Sudan University of Science and Technology College of Graduate Studies





Impact of Internal Displacement on Livelihood of Pastoral Communities in Aslaya Locality-East Darfur State – Sudan تقييم أثر النزوح الداخلي على سبل كسب عيش المجتمعات الرعوية بمحلية عسلاية ـولاية شرق دارفور _ السودان

A thesis submitted for Partial Fulfillments for the Requirement of M.Sc. Degree in Range Science

By:

Zahra Boram Hammad Egabish
B.Sc. In Range science (SUST), 2017
Supervisor:

Dr: Gammer Eldien Abdelrhman Ibrahim Hamad

AUGUST 2022

DEDICATION

I'm really glad to dedicate the fruit of my effort to:
My beloved parents
My dear husband
My beautiful sons
My honest brothers and sisters
My respected colleagues
And my supervisor

ACKNOWLEDGEMENTS

First of all I'd like to thank Allah for this inspiration, secondly The thankful expands to include Sudan University of Science and Technology which acted in College of Forestry and Range Science for this unique opportunity, then I thank deeply the supervisor Dr: Gammer Eldien Abdelrhman Hamad for his advisory and continuous support, in addition to those who have positive impact such as family of College of Forestry and Ranges Science Library, furthermore manager and employees of Range department.

ABSTRACT

This study was conducted in Asalaya locality, East Darfur State, Sudan. The study aimed to assess the impact of internal displacement on the livelihoods of pastoral communities, in addition to identifying the social, economic and environmental impacts of the internally displaced persons on the pastoral communities in the study area. The method of data collection mainly depend on the primary data, which included a field visit and a socio-economic survey of the settled pastoral communities and the displaced people in the study area to assess the general characteristics of those communities, in addition to the economic activities that they practice. A questionnaire was designed that targeted 60 heads of families, where they were randomly selected from the total number of families in those three randomly selected villages (Al-Ghazala Jawzat, Umm Warqat, and Al-Ma'ali) to represent the target community out of the total number of villages affected by the arrival of the displaced to the area. Secondary data covering topics related to the research was obtained from books, references, scientific research and the Internet. The data were statistically analyzed using Statistical Package for Social Sciences (SPSS) program to extract the results in the form of percentages and frequencies.

The study found that the majority of the respondents in the study area are sedentary herders who depend on animal grazing as a main source of income in addition to practicing agricultural activity before the arrival of the displaced. There are clear environmental effects after the arrival of the displaced, especially on the vegetation cover through excessive cutting of trees to build houses, and the use of fuel wood for cooking, in addition to the deterioration of range resources. The results of the study also showed a significant decrease in the number of livestock in the area as a result of

agricultural expansion on natural range lands and block of the routes, which reduced the movement and mobility of the pastoral community.

The study recommended that government bodies and non-governmental organizations should provide the necessary needs and provide basic services to the displaced and pastoral communities in their areas by supporting the livelihoods of families in the study area, diversifying sources of income, in addition to establishing health centers and schools. The study also recommended the need for great attention to expand the provision of services by focusing on the appropriate distribution of water points in the different grazing areas in order to reduce the occurrence of conflicts, in addition to increasing the number of other water sources such as Al-Dwanki, which provide drinking water for humans and animals in the area. Moreover, the related government institutions should be work on activating the policies and laws related to the registration of range lands, in addition to the demarcation of routes, which helps in the organization and management of range lands and water points in a sustainable manner. In addition to the involvement of native administrations in resolving conflicts that occur between settled pastoral communities and other users in the study area.

