

Agriculture and Land Tenure: a Strategy for Rural
Sustainable Livelihoods in Lakes State, South Sudan

by

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ABSTRACT

AGRICULTURE AND LAND TENURE: A STRATEGY FOR RURAL SUSTAINABLE LIVELIHOODS IN LAKES STATE, SOUTH SUDAN

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In alleviating poverty in Lakes State in general and in the two counties (Yirol East and Wulu) in particular, there is a need to assess the property rights and its effects, identify the livelihoods and production assets of people solely involved in the cultivation of crops and agro-pastoralists, assess the role of land tenure system and how it contributes to land conflicts as well as conduct gender analysis of the impact of land tenure on the vulnerability of women and children in Yirol East and Wulu of Lakes State, South Sudan. Both quantitative and qualitative research methodology were utilized in this study. The qualitative research data consisted of focus group discussion, key informant interviews, and direct observation. Quantitative research data was gathered with the aid of a questionnaire. Two hundred questionnaires were implemented in Yirol East and Wulu County including 100 questionnaires in each county. Furthermore, these primary data sources were supplemented by secondary (or existing) data sources, including the South Sudan Land Act 2009, South Sudan National statistic Bureau, and documents from South Sudan Ministry of Irrigation.

The food security is blamed on inadequate production assets which include human capital, financial capital, social capital, natural capital, and physical capital. In addition vulnerability factor due to draught, and conflict as well underutilization of the main livelihoods

existing in the two communities the agro-pastoral of Yirol East and crop farmers of Wulu counties are the main findings of this research.

The author highlighted the need to address the livelihoods and production asset constraints faced by agro-pastoralists of Yirol East Dinka communities and sedentary Beli communities of Wulu County. Dialogues for peace initiatives between rivals should be considered a step forward towards peaceful co-existence. Addressing property rights issues in relation to vulnerable women and children as well as land conflicts due to border demarcation, pastures and water points between communities is essential.

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CHAPTER ONE

Introduction

The decades of systematic marginalization and the war that was considered one of Africa's long-running conflicts (Deng, 2002) have undermined livelihoods and the provision of basic services in South Sudan specifically in the rural communities (IDMC, 2010). The influx of the millions of South Sudanese from neighboring countries since the signing of the Comprehensive Peace Agreement (CPA) in 2005, the independence of the country on July 9, 2011 and the internally displaced persons (IDPs) and refugees (IOM, 2009) have put lots of constraints on this young government of South Sudan to provide basic services to its citizens. In addition, the Republic of South Sudan (RSS) is also facing post-independence issues like corruption (UN, 2011) and security. This is also adding more pressures on the government to exploit land and resources available (oil and mineral) to build dependable, sustainable livelihoods that are very much needed for country's economic growth.

On the other hand, lack of infrastructure, and the lack of economic diversification have created food insecurity and poor livelihood conditions in the region (IDMD, 2010). Despite billions of dollars from oil revenue, 50.6 percent of south Sudan's people are below the poverty line (The National Household Baseline Survey of 2009).

Ordinarily, there is boundless agricultural potential in South Sudan. It has a total surface area about 650,000 square kilometers. Before the civil war in South Sudan studies showed that only two percent of arable land was cultivated. However after the independence and with the influx of the south Sudanese from neighboring countries to South Sudan, there is a possibility that the size of the cultivated land might increase. (WFP, UN, 2006).

Generally, South Sudan rural communities' cultivation consists mainly of rain-fed traditional subsistence agriculture characterized by low productivity and primitive cropping techniques such as shifting cultivation and seed broadcasting. Since agriculture is a desirable strategy for the country's economic growth, the challenge is how to convert traditional subsistence agriculture into a productive enterprise (Plan of Action for South Sudan 2011; FAO 2010).

Similarly, the conflict between the two states of Sudan (North and South) is making things worse. South Sudan depends on oil for 98 percent of its GDP (World Bank, 2011) and because it is a landlocked country its oil production must be shipped out through the Republic of Sudan and along with the usage of the Sudan's pipeline and facilities to transport its oil.

However, due to a disagreement between the two nations over the transit fee and the usage of Sudan's facilities this led to the total shut down of oil production and consequently interrupted the development process in South Sudan (Christian Aid, 2012). Fortunately, recently oil exports have resumed. There are also other issues such as cattle raiding, tribal crisis, and bad road network hinder the peace and stability and indeed the livelihoods of Lakes State, South Sudan.

Problem Statement

Rural communities in Lakes State, South Sudan for centuries have depended on agriculture as their livelihoods strategy. However, the civil wars in the Sudan had prevented the use of land and agriculture as a strategy for livelihood sustainability (FEW NET, November 2009). Likewise, fighting over resources because of the land tenure and property rights which allows a group of people that have legal right to block out others from damaging, intruding, stealing, or otherwise meddling with their property rights (Coase, 1960) has contributed heavily

to inter-ethnic conflicts. In addition, insecurity and the post-independence issues between North and South Sudan are affecting the livelihoods in the state as well as the entire South Sudan (Internal displacement Monitoring Centre (IDMC) 2010). These issues have made the Republic of South Sudan one of the poorest countries in the world in terms of infrastructural development and services delivery to its people, though it has economic potential in agriculture and oil among other things. The lack of infrastructure and institutional framework has undermined the agricultural sector.

All things considered, this undeveloped agricultural potential is the research problem that this thesis seeks to provide information about relative to Lakes State people's livelihoods. This study explores the livelihood and production assets of agriculture and agro-pastoralists or pastoralism in two counties of Lakes State (Yirol East & Wulu). To understand the livelihood strategy of these communities the role of land tenure and land conflict was assessed on households and its implication for gender relations is explored.

Research Goal

The research purpose is to assess the property rights which presently exist in South Sudan and affect the land tenure system. It will then look at the livelihood strategies that will allow the small farmers to cope in such a way that there will be a reduction in conflict. Having done this I hope to suggest workable policies to improve the sustainability and ways to reduce conflict over land resources. Inequitable land tenure policies have contributed heavily to inter-tribal conflicts in South Sudan. The research also analyses issues that are affecting the rural livelihood of smallholder household in two counties (Yirol East and Wulu) in Lakes State, South Sudan.

Research Objectives

There were four specific objectives for this project:

1. To assess the property rights of South Sudanese in Yirol East and Wulu of Lakes State, South Sudan.

2. To identify the livelihood and production assets of people solely involved in the cultivation of crops and agro-pastoralist in two counties Yirol East and Wulu of Lakes State, South Sudan.

3. To assess the role of the land tenure system and how it contributes to land conflicts in Yirol East and Wulu of Lakes State smallholder household livelihoods.

4. To conduct gender analysis by considering the impact of land tenure on the vulnerability of women and children in Yirol East and Wulu of Lakes State, South Sudan.

Justification for the Thesis

Some studies have been done on production constraints faced by small scale communal farmers in South Sudan (UNDP, 2011). Therefore, as a way of increasing the rural sustainability and success of the rural communities in Lakes State in general and Yirol East and Wulu Counties in particular in alleviating poverty, there is a need to assess the property rights and how it affects land tenure in Yirol East and Wulu of Lakes State, South Sudan, identify the livelihood and production assets of people solely involved in the cultivation of crops and agro-pastoralists in two counties Yirol East and Wulu of Lakes State. The study will also assess the role of the land tenure system and whether it contributes to land conflicts in Yirol East and Wulu of Lakes State as well as conducting gender analysis of the impact of land tenure on the vulnerability of women and children in Yirol East and Wulu of Lakes State, South Sudan. The research studied livelihood related problems in an attempt to come up with solutions to the communities' agricultural production and sustainability constraints as a step toward making rural livelihoods within these two counties more productive and sustainable.

The information collected in this thesis may have implications for other communities in the Lakes State as well as the entire Republic of South Sudan. The identification of livelihoods and production assets in pastorals or agro-pastoral farming communities in these two counties (Yirol East & Wulu) as well as the constraints and opportunities that the beneficiaries of these two communities are facing, may assist in the formulation of policies and strategies as well as institutional reforms to ease constraints on small farmers households. This may encourage small scale farmers to become part of the commercial agricultural economy. It is hoped that the study will also enable the Ministry of Agriculture in the Republic of South Sudan and the non-governmental organizations (NGOs) to see which production assets are best for rural sustainable livelihoods in the Lakes State and if addressed, may help to improve poor people's rural livelihoods.

Outline of the Thesis

The study is organized into six chapters. Firstly, the introductory chapter contains the background of the study, the problem statement, objectives, justification and the outline of the study. Secondly, the literature review chapter which includes information from other authors and researchers related to property rights, livelihoods strategy, and conflict resolution land tenure system, gender role in the rural communities, economic diversification and conceptual framework in developing countries with special references to African countries. Thirdly, the methodology chapter explained a brief description of the study area is provided, the selection of the study area, the sampling methods used, the methods employed in data collection, analyses and limitations. Chapter Four presents the major findings and the results of the study. Chapter Five discusses the study findings. Finally, Chapter Six summarizes the study's findings, and

makes recommendations aimed at overcoming the constraints facing the small scale farmers in Yirol East and Wulu Counties in Lakes State.

CHAPTER TWO

Literature Review and Conceptual Framework

Introduction

Building on the significance of this study, there is a need to review literature on topics relevant to the study. The first section assesses the property rights and the literature gaps. The second section discusses gaps in livelihoods strategies in both counties (Yirol East & Wulu) of Lakes State, South Sudan. The third section deals with resolution of conflict. The forth section deals with land tenure with gap in literature on gender role in rural smallholder household.

Addressing these gaps in the literature by this study may help small-scale farmers to seek better ways in which they can enhance their food production, peacefully co-existent among the communities as well as address the gender issues affecting land tenure.

Property Rights

Property rights have been analyzed by Coase, (1960), Barzel, (1989), and others. Three criteria for efficiency of property rights were identified by Eggertsson, (1990). The first criterion is transferability-to ensure resources can be allocated from low to high yield. The second criterion is exclusivity. Property rights are exclusive rights. The third criterion is universality. All scarce resources are owned by somebody community, state, or individual. These three criteria are also seen in the traditional property rights in Lakes State as well as other part of South Sudan.

On the other hand property as bundles of rights is an enforceable authority to undertake. If one individual has rights someone else has a duty to observe those rights (Commons, 1968). Schlager and Ostrom (1992) identified five property rights that are most relevant for the use of common-pool resources, including access. There are the rights to enter confined physical area and enjoy non-subtractive. Furthermore, management which is the right to regulate internal use

patterns and transforms the sources by making improvements to the property. Moreover, there are rights of withdrawal which is the rights to obtain resources units or products of a resources system. Finally, exclusion is the right to determine who should have access rights and alienation which is the rights to sell or lease management and exclusion rights (Schlager and Ostrom, 1992).

However, traditionally, under customary law, in Lakes State, the rights to access and withdraw resources from property are guaranteed to every member in the community; in other words a community member is free to enter and enjoy physical area. Similarly, rights to withdraw units or products of a resource system (catch fish and others) are also guaranteed to every community member. On the other hand, the rights to exclude other groups to access rights and withdrawal are all observed by those members (Commons, 1968). For example part of Yirol East is covered by a large swamp; this swamp is a great spot for grazing when water subsided in dry season. This pastures area is a destination to most of the neighboring communities as well as other neighboring states like Unity State.

Historically, this area has been a breeding ground for all the cattle raiding activities, trouble markers as well as a clashing point for inter-ethnic conflicts. Despite of all the issues, the local pastoralists gather every year for pastures and water points. In addition, locals have a mechanism of resolving the differences and inter-ethnic conflicts caused by cattle raiding, and trouble makers. Similarly, during the flooding season the pastoralist from Yirol East move to other higher grounds in the neighboring communities in the Lakes State including Wulu County as well as Western equatorial State. All in all it means that the bundles of rights to totally exclude other group from access, and resources withdrawal are not yet in place.

On the other hand, the South Sudan land Act of 2009 has classified all the land in South Sudan into three main categories firstly, the public land; which includes any land used by government as well as other land owned collectively by all people of South Sudan, secondly the community land which includes land lawfully registered in the name of group, land lawfully held, or used by specific grazing areas, shrines and any other purposes recognized by law, and land lawfully transferred to specific community.

However, the earlier optimistic view that property rights would lead to efficiency was challenged by Libecap (1989) and North (1990) who suggested the views that property rights generate toward economic efficiency is not often true. Libecap (1989) indicated that distributional conflicts have political risks for politicians because it only offers limited relief from property bundles of property and bundles of property rights (access, management, withdrawal, exclusion, and alienation) economic inefficiencies due to common pool resources losses.

Generally, property and bundles of property rights provide the basic mechanism that shapes resource allocation. This is seen in the South Sudan Land Act, 2009 where land allocation has been categorized into three; public, community, and private. This form of land categorization may be one step of several steps leading to introducing property and bundles of property rights. Similarly, Libecap (1989) argues that property rights are formed and enforced by political entities and that property rights reflect the economic interests and bargaining strength of those affected. This means introducing bundles of property rights where the affected individuals will have legal rights to protection; for example they have a legal right to exclude other groups. Moreover, there are guaranteed legal rights to sell. Lease management and exclusion rights will have a negative impact in rural Lakes State. Introducing these bundles of property rights define

or delimit the range of privileges guaranteed to individuals of specific resources such as grazing land and water points.

Similarly, private ownership of these resources may involve a variety of property rights including the right to exclude non-owners from access to the right to rents from use of and investment in the resource, and the rights to sell or otherwise transfer the resource to others. Property institutions range from formal arrangement including constitutional provision, statutes, and judicial ruling to informal convention and customs regarding the allocation and uses of property. Such an institution critically affects decision making regarding resource use and, hence affect economic behavior and economic performance.

Livelihood Strategy

In the mid-1980s, Robert Chambers elaborated the idea of “sustainable livelihood” with the objective of improving the efficiency of development cooperation by making individual household livelihoods more sustainable. His ideas formulated the standards for the Sustainable Livelihood Approach. The Sustainable Livelihood Approach was adopted by the British Department for International Development in 1997 (DFID), to become a central part of its strategy for pro-poor policy. Today, multiple agencies (such as Oxfam, DFID, UNDP, CARE,) are employing sustainable livelihood approaches for poverty eradication in their programs. The basic principles of implementation by these different agencies are similar.

There are numerous definitions of sustainable livelihood in the literature but Chambers and Conway’s work of (1992), is the most frequently quoted. Chambers and Conway indicated that

“A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living; a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation” (Chambers and Conway, 1992:1)

Different socio-economic groups have different strategies to gain their own living which may guarantee different levels of resilience to food insecurity. Different interventions are needed for different socio-economic groups (farmer's household/ household that depend on public sector employment income).

Depending on the option available in terms of capabilities, assets which include both social and material resources, and activities, for instance, on the household strategy (Ellis, 1998) enable a household to cope and withstand economic shocks.

Lovendahl (2004) suggested that most research concerning food security focuses on refining and development of the techniques of analysis that speculates accurately the likelihood of the loss of adequate food, for instance, vulnerability to food security.

