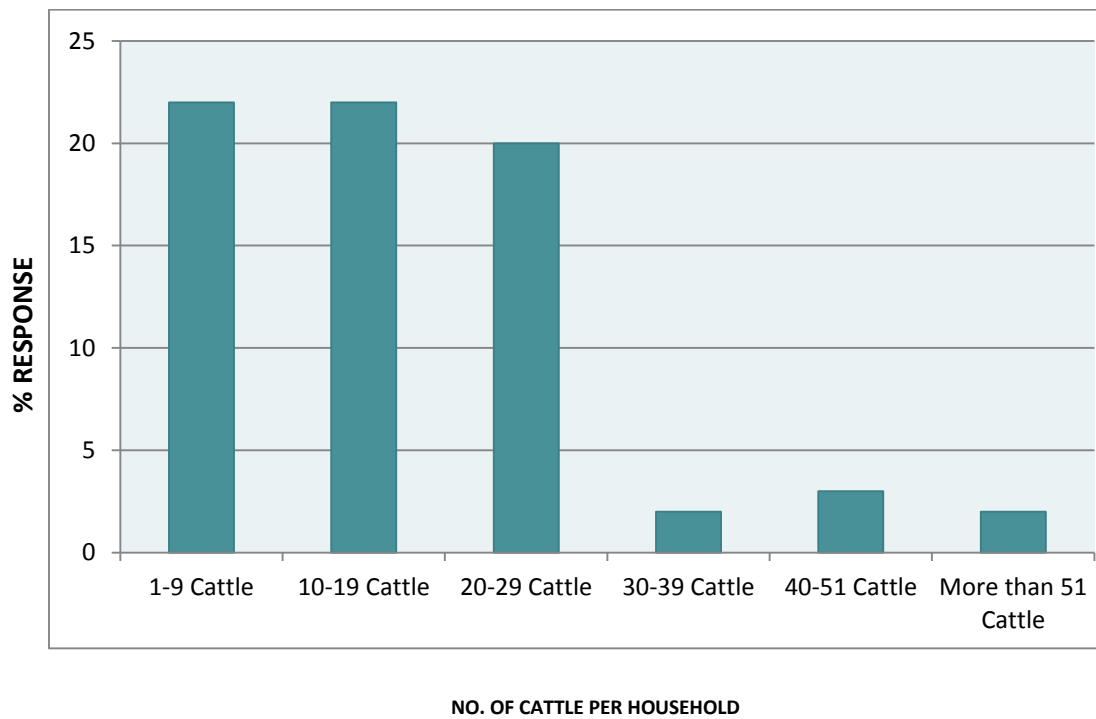
Source: Fieldwork (2017)

4.3.2 Access to Livestock

One-third of the households did not have cattle. However, 21.7% had 1-9 cattle, another 21.7% had 10-19 cattle, 20% had 20-29 cattle, 3.3% had 30-39 cattle, 1.7% had 40-51 cattle, and 1.7% more than 51 cattle (Figure 4.2). Although the majority of Bor Community still practice livestock keeping, the practice is reducing due to urbanization and engagement in other livelihood sources. More than three-quarter (78.9%) of the households reared their cattle in open fields (Plate 1). The rest practiced zero grazing, especially those with small herds.

According to 65% of the respondents, pasture related conflicts do occur between the livestock keepers and farmers. A large majority (86.7%) were also aware about livestock trade in the county. As such 50% of the households sold their livestock to individuals; 28.3% to nearby butcheries; 11.7% to slaughter houses; and 10% to Government Meat Commission (Plate 2 and Table 4.6).

Figure 4.2 Number of Cattle Kept



Source: Fieldwork (2017)

Plate 1 Grazing of Cattle on Open Fields



Source: Fieldwork (2017)

Plate 2 Sale of Livestock



Source: Fieldwork (2017)

Table 4.6 Livestock Selling

	Frequency	Percentage (%)
Government Meat Commission	6	10
Slaughter Houses	7	11.7
Nearby Butcheries	17	28.3
Individual	30	50
Total	60	100