المستخلص

أجريت هذه الدراسة بمحلية عسلاية بولاية شرق دار فور، السودان . هدفت الدراسة لتقييم آثر النزوح الداخلي على سبل كسب العيش للمجتمعات الرعوية ، بالإضافة للتعرف على الآثا الاجتماعية والاقتصادية والبيئية لمجموعة النازحين الداخليين على المجتمعات الرعوية بمنطقة الدراسة. اعتمدت طريقة جمع المعلومات بصورة أساسية على المعلومات الاولية والتي اشتملت على الزيارة الميدانية و المسح الاجتماعي والاقتصادي للمجتمعات الرعوية المستقرة و ال سكان الناز حين بمنطقة الدر اسة لمعر فة الخصائص الشخصية المميزة لتلك المجتمعات بجانب الأنشطة الاقتصادية التي يمار سونها بتم تصميم استبانة استهدفت عدد 60 رب أسرة حيث تم اختيار هم بصورة عشوائية من مجموع عدد الأسرة في ثلاثة قرى تم اختيارها عشوائيا وهي (الغزالة جاوزت، أم ورقات، والمعالى) لتمثل مجتمع البحث من مجموع عدد القرى المتأثرة بقدوم النازحين الداخليين للمنطقة. تم الحصول على المعلومات الثانوية والتي غطت الموضوعات ذات الصلة بالبحث من الكتب ، المراجع ،البحوث العلمية والأنترنت . تم تحليل البيانات إحصائياً باستخدام الحاسوب عن طريق برنامج الحزم الاقتصادية للعلوم الاجتماعية SPSS لاستخراج النتائج في شكل نسب مئوية و تكرارات . توصلت الدراسة إلى إن غالبية المستجوبين في منطقة الدراسة من الرعاة المستقرين يعتمدون على رعي الحيوانات كمصدر رئيسي للدخل بالإضافة الى ممارسة النشاط الزراعي قبل مجي النازحين. هناك آثار بيئية واضحة بعد وصول النازحين خاصة على الغطاء النباتي من خلال القطع الجائر للأشجار لبناء المساكن، و استخدام حطب الوقود للطبخ بجانب تدهور الموارد الرعوية. كما أظهرت نتائج الدراسة بوجود نقصان كبير في أعداد الثروة الحيوا نية بالمنطقة نتيجة للتوسع الزراعي على أراضي المراعي الطبيعية وضيق المسارات مما قلل من حركة وترحال الأسرة الرعوية وجعلها مستقرة . أوصت الدراسة بان تقوم الجهات الحكومية والمنظمات غير الحكومية بتوفير الاحتياجات الضرورية وتقديم الخدمات الأساسية للنازحين والرعاة المقيمين في مناطقهم من خلال دعم سبل كسب العيش للأسر بمنطقة الدراسة ، تنويع مصادر الدخل هذا بجانب تأسيس المراكز الصحية والمدارس . كذلك أوصت الدراسة بضرورة الاهتمام بالتوسع في تقديم الخدمات بالتركيز على التوزيع المناسب لنقاط المياه في مناطق الرعي المختلفة و ذلك لتقليل حدوث النزاعات، بالإضافة الى زيادة عدد مصادر المياه الأخرى كالدوانكي والتي توفر مياه شرب للإنسان والحيوان بالمنطقة ضرورة أن تقوم المؤسسات الحكومية ذات الصلة بالعمل على تفعيل السياسات والقوانين الخاصة تسجيل أراضي المراعي بجانب الاهتمام بترسيم المسارات مما يساعد في تنظيم وإدارة أراضي المراعي ونقاط المياه بصورة مستدامة. بجانب أشراك الإدارات الأهلية في حل النزاعات التي تحدث بين المجتمعات الرعوية المستقرة والمستخدمين الآخرين.

TABLE OF CONTENTS

No	Topic	Page NO
	DEDICATION	I
	ACKNOWLEDGEMENTS	II
	ABSTRACT	III
	ARABIC ABSTRACT	V
	TABLE OF CONTENTS	VI
	LIST OF TABLES	X
	LIST FIGURES	X
	ABBREVIATIONS	XI
	CHAPTER ONE: INTRODUCTION	
1.1	Background	1
1.2	Problem Statement	2
1.3	Justification of the study	2
1.4	Objectives	2
1.5	Research questions	3
	CHAPTER TWO: LITERATURE REVIEW	
2.1	General	4
2.2	Displacement in World	4
2.3	Displacement in Africa	5
2.4	Internally displaced persons (IDPs) in Sudan	5
2.5	Displacement in Darfur	6
2.6	Definition of Internal Displacement	6
2.7	Major Factors cause displacement for People	7
2.8	Impacts of internal displacement on pastoral community	8
2.9	Pastoralism System	9
2.10	Importance of Pastoral Community	10
2.11	Importance of Rangeland to Pastoral Community in the World	13

2.12	Type of pastoral Community in range utilization	14
2.13	Mobility of Pastoralists	14

	CHAPTER THREE		
	STUDY AREA		
3.1	Study area	16	
3.2	Topographic	16	
3.3	Soil	16	
3.4	Climate	17	
3.5	Agriculture Sector	17	
3.6	Livestock	18	
3.7	Population Activity	18	
	CHAPTER FOUE		
4.1	General	19	
4.2	Primary data	19	
3.3	Secondary data	20	
4.4	Data Analysis	20	
CHAPTER FIVE: RESULTS AND			
	DISUSSIONS		
5.1	Socio-economic Characteristics of	21	
	Respondents		
5.2	Effect of internal displacement on	25	
	pastoral communities life		
5.3	Impacts of internal displacement on	27	
	Environment situations in study area		
5.4	Animal wealth and related activities	29	
	with Grazing		
5.5	Change in land use and its relation with	33	
	internal displacement		

5.6	Conflicts occurring and their relation	35	
	with internal displacement		
	CHAPTER SIX: CONCLUSIONS		
	RECOMMENDATIONS		
6.1	Conclusions	39	
6.2	Recommendation	40	
	References	42	
	Appendixe	46	

List of Table

No	Name	Page
1	Distribution of Age Groups of	31
	Respondent	
2	The current situation of the respondents	33
3	The Social effects internal displacement	34
	of on the pastoralists	
4	Impact of internal displacement on	34
	vegetation cover in the study area	
5	Sources of water in the study area	36
6	Alternative Sources of income after	37
	arrival of internal displacement in the	
	study area	
7	The Main causes of conflicts in the study	38
	area	
8	Most common places of conflicts broken	40
9	Croups of conflicts occurs in the area	41

List of Figures

No	Tittles	Page
1	Gender composition of respondents:	30
2	Marital status of respondents groups	32
3	Education levels of respondents	33
4	The Environmental impact in the area	35
5	The sources of income in the study	36
	area	
7	Patterns of Grazing Practice by the	39
	Pastoralist in the study area	
8	Type of livestock owned by	40
	Households in the study area	
9	The impact of displacement in	42
	situation of animals in study area	
10	Sources of income for before the	44
	displacement people in the study area	

ABBREVIATIONS

FAO Food and Agricultural Organization of the United Notations.