Resilience to food security means the ability of the household to withstand shocks and stresses, depending on available options from which the household could make a living as well as ability to handle risks (Alinovi et al., 2007). Resilience is related to, but is a different concept from vulnerability; they share parameters such as stresses and shocks. Nevertheless, vulnerability analysis often measures the susceptibility of an individual/household, whilst resilience analysis always looks for different responses adopted by a household and captures components of the adopted strategies.

Naturally, households with limited revenues tend to perform multiple production activities (Dunn, 1996). Some of these activities are for both consumption and sale; some are intended solely for the markets, while some of these activities are only for home consumption. These households engage in agricultural production and may have jobs to earn wages.

The household may need to be involved in multiple activities for these reasons; firstly, to earn sufficient income. This means that a household cannot engage all its resources in one

productive activity and provide adequate profit for the entire family. Many agricultural activities are seasonal and for that reason the family needs to be involved in different activities for more income. Households in a rural region of a developing country including South Sudan always produce goods for household consumption and at the same time are in need of other money to buy commodities they cannot produce in their rural setting. Therefore, it is a risky approach to be engaged only in one activity due to its economic precariousness.

Diversifying the portfolio in a rural household by engaging in more than one activity is for the purpose of reducing economic risk because many of the households in rural communities do not have access to credit or the insurance market.

There are several resources available for the household. This includes physical, human and financial resources available for use through different methods; ownership, borrowing Dunn, (1996). Physical resources include the household's assets, which may consist of machinery, livestock, buildings, inputs, and land; financial resources may include cash, bonds and other liquid assets; human resources are the skill and labor of the members' household. Certain activities are performed by the household that include consumption and production activities as well as other investment projects. Production activities done in the household include household activities and outside work. Consumption activities are presumed to meet the household's needs, such as clothing and food, and household maintenance activities include any activity that creates a product or service that is solely for household consumption, which includes child care.

To be capable of gaining one's own living by using available strategies there is a need for human resources, however, the lack of human resources proved to be a constraint in service provision especially with the regards to the development of the health sector that is so much needed by these communities in South Sudan. Only handfuls of the total population are covered

and the international organizations (NGOs) are the ones providing these services (Waldman and Rietveld, 2006). Over 70 NGOs and faith-based have been providing health services (Cometto et al., 2010).

There is a lack of infrastructure such as roads and communications; this creates difficulties moving supplies across the country (Waldman and Rietveld, 2006). Medical supplies are scarce commodities for South Sudan communities, and their presence without security guides causes insecurity along the route (USAID, 2008).

On the other hand, the long conflict civil war between South and North Sudan has hampered the provision of clean drinking water because of insufficient boreholes, due to insecurity (Goyol, 2003). These insecurities make it difficult to drill. For example, inter-communal conflict in pastoral areas and among pastoral and farmers and around oil fields disrupts the drilling of wells (Welle, 2008).

There is an absence of comparative livelihoods analysis due to the limited number of case studies analysing situations across different livelihood zones. The focus in the literature is on pastoralist livelihoods. There is not much literature on smallholder farmers and agriculture reconstruction and development. The studies covering livelihood recovery seems to be only site specific which, means finding comprehensive research is difficult.

Conflict Resolution

Conflict resolution refers to all procedures taken to address the causes of direct, cultural and structural violence. There are various definitions of conflicts, including perceived differences in interests, views, or goals (Deutsch, 1973), solving the disagreement at the different societal levels (Carnevale & Pruitt, 1992), and recognizing that different parties' ambitions cannot be realized at the same time (Rubin, Pruitt, & Kim, 1994). This is what is happening in

the two Counties of Lakes State, South Sudan (Yirol East and Wulu) between agro-pastorals/pastoralist in one hand and/or pastorals and crops farmers on the other hand. Socially, the idea of conflict is always perceived negatively, and some other times conflict could be seen as “value-natural.” The outcome of the conflict (positive or negative) depends on how it is handled (Deutsch, 1973). Unresolved differences between rivals can damage relationships, hold back cooperative action resulting in mistrust between these groups which may lead to a possible direct confrontation. This is seen in most of the inter-ethnic conflicts in Lakes State because these inter-ethnic conflicts are caused by the long historical mistrust between the communities. Presumably, the base of conflict resolution and its objective is not to ignore but rather to deal with it so as to minimize any negative impact and maximize the positive potential inherent in conflict within the framework of the values of peace. Unfortunately, this conflict resolution and its objectives are not looked at by the communities or local authorities when dealing with inter-ethnic conflict in Lakes State. Either these communities or local authorities do not know about it or ignore it.

Over the past seven decades (Wimmer & Min, 2006) suggests that there is a rise of ethno-nationalist civil wars. The concept of ethnicity (Smith, 1990) is applicable a number of people sharing the same cuisine, heritage and traditions or animals living together or acting together though not necessarily belonging to the ethnic group. Kaplan (1993) argued that, ancient hostilities between different ethnic groups are the exclusive basis of conflict between them. This is true in the case of South Sudan pastoralist agriculture because their historical hostilities are due to the cattle rustling. Vanhanen (1999) suggested that ethnic heterogeneity in itself is conflictual. However, (Mueller, 2000) suggested that parties to ethnic wars are nothing but bands of opportunistic marauders recruited by political leaders.

Gellner (1983) first proposed a link between ethnicity and conflict works through the concept of nationalism. He suggested the demand that the political state should be concurrent with territory of a nation. On the other hand, Gurr, (1993) argued that the existence of a cultural identity in combination with collective political or economic grievances is the basis of group mobilisation. In addition Kaufman, (2006) and Grigorian & Kaufman, (2007) identified the following three main pre-conditions for mobilisation firstly, the narrative that defines the ethnic in-group and in doing so creates an out-group. Secondly, fears regarding the future of the in-group can be linked to political exclusion and discrimination and finally a territorial base or a home land for ethnic group is required. These preconditions for mobilisation identified by (Kaufman, 2006; Grigorian & Kaufman, 2007), match Gurr's reasoning for group mobilisation. This explanation is similar to causes of wars in Sudan since before independence of the then united Sudan (over 40 years) to the signing of the comprehensive Peace Agreement in 2005. The war of 1983 was the continuation of the first war of 1955. Roughly two million people have died as a result of war, famine and disease caused by conflict. Another four million people in South Sudan have been displaced at least once and sometimes repeatedly during the war. Furthermore, that war was often characterized as a fight between the central government expanding and dominating peoples, raising allegations of marginalization. In addition, the conflict was also painted as a racial conflict between Arab in central government and African in the south as argued by Douglas (2011).

Conflict resolution using a cooperation technique where the idea is to work on common purposes or benefits rather than competition and in which parties look at the problem facing them as one on which they can work together to find a solution that suits them both. An integrative solution, according to Martin (2007), is a solution which addresses the interests and

needs of all factions, by offering a personal reminder. This integrative conflict resolution could be the best approach in addressing the inter-tribal conflict between the South Sudan communities because most of the inter-tribal conflict are interests and needs related.

On the other hand Wilton and McKersie (1994) refer to the integrative (unifying) solution as bargaining, the process by which the involved groups attempt to examine possibilities to increase the size of the joint gain. The interest-based approach is a solution which each party assumes that they know their interest as well as winning is a key for them. The resolution revolves around each party trying to dictate their own solution or position on the other group. Positional bargaining locks both rivals into their only opposing positions, discourages any analysis of underlying issues, and discourages the emergence of more creative solutions. The best solution that can be hoped for is a compromise between each party's initial positions. For this reason, peace negotiations between communities in South Sudan should be based on the mutual respects as well as win-win solution. Similarly, every rival community in South Sudan needs to know that, working for peace and co-existence is better than competition.

In contrast, resolving the conflict needs to focus on issues or interests underlying the conflict, exploring new avenues that could interest the rival parties and give up their initial positions. This is known as an Interest-based approach. The interests that are behind a conflict (needs, wants, fears and concerns, and emerge through a process of 'unpacking') the conflict and each party's initial positions.

Thompson (1990) suggested that, most negotiators go into negotiation keeping in mind that one party will win, the other one lose, and fail to notice integrative possibilities. Furthermore, Deutsch (1973) suggested "Crude law of social relations" which states competition leads to more competition, cooperation leads to more cooperation. Rural people of Lakes State especially the

agro-pastoralist have engaged in competition on the pastures, water points and have dealt with cattle rustling for a long time. This competition has led to many deaths and most importantly to mistrust among each other. The mistrust has created bitter hatred among the communities making it difficult despite government and some NGOs numerous attempts to bring rival communities to cooperate in solving their problems. Generally speaking what the rural communities in Lakes State need is more cooperation and peaceful coexistence.

Land Tenure

Post-independence, South Sudan has to come to terms with lots of issues that needed to be addressed. One of these issues is the land tenure system. Over centuries, before the independence of the then united Sudan and throughout the Anglo-Egyptian Rule in Sudan, the land tenure system was and is a communal or customary tenure (Evers, 2005). This type of land regime is the only known regime for South Sudan in the urban and the rural communities alike. This system regulates their access to land (Sundnes and Shanmugaratnam, 2008:72).

Customary tenure permits local farming and development and other production activities. In this regime local authorities are the ones to allocate community land. The customary land tenure system has become part of the local culture and has always been regarded as indigenous and believes in its efficiency to regulate their access to land and to settle social conflicts (Evers, 2005).

For the local authorities to address land conflicts socially, the groups or individuals are to have rights to access land only through their membership in the community (Lentz, 2006:1), Evers, et.al. 2005) According to the existing rules, land could be transferred from the parents to their off-spring (Lentz, 2005).

Rural communities have their special guidelines and rules of how to address land issues in regards to gender as well as other issues concerning land conflicts. In the case of women it is a norm in the rural community in Yirol East and Wulu Counties that women only have rights to land through parents' lineage or marriage. This constitutes a gap in the literature because according to South Sudan Land Act 2009 it clearly stated that no citizen of South Sudan shall be denied rights to land because of gender. This means, rights to land are protected by this act, this points out the lack of awareness in the community about this Act. Available literature indicated that, animal grazing in agro-pastoral or pastoral communities have the rights to graze their herds of cattle through their association to community or they need to have membership in the community (Evers, 2005) but what was not looked at by the literature is how could it be done for these communities; agro-pastoral; pastoral and agriculture coexist and live in peace among each other.

Lakes State communities are like any community in Africa or elsewhere, there are some inequalities within one community due to power relationships and these are clearly seen in how much land is cultivated and the size of herd owned. Also in these communities conflicts over resources are overseen by local institutions but most of the times these local institutions find difficulties in handling these issues due to unclear border demarcation and displacement of sedentary and pastorals because of war.

The lack of gun control in South Sudan communities is another major setback for peaceful co-existence. Land conflicts over resources competition existed before the Sudan civil war, conflicts between the rivals of the same communities or across the borders were fought using sticks and spears; however after the Sudan's civil war these conflicts became too violent because of easier accessibility to firearms in rural communities (Skinner, 2012).

Most of the time, these conflicts are settled by local traditional authorities; however, there is a reason to believe that the broken system of governments is to blame for these conflicts.

The failure to implement the Land Act has created issues between locals and foreign investors. Rural traditional authorities are grabbing land from the locals and are now perceived by South Sudan local communities to be part of the land issues in the new country (Deng, 2010). The potential of economic boom in this new country has attracted a large number of foreign investors into the country. Large-scale allocations of land to foreign investors by some corrupt government and/or local traditional chiefs are alarming all rural communities in the Republic of South Sudan. Foreign investors leased or bought about 2.64 million hectares of land in South Sudan in 2007 (Deng, 2010). A large number of southerners who were dispossessed from their land by war and oil companies and by the government of South Sudan paved the way for the construction of government infrastructure in all ten states of South Sudan (Jackson, 1996).

The long struggle of South Sudan people since independence from the then united Sudan against its successive regimes was purposively to make sure the basic rights of South Sudanese are protected including the rights to land and water resources and extension of these rights to women. Land and water rights are important to people's livelihoods since the farming and herding are the basic means of livelihoods for most of the rural communities in South Sudan (Brown et.al, 2006). Women's rights to access the land has been incorporated into the South Sudan Land Act of 2009, however, women's land rights are insecure due to lack of awareness of these rights in all the levels of South Sudan government National, State, County, Payam, and Boma (De Wit, 2004).

Historically, land was not a big issue in South Sudan because there was a major perception that there is an abundance of it for everybody (Shanmugaratnam et al. 2002).

Nevertheless, at the present times there is a growing awareness in the region about the land competition and demand and its subterranean resources such as oil and minerals and that this demand comes from very powerful domestic and international sources (Jackson, 1996). Also looking into the need of the displaced people of South Sudan who have returned or are returning is a challenge for this government that should be addressed.

Future customary or communal tenure in reference to natural resources suggests that South Sudan is faced with the realities of defining principles for the management of national economies and resources (globalization and liberalization) (Bior, 2005). The approach to land reform constitutes another major obstacle this government needs to deal with. There are two distinct approaches for land tenure in South Sudan. The top- down approach is one which is very unpopular among the local communities because locals perceived it as land grabbing by the government and that it restricts their ancestral usage rights of their land (Bruce, 1998). This perception alone could be why people oppose the present land reform. On the other hand, local people perceive that land reform brings along land titling through land registration. This type of land reform had failed to resolve land issues in some African countries (Peters 2002; Ogoth-Ogendo 1976 and 2005).

On the other hand a bottom-up approach on land reform could be the right approach for local traditional authorities as it permits the locals to have a say about how they could participate in this so call land reform. On the other hand different levels of South Sudan government (National, State, County, Boma and Payam) would also have a reasonable role to guide the reform process (Evers, 2005). However, the lack of a clear relationship between the South Sudan government's levels and traditional authorities on land issues is creating lots of tensions between them. Local traditional authorities complain about lack of consultation from the government side

when they needed land for public use and government levels complain about reluctance of communities to allow urban development and expansion.

Government needs to address land reform on two fronts, the long and short term. However, a successful long term land reform totally depends on addressing first the immediate land issues. For example they need to address returnee and IDPs land problems. Lots of studies indicated the return of refugees and IDPs since 2005 to South Sudan (Pantuliano et al., 2008), but the literature did not mention solving issues the refugees and IDPs face on their return to their original areas before the conflict, for example, areas inhabited by other IDPs (Shanmugaratnam, 2010). Studies indicated that returnees face challenges in reintegrating and restarting lives because of lack of employment opportunities, inadequate basic services, and lack of access to credit, land and agriculture input (Bailey and Haragin, 2009). However, there is nowhere in the literature any suggestions about necessary steps to address and resolve these issues. They need to address the allocation of land for housing and farming, as well as old and new resources conflicts. They also need to address the issues of herders-herders, herders-farmers, farmers-farmers, ensuring women's access to land, compensation for new and old victims oil project displacement (RI, 2006). This is essential in order for them to be integrated into communities and be part of the ongoing development of South Sudan.¹

Land use policy is one of the multifarious obstacles facing the new nation as well. As part of international community affords in helping this new nation, USAID is focusing intensively on land reform as an important element approach for enhancing the food security, reducing conflict and economic growth.