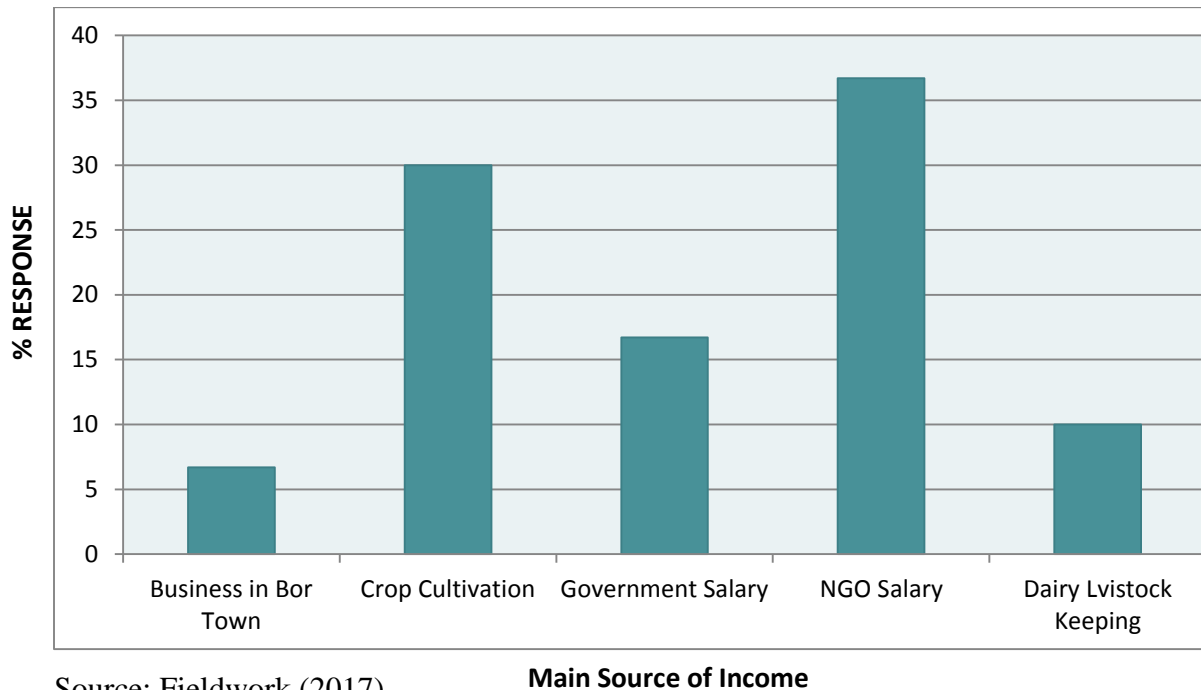
Source: Fieldwork (2017)

4.3.3 Access to Employment

People in Bor County are engaged in both formal and informal (self/casual) employment (Figure 4.3). More than half of the households are employed by the government or get their salaries from employment in other organizations (United Nations, NGOs and

CBOs). Other sources of household income came from businesses, selling of milk and farming (see also Plates 3 and 4).

Figure 4.3 Main Source of Income



Source: Fieldwork (2017)

Those employed by the government are teachers, nurses, doctors and lawyers. Those employed in other international organizations are considered as “white collar” jobs since they are paid well in international currency. Besides creating employment opportunities, the NGOs and CBOs offer different humanitarian/relief, rehabilitation and development services that include income generation activities, livelihoods programs, water and sanitation programs, agricultural enhancement programs, education programs, food security programs, and capacity building initiatives.

Plate 3 Self-Employed Group



Source: Fieldwork (2017)

Plate 4 Farming Activities



Source: Fieldwork (2017)

The NGOs and CBOs in the county include Tear funds, Church and Development (C&D), Community in Need Aid (CINA), Local Government Board (LGB), Adventist Development and Relief Agency (ADRA), Crop and Food Supply Assessment Mission (CFSAM), Community Health workers (CHW), Nile Hope Development Forum (NHDF), Humanitarians Development Consortium (HDC), and Jonglei State Humanitarian Action Plan (JS/HAP).

4.3.4 Household Resources and Sources of Food

Most of the respondents 40 percent agree that all the sourced of their food from farm produce and from the market while 31.7 percent depended on food purchased from the market and 28.3 percent sourced the food from their farm produce. All households source their food from own production and purchase from the market (Table 4.7).

Table 4.7 Sources of Food

	Frequency	Percentage (%)
Farm produce	17	28.3
Purchase from the market	19	31.7
All the above	24	40
Total	60	100

Source: Fieldwork (2017)

The main resources in the County include fertile land for farming and availability of water from the River Nile and its tributaries, including Ox-bow lakes. These resources have facilitated farming, livestock keeping, fishing, trade and extraction of natural

resources (wild fruits, sand, and charcoal). The farming system is local small-scale gardening mostly by women along the River Nile using traditional methods.