WFP World Food Program.

IDP Internally displaced Person.

NRC National Research Corporation

NGO Non-governmental organization.

INGO International Non-governmental organization.

UNEP United Nation Environmental Program

SPSS Statistical Package for Social System

UN United Notations.

CHAPTER ONE INTRODUCTION

1.1 Background

Forced displacement presently affects over 60 million people worldwide, of which over 38 million are internally displaced persons (IDPs). The number of refugees and IDPs continues to grow and the length of stay in host countries has been on the rise in recent decades. Internal displacement has become the norm in far too many countries, often in places with some of the lowest development indicators and the highest levels of violence. In many places it is fuelled and perpetuated by unresolved inter-ethnic, religious or political tensions. Displacement affects food security, also provides fertile ground for human rights abuses including torture, rape, killings, as well as forced evictions and loss of heritage.(Ayuba ,etal,2016).

In 2007 an estimated number of 5.4 million internally displaced persons (IDP) lived in rural camps, informal settlements and urban slums all over Sudan. This represents the highest amount of displaced persons in the world today (UNEP 2007). The Darfur region of Sudan is a complex environment, characterized by extreme environmental variability and frequent droughts, a diverse ecology and a system of livelihood integration between farming and Pastoralism that has existed for centuries. The region has a long experience of conflict, including wider civil wars, transnational conflicts, inter-tribal conflicts and the Darfur conflict of the past 20 years, which prompted a huge international humanitarian aid programme from 2004.

1.2. Problem statement:

Mobility, especially of herds, remains important for pastoral populations and their way of life. However, insecurity and, more recently, climatic changes continue to curtail herd mobility, especially access to water and pasture resources. Internally displaced people (IDPs) are increasing phenomenon have been affecting the livelihoods of pastoral community In Eastern Dar four state for last years. The increasing settlements for internal displacement persons have social as well as environmental implications, compounded by the limited provisioning of social amenities in the area. In order to assess the impacts in the study area, there is a need to collect information and make a balance between pastoral mobility and an ongoing process of resettlements for internally displaced people.

1.3. Justification of the Study:

The negative influence on the pastoral livelihoods includes poorer nutrition, inadequate housing, lack of clean drinking water, and higher rates of certain infectious diseases. In terms of ecology, the internally displaced leads to higher density of humans and animals, and thus often higher pressure on pastures in the study area.

1.4. Objectives

1.4.1. General Objective

Assessing the impacts of internal displacement People on pastoral Communities' livelihood in East Darfur state.

1.4.2. Specific Objectives

- 1. To identify the social-economic effects of internal displaced persons on pastoral community livelihoods in Aslaya locality.
- 2. To assess the effect of internal displacement persons on Food Security and income generation of pastoral community in the study area.

3. To assess the effects of internal displacement persons Range land resources in the study area.

1.5 Research Questions:

- 1. What are the social-economic impacts of internal displaced on pastoral community livelihoods?
- 2. Does the internal displacement person have negative impacts on food security and income generation of pastoral community?
- 3. What are the effects that caused by internal displacement persons on rangeland in the study area?

CHAPTER TWO

LITERATURE REVEIEW

2.1. General

In the past two decades, an alarming number of people worldwide have had to abandon their homes and livelihoods in the face of civil conflict, natural or economic disasters, or other threats. As they do not cross an international border, they are considered 'internally displaced persons' (IDPs) and not refugees. Figures show that the number of IDPs has risen steadily since the early 1980s and people are now displaced in 56 countries. An accepted estimate is that 20-25 million people are internally displaced due to conflict and another 25 million from natural disasters. By comparison, there are approximately 12 million refugees worldwide (WFP, 2000a). Forced displacement presently affects over 60 million people worldwide, of which over 38 million are internally displaced persons (IDPs). The number of refugees and IDPs continues to grow and the length of stay in host countries has been on the rise in recent decades. In 2007 an estimated number of 5.4 million internally displaced persons (IDP) lived in rural camps, informal settlements and urban slums all over Sudan. This represents the highest amount of displaced persons in the world today (UNEP 2007).

2.2. Displacement in World:

More than 40.5 million new people became internally displaced by conflict and disasters worldwide during the course of 2020. Of these people, 30.7 million were displaced by violence and conflict, and 9.8 million by natural disasters. In total, there were more than 55 million IDPs worldwide as of 31 December 2020, the highest number ever recorded. The top three countries with the largest number of IDPs due to

disasters in 2020 were China, the Philippines and Bangladesh. The overlapping effects of conflict and climate change as drivers of displacement continued to rise, as 95 per cent of new conflict displacements in 2020 occurred in countries vulnerable to climate change.

2.3. Displacement in Africa:

The top three countries with the largest internally displaced populations due to conflict and violence in 2020 were the Democratic Republic of the Congo, Syria and Ethiopia, as in previous years. Violence and conflict continued to drive displacement in the Sahel, particularly in Burkina Faso, and reached unprecedented levels in Mozambique.