¹ National level: an administration oversees overall country issues, state level: is the administration between national level and the county, county level is the administrative unit between the state and the Payam. Payam level: is an intermediate administrative unit between the County and the Boma. Boma level: is lowest administrative unit in the local government structure in South Sudan.

However, delineating the policy requires diligent and systemic inquiry, capacity building of government officials, citizen consultation formerly or informally. The republic of South Sudan (RSS) received its draft Land Policy in February 2011 which is now under review. After it passed, the government must now enumerate, assay, and carry out the laws and regulations, and institutions needed to guide the administration and management of land and property rights.

The Land Act which was tabled in South Sudan legislative assembly in 2009 to become Land Policy meant to ensure gender equality in land rights and at the same time acknowledge the values of existing customary tenure. However, allocating land rights to women in a customary system is still challenging not only in rural areas but also in urban areas. This is due to the lack of training for South Sudan land officials as well as lack of women's awareness of their rights which are already in place in South Sudan Land Act 2009 (South Sudan Land Commission Chair). International agencies are now helping out in developing land use planning and land management system and land administration. An extensive sounding out of land tenure and property rights are critical because they address and work to resolve land use at all the governance levels, from top-down and vice versa.

Most recent insecurities in the developing countries including South Sudan are caused by the land tenure system (Lentz, 2006). It is imperative to improve land policies because secure land tenure is essential to increasing security and peace, gender equality on land rights especially women's empowerment, agriculture productivity, and economic growth in both rural and urban of South Sudan. If this new land policy is approved and carefully implemented it might act as servant for strong independence and sustainability for this new country.

Gender Roles

In the rural communities of Lakes State as well as in the majority of African countries, women are known to be involved heavily in all farming activities starting from clearing the land, and cultivation, weeding, and harvesting beside household activities etc. (Maxwell, 1994). On the other hand men are only there to supervise, cutting big trees and carrying them away out of the farm and holding cash income for the household. There is a need for training and awareness in rural communities in developing countries including South Sudan if the lives and livelihoods for these rural communities are to be improved. Equitable gender roles in farming activities not only will help to provide the smallholder household with enough food for their livelihoods but it will give them extra money to get their kids to schools, and; provide them with drugs (Dorward, 2008).

Economic diversification

When South Sudan separated from Sudan it took with it 92 percent of the total oil from Sudan. South Sudan was generating billions of dollars every month from oil revenues. It is the only source of revenues for the country because about 98 percent of its GDP comes for oil revenues (United State Institute of Peace (USIP) July, 2011).

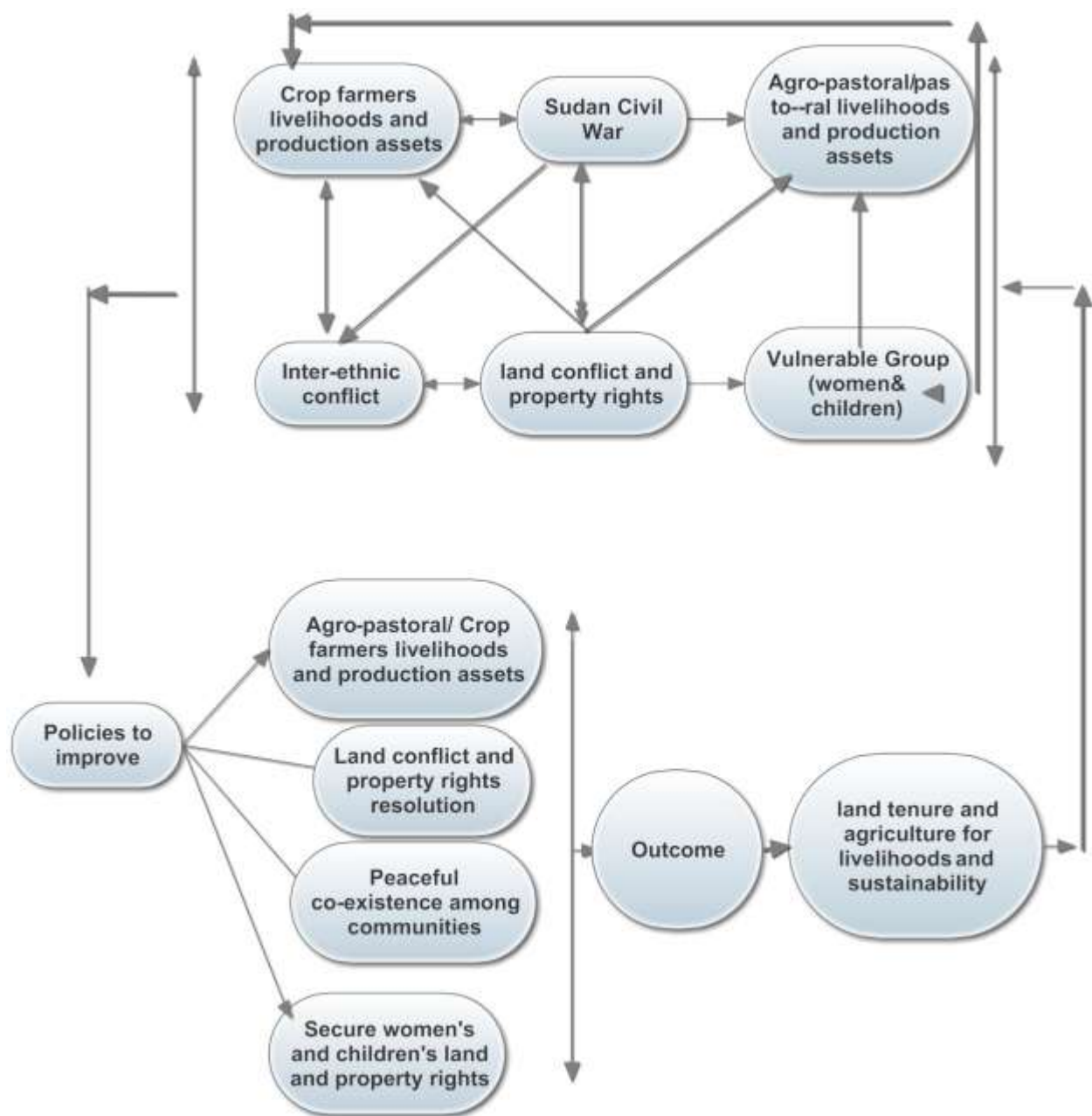
Despite the country's agricultural potential, South Sudan is importing agricultural produce to meet all of its need from its neighboring countries, Kenya and Uganda (South Sudan Development Plan 2011). But when the oil was shut down due to a disagreement between the Republic of South Sudan and Republic of Sudan because of the transit fee, the country lost its 98 percent oil revenues. This sent shock waves to the country's economy because South Sudan depends on only one income for its total GDP (oil). It was a wakeup call for the Republic of South Sudan to diversify its economic and the only way to do that is to invest in agriculture sector, World Bank (Kullenberg, 2011). The same case is happening in the Republic of Sudan

because Sudan lost all its oil to South Sudan after independence. The Republic of Sudan is now turning back to agriculture sector to compensate for the lost oil revenues.

From a population of approximately 10,625,176 in South Sudan (CIA, 2012), about 98 percent are living in rural areas. These people as mentioned above for centuries depending solely on agricultural activities for their livelihoods. Subsequently, agriculture and livestock production should be exploited very effectively to generate most of the country's GDP leaving a good amount of oil revenue for developing infrastructure like schools, roads, hospitals and education. If the government of South Sudan plans to use oil revenues to invest in the agriculture sector for better production, South Sudan would be the region's breadbasket.

CONCEPTUAL FRAMEWORK

This Conceptual Framework figure 2.1 is to articulate the pathways by which an intervention is expected to cause the desired outcome. There are elements provided to assess the relationships between the insecurity caused by the Sudan Civil war and food security. In addition the causal impact on serious of intermediate indicators that determine the final outcome in terms of changes in food security and the use of land tenure and agriculture for livelihoods and sustainability are presented in the framework.



2.1 Conceptual Framework 1

Figure 2.1 Ameliorating the Sudan civil war, land conflicts and property rights issues, livelihoods and production assets in Yirol East and Wulu, Lakes State, South Sudan

The conceptual framework discusses the impact of the Sudan civil war on livelihoods and production assets of agro-pastoral communities of Yirol East and crop farmer communities of Wulu counties. What is the relationship between Sudan civil war and inter-ethnic conflicts between agro-pastorals communities of Yirol East? What is the role of Sudan civil war in inter-ethnic conflict between crop farmers of Wulu County as well as agro-pastorals of Yirol East? What are the relationships between land conflicts and property rights and the Sudan' civil war between agro-pastorals, agro-pastorals and crop farmers? How do land tenure and property rights affect the inter-ethnic conflicts, as well as vulnerable groups (women and children)? How are land tenure regimes and property rights and vulnerable groups affecting livelihoods and production assets of agro-pastoral and crop farmers in Yirol East and Wulu? By addressing these gaps what will be the outcome in the relationship to properly exploit and the use of land tenure and agriculture for sustainability of livelihoods in Yirol East and Wulu Counties, Lakes State, South Sudan.

There are distinct differences between the two counties (Yirol East and Wulu). Yirol East is inhabited by the Jeing (Dinka) ethnic group and almost all of them are agro-pastoral or pastoral, who use mixed farming, rear livestock (cattle, sheep, and goat) and grow crops. Wulu in the other hand is inhabited by the Beli ethnic group and are predominately crop farmers and also engage in rearing small animals (goats, sheep, and poultry). In addition, to their traditional livelihoods (farming and livestock keeping) both counties, and especially Yirol East communities engage in fishing which is another potential asset beside livestock keeping and farming. Yirol East is known for its fish abundance in Lakes State as well as the entire country (USAID, 2008). The area is a swampland with lots of lakes, rivers, and Nile and its attributes. However, due to local traditional fishing techniques, lack of preservation and roads to transport

this fish to other states is desperately needed for this commodity because the lack of roads undermines the effective use of this asset.

Land conflict and property rights over resource competitions have caused the insecurity which in turn undermines the use of land by the rivals to improve their livelihoods. Inter-ethnic conflicts have displaced the community from their land resulting its being used for agricultural production. The lack of gender equality in customary land system and property rights has put a lot of constraints on smallholder households in these two communities. Women and children traditionally in both communities (Yirol East and Wulu) as well as the entire Republic of South Sudan do not have rights to land and property rights under customary land regimes except through their parents or males. This type of land tenure regimes and property rights alienates women especially when a woman is divorced or becomes widowed from using the land to contribute in production and improve their livelihoods in small household in the two counties (Yirol East & Wulu).

In addition, both counties (Yirol East & Wulu) are faced with constraints in both livelihoods assets as well as production assets because most of the populations engage in subsistence agriculture. They use traditional ways of farming; production tools, and rain-fed agriculture. Low productivity in the community is blamed on poor agricultural tools and other production assets, because none of these two counties uses mechanical farming/or harvester, fertilizers, pest controls, improved seed, storage facilities or irrigation system in farming. Livestock production in Yirol East County on the other hand faces lots of constraints, lack of veterinary facilities and animal drugs, improved animal feeding as well as lost of livestock especially cattle to cattle rustling.

This research will help to suggest some policies for stakeholders to help improve production assets for the betterment of these communities' livelihoods. For example, I may recommend the use of fertilizers, pest control, improved agricultural seed, and building crop storage (to save some of the crop lost due to storage conditions). Traditionally, livestock in agro-pastoral or pastoral community are not for commercial purposes. Cattle in the community are used for the little milk they produce, dowry, and prestige purposes. Introducing the commercial use of these cattle and introducing crossbreed cattle for beef and milk will help the livelihoods of this community (agro-pastoral).

SUMMARY

The chapter discusses the theoretical and empirical literature of land tenure, property rights, livelihoods strategy, and conflict resolution. It also deals with gender roles in rural communities as well as economic diversification. The Conceptual Framework is also introduced in this chapter. The framework helps to logically connect many elements which are the base of this research. The thesis considers the effect of Sudan civil war on the smallholder households in Yirol East and Wulu Counties respectively. The effect of land tenure and property rights on the agro-pastoralist/pastoralist communities of Yirol East and Wulu Counties as well as vulnerable groups (women and children) are also part of the framework. The conceptual framework will also direct the findings discussion in chapter four.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter provides a geographical background of Lakes State. It also looked at ethnicity and population in Yirol East and Wulu Counties as well as the entire Lakes State, and socio-economic activities in these two counties were examined. In addition, it provides techniques used for data collection and analysis. The limitation of research was also provided.

Study Area

This study was conducted in Yirol East and Wulu Counties, Lakes State, South Sudan (see figure 3.1)



3.1 Map of Lakes State, South Sudan 1

Ethnicity and Population

According to the rejected census results of 2009, the population of Lakes State was 695,730. The census was rejected because after the Comprehensive Peace Agreement was signed in 2005, there was an influx of South Sudanese refugees from the neighboring countries as well

as from North Sudan to South Sudan where Lakes State was one of these individuals' last destinations (IOM, 2009; IDMD, 2010). Another reason for this discrepancy was there was some unconfirmed allegation that, the government of North Sudan wanted to register low numbers and make sure that these people do not vote for the favor of independence during the referendum of July 2011.

However, the influx of the returnees from neighboring countries and also from the Republic of Sudan to the state might put Lakes State's population roughly around 1,000,000 (CIA 2012) of which 90 percent constitute ethnic groups of Dinka occupying seven counties out of the state's total eight counties. The other ethnic group of (Beli) occupies Wulu county and southern parts of two counties of Cueibet and Rumbek East.

Lakes State borders Jonglei to the East and Western and Central Equatoria to the west, Warrap to the west and Unity State to the North. The state is made up of eight Counties as follows: Yirol East, Yirol West, Awerial, Rumbek central, Rumbek East, Rumbek North, Cueibet and Wulu.

In addition, the southern and western part fall in the Ironstone Plateau livelihood zone while the northern and eastern parts in the Western Flood Plains. A smaller bank along the River Nile including parts of Awerial and Yirol East counties falls within the Nile-Sobat livelihood zone. Incidents of such conflict can be found throughout the state, fighting between communities in Wulu and Rumbek East Counties is notable as it resulted in massive displacement and disruption of livelihoods. Another form/source of insecurity, cattle raiding, has also had a significant impact on the lives and livelihoods of those in greater Yirol, Cueibet, and Awerial with the perpetrators of such acts coming both from within and outside the state. Restricted movement and displacement stemming from both of these forms/sources of insecurity has not

only had a negative impact on local livestock and agricultural production, but impeded commodity flows into the areas affected. Poor road conditions in counties such as Awerial and Rumbek North only exacerbate this problem.

Socio-Economic Activities

The Dinka ethnic groups, which constitute about 90 percent of the total population of the Lakes State, are predominantly agro-pastoralists or pastoralist and their wealth is seen mainly in number of livestock owned. Beli people of Wulu County are crop farmers whose wealth is measured in number of beehives owned and total area cultivated. Lakes State is named after lakes because the state has plenty of water resources consisting of lakes, big rivers (Nile and its tributaries) seasonal river valleys and swampland. This can support a potentially strong fish industry and commercial irrigation for a range of horticulture crops and water- loving crops like rice and sugar cane (South Sudan development plan, 2010).