However, these activities may not thrive as expected due to inadequate skills and technology, use of non-productive land, lack of physical infrastructure, limited mechanization, vulnerability to natural disasters and insecurity. The latter leads to abandonment of land that is more suited to viable crop and livestock production. Benefits derived from animals rearing include milk, meat, dowry and money from animal sales for school fees, medical bills and capital for starting or expanding business ventures.

Farmers sell surplus produce through the local and the main markets. The current pastoralist situation is however unstable due to some restrictions on grazing land and epidemic outbreaks at a time when animal health services are limited. Seasonal conflicts, over grazing, destruction of gardens by livestock, and limited access to watering points during dry periods have been experienced in the past disrupting both livelihood activities and social relations.

Fishing is one of the major sources of food and income for residents of Bor who are in close proximity to the River Nile and other water bodies. There is no commercial fishing and processing yet but a private company has indicated interest in setting one in the County, which could help improving the sector in term of scale of operations and returns to operators. The challenges faced in this sector include crocodile attacks, malaria, the

threat posed by snakes, lack of fishing equipment, poor storage, lack of fishing skills and weather.

4.4 Bor Community Understanding and Perception on Urbanization

The respondents described urbanization as changing of a rural area to town (61.7%); the process of creating town in the country (23.3%); an urban center (8.3%); and increase in infrastructure development (6.7%) (Table 4.8). Eight out every ten respondents (85%) admitted that they had “experienced” urbanization, 11.7% said they had never while the rest (3.3%) did not know.

Table 4.8 Respondents Understanding of Urbanization

	Frequency	Percentage (%)
Change of rural area to town	37	61.7
Process of creating town in the country	14	23.3
Refer to urban Centre	5	8.3
Increase in infrastructure development	4	6.7
Total	60	100

Source: Fieldwork (2017)

The respondents gave three reasons for urban growth in Bor County. These were migration of people from other areas (41.6%); those born in towns (26.7%); and improved infrastructure in towns (25%) (Table 4.9). However, in-depth interviews revealed that people came to Bor Town because of access to land bought from government officials in the Ministry of Physical Infrastructure and Planning; employment opportunities; and insecurity and conflicts in other areas.

Table 4.9 Factors leading to Urban Growth

	Frequency	Percentage (%)
Migration of people from other areas	25	41.6
Natural increase (born in town)	16	26.7
Improved infrastructure	15	25
Don't know	4	6.7
Total	60	100

Source: Fieldwork (2017)

A large majority of the respondents (86.7%) were of the opinion that urbanization is good because it improves infrastructure social amenities in the area. The other fewer thought that urbanization is bad because it brings with it crime, prostitution, theft and unemployment. For those in business sector, urbanization provided easy access to goods and services, as well adequate market for their goods and services. The Bor elders claimed that urbanization had improved the standard of living of the community, increased interaction with other communities, created employment opportunities. It has also brought improved social amenities, access to better health care, better education facilities and improved water supply and provision.

4.5 The Impact of Urbanization

4.5.1 The Positive Impacts

The respondents listed a number of positive impacts of urbanization. These are availability of goods and services; access to good education; employment opportunities; access to banks; and socialization and civilization (Table 4.10). The most important

positive impact is availability of goods and services while access to banks, socialization and civilization were least mentioned.

Table 4.10 Positive Impacts of Urbanization

	Frequency	Percentage
Availability of goods and services	29	48.3
Good education	12	20
Employment opportunities	12	20
Access to banks	4	6.7
Socialization and civilization	3	5
Total	60	100

Source: Fieldwork (2017)

Accessibility to Schools

Almost all the respondents indicated that schools were accessible – but with varying degrees (Table 4.11). Half of the responded noted that schools were easy to access; 33.3% said schools were near; 8.3% said schools were not accessible at all; 1.7% said schools were not easy to access; and 6.7% said schools were very far. The county has 65 primary schools with an enrolment of 38,200 pupils. This is an average of 588 pupils per school, with a classroom occupation rate of 83 for the 463 classrooms. Average school enrolment varies from 384 pupils in Jalle to 777 pupils in Bor town. The overall teacher-pupil ratio is 1.86 but there are high end outliers like Bor town with 1:123 and Kolnyang with 1:145, with the lowest being 1.42 for Anyidi.