2.4. Internally displaced persons (IDPs) in Sudan:

The humanitarian situation in Sudan deteriorated significantly in 2021, as inter-communal violence intensified and the number of internally displaced persons (IDPs) increased to 3.2 million. Around 442,000 internal displacements were reported during the year, more than five times the figure for the previous year and the highest since 2014. The increase was mainly the result of the escalating violence, but better access to affected areas also improved the quantity and quality of data available, painting a more accurate picture of the displacement situation. The Darfur region of Sudan is a complex environment, characterized by extreme environmental variability and frequent droughts, a diverse ecology and a system of livelihood integration between farming and Pastoralism that has existed for centuries. The region has a long experience of conflict, including wider civil wars, transnational conflicts, inter-tribal conflicts and the Darfur conflict of the past 20 years, which prompted a huge international humanitarian aid programme from 2004. There are 2.5 million internally displaced people (IDPs) in Sudan. Most of them are in Darfur, South Kordofan, and Blue Nile, which have been the epicenters of conflict over the past 17 years. These are also the areas where 52 percent of people in need are concentrated. https://reliefweb.int > report > Sudan

2.5. Displacement in Darfur:

About 2.5 million people live in displacement camps across Darfur, according to U.N. refugee agency UNHCR. Darfur residents complain that the militias continue to carry out attacks on villages and camps. Some 430,000 people have been displaced in 2021, a four-fold increase over 2020. According to the United Nations Sudan Information Gateway (UN Sudan) the three states of Western-, Northern, and Southern Darfur hosted more than 2.6 million IDPs in October 2008, with a majority living in camps and informal settlements.

2.6. Definition of Internal Displacement:

Internally displaced persons (IDPs) are people who are forced to flee their homes due to armed conflict, generalized violence, violations of human rights, or natural or human-made disasters, but who remain within their own country. https://en.m.wikipedia.org

Environmental degradation and conflict in Darfur:

East Darfur lies in a region that suffers from the significant impact of environmental degradation. Over grazing, deforestation and over cropping have caused the poor soil in the area to deteriorate further, and consequently, yield has deteriorated. However, due to land use/land cover change, most rural inhabitants have become to crop with environmental hazards. This has led to competition and over exploitation of natural resources. Subsequently, conflicts and war have merged and most rural inhabitation have abandoned their homelands and become internally displaced or refugees. The conflict in Darfur has greatly accelerated the processes of environmental degradation that have been undermining

subsistence livelihoods in the area over recent decades. On the other hand the negative environmental consequence of the conflict more generally, and of the establishment of massive IDP camps specifically, are well recognized (UN, 2013).

2.7. Major Factors cause displacement for People:

The majority of people displaced by extreme weather disasters and other impacts of climate change remain within their own countries, while some may be forced to cross borders. Some people remain permanently displaced, while others are eventually able to return home. There are also those who may wish or need to move, but lack the resources to do so and become 'trapped'. More often than not, displacement is a result of multiple factors and it can be difficult to isolate one driver from another. Underlying poverty, the growing number of people living in exposed areas and a variety of other factors all contribute to the growing risk of displacement. The line between 'sudden' and 'slow' onset changes can also blur. For example, sea-level rise increases the risk from tropical cyclones, as storm surges are exacerbated by higher sea levels. When extreme weather disasters become more and more frequent, conditions may become increasingly hostile over time. Climate change may also exacerbate the conditions driving conflict and violence, as people are forced to compete for dwindling natural resources. Moreover the random activities of humans such as agricultural expansion discounts pastures, Land ownership, Lack of water resources, decreasing of ranges which consider as causes of conflict which leads to displacement.

2.8. Impacts of internal displacement on pastoral community:

2.8.1 Impact displacement on socio-economic of Pastoralist:

Socio-economic disruption that has occurred in the current conflict is that people, especially those who are displaced or in areas of insecurity, are not able to access their usual markets or areas of economic activity. New or pre-existing social networks have to adapt patterns of buying and selling. This has expanded the network of interlocutors that connect products to traders. The expansion of this network not only increases the cost of doing business and decreasing purchasing parity but also creates disincentives for some people and reduces market access for the vulnerable. Thinking about changes in market access highlights that the most vulnerable people are those without extended relationships of kin and with limited stocks of livestock. During the resettlement programs women were particularly affected by changes to family structures and access to cattle.

2.8.2. Impact of displacement on Environment

Displacement itself can have environmental impacts, causing environmental degradation. Rapid urbanization or poorly managed refugee camps and IDPs settlements can put pressure on scarce water, energy and food resources, and lead to uncontrolled waste disposal.

2.8.3. Impact of displacement on pastoral livelihood:

The extent to which pastoralists can become internally displaced is a subject of debate. It is a reality, however, that changes in pastoralists' external environment – due to effects of climate change, drought, insecurity or conflict – may lead to decreasing access to land, resources and markets. This will, over time, cause pastoralists' natural living space to shrink or to become inaccessible. When their coping capacities are

exhausted and "normal" migration is no longer possible, pastoralists fall into a gradual process of impoverishment and become internally displaced. Poverty among pastoralists is intrinsically linked to loss of livestock and displacement. It puts their safety and security at stake, strips them of their social networks, cuts them off from their livelihoods and production systems, separates families and disrupts education. There is a 'tipping point' at which pastoralists fall from voluntary migration into forced displacement. The line between voluntary movement and forced movement is not always easy to draw. They should be considered as two poles at each end of a continuum, ranging from "normal" nomadic movement and adaptive migration to forced displacement. This continuum is characterized by growing pressures and fewer choices, with a steady increase in people's vulnerabilities and a decrease in their ability to recover from changes in their external environment.