The main source of livelihoods in the state is agro-pastoralist for Dinka ethnic groups, and crop farming for Beli groups, fishing along the river Nile Shambe (Yirol East County) and nearby areas. Furthermore, more than 90 percent of the State's inhabitants depend on a subsistence farming system (South Sudan Development Plan, 2011). This is because about 40 percent of the total land surface is pure agricultural land while the remaining 60 percent is marginal arable land, forests and wet lands (FAO 2009). Trade and commerce in the state are in progress except that poor infrastructure is an obstacle as most of the goods are brought from either East Africa or Khartoum. There are three main business centers in the state namely: Rumbek market, Cueibet market and Yirol Market.

Data Collection

This research employed multiple and complementary data collection methods, including a household survey, focus group discussions, and key informant interviews, and direct

observation. The purpose of this is to allow for the triangulation of findings from these different methods - that is, to allow for more in-depth and meaningful interpretation of quantitative household survey data and to substantiate the qualitative findings gleaned from focus groups and key informants and direct observation. These primary data sources were supplemented by secondary (or existing) data sources, including the South Sudan Land Act 2009, South Sudan National statistic Bureau, and documents from South Sudan Ministry of Irrigation.

Household Surveys

The survey questionnaire was administered in the two counties, Yirol East and Wulu. Some open-ended questions were included. They were tested on small groups in Yirol East and Wulu, Lakes State, South Sudan to determine their coherence and their fitness to local social norms. The questionnaire administered was face-to-face and it was a cross-sectional survey.

Sampling

Two areas were selected in Yirol East County namely, Nyang the head Quarters of the County and Pagarau one of the payams which is very remote and is about thirteen miles away from Nyang. Fifty questionnaires were administered using systematic sampling in each of these two villages by interviewing every head of the household after every third household. The total sample size for these two areas was one hundred households. The reason for selecting these two areas in Yirol East was their easy accessibility. In addition, Nyang represents the urban setting where land is allotted to the community whilst Pagarau was a very remote area where land is not yet allotted to people and was to represent the people in the real rural communities who do not know or know a little about the urban setting.

On the other hand the same systematic sampling that was administered in Yirol East County was also done in Wulu County; where Wulu payam the headquarters of the County was a face of urbanization. Domoloto Payam of Wulu County which was 21 miles away from the head

Quarters was selected to represent the remote rural setting. Fifty household surveys were administered in each of these two areas with a total of a hundred sample size.

Focus Group Discussion

The tool used to recruit participants was the nomination tool. The women's group was selected by Nyang Women's Centre. The reason was that the office knew which ones in the community have the ability to respectfully share their opinion and are willing to volunteer about two hours of their time. The criteria used for selecting the group was to be diverse background such as age, education level and their knowledge about some of the issues facing women and young girls in the community such as the gender equity and the role in the community, women's land and property rights. Two separate focus groups were conducted in Yirol East County (the Dinka, agro-pastoralist) namely; with women/girls in one group and men /youth in another group. The reason was due to the cultural and gender dimension which was considered to be very important in the community. There were 12 participants in a women and girls focus group 6 women and 6 girls. The girl ages range from 16-18 years old and their education level ranged from no formal, middle school to high school. Most of these young girls were either known to each other or go to the same school.

The woman's group level of education is either no formal education, or middle school education level. This focus group discussion was intended to know whether the gender inequality does exist and if they do exist, are women in the community speaking up for their rights.

On the other hand, the men/youth focus group discussion followed that same women's selection tool, age, level of education. Both focus group discussions were very informative and energetic. However in Wulu County a combined focus group discussion was administered with women and girls and men and youth. The reason for a combined setting in Wulu County was

that, the cultural and gender dimension was not as strong as in Yirol East County; women in that particular community (Beli) are comfortable debating men in public. This combined focus group followed that same procedure done in Yirol East County in selection, and diverse background such as age, as well as level of education of the group. The focus group in Wulu County was also intended to discuss women's issues related to land and property rights as well as gender equity and role in rural community. The focus group discussion also was intended to learn about whether the gender inequality does exist and if it does, whether women in the community speaking up for their rights. The discussions were informative on the issues discussed, however; there was a limitation in Wulu County. The only limitation was that there were some serious discussions between the women and the men especially on gender roles in the community. It was very serious and was almost derailed the focus of the discussion; however, I managed to contain it and moved forward with the discussion.

Key Informant Interviews (KII)

Three key informants' interviews were conducted during this research, one with the representative of Yirol East County, one with representative of Wulu County, and one with the Chairman of South Sudan land commission in Juba. These key informants are uniquely positioned to provide insight about the land laws in the community. The fourth key informant interview that I should have conducted was with the Minister of Agriculture. The meeting was not held because during the period of my research, there was a reshuffling of the State's government. It was a tense and nerve wracking process for those ministers who need to be reassigned. I tried to reschedule the meeting with the new minister but it was very difficult because of his busy schedules.

Direct Observation

Ten households were observed (five Yirol East & five Wulu) to see the types of livelihood and production assets in both communities (Yirol East and Wulu Counties) such as type of livestock and management. In Yirol East (agro-pastoral), indigenous cattle, sheep, goats as well as types of crops grown in the community, role of gender in the community, production constraints caused by limited health provision services, general development in the county, and type of help provided by the international agencies were observed. In Wulu County (crop farmers), sheep, goats, and poultry as well as types of crops grown in community, role of gender in the community, production constraints caused by limited health provision services, general development in the community, type of help provided by the international agencies were also observed. All these were compiled as wealth and poverty indicators alongside notes made in the researcher's field diary.

Secondary Data Sources

A range of secondary data sources was collected throughout the duration of the research process. This research was complemented by data, documentation and information collected from Ministry of irrigation and Water resource, and South Sudan National bureau of Statistic. This enabled an appreciation of the social, historical and geographical context in which the research was taking place.

INSTITUTION	Table 3.1: secondary data source
	Type of Document
South Sudan Land Commission	South Sudan Land Act 2009, FAO land tuner notes from one-five
Ministry of Irrigation and Water Resources	Water, Sanitation & Hygiene Sector, StrategicFramework
South Sudan National Bureau of Statistic	Poverty in South Sudan, South Sudan Census Records

3.1 Secondary Data Source 1

Community Entry

Before conducting this research in Yirol East I requested a meeting with leaders of the community to explain the reasons for the research and what kind of help the community could provide to help conduct the research. A delegation of two community leaders and I met with the County's commissioner. In the meeting I had an opportunity to explain the reasons why I was conducting the research in the community and also asked them (commissioner, and the representative of the community) for four research assistants as well as other tools that could help to successfully conduct the research. After the meeting, four research assistants (one young female and three young males), a car and a police guide were provided to facilitate the research. In Wulu County, that same procedure took place; however, two research assistants were provided one female and a male by the community and county's commissioner of Wulu County.

Data Analysis

Quantitative analysis was conducted using data gathered from the questionnaire, which was entered into the SPSS statistical package for further analysis. The tests carried out on SPSS included (descriptive statistics), using of Microsoft excel to calculate the mean of livestock

information to compare the mean between two counties. In addition I used a t-test in Excel to test the significant differences of livestock in the two counties, and conducted a Mann-Whitney U test of differences to compare between male and female answers separately in the two counties. A Spearman's rho correlation coefficient was also used to test the correlation between the highest education attainment, and sex of the respondents with total monthly income in the two counties (Yirol East and Wulu).

As well, qualitative analysis was used in this study to substantiate the results obtained from the survey questionnaire and to gain further insight into outcomes of the study's objectives. The qualitative analysis was conducted from data obtained from the structured interviews of land tenure issues with community leaders in Yirol East, Wulu, and with the chairman of land commission in Juba. Grounded theory was employed via open coding to decipher qualitative findings. Themes were stated that appeared from the interviews. Furthermore, gender analysis was conducted to have an idea what do women, men, children, adults and elders do in the rural household, who has access to and control over resources and services, and who make decision in the household and why do these differences exist.

Open Coding

In this study all the open-ended questions, and structured interviews were coded using open coding and that is by going through the answers to the open-ended questions, tracking down the answers into mutually exclusive categories that were similar. These categories or themes were then narrowed and some examples of each category were selected to illustrate those themes in the findings chapter below.

Research Limitations

There were some limitations to this study. The first limitation was a lack of enough data available on the subject as well as the insecurity in Yirol East in all the two areas of the study (Nyang and Pagarau). I had to be accompanied by a police man to conduct the study. Another limitation was the long painful distances between the two counties of the study, Yirol East and Wulu County. The distance between these counties is about 103 kilometers. Roads were technically impassible and transportation between these two counties was very expensive. Luckily a private car was provided by the county's commissioner from Yirol East to Wulu County and from Wulu to Rumbek the capital city of Lakes State. The third limitation was that, one of the key informants (Minister of the Agriculture) whom I contacted from Canada and arranged with him to be one of the key informants (KI) was relieved from his duties due to the reshuffling of the State's government. I tried to arrange another meeting with the new Minister of Agriculture but was unable due to the minister's busy schedule. The fourth limitation was the nonexistent internet connection in both Yirol East and Wulu counties. Also there was no phone connection in Yirol East. In addition, one of the key informants, the Chairman of South Sudan's Land Commission who was based in Juba was very difficult to meet; however, I was able to interview him in the end.

Summary

The research in this study adopted a post-positivist as well as an exploratory research design. A mixed methods approach was administered using both quantitative and qualitative techniques to better understand aspects of property rights, the livelihoods and production assets, land tenure and conflicts and gender analysis in both groups of Yirol East and Wulu counties. Their responses become the needed data to address the issues.

Analyzing the data helped to improve the understanding of what policies are needed to improve livelihoods of these two communities, land and property rights as well as gender issues.

CHAPTER FOUR

RESULTS

Introduction

This chapter presents the results gathered from qualitative and quantitative data analysis. The findings were gathered from information based on focus group discussions with men and youth, women and girls in Yirol East and Wulu. The results from open-ended questions, key informants' interviews, direct observation and descriptive statistics about socio-economic characteristics of the respondents as well as inferential statistical tests.

The findings are organized under the following five objectives: Gender Roles within smallholder household, Agricultural (crop-based) Livelihoods and Production Assets, Constraints on Smallholder Households, Land Conflict and Property Rights Perceptions from Local Authorities, and Agro-pastoral or Pastoral livelihoods and production assets.

Descriptive statistics:

Marital status of the respondents

Analysis revealed that, there were more married, singles, and widowed respondents in Yirol East compared to Wulu, whilst, there were more divorced respondents in Wulu County.

Sex of the respondents

More males were interviewed in Yirol East 86 compared to 65 in Wulu County. However, there were more female interviewed in Wulu County 34 and 14 in Yirol East County respectively.

The highest education attainment

Study revealed that most of the respondents in Yirol East have no formal education (67%).

Type of the household

The analysis about the household structure in Yirol East and Wulu Counties revealed that the households in both communities were mostly male-headed but Wulu County had more female-headed households.

Household family type

The household family structure in Yirol East and Wulu Counties indicates that there was more polygamy in Yirol East County whilst in Wulu County there was more monogamy.

Correlation between highest education attainment, and total monthly income

The result indicated that there is a positive weak correlation between education, and total monthly income in Yirol East. Spearman ρ value = .219*, $p = 0.02$

A Mann Whitney U Test was conducted to test whether there is a significant difference in the education level of men and women. The test revealed that there is no significant difference between education of male and female among the Dinka peoples of Yirol East County. However, the test revealed that there is a significant difference among Beli peoples of Wulu County.

Objective one: Gender Roles within Smallholder Households:

The results of focus group discussion in Yirol East and Wulu are presented below in table 4.1. The gender labor division in rural South Sudan especially in the Jeing (Dinka) community is culturally important as shown in table 4.1. Men and women in rural South Sudan are essentially engaged in a division of labor in which women's responsibilities are more centered on labor provision than decision-making and income control.

In both counties, the study revealed that women and girls play a crucial role in many aspects of productive activities for example, agriculture, processing basic food stuffs, collection water and fuel-wood, and harvesting and storage. In addition, women reproduce by bearing and raising children, household-based management tasks as well as actively participate in NGOs

work. On the other hand, men and boys are often responsible for some of productive activities for example, agriculture work as in harvesting and land clearing, burning and ox-plough

ROLE	Table 4.1 Gender role inYirol East and Wulu Counties			
	Women	Men	Young Girls	Young men
PRODUCTION				
Agriculture work	X	X		
processing of basic food stuffs	X		X	
Collection water and fuel-wood	X		X	
Harvesting and storage	X	X		
REPRODUCTIVE				
Bearing and raising child	X			
Household-base management tasks	X		X	
COMMUNITY ORGANIZATION				
NGOs	X		X	
Cultural functioning		X		X
Religious		X		X

4.1 Gender Roles 1

Moser, 1989

Objective two: Agricultural (Crop-Based) Livelihoods and Production Assets

Crops-Based Agricultural activates in Yirol East and Wulu Counties

Analysis revealed that sesame, sorghum and groundnut are the top grown crop in Yirol East with annual yield of 6000 South Sudanese Pound (SSP); approximately (\$1500 US), sorghum with 2400 SSP (\$ 600 US), and groundnut with 2000 SSP (500 US) respectively. Whilst, in Wulu County crop grown and their annual yield are cassava with an annual yield of 8000 South Sudanese Pound (SSP); approximately (\$2000 US), sesame with 6000 SSP (\$1500 US), sorghum with 2400 SSP (600 US), groundnut with 2000 SSP (500 US), and millet with annual yield of (500 US) approximately 2000 South Sudanese Pound.

Objective three: Constraints on smallholder households

Constraints on Agriculture activities in Yirol East and Wulu

This section contains some of the observations made during data collection. The observations are to reinforce additional information to support the results from survey and structured interview with the key informants that were conducted during this research.

Table 4.3 presents the seasonal constraints in Yirol East and Wulu. The findings revealed that the months of January and July are when the rural communities in both counties pay school fees for their children. It also indicated that November to April are times the locals experience difficulties in obtaining water for household use and their livestock in both counties. A dry spell was also seen in these two counties in the first week of the July 2012, however, in the middle of the second week of July rain resumed. The dry spell was monitored as it put uncertainty to cultivation. On November, 2012 the governor of Lakes State said, “The harvest in this year in Lakes State was very poor due to the dry spell”. He argued that the international community and humanitarians agencies need to start bring in help for the people of Lakes State.

Transportation during the rainy season is very difficult due to bad roads. It was also observed that months of February to March (dry season period) in Lakes State are the months when the cattle raiding intensifies in Yirol East county and competition exists on pastures between crop farmers and pastorals communities. In the months of May, June, and July, most cases of malaria are reported. This has devastating consequences on food security because farm labour intensifies during these times.