Table 4.11 Accessibility to Schools

	Frequency	Percentage (%)
Near	20	33.3
Easily accessible	30	50
Not easily accessible	1	1.7
Not accessible	5	8.3
Far	4	6.7
Total	60	100

Source: Fieldwork (2017)

Accessibility to Financial Services

Financial services were easily accessible from financial institution within Bor County. With urbanization Bor County hosts a number of financial institutions. Many of the leading financial institutions in the country have branches in Bor County. These are Liberty Commercial Bank, Ivory Bank, Kush Bank, Nile Commercial Bank and Kenya Commercial Bank. In addition, there are several Forex and money transfer outlets operating in Bor town. However, despite the presence of the many financial institutions, there is very little training offered to the community, especially on investments. Only 38.3% of the respondents had received training by the time of this survey. These were more-often-than-not, women groups.

Access to Goods and Services

About half of the respondents noted that urbanization had increased the efficiency (10%) and accessibility of goods and services in the area (41.6%) (Table 4.12). Another 36.7% said that some products were unavailable in the County.

Table 4.12 Flow of Goods and Services

	Frequency	Percentage (%)
Very efficient	6	10
Easy accessible	25	41.6
Unavailability of some products	22	36.7
Don't know	7	11.7
Total	60	100

Source: Fieldwork (2017)

Access to Water

More than half (58.3%) of the respondents reported that they had access to enough water, while the rest indicated the opposite – that the water was not enough. Water availability for livestock use was considered as not enough and costly, while water for cultivation was considered scarce a result of unreliable rainfall. Borehole was the common source of water (81.7% of the households) (Table 4.13). Other sources of water are rivers and water pans. Only 5 households had access to piped water. There are 271 boreholes in Bor County. However, at the time of study some boreholes were not functional.

Table 4.13 Sources of Water in Bor County

	Frequency	Percentage (%)
River	5	8.3
Borehole	49	81.7
Pipe	5	8.3
Water pan	1	1.7
Total	60	100

Source: Fieldwork (2017)

4.5.2 The Negative Impacts

According to the Bor community, the main negative impact of urbanization is pollution and destruction of forest (Table 4.14). Others are erosion of culture and crime. According to the Area Administrative Chief, there is no active authority that is concerned with pollution, although there are plans to relocate the dump site (see Plate 5).

Table 4.14 Negative Impacts of Urbanization

	Frequency	Percentage (%)
Erosion of culture	11	18.3
Pollution and destruction of forest	37	61.7
Crime	10	16.7
Land degradation	2	3.3
Total	60	100

Source: Fieldwork (2017)

Plate 5: Bor County Dump Site



Source: Fieldwork (2017)

Perception of Increasing Poverty

The Bor community noted that manifestation of poverty in the county is brought about by rural-to-urban migration (48.3% of the respondents), inequality in the distribution of wealth (40%) and proliferation of informal settlements (10%) (Table 4.15). Bor elders revealed that migration of other communities into Bor town was due to insecurity and therefore the Bor community tend to marginalized. This is because most formal employment opportunities goes to the non-Bor communities.

Table 4.15: Manifestation of Poverty in Bor County

Manifestation of Poverty	Frequency	Percentage (%)
Inequality in the distribution of wealth	24	40
Rural-Urban migration	29	48.3
Encouraging slums	6	10
Don't know	1	1.7
Total	60	100

Source: Fieldwork (2017)

CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of research findings, conclusion and recommendation. This study addressed the impact of urbanization on the livelihood of the Bor community in Bor County. The specific objectives of the study were to: 1) examine the livelihood opportunities in Bor County; 2) investigate Bor Community understanding and perception on urbanization; and 3) assess the impact of urbanization on the livelihood of Bor County community.

5.2 Summary of Findings

Livelihood opportunities in Bor County

1. The livelihood opportunities in Bor County depends on access to land, access to livestock, and access to natural resources.
2. The main sources of income are formal employment, farming, fishing, and extraction of natural resources.

Bor Community understanding and perception on urbanization

- The Bor community understand urbanization as changing of rural area to town; the process of creating town in the country; an urban center; and increase in infrastructure development.

- People migrate to Bor Town because of access to land bought from government officials in the Ministry of Physical Infrastructure and Planning; employment opportunities; and insecurity and conflicts in other areas.
- A large majority of the respondents were of the opinion that urbanization is good because it improves infrastructure and social amenities in the area. The other fewer thought that urbanization is bad because it brings with it crime, prostitution, theft and unemployment.