This lowered resilience creates special needs and puts basic human rights, such as those to food and water, health, physical security and education, at risk. It also means that most pastoralists will not have enough rebound capacity to restore their lives. Essentially, the story of internally displaced pastoralists is a story of impoverishment, decreasing resilience and disenfranchisement of their human rights.

https://www.odi.org/sites/odi.org.uk/files/odi-ssets/publications-opinion-files/4848.pdf

2.9. Pastoralism:

Pastoralism is a production strategy, in which people raise herd animals as a means to earn a livelihood. Pastoralism relies on the availability of water, pastures and labor to thrive—with Water as the determining factor. The inadequate rainfall limits crop-farming activities so that the people are left with Pastoralism or nomadic Pastoralism as the most feasible and consistent viable livelihood. Pastoralism develops to get the most out of

the opportunity provided by a surfeit of water and other resources in good seasons, and accepts losses in low seasons. They realize this by increasing livestock numbers in good seasons to maximize available resources and carry over enough healthy stock to provide for subsistence during the dry seasons. Pastoralism is also a highly flexible system. According to Umar (1994), the practice has evolved over time as the most efficient means of exploiting transient water under ecologically marginal conditions, and prevailing technological and economic situations. The pastoral resource-use pattern is characterized by risk-spreading and flexible mechanisms, such as mobility, communal land ownership, large and diverse herd sizes, and herd separation and splitting. The mixture of livestock is a system to manage risk. Small stock like goats and sheep, although more vulnerable to disease when compared with large stock, are cash buffers, for they have a high reproduction rate and they lactate during dry periods. Goats and camels can survive longer dry periods than cattle and sheep. The composition of livestock per family is determined by factors like personal preferences, ecological conditions, family size and available labor. (Eileen, 2005)

Pastoral community plays a key role in feeding the population through the supply of milk and meat and in agricultural production through the provision of manure and animal traction. It helps to generate currency through the export of live cattle and products, such as leather and hides.

https://en.m.wikipedia.org

2.10. Importance of Rangeland to Pastoral Community in the World:

2.10.1. Economic Importance

The rangeland provides one of the most important resources of the world's arid and semi-arid areas. 3.5 billion hectares of the earth's land is

now pasture or rangeland. This area is 26% of the total and it over 70% when we refer to agricultural land (Parlini. Et al, 2003). The total digestible nutrients produced by the world's rangelands could be measured in grain crop equivalents, the results would be outstanding (Norris, 1972). These are the region's rangelands which provide ninety or more percent of the food consumed by millions of head of cattle, sheep, goats, and wildlife (WRI and IIED, 1990). Semi-arid and arid rangeland systems are found in many parts of the world. They are ecologically very sensitive systems, yet they are of great local economic importance (Oba and Lusigi, 1987). The Situation in the Near East and North Africa Region most of the land area in the region (62%) is classified as rangelands (FAO, 1991), and half of these rangelands are desert and semi-desert, with a limited contribution to controlled or reliable livestock production. The rangeland-dominating arid and semi-arid areas provided primary products (grasses, legumes and shrubs) which were converted into animal protein. Use of the resources for other purposes, such as fuel and building material, intensified with the increase in human population and with Sedentarisation .The Near East, rangelands provide more than 90% of the nutrients consumed by 302 million head of domestic livestock; cattle, sheep, goats, buffalo, camels, horses, mules and asses (Norris, 1972). Sudan is the first among Arab countries according to the number of livestock contributing, with 12% from the total production, and 50% of agricultural production (Daragetal, 1995).

2.10.2. Ecological Importance

Rangeland plays a significant role in ecological stability on a global scale and their importance nowadays also comprises landscape diversity over large territories. Rangelands are increasingly recognized as important for their environmental and recreational amenities. Because they are managed much less intensively than many other types of agricultural

lands, rangelands are seen to represent closer approximations to natural ecosystems. Rangelands are managed for a variety of outputs; in recent years, the contribution of natural rangeland systems to biological diversity has become increasingly recognized. Rangelands provide two major values, those associated with use (use values) and those realized in the absence of direct use (existence and option or nonuse values). The major commercial use (use values) of rangelands is livestock grazing to produce food, fiber, and draft animals. Other, less significant, commercial uses such as wild game and bird hunting also are associated with rangeland habitats. In addition, rangelands are viewed as important contributors to watersheds: because rangelands usually have lower rates of soil erosion than cropland, they enhance water quality. Further, the natural system that exists on well-managed rangelands makes them increasingly recognized as places for non-consumptive wildlife associated recreation. Rangelands also produce intangible products (or nonuse values) that are the result of use. These products include natural beauty, open space, and the mere existence as a natural ecosystem (NRC, 1994). Others emphasize biological diversity and the associated potential array of products and services as a distinct intangible product (West, 1993).