Constraints	Table 4.2 Constraints in Yirol East and Wulu Counties
School	January and July are when this expenditure is required; no variation between two counties
Difficulty obtaining Water	November-April are difficult times the two communities have difficulties of obtaining water
Dry spell	During data collection in this research; there was dry spell in month of June to second week of the month of July in both two counties. . This put uncertainty cultivation.
Transportation	During long rain period "May" and short rain period "November" are very difficult times to travel because of road conditions
Cattle raiding	In summer during the grazing period " February - March" cattle rustling intensifies
Malaria	Most cases are reported in May, June and July
Insecurity	July to August movement of cattle searching for grazing and pastures between counties as well as between states

4.2 Constraints in Yirol East and Wulu 1

Table 4.3 below is the result of the Likert scale questions on the scale from one to five which were analyzed using Mann Whitney U test to access the variability of the responses between male and female in Yirol East and Wulu Counties regarding whether customary law does not guarantee women's rights to access land and property, there are barriers to women acquiring land rights under customary and statutory land tenure system in this county, or whether cattle should be confined in one grazing areas, and returnees do not have access to their land and property. The analysis revealed that there was no significant difference between male and female responses in Yirol East County which indicates that the answers between male and female were about the same. However, in Wulu County the results were statistically significant at $p\text{ value} = 0.01, 0.02, 0.03$ respectively. This means there is variability in their responses. With women being more convinced that there are barriers to women acquiring land rights under both

customary and statutory land systems and also believing that customary law does not guarantee women's rights to land and property in Wulu. Wulu women were also more likely to thin customary tenure system in her children's access to land and property and that returnees do not have access to their lands and properties.

variable	Table 4.3 Mann Whitney U Test of Difference: in Wulu			
	Sex	Mean Rank	Sum of Rank	Sign. (2-tailed)
There are barriers to women acquiring land rights under customary and statutory land tenure system in this county	male female	44.24 61.01	2875.50 2074.50	0.01
Customary law do not guarantee women rights to access land and property	male female	45.54 58.53	2960.00 1990.00	0.02
Customary tenure systems hinder children access to land and property	male female	45.90 47.84	2983.50 1966.50	0.03
Returnees do not have access to their lands and properties	male female	44.16 61.16	2870.50 2079.50	0.03

4.3 Mann Whitney U Test of difference 1

Additional constraints were observed in Yirol East County and Wulu Counties. The types of agricultural tools use in smallholder household farmers in the two counties were the hoe, shovel, sickle, pick axe, round nose shovel and sometimes ox- plough as agricultural production tools.

The study has also notice the use of ox-plough in various areas in both Yirol East and Wulu.

The use of this production asset was very limited due to cultural norms and affordability in Yirol East and Wulu respectively.

This study revealed that NGOs were providing some food items (cooking oil, sorghum) to the community in the times of food shortages. Furthermore, some observations were made on health issues in the two counties (Yirol East and Wulu). Observations revealed that, there was

evidence of syphilis, HIV cases as well as hygienic issues in both communities. All these problems were also discovered by USAID (2010).

Coping strategies use by smallholder household in Yirol East and Wulu

The results in table below indicates that 89 percent of the Dinka, 49 percent of the Beli sell livestock, 77 percent of the Dinka versus, 89 percent of the Beli eat vegetables, 44 percent of the Dinka and 33 percent of the Beli eat one meal, 18 percent of the Dinka, and eight percent of the Beli sell land, eight percent of both group look for part time job, and 99 percent of the Dinka versus only four percent of the Beli migrate to cities.

Variables	Table 4.4 coping strategies (Dinka & Bali)	
	Dinka n= 100	Beli n=100
Sell livestock	89	49
Eating vegetables	77	89
Take one meal	44	33
Sell land	18	8
Look for part time job	8	8
Migrate to city	99	4

4.4 Coping strategies (Dinka, Beli) 1

Objective four: Land Conflicts and Property rights perceptions of Local Authorities

Conflict over resources:

The in-depth interview with the South Sudan chairman of Land commission in Juba and the representatives from the two communities of Yirol East and Wulu Counties pointed out that the pastures and lack of border's demarcation between the counties, lack of law enforcement, cattle rustling are major sources of the conflict.

For example, this theme was emphasized by the key informant from two representatives and South Sudan chairman of land commission that:

“Lack of border’s demarcation, lack of law enforcements and cattle rustling are the major causes of intertribal conflicts in agro-patrols community of Yirol East. Lack of border’s demarcation and pasture are the major causes of inter-ethnic conflicts in sedentary community in Wulu.”

Three key informants indicated that competition on natural resources which is in this case land, pastures, and water point is the cause of the conflicts between pastoralists in Yirol East. As one key informant said:

“Killing because of competition over resources will finish our community. We need the government to intervene to solve these issues. He went on suggesting that government should introduce the laws to limit how many herds of cattle a household should have.”

A key informant from Wulu added that:

“We do not rear cattle, however, every year a community member is killed by cattle herders from the neighboring counties who are looking for pastures in Wulu County. Government should do something about this, he added.”

The study also revealed that inter-ethnic conflicts happen because of cross borders migration of cattle herders especially during the rainy season where pastures are at scarce because of the flooding in Yirol East, Yirol West, Rumbek Centre counties.

One of the key informants pointed out that:

“The inadequacy of law personnel and the lack of law enforcement is the major issues government needs to address seriously because if there is a police on site during cattle migration, cattle rustling will be monitored closely before it happens. And if it happens with police close- by, there is a possibility the police would deal with it swiftly and therefore lives would be saved.”

Issues important for reducing poverty and improving food security in Lakes State:

Inter and intra-ethnic fighting were the main drivers of conflict in Lakes State. Disputes arise when land historically belonging to one ethnic group is declared as the territory of another ethnic group. Unclear border demarcations between counties or between a county and a state further

cause tensions since communities equate ownership of more land to wealth and social status. Cross-border disputes are also caused by competition over water or pasturelands, particularly during the dry season when pastoralists move their herds in search of these scarce resources. One key informant indicated that:

“The form of violence in the state has changed over time, believing that women and children had become the primary targets of violence to displace them from their tribal lands. Such displacement affects the crop production.”

Another key informant reinforced the argument by recalling the inter-tribal conflict between Wulu County and Rumbek Centre, Lakes State:

“The war and displacement that happened during the war between Beli and Dinka from Rumbek centre County affected human capital. The conflict had affected the agricultural production in both counties. Reducing inter-tribal conflicts will enhance food security.”

One more informant indicated that:

“Authorities and security forces lack the capacity to address or prevent conflicts. The lack of rule of law and a weak judiciary system also perpetuate violence or thefts wherein arrested suspects either escape from dilapidated prisons or set free before the case is heard.”

South Sudan has been ravaged by over 40 years of civil war, with 4.5 million dead and 9 million refugees, making it one of the worst humanitarian disasters in history.

One of the key informants noted that:

“South Sudan has the lowest school access rates in the world and 90 percent illiteracy among women. Less than two percent of girls attend high school. We need to focus on getting girls into school and providing practical education and training for success after graduation.”

Women’s and child’s rights to access land property

The key informants’ structured interviews conducted in the two counties (Yirol East and Wulu) as well as South Sudan Land Commission identified customary laws as a factor that constraint women’s and children’s in rural Lakes State. In addition, the South Sudan Land Commission indicated lack of women and children awareness to their rights as well as land administration issues. Sudan South Land Commission Chairman indicated that:

“There is a lack of cooperation among the three levels of South Sudan government (national, State, and county) on factors hinder women’s and children’s rights to access land and property rights in the Republic of South Sudan. He emphasized that, it is clearly stated in south Sudan Land Act of 2009 that “right to land shall not be denied by the Government of South Sudan, State or County on the basis of sex, ethnicity or religion.”

Relations between RSS, State government, and communities

Principles by which the state acquires land for public purposes

The following are narrowed responses from the key informants’ interviews in Yirol East, Wulu and the chairman of South Sudan Land Commission on the relationship between Republic of South Sudan, State government, and communities and the principles by which the state acquires land for public purposes.

Findings from the representative of Yirol East and Wulu indicated that,

“Government could acquire land from the communal land if only this land could be used to build schools, hospitals or developments in the community.”

On the other hand South Sudan land commission indicated that,

” If there is a discovery of minerals or oil in any land in the country this land should be taken by the government for public use”.

He also added that according to the South Sudan Land Act of 2009:

“Any minerals that are in one meter below the ground are to be considered communal property of that locality but if the minerals are two meters below ground are to be considered property of the government of South Sudan.”

In the context of the notion “land belongs to community,” has become the issue between the government of South Sudan and the local communities especially when it comes to land and property rights allocation. Traditional authorities interpret the notion “land belongs to community that:

“Since the land belongs to the community then the government has no right to interfere in their traditional authority of how to administer their land.”

However, the chairman of South Sudan land commission disagrees with how the community leaders interpret the “notion of land belongs to community” He indicated that:

“As one of the individuals who drafted the South Sudan Land Act of 2009, the right interpretation of the notion of “land belongs to community” does not mean that community has every right to use land according to their wish without seeking advice from the government. In other words the land belongs to community but supervised and overseen by government”

However, one of the key informants from Yirol East County (community leader) indicated that:

“The notion of land belongs to community holds” because that what land has always been since before the independence of the united Sudan in 1956 and even during the colonial era. He added that, “Government should consult the traditional authorities when there is any land allocation for public.”

Prospects for agriculture as a solution to the food security

Three key informants commented about the prospects for agriculture as a solution to the food security that:

“There is good agriculture land availability. They also agreed that, there is a need for ox-plough training, distribution of improved agricultural seeds, and introducing mechanize crop production.”

One of the key informants from Wulu also said that:

“If government could help in introducing mechanized crops production, distribution of improved agricultural seeds as well as providing more training on ox- plough, the Lakes State as well as the entire country would be able to feed itself instead of depending solely on oil revenues.”

Objective five: Agro-pastoral or Pastoral livelihoods and production assets

Livestock own by Dinka and Beli

The results about livestock owned by two counties indicated significance difference between Dinka of Yirol East and Beli of Wulu on the number of livestock owned by a smallholder household. Traditionally, agro-pastorals /pastoral are known to rear more cattle than their counterpart crop farmers. The average ownership of indigenous cattle, sheep, and goat was 29, 9.44, and 11.77 respectively. Crop farmers’ households own indigenous cattle, sheep, goat,

and poultry on average of four, six, 7.3 and 16.08 respectively. These are slightly lower than averages of agro-pastoral/pastoral; however crop farmer had an average value of 16.08 of poultry, which is slightly higher than that of agro-pastoral/pastoral.

South Sudanese pound spend for livestock veterinary care in Yirol East and Wulu

The following information is about how much South Sudanese Pound paid by the two communities (Yirol East and Wulu) in veterinary care to improve their livestock health.

Analysis indicates the average mean value of South Sudanese pound (PSS) paid for livestock veterinary care varies in two counties. The average amount paid on indigenous cattle for veterinary care in Yirol East was (SSP145.28), sheep (SSP25.26), goat (SSP28.64), and poultry (SSP2.63) respectively. On the other hand, (SSP24.5) average mean value SSP paid for indigenous cattle, (SSP15.92) for sheep, (SSP15.75) for goat, and finally (SSP14.14) for poultry respectively. There is no significant difference between amounts spent on veterinary service in the two communities.

South Sudanese pound paid to improve livestock feeding in Yirol East and Wulu

Analysis indicates that the amount in South Sudanese pounds paid to improve livestock feeding in both counties were 21.85, 18.05, 9.82, and 5.5 for indigenous cattle, sheep, goat and poultry respectively among the Beli's. These averages were higher than that of their counterpart 5.02, 1.27, 1.06, and 0.3 respectively in the other county of the study. The only difference is in the amount spent on improving indigenous cattle.

Livestock sold in past three years:

Analysis indicates that more indigenous cattle, sheep, and goat were sold in Yirol East as shown at the average value of 3.35, 2.09, and 2.05 compared to Wulu, whilst poultry were sold in Wulu more than Yirol East. Once again the only significant difference was between the indigenous cattle sold in Yirol East (3.35) versus Wulu (0.43); $p = 0.03$ with the t- test. During

this study, the local community indicated that, there was a drought in the past 3 years (2009). It is typical in the community when the harvest failed because of drought livestock plays a very important role in saving lives and that is by selling them for cash, or exchanges them with crops such as sorghum, groundnut, and sesame.

Distances to nearest water point:

Analysis indicates that indigenous cattle from Yirol East walk for 19.7 KM, sheep 2.19 KM and goat 1.01 KM to the point respectively. Whilst indigenous cattle from Wulu County walk for 2.66 KM, sheep 0.97 KM and goat 0.91 KM to the water point respectively.

Summary

Lack of food security is blame to poor inadequate production assets which include inadequate human capital, financial capital, social capital, natural capital, and physical capital. In addition vulnerability factor due to draught, and conflict as well underutilization of the main livelihoods existing in the two communities the agro-pastoral of Yirol East and crop farmers of Wulu counties are the main findings of this research.

CHAPTER FIVE DISCUSSION

Introduction

This chapter discusses the meaning of the findings. It starts with demographic information (marital status of the respondents, sex of the respondents, highest education attainment of the respondents, type of the household of the respondents, and household family type of the respondents) and their relationships with the agricultural, crop-based livelihoods and production assets of the Wulu County people and the agro-pastoral livelihoods and production assets of Yirol East County people.

The research revealed that Lakes States, South Sudan is in the process of early recovery from the effect of the Sudan civil war despite the difficulties and challenge this state faces due to inter-tribal conflict, lack of basic services provision and infrastructure. It is also worth mentioning that the international community has provided support through its (NGOs) to the rural poor of Lakes State. Starting from during the war, and then the signing of the Comprehensive Peace Agreement up to the present NGOs have helped the locals, and returnees gradually integrating as well as settling. The following are the discussion details of the chapter.

Demographic information

Family is one of the important elements in the lives of the rural population in both communities (Dinka and Beli). One of the reasons is that a married person is respected more than a single person is in the community. Being married often enables one to reproduce, generating offspring who will become the workers in the community and a working force in the household. The study also revealed that the level of education in both counties in general is very low. The 21 years of Sudan's

civil war has affected the education system in South Sudan roughly three generations of South Sudanese have little or no education at all.

The study also revealed that there is polygamy in the both counties but slightly higher in the Dinka community. Having many wives in both communities and especially in the Dinka community means many children in the future. The male or female children are very important in the community, because many female children in the household are a potential wealth for the household especially in Dinka community where a girl's dowry reaches about 200 head of cattle. Furthermore, the study revealed that there is a correlation between education, sex and total monthly income of the household in both counties (Yirol East and Wulu). The positive correlation of education with income is evidence that the more education people within the household have the higher is their income. However, generally men make more money than women do in both counties.

Constraints on smallholder household

Crop-based activities

The idea of sustainable livelihoods is to make the individual household livelihoods more sustainable (Chambers, and Conway, 1992). Lakes State rural communities have two main livelihoods. They depend upon; the agricultural crop- base livelihoods and agro-pastoral livelihoods. Although there is a perceived availability of the fertile land by the key informants in the two counties, still say these two communities are food insecure.

Agricultural crop- based livelihoods and agro-pastoral livelihoods face some constraints hindering their sustainability in the two counties. The study revealed that both communities are calling for the government to intervene by providing ox-plough as well as introducing mechanized crop production. The idea of mechanized crop production is a very good idea on one

hand but on the other hand how could these machines be maintained by the people in these rural communities who do not know anything of how to use them, nor do they have the financial assets to replace the broken parts or even human capital to operate them? It was clearly noticed during the study the presence of brand new tractors parked in Yirol East and Wulu counties. One of the reasons these tractors were not in use could be the lack of trained individuals to operate and maintain them.