Impact of urbanization on the livelihood of Bor County community

- The positive impacts of urbanization include availability of goods and services; good education; employment opportunities; access to banks; and socialization and civilization.
- The negative impacts of urbanization are increased pollution, destruction of forests, destruction of pasture land, unemployment, crime and increasing poverty.

5.3 Conclusion

The study has revealed that Bor County is indeed experiencing rapid urbanization due to its proximity to Juba city. The rapid urbanization of Bor County has led to increase in demand for land and increased land sub-division. As a result land use and land tenure has changed drastically, with both positive and negative impacts on the livelihood of the Bor community. Some of the positive impacts of urbanization identified by the Bor community include availability of goods and services; improved education facilities; employment opportunities; and easy access to banks. The negative impacts were

environmental pollution; unemployment to the immigrants; sub-division of land; and soil degradation. These impacts have in-turn led to livelihood diversification and new livelihood strategies among the Bor community. The study recommends that there is need to undertake an integrated and community-driven urban planning framework for the County and other emerging urban centres. The benefits and influence of urbanization has had an over bearing on the Bor community. With improved infrastructure, improved social amenities and improved water supply and sanitation, the Bor have seen improved standards of living with many of them turning to sedentary lifestyles. In turn they have had to diversity their livelihoods from basic animal diets and pastoral ways of life of adapt to the new.

5.4 Recommendations

To policy makers

1. There is need for a sustainable urbanization policy for South Sudan to guide urban growth and development.
2. Urban growth and development policies in Bor County should be inclusive of both the Bor community and immigrants.

To future researchers

There is need for a comprehensive study on urban growth and development of Bor town with a view of capturing the historical perspective, influence of the war, influence of the young nation and challenges of urbanization.

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APPENDICES

APPENDIX I: QUESTIONNAIRE

THE IMPACTS OF URBANIZATION ON THE LIVELIHOODS OF BOR COMMUNITY IN BOR COUNTY OF JONGLEI STATE, SOUTH SUDAN.

INTRODUCTION

I am a student at the University of Nairobi pursuing Master of Arts Degree in Urban Geography. I am carrying out a research on the impact of urbanization on the livelihoods of Bor community in Bor County of Jonglei State, South Sudan. The research is purely for academic purposes. Any information given to me will be treated with utmost confidentiality. Your cooperation is highly appreciated. Thanks. This questionnaire is divided into ten Sections:

DEMOGRAPHIC DATA

1. Gender

Male

b) Female

2. Marital status

a) Single

c) Married polygamous

e) Widowed

b) Married monogamous

d) Divorced/separated

3. Level of education attained.

a) Never went to school

c) Secondary

e) University.

b) Primary

d) Tertiary

4.) What is the main source of income?

5. How long have you live in Bor?

a) Less than 1 year

c) Less than 5 years

b) 1 - 2 years

d) More than 5 years

6.) (i) Where were you living in the last five years?

(ii) If somewhere else in the above where did you come from and why?

7.) What can you contribute to the population increase in Bor County?

a) Natural increase from live births. b) Migration of people from other areas.

c) Improved infrastructure. d) Don't know.

URBANIZATION

8. What do you understand by term urbanization?

9. What benefits do you get in being in an urban area?

10. I) Have you experienced any urbanization?

- a) Yes b) No c) Don't know.

ii) What can you say about the growth of Bor County?

11. What benefits can you are as a result of Bor being an urban area?

- a) Improved infrastructure. b) Improved social amenities.
c) Improved security. d) Availability of goods and services
e) All the above.

12. I) how are you serviced by financial institutions like banks and co-operation?

- a) Easy accessible b) Not accessible

ii) If (1) in above do you get training on how to invest your money?

13. What are the disadvantages of being in Bor County?

- a) Insecurity b) Housing c) Poor infrastructural planning.

14. How has the growth of Bor affected the way business is done?

15. Where do you get your basic need?

- a) Shop b) Market
c) Supermarket d) All the above

16. In your opinion has urbanization influenced goods and services and if yes how has it influenced explain?

17. In your view how is urbanization influencing accessibility of goods and services compared to the last 5 years ago after the independence of South Sudan?