2.10.3. Social Importance

There are an estimated 190 million pastoralists in the world. Mobile Pastoralism is an adaptive response to an inhospitable arid environment. Nomadic Pastoralism postdates either agriculture or domestication of animals. It is a highly specialized form of land use which arose in the steppe regions of the Old World and has continued there until the present (NGO, 2002). Pastoral nomadism, the major land use of the region, is adapted to variable forage supplies and water distribution. The ability of nomadic people to survive in these marginal lands is attributed to their

opportunistic mobility and diversified livestock husbandry (Oba and Lusigi, 1987). Africa contains a substantial portion of the world's arid and semi-arid rangeland, extending over three million square kilometers. These arid zones support an estimated 16-22 million pastoral population (Widstrand, 1975) and nearly 500 million head of livestock (FAO, 1975). There is much argument in favor of optimism with regard to the future of the rangelands in the arid/semi arid areas (Sidahmed, 2001). The nomad in Sudan is about 11% of the total Sudan population (2.5 million people), while the pastoralists constituted about 21% of the total Sudan population (Daragetal, 1995).

2.11. Patterns of pastoral community in Rangeland Utilization

2.11.1Nomads

Pastoral nomadism, the major land use of the region, is adapted to variable forage supplies and water distribution. The ability of nomadic people to survive in these marginal lands is attributed to their opportunistic mobility and diversified livestock husbandry (Oba and Lusigi, 1987). Exclusive pastoralists are livestock producers who grow no crops and simply depend on the sale or exchange of animals and their products to obtain foodstuffs. Such producers are most likely to be 'nomads. Their movements are opportunistic and follow pasture resources in a pattern that varies from year to year. This type of nomadism reflects almost directly the availability of forage resources; the patchier these are, the more likely an individual herder is to move in an irregular pattern (Blench, 2001).

2.11.2Semi Nomads

Semi nomadic system implies that stock owners have permanent place or semi-permanent place or residence, usually near to land on which his family may cultivate crops, but travel with the herds for long period away from their settlement (Humphreys, 1991).

2.11.3 Sedentary

Settled pastoralists are those cultivate sufficient areas to feed their families from their own crop production. The key interaction between the sedentary and mobile communities sharing the same ethno linguistic identity with the pastoralists they often act as brokers in establishing cattle-tracks, negotiating the 'camping' of herds on farms, which potentially exchanges crop residues for valuable manure, and arranging for the rearing of work animals which adds value to overall agricultural production (Blench, 2001).

2.12. Mobility of pastoralists:

Pastoralists didn't move freely when conflicts are ongoing. For those whose movements are not affected, the reasons given ranged from the fact that they are used to such conflicts, to availability of enough security, and no threat of being killed. Those who said their movements are interfered with gave fear as the main reason. During raids and fights, people get killed or injured. Death and injuries are a cost to households, for they interfere with the flow and allocation of resources for ranges, and have high chances of initiating new conflicts through revenge. Pastoralism thrives on mobility and involves the separation of livestock into many units to move to different places in search of resources for their survival. It also involves milking and individual animal attention to watch out for ailing ones and treat them. So if some people are withdrawn, especially in the dry season to go and fight instead of taking livestock to faraway places in search of water.

2.12.1 Impact of mobility on grazing and food security:

Pastoral mobility is part of coping strategies to prolonged drought, which affects pasture and water. Mobility is one of the traditional coping strategies based on movements within and across geographically distributed grazing units. Pastoralists' way of living is reliant on keeping of livestock, and often sustained through regional and national migration. Mobility is important for pastoralists living in dry land areas, as they move in search of water and pasture. In this way, mobility is essential to reach the most optimal production in times of unstable climate and drought. Mobility creates serious problems to the livestock on the way towards destination areas. For instance, movements over long distances weaken their body, which lead to low production of milk (Cochrane et al., 2005). Also, moving livestock away from pastoralists' home areas increase the risk of livestock loss by force, or through the exercise of power by local elites and/or government officials, which can also result to food insecurity as they lose their source of food, i.e., livestock (Turner, 2011). Pastoralists' movements were from their areas of residence to destination area where they could find pasture and water. However, it should be noted that, sometime, they did change their mobility routes due to reasons such as heavy forests, wild animals, pests and diseases. During mobility, pastoralists reserve milk, meat, skin, ...,etc to the market.

CHAPTER THREE STUDY AREA

3.1: Location:

East Darfur state and its capital, El Daein, is located in the southwestern part of Sudan. Between longitudes 25-27E, and 10-13N and it is one of the Border States with the state of south Sudan .the people practice agriculture and grazing. It is bordered to the east by west Kordofan state and to the northeast by North Darfur state to the west, the state of south Darfur is located at an altitude of 1476 feet above sea level and is about1135Km from the capital, Khartoum .The state's area is estimated as353,000Km2 and its population is 2.2million.

3.2. Topographic:

The topography of the area is mainly undulating low-lying plateau with general elevation less than 480 meters above sea level.

The topography normally leveled to gently undulating with slope rarely exceeding 6 %,(Hunting Technical Service, 1975) There are no wadis crossing the area except Bahre- Arab and its tributaries that flow in to it. Although these khors and wadis are seasonal some of them retain surface and sub _surface water where shallow wells are dogged for drinking water for both human and animal.

3.3: Soil:

The northern and eastern sectors of Edaein area is dominated by sandy soils and the clay soils in the central and middle sectors. The sandy soil is locally know as (GOz), represented by the GOz land system, and the second type of the soil is the Baggar land system. These two types of land systems merge gradually through transitional zone. The soil in the upper 60cm reflects the changing dominance in geomorphic processes to

Aeolian from northeast to south (Western Savannah Agricultural Development Project, 1986).