In addition, both the Dinka peoples of Yirol East and the Beli peoples of Wulu counties also wanted the distribution of the improved agricultural seeds in order to enhance agricultural production. Some of the NGOs were distributing improved seed. However, much of the distributed seeds was eaten up especially during food shortages in May which coincide with the start of farming activities in Lakes State.

Moreover, livelihood assets are sustainable when they withstand economic shocks Ellis, (1998). However, when this study examined closely the types of livelihoods assets available in the two communities of Yirol East and Wulu counties, it was found that existing livelihoods in the two counties could not withstand economic shocks. One of the reasons was the inadequate use of the available livelihoods assets, and the lack of human capital engaged in farming activities.

The study also revealed that most farming members in the households include both genders in these two counties. Although the data did not show the labour distribution among the household members, impressions from field visits were that women conducted most of the farming activities including land preparation, planting, weeding, shared harvesting, and shared marketing.

Furthermore, during the interviews in Yirol East and Wulu, I realized that men did not actively participate in the farming activities. Most of the men in the rural smallholder houses interviewed were either playing games under the trees, drinking local liquor with groups of friends in one house, or were just sitting individually doing activities not related to farming. No clear reason was documented for such behaviour, however, according to my observation it suggested that most of those men intended to escape responsibilities especially the farming activity. Those men's behaviour in Yirol East was also found in Wulu County but on a smaller scale. Men in Wulu County were relatively more engaged in agricultural activities with their women. The habit of leaving women to do most of farm activities (Odame et al. 2002) has negative implications on food security which thereafter hinders the overall smallholder householders' ability to improve their livelihoods.

Furthermore, beside the farming activities this study noticed that women in both counties Yirol East and Wulu counties were doing most of the other household activities for example reproductive (bearing and raising children), caring for elderly household members, processing of basic food stuffs as well as some work in local community organizations. Generally speaking, traditional farming is a physically demanding activity that needs the involvement of every member in the household to produce enough food for the household's consumption otherwise; there would not be enough food. Furthermore, the observation conducted in Yirol East and Wulu revealed that the role of women has stretched to cover all of the other roles in the household. The reason could be because most of the women were the heads of the household and either they have lost their husbands or are in polygamous relationships.

On the other hand, agriculture generally is a risky activity in these two counties (Yirol East & Wulu) as well as the entire Lakes State because they are semi-

arid tropics rainfall and hence agricultural production can vary tremendously from year to year, as can the distribution of rainfall within the year. This past year (2012) was a good one, although there was a dry period in July, 2012. The rain resumption at the end of the July gave hope that there will be no hunger in the following year of 2013. Similarly, the study revealed that the year 2012 was generally a good year for both counties Yirol East and Wulu with respect to security. There was no major sudden shock like massive displacement due to inter-ethnic conflicts. The only shocks that occurred during this study were some minor cattle rustling across neighbor Unity State with Yirol East County as well as inter-communal raids.

Conversely, the interviews conducted in the two counties revealed the types of crops cultivated and their annual yield in the two communities. The findings revealed that the top crops grown in Yirol East were sesame, sorghum, and groundnut. The Dinka peoples of Yirol East love to grow the long term sorghum. It is a traditional crop in this community and every household plants it. The household starts to grow this long term sorghum in the late May and harvested in the late November. However, most of the time, the crops do not reach the harvesting state due to dry spell that usually happens either before vegetation or after vegetation period of the crop. When this happens, most of the households in the two communities of the Dinka people of Yirol East and the Beli people of Wulu would have nothing to harvest so, these households will go hungry the following season and up to the next harvesting season in the following year. On the other hand, there are also major crops grown by the Beli peoples of Wulu. These crops include cassava, sesame, sorghum, and groundnut. In addition, some of the local farmers in the two communities and particularly the Wulu

County engage in a limited scale of horticultural crops production for okra, molokhia, and tomato, banana, mango, and citrus. For the most part, the entire South Sudan experiences both unimodal and bimodal rainfall regimes. Lakes State has a unimodal regime (people cultivate once a year and harvest once a year).

Both communities Yirol East and Wulu peoples have limited revenues to support their livelihoods (Dunn, 1996). The Beli peoples are involved mainly in honey production, hunting, trading, charcoal making as well as agriculture activities. Nevertheless, Yirol East people mainly engage in agro-pastoral activities, and also in fishing for the purpose of reducing economic risk.

Ordinarily, some of the constraints in agriculture activities in the two counties were health issues especially in the months of May, June, and July which is the normal peak of farming activities in smallholder households in rural Lakes State. This important farming activity period is also the period malaria sickness intensifies preventing many farmers from farming properly.

Furthermore, the study revealed that the food insecurity is blamed on various issues including inadequate production assets and under-utilization of available livelihoods that could support the rural livelihoods as well as general instability due to inter-ethnic conflicts. The study also revealed that both Yirol East and Wulu Counties depend mostly on either agriculture or animal production for their household livelihoods.

Nevertheless, land is not currently a limiting constraint, but acreage under cultivation remains very small. Many farmers are now bringing more land into cultivation in order to increase their production. The ten households observations conducted in the two counties revealed that most of the households in the both

counties expressed a strong demand for mechanized land preparation that the government is attempting to meet through the provision of tractors. Some work has been initiated by NGOs for ox-plows where soil types permit. Support for smallholder agricultural intensification is less clear, with varying opinions about the use of chemical fertilizers in particular.

The uncultivated land generally requires a considerable amount of land clearing work and, if needed, villagers would gather together to help a family to prepare new fields (IFAD SSLPP Working Paper on Agriculture). Production assets are mainly traditional ones where the locals use hand-hoes as the main farm implement in Yirol East and Wulu Counties as well as most of the state counties. Most farmers in these two counties use only hand held tools and human labour to work their lands. Animal-draught power and tractors were used in very limited scales to cultivate the land. The study revealed that hoes come in various forms in Lakes State but invariably they are of the traditional type, for example, the long-handled push-pull hoe which is commonly used in Yirol East and Wulu as well as throughout the other six counties of Lakes State. This type of hoe does not go deep into the ground. It cuts the weeds just below the surface of the soil and is used while on your knees or standing upright.

Traditionally, farmers practice rotational farming, leaving sections to fallow when crop yields start declining. There is very little if any use of chemical fertilizers or pest control products among smallholders. To improve the soil fertility communities in Yirol East allow livestock herders to graze after harvesting the crop

and during the dry season on farms in order to have access to manure to enrich the soil.

On the other hand, there was limited on-farm storage, a reflection of low levels of production and poor post-harvest handling. This study had not seen examples of improved local storage facilities in Yirol East or Wulu. There were traditional on-farm seed storage facilities consisting of thatch and mud construction. The study also revealed that it was common for crops to be stored over the kitchen fire as one way to decrease pest infestations. There was no data on storage and post-harvest losses, but according to this observation during this study, they are probably fairly high.

Both Yirol East and Wulu Counties engage in coping strategies during food shortages. The study revealed that Dinka and Beli practice negative coping strategies by eating less food. They also eat wild vegetables and fruits as well as selling land. Moreover, the Dinka migrate to cities more than the Beli people. This migration has now become the city's problem because these groups settled in and around the cities creating illegal settlements.

Livestock production constraints

The observation conducted on livestock in both Yirol East and Wulu counties revealed that smallholder households in rural communities rear cattle for different reasons. The households especially in agro-pastorals communities of Yirol East depend on indigenous cattle mostly for their milk and meat as well as their hides (Chimonyo et al, 1999). The cattle hide is mainly used as household's furniture for sleeping and sitting, whilst the goat and sheep hides are used as clothing for women.

The findings revealed that both the Dinka and Beli communities rear livestock. The Dinka rear big livestock like indigenous cattle as well as sheep and goats. On the other hand, the Beli peoples rear small livestock including goat, sheep, and poultry with only a few households rearing indigenous cattle. However, the study revealed that none of these two communities engage in rearing improved cross breeds at all.

Furthermore, the study revealed that there were various obstacles undermining the effective use of this important livelihood in agro-pastoral and pastoral communities of Yirol East and others in the Lakes State. A major concern uncovered by this study was the non-commercialization of livestock. Livestock in agro-pastoral or pastoral communities are only used for dowry, prestige, and religious purposes. Likewise cattle rustling was another constraint that put the smallholder household into an uncertain livelihood because cattle are very important for these communities (agro-pastoral or pastoral) and when cattle are lost to raiders the household would mourn as if it has lost one of the household members.

Similarly, the study also found that the livestock sector lacks hygienic slaughter facilities and meat handling/transport systems has unenforced standards and weak government inspectorate services. There are major concerns with control of diseases both in trans-boundary trade and transmission to humans. This study also revealed that cattle weight loss and disease because of a lack of water, improved feed as well as limited veterinary care in the local communities were very common. Although the South Sudan livestock keepers including Yirol East in Lakes State are mostly capable herders, they lack knowledge of productivity enhancing practices. Commercialization of livestock is constrained by poor access to veterinary drugs, poor

access to markets and poor breed quality. The study revealed that poor indigenous cattle feeding and long distance for pastures are other reasons for animal poor health. The study observed also that pastoralists are not commercially oriented because of traditional concepts of wealth as measured by herd size, and the need for cattle as dowry. However, difficulties during war times and problems of cattle rustling are encouraging the pastoralists to accept money instead of cattle for dowry offerings.

Another constraint was slaughter in the traditional abattoirs where cleanliness and hygiene are extremely poor, indicate a lack supervision and of enforcement of standards. Even though abattoirs are run by the private sector, it is doubtful that government has the capacity to supervise and enforce standards.

Fisheries

Most of Lakes State rural communities depend on fisheries to support their livelihoods. Most of the fishers are small-scale (based on gear used) living near major inland waters. Nevertheless some households (fisherman) fish year-round, the peak period for fishing activity is at the beginning of the dry season (November to March) when floods recede, or when water level drop, and fish migrate. Both communities engage in fishing activity for purpose of reducing economic risk (Dunn, 1996). Being part of the community of Yirol East County and lifelong personal experience, I know that sorghum and fish are the traditional staple foods of the Dinka and Beli diet. Fish is consumed in both fresh and processed forms throughout Lakes State.

Similarly, interviews conducted in both counties and in Juba suggested that fresh fish are a rare commodity in some parts of Yirol East in general and Wulu in particular as well as some states in the entire country. Lakes State is known for fish

because the state is a swarm with lots of lakes and rivers. The study revealed that fish sold in the market state are dried or smoked. The preservation techniques could be further improved to result in a higher quality product. Particularly with fresh fish, poor hygiene and cleanliness and lack of cool/cold storage facilities are major concerns.

In addition, river fishing is constrained by lack of improved fishing equipment. The traditional spear fishing is rudimentary and dangerous because some people lose their lives during the fishing season. This happens due to group fishing where about 400 people squeeze into a small space resulting in some clashes here and there and it sometimes might lead to large scale war between the groups. This is based on my long experience in the community as well as having once participated in the activity when I was young.

Ordinarily, this sector would benefit greatly from building sustainable systems to increase fisher folk's access to improved equipment, boats and technologies, beach landing points, organized marketing and improved fishing and business skills. Transport is very difficult especially in more isolated areas of fishing livelihoods. Development of cool/cold chains would be needed for longer distances.

Fish farms on the other hand could present potential to the local community especially in Yirol East; however, this technique is not part of the norms in these two communities. Likewise, there could be plenty of fish if fishing equipment among the fishermen is improved to feed the market especially in the areas where fish are needed the most. Areas of fishing around Yirol East do not have good roads which makes transport very difficult especially in more isolated areas of fishing livelihoods. All things considered, local fishermen/fisherwomen need to deliver their produce to

market in time before it spoils as well as development of cool/cold chains would be needed for longer distances.

Marketing constraints

This study revealed that there was not enough produce from the two counties for marketing. Good roads were still needed to sell whatever the household could afford to sell. Road conditions in Lakes State are very difficult, and in the rainy season many are impassable. Even some of the improved feeder roads were not accessible during the rains. According to the WFP there are serious problems with controlling axle weight limits which further stress the roads.

Markets in Yirol East and Wulu as well as the entire State have low volumes of local agricultural products. According to this study finding most farmers in the study sample were more than 12 kilometres from the nearest market. It is almost exclusively women traders who sell agricultural products in markets in Wulu County. In addition, interviews with women traders revealed that very few were marketing their own produce due to a lack of transportation as well as impassable roads. In large markets like the headquarters of Yirol East and Wulu, a large percentage of the goods are imported from neighbouring countries especially from Uganda. There were some processed products including sorghum and maize flours, dried and smoked fish. The study suggested that there were no standardized measures of prices among the petty traders. The market spaces they rent are extremely basic, and many have no shelter/plastic cover. The rent charged is small (SSP 100/ month about \$30 US in Nyang & Wulu). At the end of market day, women often store the unsold produce

with the more formal shop keepers in the market at exorbitant cost. There are no market storage facilities.

Again lack of access to transport as suggested by Waldman and Rietveld (2006) is cited as the most important constraint for traders. For traders importing goods, the major complaint was numerous taxes (Customs, State, County, and Commerce) that when added together became very costly (7.5 Sudanese pounds/50kg bag). Traders in the market who have formal stores complain that they have no security on their stores – the government could remove them at any time. Some traders told us that they are also very constrained by lack of capital to build up their businesses.

There are no formal market information systems in these two counties because there were variations of the price of the same commodity in the same market. Traders can access price information through contacts with other markets, but there does not appear to be a system to regularly transmit information down to the farmer group level.

Land conflicts and Property rights

North's (1990) suggestion that the view that capitalist property rights generate economic efficiency is not often true. This lack of connection could be true especially if property rights of leasing and selling land are given to the rural poor who do not know the value of the property, do not have means to invest in their property, and do not have background on legal issues.

Allocating property rights with other bundles of legal rights to sell or lease the land at this point of time is a very risky business by the government that might have long term undesirable outcomes in rural communities in Lakes State as well as the entire South Sudan. Most people in

Lakes State are poor and are in a constant need of money to provide food to their households. With so many investors with lots of money to spend in buying property, these poor people could be easy targets for these investors regardless of their nationality whether they are locals or internationals. These poor people could sell their land for cash that could be used for marriages, for food during food shortages, or for any other activities in the community. One of the examples this study revealed was that the selling of land happened regularly in Yirol East and sometimes in Wulu counties. Another example I personally experienced in Yirol East was when land was sold by one of my relatives in my presence to one of the land dealers. My relative sold the land because he needed the money to pay his contribution in the family marriage. Furthermore, some people from the community went further by engaging in selling their land for cash to be able to buy local liquor and beers for drink. So regarding the question of whether a property rights with other bundles of property rights create economic efficiency in the rural Lakes State the answer is that for the short term yes, but it is probably not with long run. The majority of rural communities do not have the skills to manage their money saving, or investment. In addition these poor rural people do not have any other skills they could utilize to support themselves or their households when they lose the land that is their only source of income. As the study revealed in coping strategies during food shortages the land is sold to generate money for the household in both communities the Dinka peoples of Yirol East and the Beli peoples of Wulu.