- a) Very efficient b) Easy accessible
c) In availability of some products d) Don't know

18. What positive change can you attribute to urbanization?

19. What are the negative impacts of urbanization on the physical environment?

20. What are the positive impacts of urbanization on the lives of the Bor county community?

21. In your own opinion is urbanization good or bad now that Bor is a town? Explain your answer

22. What is your suggestion to policy makers about urbanization and the livelihood of pastoral communities?

23. What is the cause of urban poverty in the livelihood of Bor residence?
 a) Inequality in the distribution of wealth b) Rural- urban migration
 c) Young men and women of the informal jobs prefer living in slum
 d) Don't know.

24. In your view since Bor became an urban center has the social amenities improved in this area?
 a) Yes b) No

LIVELIHOOD

25. What is your source of livelihood?
 1. Employment-Employed 2. Self-Employed-Casual
 b) If 1 in above are you a casual laborer or a salaried employee to be paid at the end of the month?
 1. Self-employed. 2. Jobless

26. What was the main source of livelihood before Bor became urbanized?
 1. Pastoralism 2. Farming
 3. Trade 4. Don't know

27. What is the source of food?
 1. Farm produce 2. Purchase from the market
 3. Purchase from the Supermarket 4 All the above

28. What is your Staple Food?
 29. How do you prepare your food?
 1. Frying 2. Boiling
 3. Traditional ways of cooking 4. Don't know.

30. How did you used to prepare the food long time ago, compared to your way of doing it now? Explain

SOCIAL NETWORK

31. Do you belong to any community based organization?
 1. Yes 2. No
 32. How does it assist you?
 33. Do you know of any other community Based organization?
 1. Yes 2. No

b). If yes in above which one?

34. Do you have social gatherings to aid boost interactions and intercommunity co-existence?

1. No

2. Don't know

3. Not applicable

4. Other please specify

LAND

35. How big is your land?

36. How did you acquire the land is it own land or purchased?.

37. Since Bor town become an urban center, how is the size of land you own has it changed, is it the same, or it was bigger specify?

38. How is the ownership of land?

1. Communal

2. Individual

b). If (2) above do you possess a title deed

LIVESTOCK PRODUCTION

39. How many cattle do you have?

40. Where do your livestock graze?

1. Open field

2. Zero grazing

41. Has anything changed as far livestock is concerned since Bor town become an urban center?

42. What can you say about livestock trade is it still being practiced?

43. Where do you sell the livestock?

1. Government meat commission

2. Slaughter houses.

3. Near by butcheries.

4. Individual

TRANSPORTATION

44. What is the main transport mode for goods?

45. What are the modes of transport you use between work and home?

1. Walking

2. Public transport

3. Private car

4. Private motor

5. Other specify

6. Not applicable

46. Which of the following options best suit your household in terms of mobility?

1. Sedentary living 2. Nomadic living 3. Semi-nomadic

WATER

47. Where do you get the water?

1. River 2. Borehole.
 3. Piped water 4. Water pan

48. What do you use the water for?

1. Farming 2. Domestic use
 3. Livestock use 4. All the above

49. What can you say about the water use for? Is it enough and if it is not enough where else do you get the water?

50. How far is the water point?

51. How many minutes does it take one to draw the from the watering point?

52. What are the challenges of water for livestock use?

1. Scarcity 2. Distance covered to reach the water is very far.
 3. Conflict of human wildlife over the same resource. 4. Many users over the same resource

53. What are challenges of water for cultivation?

1. Unreliable rain fall 2. Unreliable water supply from the Source
 3. No irrigation available from the government

54. What are the means of water transported to the household?

1. Piped 2. Water container/bike
 3. Horse 4. Cut pulling
 5. Livelihood sources

55. How has the situation changed since the area became an urban area? Specify

56. Are there conflicts related to land pasture and water in Bor town became an urban center?

1. Yes 2. No

57. What are the challenges of water for livestock use?

58. What are the challenges of water for cultivation?

Energy

59. What is the source of energy?

60. How much do you spent per week in terms of energy consumption?

61. Are there any changes in energy since Bor town became an urban center? If yes, specify

Access to Healthcare and Education

62. Are you accessible to healthcare facilities?

63. How far is the healthcare facility near you?

64. How long does it take you to get to the healthcare facility near you?

65. In your own opinion how a health care service is since Bor town became an urban center?

66. How is your accessibility to schools?

67. How far is the nearest school to your home?

68. Are there any new education centers in Bor town?

69. In your view is the education system since Bor town became an urban center?

70. What types of house do you live in?

1. Bungalow

2. Maissonette

3. Traditional house

71. What challenges are faced by pastoralist?