3. 4: Climate:

East Darfur state is located in the tropical region. The climate of the area is described as semi -arid with rainfall being seasons during the year namely: wet rainy summer (July _October) cool dry winter (December _February) and dry summer (March _June). Also the region is classified ecologically as low rainfall woodland savannah on sand and clay soil `Temperatures range from 15C-40C. Rain rates in the north range between 200-300mm, while the center is 300-500mm and the south 500-900mm. There are water resources in the state represented in the Arabian sea in south of the state, Wadi Buri and wadi Al-kua in Shaeria locality, addition to the states location in the Baggar underground basin.

3.5. Agricultural Sector:

East Darfur state is characterized by the cultivation of groundnuts and millet in the north and east of the state and the presence of good sandy soil .As for the medium, there are varying proportions between peanuts, millet and maize according to the type of soil, which range between sandy and gully, where the corn crop enters the area around the valleys and depressions. The south of the state is characterized by the different types of sorghum, all kinds of fruits, vegetables, spices and legumes, in addition to different types of fodder.

Land suitable for agriculture and grazing in state: the total arable area is 13 million acre and is distributed as follows: cultivated lands (4.09000) acre, while the pastoral lands (4million acre).

3.6. Livestock:

East Darfur state is a pastoral state of the first degree, as 43% of the population is pastoralist in another way, and it is state rich in large numbers of different types of livestock, where we find zebu (Baggar Cows) with good qualities that keep pace with climate and method of Breeds such as Friesian (milk) and samtel (meat), as well as the Hamri sheep, which is one types of desert and Nubian goats. Recently, some breeds have been introduced through the veterinary authorities and the people, such as the Boer and Shami, and it has an estimated number of Camels, which represented the state's livestock wealth 20% of the livestock in Sudan. The state is considered the most important of livestock in Sudan, as it covers the domestic and export market. ttps://eastdarfur.gov.sd

3. 7. Population activity:

The people of the state practice mainly agriculture grazing and grazing, and raising animals such as cows, sheep, goats, camels and horses .https://eastdarfur.gov.sd

CHAPTER FOUR

MATERIALS AND METHODES

4.1 General

The study was conducted in Aslayia locality, East Darfur State, where the internal displacement mainly effect on livelihoods of pastoralist communities in the study area.

4.2 Primary data:

The primary data were including the following:

4.2.1. Field observations:

General survey and visits to the study area were conducted to assess the visual indicators or aspects such as Rangeland resources, vegetation cover, pattern of range uses, types of livestock owned by pastoralist, besides the general characteristics of internal displacement and pastoral communities in the study area.

4.2.2. Households Interviews:

This is was based on structured questionnaires covering different parameters

I: Selection of the Area:

Three villages namely (ALgazala gawazat, Um warigat, and Maaley) were randomly selected from the total number of villages which are about (15) villages, representing a locality, because were the most severely affected villages by internal displacement and were characterized as a suitable rangeland areas, besides similarities in socio-economic activities and livelihoods levels of pastoral communities (Herding animal, Practice of agriculture, charcoal production, and other activities).

II: Sample Size:

Random Sample was applied as a sample technique to determine a sample size. The sample sizes were selected according to the total number of all households in these villages. The sampling unit in the household survey was the household head. A total of (60) of respondents were chosen which constituted about 5% from the total number of households in village for interviews.

4.3 Secondary data:

The information's about the socio economic aspects of pastoralists and internal displacement, pattern of rangeland users, herding, types of structure, factors caused rangelands degradation and changes in livelihoods of pastoralist communities were collected from different documents which were included the scientific papers, researches, reports, text books..... etc.

4.4. Data analysis:

Quantitative data was analyzed using statistical Package for Social Sciences (SPSS). The main statistical analyses applied were frequency and descriptive statistics..

CHAPTER FIVE:

RESULTS AND DISUSSIONS

5.1 Socio-economic characteristic of Respondents

From the Figure (1) the majorly of respondent were male which constituted about 66.7% while the female about 33.3%, The result should the practices of resources depended mainly on male in the study area ,while we found that female have play deferent roles such as lock for children and practice of agricultural and selling livestock products such as milk and yoghurt.

Figure (1) Gender composition of responded:

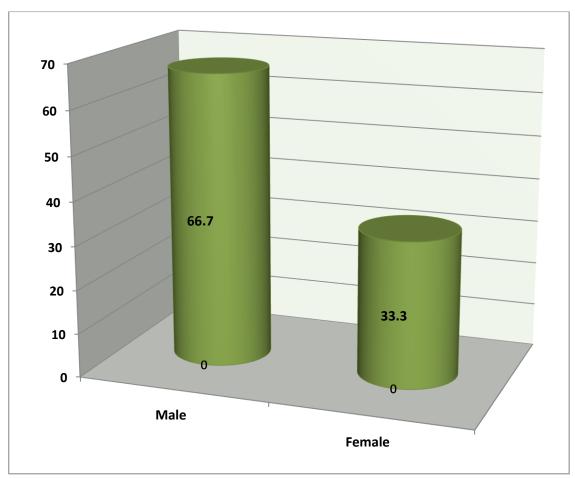


Figure (2) Distribution of Age Groups of Respondent:

The result in the table (1) shows that there very different among the respondent's ages about 40% of the respondent their ages range between 20-30 year old, while about 26.7% of them their ages between 30-40 year, and more than 50 year of respondents presented 21.7%, also 40-50 years represent 11.7%, the highest parentage among there respondent in the age of youth(20-30) and (30-40) years, this is because they respondent the head of the family study area and depends on them all activities such as agriculture ,grazing and other, while the elderly has role in settling tendencies and solving problems that arise in the areas. The results also agree with Eldoom. (2021) who reported that ages of pastoralist range between 30-40 years these indicate that pastoralist community structure depend, on youth group for look after grazing with animal in difficult and remote area.