Furthermore, Libecap (1989) argues that property rights are formed and enforced by political entities and that property rights reflect the economic interests and bargaining strength of those affected. This argument will not resonate very well with the local agro-pastoral people of Yirol East if implemented because property rights that allocate lands and enforce the rights of the owners to exclude access from others members of community (no

trespassing) will delimit the range of privileges guaranteed by the customary land tenure. Under the customary land tenure in Lakes State the resources (pastures and water points) are rights to every community to access but under special arrangements by the leaders of the communities.

Moreover, the study revealed that land tenure/property rights is one of the main centres for insecurities between the communities as well as its contribution to livelihoods and production assets in Yirol East's pastoral and crop-based livelihoods and production assets in Wulu County. Those who were affected the most were vulnerable women and children. Although land for farming is not a big constraint as suggested by Shanmugaratnam, (2002), the vulnerability of women and children in Lakes State to access land and property rights is at alarming rate in the whole Lakes State. The contribution of the woman to smallholder households has been affected due to limited access to land and property rights in both counties. There was also a suggestion by De Wit (2004) that women and children lack awareness of their rights to access land and property rights. This suggestion could be right, however, according to the findings from interviews conducted in Yirol East and Wulu counties suggested otherwise. The findings revealed that there is a reason to believe that land commission representatives in the state level work outside South Sudan Land Act of 2009. According to this study analysis, there could be three scenarios behind these findings; first, there is a lack of cooperation between the South Sudan Land Commission and the representatives in states, counties, payams, and bomas on issues concerning the implementation of Land Act. Second, there is opposition by the local authorities to the new land law that contradicts their existing customary law. Third, most land

representatives on the state, county, payam and boma levels do not have enough training on how to implement the new South Sudan Land Act of 2009. These scenarios conclude that the lack of women and children awareness that was suggested by De Wit (2004) could be a fraction of the numerous issues the South Sudan Land Commission authorities as well as the entire government need to address.

There appears to be little problem with the traditional and customary land allocation system, though several experts expressed concern that increasing numbers of settlers moving into Southern Sudan could strain this system. In addition, the Government of South Sudan (GOSS) at national and state level is encouraging commercial investors to develop more land for agriculture (including forestry), opening up of new land poses potential threats to sustainable use of the resource base, and it will be critical for GOSS to develop an approach to undertake and implement land use planning to avoid degradation of the natural resource base. Fighting between the communities because of ownership of the grazing land and ownership of the community land is concurrently posing security problems in the two counties.

In relation to land use, the extensive charcoal making activities in the two counties especially in Wulu County and in some cases in Yirol East County is becoming an environmental concern. The forestry management laws in the South Sudan Ministry of Agriculture are either non-existent or under formulation and with current extensive cutting down of the trees the rate of deforestation will drastically increase and therefore affects the environment. Charcoal making is a very profitable business because charcoal is used for cooking in restaurants, or in household cooking.

The charcoal making and other forms of cutting trees activities are also creating conflicts as communities fight over the ownership of the forest.

One of the best things that happened during the devastating 21 year civil war of the Sudan was forest preservation. There was a thick forest everywhere in the two counties even in the places where there were no trees before the war began. The depletion of forest cover will be a major concern as rural populations increase and as agriculturists expand the area under cultivation to meet food needs and produce for the market. Local government officials (local representatives, Land Commission Chairman) typically expressed the view that expanding the land under cultivation is the first step towards increasing production, and did not place emphasis on increasing productivity to achieve the same objective.

The right to use land within a village is linked to the customary kinship structure which is still practiced and works effectively. There is a system of customary “chiefs of land” at all levels of society (family, village, Boma and Payam) responsible for distributing land and resolving conflict. The chiefs are also responsible for regulating the use of the common land reserved for grazing, fishing, hunting and gathering, etc. Land use rights for agricultural land are transferred from generation to generation within a family. Where possible, chiefs have returned the same plots of land originally vacated by IDPs – if not; a similar piece of land is allocated. The system of customary “chiefs of land” although it seems to be reasonably good, there are some inequalities in land allocation most of the time. In addition, property rights conflicts between states are still being handled by chiefs despite their lack of knowledge about the South Sudan Land Act, 2009.

On issues related to land access for women and children under the customary and statutory land system, border issues are problematic due to the lack of borders between states and counties as well as lack of returnee IDPs in access to land and property rights. The respondents' responses between males and females were significantly different in Wulu County whilst in Yirol East it was not significant. One of the reasons of the differences between the groups in the two counties could be because of lifestyle differences of the two communities. In Yirol East the problem of property rights is on the rise due to pastures and water points as well as historical differences between communities. The ethnic conflicts between the groups have historical background in Lakes State in particular as well as the conflicts between groups in the entire South Sudan. All these conflicts are resource base conflicts, for example, competition over pastures and waters. This argument is supported by Kaplan, (1993). He argued that, "ancient hostilities between different ethnic groups are the exclusive basis of conflict between them". Most of the ethnic conflicts in pastoral communities in Lakes State or elsewhere in other pastoral communities in the country are either over resources or cattle rustling and have nothing to do with their heterogeneity as suggested by Vanhanen, (1999). These pastoral or agro-pastoral communities would fight whomever whether within a community or outside the community, to protect their cattle and resources. For example there was historical ongoing fighting among the Yirol East communities alone on the one hand and even within clan or family members because of pastures and cattle rustling on the other hand.

In Wel's (2012:151) conclusion, he remarks that "High rates of poverty and food insecurity are prompting poor people within these communities to perpetrate violence as a means of strategy". This is not always true because, rural communities in South Sudan in general are not like any other modern communities with urban settings like Juba and other big cities in South

Sudan where people might resort to robbery and killing for a living. The findings of this study revealed that cattle raiding in pastoral communities in rural Lakes State or even in Jonglei is not always due to poverty. Some participants in this study suggested that cattle raiding is a part of bravery among some members of pastoral communities. These young men may engage in cattle raiding to prove to other youngsters that they are not cowards. Therefore, these particular groups in the communities would be involved in cattle raiding anyways whether they have 400 head of cattle or have none. Hence, suggesting that rural communities (agro-pastoral, smallholder farmers) perpetrate violence because of high rates of poverty and food insecure does not always hold.

However, recently there are some reasons to believe that some of the intellectuals from different groups in Lakes State as well as other communities in South Sudan engage in fueling fights between the communities. These individuals recruit trouble makers to destabilize the security among the communities through cattle raiding; indiscriminate killings to suggest that the governor is not up to the task of preserving the peace. In other words, they attempt to change the governor if this governor or any other local authority personnel is not one of their own. This suggestion is confirmed by Mueller (2000) who suggested that, parties to ethnic wars are nothing but “bands of opportunistic marauders recruited by political leaders”.

Nevertheless, there are traditional mechanisms already in place to address the inter-ethnic conflicts due to cattle rustling, resources competition. These mechanisms have been very effective throughout the traditional authorities in South Sudan; however, these techniques are currently undergoing restructuring to match the laws in the new country.

Incidentally, the Beli peoples of Wulu County are the only community among the communities of Lakes State that do not have internal conflicts among themselves

because of pastures and water point or even historical grievances within the group. However, the only problem the Wulu communities are facing right now is the violation of their property rights by the neighbouring counties because of pastures and water points. One of the examples was the 2009 war between the Beli peoples of Wulu and the Dinka peoples of Rumbek Central County. That war had devastated the lives and livelihoods of the two communities as recalled by one of the key informants from Wulu County. He said that, lots of people died needlessly for the war which his community should not have been part of if not because of the violation of Rumbek Central people's to their property rights.

SUMMARY

The chapter explained the main findings of the research. These findings were discussed under main objectives of the research. These main objectives include demographic information, constraints on smallholder households in agro-pastoral and smallholder farmers of the Dinka peoples of Yirol East and the Beli peoples of Wulu respectively. In addition the land conflicts and property rights findings were discussed. Those objectives were related to the theoretical and empirical evidence in chapter two. The discussion has provided insights about whether or not individual private agriculture/land tenure could be a strategy for rural sustainability of livelihoods in Lakes State, South Sudan.

Similarly, the under-developed agriculture sectors, under-exploitation of other available livelihoods, and other constraints on smallholder household have contributed negatively to livelihoods in the two counties, Yirol East and Wulu. The recommendation in the following chapter will suggest policies that could help in addressing how to improve agro-pastoral/ crop based agriculture as well as

overcoming other constraints and resulting in more desirable outcomes than is presently the case.

CHAPTER SIX

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of the thesis was to assess the property rights which presently exist in South Sudan and affect the land tenure system. The study has also looked at the livelihood strategies that would allow the small farmers to cope in such a way that there would be a reduction in conflict. The concepts from the Sustainable Rural Livelihoods framework guided the data collection, analysis and discussion.

The data for this research was collected in the months of May and June of Year 2012 in two counties of Lakes State, South Sudan. Both quantitative and qualitative research methodology was utilized in this study. The qualitative research data consisted of focus group discussions, key informants interviews, and direct observation. Quantitative data was gathered with the aid of a questionnaire. Two hundred questionnaires were implemented and conducted in Yirol East and Wulu County (100 questionnaires in each county). Furthermore, these primary data sources were supplemented by secondary (or existing) data sources, including the South Sudan Land Act 2009, South Sudan National statistic Bureau, and documents from South Sudan Ministry of Irrigation.

The main findings of the research are that firstly, poor agriculture production is due to inadequate production assets (tools, building etc.), drought, and displacement due to insecurity, and lack of law enforcement. Secondly, there is underutilization of the abundant existing wild vegetables, fruits and hunting in the two counties and especially in Yirol East. Most of the agricultural production activities of the household are done by women with little help from men. Most inter-ethnic conflicts are caused by cross border efforts to access pastures and cattle raiding. Thirdly, there is non-commercial use of the livestock by agro-pastoral or pastoral as well

as limited use of veterinary care and improved livestock feeding, lack of the infrastructure (health facilities, schools, and roads), and finally, the locals are very dependent on NGOs services.

The author recommends firstly, the need to address the livelihoods and production assets of agro-pastoral of Yirol East (Dinka) and sedentary of Wulu (Beli). Secondly, there is also a need for monitoring mechanisms to preempt the activities of cattle rustling and other inter-ethnic conflicts. Thirdly, land conflict and property rights should be addressed to accommodate all citizens of South Sudan. Fourthly, foreign investor developers in South Sudan should not jeopardize food security but rather strengthens it. Finally, NGOs should move from doing relief activities to integration and development activities.

Conclusions

The thesis investigated agriculture and land tenure as a strategy for sustainable rural livelihoods in Lakes State. The study set out to explore the concept of sustainable livelihoods in Lakes, South Sudan. The motivation for doing this research was to increase the rural sustainability and success of the rural communities in Lakes State in general and Yirol East and Wulu counties in particular in alleviating poverty.

Moreover, the study sought to answer the following questions. What are the available property rights for the two communities of Yirol East and Wulu? What are the livelihoods and production assets of agro-pastoralist of Yirol East and sedentary crops farmers of Wulu? What is the role of land tenure and how does it contributes to land conflicts in Yirol East, and Wulu of Lakes State smallholder livelihoods? How does land tenure affect the vulnerability of women and children in Yirol East and Wulu?

The empirical findings related to the research objectives are: firstly, ***Livelihood and production assets in crop-based farmers and agro-pastoral in Yirol East and Wulu***. Inadequate production is due to inadequate production tools, insecurity caused by inter-communal conflict, and cattle rustling, non-utilization of indigenous cattle for commercial purposes as well as lack of animal care (feeding, drugs). In addition, there is underutilization of other available livelihoods in the community regarding fish, wild fruits and vegetable and honey. Lack of infrastructure (roads, schools...etc.) hinder development in Lakes State especially and the entire country. Secondly, ***Land tenure and property rights***: are the main causes of conflicts especially seen in competition for natural resources (pastures and water points). Not only will these issues hinder sustainability of the livelihoods of smallholder household in these two counties; they also affect the household labor. Thirdly, ***Impact of land tenure on the vulnerability of women and children*** was concerned with lack of gender equality in relation to access land and property rights this partly due to untrained land commission management representatives at the state and county levels. As well, there is a lack of cooperation among the government levels (National, State, County, Payam, and Boma).

In addition, Polygamy is a part of traditional way of live in the both communities. Culturally, man marries many wives for different reasons as mentioned in my findings and in my discussion chapter. Polygamy seems to be all about the man not the woman. Having many children and wealth gain from daughter's dowry wealth which is in this case "cattle", but the negative impact of the polygamy on women is not a concern in the community. A polygamist woman is a provider for her children and often for her husband who is the household's income keeper and supervisor. There is a need for the community and government to access the psychological impact of polygamy on the women as well as children of the polygamist.

Furthermore, there were widows in the two communities; however, in Yirol East every widow was a wife for someone from the immediate family or extended family member. However, culturally the offspring or the children born from this relationship take the name of the deceased person not the biological father.

Lakes State needs to be looked at critically so that we can further comprehend the livelihood dynamics of rural areas and how they can be made more sustainable. The sustainable livelihood approach clearly contributes value to the process of striving to reduce poverty; however, the concern is that sustainable livelihoods approach only uses the existing analytical tools and is not intended for other approaches, underplaying the importance of vulnerability and gender, and it overlooks unfamiliar areas such as household financial flow and market. For this approach to work in Lakes State there is a need to adjust it to suit this particular environment. This is because the Sustainable Rural Livelihoods approach is very general and does not say enough about the specific gender relations and land tenure property rights in Lakes State.

To conclude, despite numerous studies as well as a huge amount of funds provided by international community on South Sudan rural livelihoods sustainability, the livelihood approach has only offered a few solutions to deal with the chronic problems of South Sudan's smallholder household food insecurity.

Knowledge Contribution

Rural South Sudan is inhabited by 82 percent of the overall population of the entire country. These rural populations depend mainly on either agro-pastoral/pastoral or smallholder farming. However, there has been little comparative analysis of rural people's livelihoods. Furthermore, much of the existing literature on livelihoods tends to focus disproportionately on

pastoral livelihoods with only grey literature emphasizing smallholder farmers and agricultural rehabilitation and development. Although this study tends to be site specific, its attempt to compare the main two livelihoods of rural South Sudan adds to the body of the knowledge about Lakes State livelihood issues, its gender relations and property rights issues. Furthermore, the conceptual framework I designed to guide and analyze the findings from this study on issues of land conflicts and property rights issues, and how war affected the livelihoods of agro-pastoralist and smallholder farmers, adds to the body of knowledge.

This study is one of the few original empirical research studies in Lakes State, because most of the published literature either does not deal with Lakes State or studies the country as a whole. They also have mainly utilized the qualitative research methods only with interviews, secondary data and focus group discussions. The classical example is the thesis about The Potential of Agroforestry for Peacebuilding the case of Jonglei, South Sudan by Paul Wel, 2012. However, this study utilized the two methods (qualitative and quantitative), and it found that these two approaches are mutually reinforcing.

Recommendations

The author highlighted the need to address the livelihoods and production asset constraints faced by agro-pastorals or pastorals of Yirol East Dinka communities and sedentary Beli communities of Wulu County. There is a need to provision better fishing gear for fishermen in Yirol East and Wulu in order to enhance their fishing activities. Lakes State was named because there are lots of the lakes and rivers that are found in the region and especially in Yirol East. The lakes, rivers and swarms are the home for varieties of fish. However, the livelihood potential is under-utilized due to the lack of fishing gear, cooling, drying facilities, roads and

transportation. The number of fish present in this area could generate employment, income for the community and in the process leads to stability in the community.

Coupled with that, there are no way these rival communities of Yirol East or Wulu would develop without peace between them because killing and counter revenge killing is destroying lives and their human capitals. Displacement due to inter-ethnic conflict is another obstacle for rural sustainable livelihoods in Lakes State communities. Dialogues for peace initiatives between rivals should be considered a step forward towards peaceful co-existence.

In addition, the right to property is a foundation for legal empowerment of the poor such as providing them with shelter. However, poor people often sell or mortgage their newly titled land to meet basic needs and then lose it permanently if they cannot purchase new land or repay their mortgage. There is some empirical evidence suggest that such land loss after land titling happens. In addition there are some concerns that some poor, often men, will take land away from their wives, with whom they share its use under customary law. With attention to, South Sudan as the newest country in the 21 century is a destination for those who are looking for new opportunities. One of these opportunities in South Sudan is the land for farming. With the inexperience government in place in South Sudan there is a possibility these so called investor will buy up the land from poor people in the name of development. Generally, dealing with these well-established world bodies and international organization (NGOs) will be difficult to handle by the new South Sudan authorities. The fear is that most of poor South Sudanese need to meet their basic needs even if it means to sell their land to just do that. Therefore to protect these poor individual's property rights there is a need to educate people first about the value of the land and what does it mean losing it. Similarly, all South Sudan levels of government should stop titling

land to communities or even selling land to any investors until the rights of the rural poor are realized first no matter how long it will takes.

Secondly, introducing taxes on the households who own more than 10 head of cattle might discourage those who engage in cattle rustling for owning lots of cattle if they could not pay taxes. The fund collected is to support community veterinary care, improve feeding, and constructing additional boreholes in the highland corridors as well as cattle camps.

Furthermore, modern equipped law enforcement personnel selected from different states should be stationed on the borders between states to effectively monitor the inter-tribal conflict and cattle rustling.

By the same token, no member of the community should be excluded from land access if this is necessary to sustain her or his livelihood. In both counties Yirol East and Wulu County do not think that land is an issue now, however, when you see how much land is being sold to developers there should be a need to worry. If selling land continues at this rate, there will be no land left for communities in 2020. The communities will lose land to speculators or developers who do not have interest enabling rural development or food security. Government needs to restrict the land grabbing and work to protect the local community from these investors and the rich South Sudanese. Existing rights to land and associated natural resources are recognized and respected. The South Sudan Land Act of 2009 needs to be revised in a way that addresses all the stakeholders from bottom up before it becomes the law. The majority of conflict now in South Sudan is land and property rights related. There is a need to address the issues of land and property rights and effectively enforce the laws in all five government levels (National, State, County Payam, and Boma). South Sudan should effectively promote the existing rural para-legal

programs to inform communities and women/youth about their property rights under statutory and customary legal systems.

In addition, investment should be organized so that it strengthens food security. South Sudan has virgin land with lots of potential for investment. This creates an influx of new investors pouring in lots of money in the name of development. However, the way these so called investors are buying land from the locals constitutes land grabbing. For centuries these poor farmers depended on this land for their livelihoods. What will happen if these local people lose the only asset they have to investors? Just imagine what the fate will be for these poor individuals know only farming skills.

The over 40 year of Sudan civil war has devastated the basic services a country needs to develop especially primary education and health facilities. There is a need for this new nation to establish education facilities especially primary education and health services. Children both males and females need to have access to school and health services because these children are the future of South Sudan.

Again the state of health services is very basic and ineffective in the whole of South Sudan including Lakes State. People still go to witch-craft for their disease treatment because there are no doctors, no drug stores and the only drug store available looks like corner-shops where expired medicine brought from Uganda are sold. People buy drugs in these stores like buying sugar or table salt without regard to the drug implications or side effects. There is no proper storage, no electricity as well as handling of the drugs. Both counties still suffer from water borne diseases because of drinking bad water. There is a need to educate the rural communities about drinking clean water and also the local authorities should work harder to install more boreholes across the county. There are also diseases that are very common in these

two communities in both males and females because of poor hygiene such as syphilis. Rural people lose their lives because of treatable simple diseases.

There also needs to be timely distribution of agricultural tools and seeds to coincide with food aid distribution to avoid consumption of seeds by severely food insecure households, so there's nothing to plant for the future.

The right to property is a foundation for legal empowerment of the poor. However, poor people often sell or mortgage their newly titled land to meet basic needs and then lose it permanently if they cannot purchase new land or repay their mortgage. There is some empirical evidence to suggest that such land loss after land titling happens. In addition there are some concerns that some poor, often men, will take land away from their wives, with whom they share its use under customary law. South Sudan as the new country and in the 21 century is a destination for those who are looking for new opportunities. One of these opportunities in South Sudan is the land for farming which is now open for investment. This is an alarming situation because of the inexperienced government in place there is a possibility the investors will buy up the land from poor people in the name of development. Generally, dealing with these well-established world bodies and international organization (NGOs) will be difficult to handle by the new South Sudan authorities. Especially most poor of South Sudan need to meet their basic needs even if it means to sell their land to just do that. Therefore to protect these poor property rights there is a need to educate people first about the value of the land and what does it mean losing it. All South Sudan levels of government to stop titling land to communities or even selling land to any investors until the rights of the rural poor are realized first no matter how long it will take.

Further Research

- About 82 percent of the rural people of South Sudan depend mainly on either agro-pastoral/pastoral and crop-based farmers for their livelihoods, however, most of the studies are on agro-pastoral or pastoral with very little attention paid to small crop production livelihoods. There is a need to compare between agro-pastoral/pastoral and crop production livelihoods to identify which of the two livelihoods (agro-pastoral/pastoral or crop-based farmers) is more sustainable for the poor rural of South Sudan and therefore provides the most suitable balance of livelihoods.
- South Sudan has potential in agriculture and all other natural resources that could positively contribute in the poor rural livelihoods, but unfortunately, most of these natural resources are under-developed or completely unattended to like some wild fruits and vegetables. There is a need to explore these unknown abundant wild vegetables and fruit.

Finally, I would like to conclude that despite agricultural potential available in Lakes State there is a need to address issues hinder the effective use of this livelihoods for example security issues, property rights, and production assets.

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Appendices

Appendix one:



ONTARIO AGRICULTURAL COLLEGE
School of Environmental Design and Rural Development
Focus Group Consent Letter

You are asked to participate in a research study on Agriculture and Land Tenure in South Sudan conducted by Mading Lok from the School of Environmental Design and Rural Development, Capacity Development and Extension at the University of Guelph in Canada. The results of this research will contribute to my MSc thesis

PURPOSE OF THE STUDY

Lakes State's rural communities depend on agriculture for their livelihoods. However; the long civil wars between north and south Sudan have destroyed the use of agriculture as a means for sustainable livelihood in Lakes state. This research is seeking to identify land tenure and agriculture policies that will enhance the sustainable livelihoods of the people in Lakes States so questions about these issues will be asked. For example you will be asked about women's rights to land and property.

PROCEDURES

I would appreciate it if you would join a focus group with between 6 and 10 people discussing Agriculture and Land Tenure in Lakes State. Participation is voluntary. You will be asked to be part of a discussion about the prospects for agriculture in Lakes State. Your participation in this study is entirely voluntary and you will not receive compensation although refreshments will be served. If you agree to participate, you should not reveal what is said by individual focus group participants later.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY

The results from findings will be used to help address issues of rural livelihood sustainability in Lakes State, South Sudan. There will not be payment for taking time to fill the questionnaire.

CONFIDENTIALITY AND POTENTIAL WITHDRAWAL

Every effort will be made to ensure the confidentiality of your answers. I will not reveal the names of individuals who participate. If you volunteer to be in this study, you may withdraw at

any time without consequences of any kind and you do not have to answer any questions you don't want to answer.

RIGHTS OF RESEARCH PARTICIPANTS

If you have any questions or concerns about the research, please feel free to contact Professor Glen Filson at Telephone: 1-(519) 824-4120 ext 56231 Fax: 1-(519) 767- 1686 E-mail: gfilson@uoguelph.ca , Helen Hambly at 1-(519) 824-4120 ext. 53408 hhambly@uoguelph.ca, Dr. Bamidele Adekunle, 1-519-824-4120 ext 53510, Email: badekunl@uoguelph.ca.

If you have questions regarding your rights as a research participant, contact:

Research Ethics Coordinator	Telephone: (519) 824-4120, ext. 56606
University of Guelph	E-mail: sauld@uoguelph.ca
437 University Centre	Fax: (519) 821-5236
Guelph, ON N1G 2W1	

ORAL CONSENT OF FOCUS GROUP PARTICIPANTS

Are you willing to participate in this study? Yes ____; No ____



ONTARIO AGRICULTURAL COLLEGE
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Key informant interviews questions

Semi- structured open- ended Questions

1) Customary tenure and traditional authority

- i) What factors have contributed to upholding customary tenure system among rural communities?
- ii) To what extent will customary land tenure system accommodate the need to provide secure land and property rights for women? For land administration and land for development?

2) Relations between RSS, State government, and communities

- i) What are the principles by which the state acquires land for public purposes?
- ii) In the context of the notion "land belongs to community," what would be the best approach?

3) *Informal settlements in Southern Sudan are feature of conflicts.*

- i) What are the socio-economic characteristics of the residents of informal settlements?
- ii) What options are available for managing informal settlements?

4) *What are the prospects for agriculture as a solution to the food security issues in Lakes State?*

5) *What other issues are important for reducing poverty and improving food security in Lakes State?*

6) *Is there anything else that you would like add?*

4): *Women's rights to access land property*

- i) What are the factors that constrain women's rights to equitable access to land and property in rural area?
- ii) To what extent have the customary laws guaranteed women's right to access land and property?
- iii) To what extent do customary tenure systems hinder children access to land and property?

5). *Conflict over resources:*

- i. To what extent has the lack of state and country border demarcation impacted the inter-ethnic violence in Lakes State, South Sudan
- ii. What type of resources are source of inter-ethnic conflicts in Lakes State, South Sudan?

QUESTIONNAIRS



ONTARIO AGRICULTURAL COLLEGE
School of Environmental Design and Rural Development

Livelihood Questionnaire

**School of Environmental Design and Rural Development Ontario Agricultural College,
University of Guelph**

A. Background information

1. Residential area: _____
2. County: _____ Village # _____
3. Ethnicity _____

B. Personal Characteristics of Respondent:

1. Age of the respondent: _____
2. Sex (Please circle one box below):
 - a. Male
 - b. Female
3. Marital Status (please check one box below):
 - a. Married
 - b. Single
 - c. Divorced
 - d. Widowed
4. Highest Educational Attainment (please check on box below):
 - a. No formal Education
 - b. Primary School
 - c. College Diploma
 - d. University Degree
5. Occupation (Please indicate your occupation and income):

a. Full-time:	Monthly Income:
b. Part-time:	Monthly Income:

C. Household Composition

1. Type of household _____
 - a. Male headed household

- b. Female headed household
- 2. Marital status of the household head
 - a. Married
 - b. Single
 - c. Widowed
 - d. Divorced
 - e. Separated
- 3 Family type
 - a. Polygamy
 - b. Monogamy
- 4. How many people are in this household? _____
- 5. How many sons do you have in this household? _____
- 6. How many daughters do you have in this household? _____
- 7. How many children in the household have completed primary education?
 - a) _____ sons b) _____ daughters

D: Land Acquisition in Yirol East County

1.Please indicate whether you strongly agree (5) or strongly disagree (1) with these statements:

Statements	Strongly agree (5)	Agree (4)	Neither agree nor disagree (3)	Disagree (2)	Strongly disagree (1)
There are barriers to women acquiring land rights under customary and statutory land tenure systems in this county					
customary laws do not guarantee women's right to access land and property					
customary tenure systems hinder children access to land and property					
lack of state and country border demarcation impacted the inter-ethnic violence in Yirol East,					

Returnees do not have access to their lands and properties					
informal settlements becomes an issue in urban lakes state					

2: Land Acquisition in Wulu County

Please indicate whether you strongly agree (5) or disagree (1) with these statements:

Statement	Strongly agree(5)	Agree (4)	Neither agree nor disagree(3)	Disagree (2)	Strongly disagree(1)
There are barriers to women acquiring land rights under customary and statutory land tenure systems in rural area					
customary laws do not guaranteed women's right to access land and property					
customary tenure systems hinder children access to land and property					
lack of state and country border demarcation impacted the inter-ethnic violence in Wulu County, Lakes State, South Sudan					
returnees do not have access to their lands and properties					
informal settlements becomes an issue in urban lakes state					

E. How important are the following attributes in your community?

Attributes	Very important	important	Neither important nor unimportant	unimportant	Very unimportant
Number of daughters in the household					
Number of sons in the household					
Herd of castles					
Number of bee hives					
Farming					

Agro-pastoral					
Fishing					
Food storage					
Extended family					
Savings					
Marriage					
Traditional authorities					
Local law enforcement					
School					
Roads					
Health facility					
Clean water and Sanitation					
Micro-credit					

F. Information on Livestock holdings

	Improved Cross-bred cattle	Indigenous cattle	Sheep	Goats	Donkeys	Pigs	Poultry	Other (specify)
Total number present								
Of total number, how many are owned by household?								
Highest number ever owned at one time								
Year highest number owned								
Number sold in past 3 years								
Amount paid for improved								

feeds purchased in last year								
Amount paid for veterinary care during last year								
Distance to nearest water source in the dry season								
No. Purchased								
No. Inherited								
No. Gifts								
No. from Being born								

G. Infrastructure

1 Approximately how far (Km) is the household located from the nearest:

- a) All weather/tarmac road _____
- b) Convenience store _____
- c) Market _____

2 How would you describe the condition of roads to the market? _____

- a) Impassable
- b) Very poor
- c) Poor
- 4) Average
- e) Good
- f) Very good

G. 3 Accessibility to clean water and Sanitation

- a) Very poor
- b) Poor
- c) Average
- d) Good
- e) Very good

G. 4 List number of the primary schools in Yirol East County

- a) Primary schools _____
- b) Secondary schools _____
- c) Colleges _____
- d) Universities _____

G. 5 Number of the primary schools in Wulu County

- a) Primary schools _____
- b) Secondary schools _____
- c) Colleges _____
- d) Universities _____

H. List crops usually grow in the area and how long each crop takes from planting to harvesting?

s/n	crop	Month plant	Month harvest	Annual income

I. Coping Strategies taken by the community during food shortages?

J. Do you have any other comment about the land tenure system in this county?