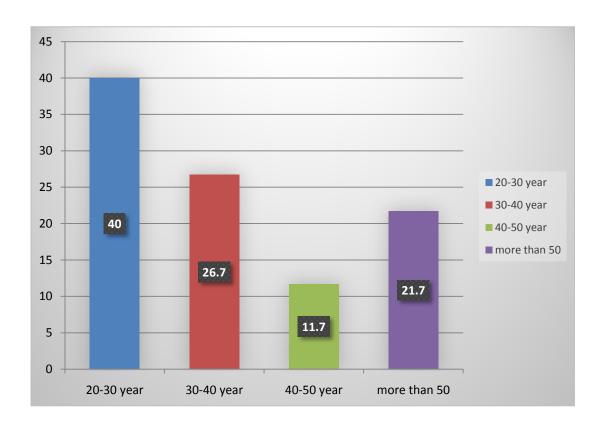
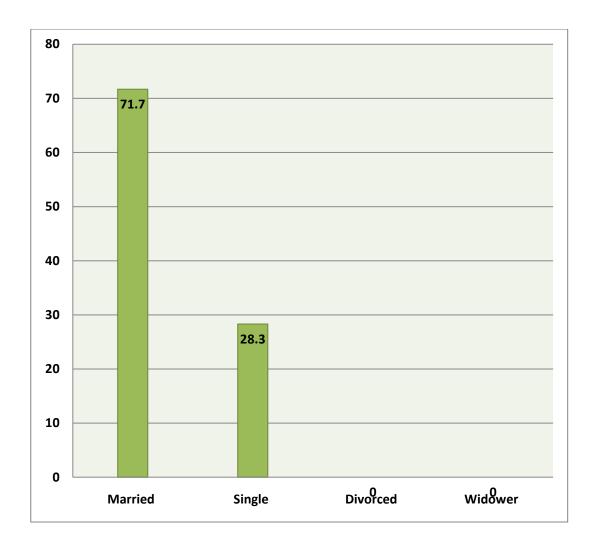


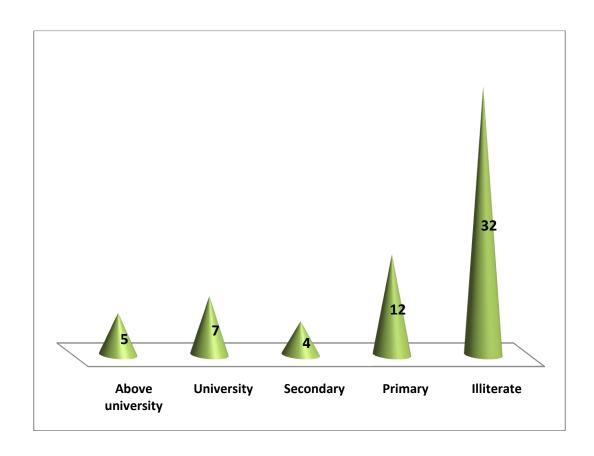
Figure (3) Marital status of respondents groups:

In figure(3) Blow the study notice that the percentage of married is higher (71.7) then the unmarried (28.3), and this indicates the customs and traditional of pastorals of area ,such as early marriage ,and young do everything in the family, While the children and women ,so that is their responsibility to grazing and cultivation in the nearby places.



Figure(4) Education level:

It is clear from the results in the figure (4) that the level of the illiterate is higher compared to other level, and this is an indication of the lack of awareness and importance of education among the most of pastoralist, as well as the limited of schools, the lack teachers and the remoteness of schools especially in Uwergat and El maalye villages, as for the university and post university levels those represent as employees in Research station at Al-ghazala jawazat area.



5.2 Effect of displacement on pastoral communities life:

It is noted in the Table (1) that the percentage of stable people is higher than other, and this is an indication that the pastorals societies tend to focus on the cities around them due to the dimension of insecurity, the distance of water points and the agricultural expansion at the expense of the pastures while the displaced their percentage became few as result of the area because the conflicts have diminished.

Table (1) The current situation of the respondents:

The current situation	Frequency	%
settlement	51	85
Displaced	9	15
Total	60	100

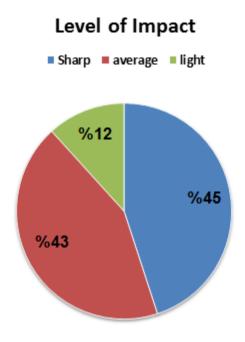
Table (2) The Social effects of internal displaced people on the pastoralists:

The results in the table (2) indicated that displacement has clear social effects, such as the poor education, which highest percentage of 38.3%, followed by instability, which represents 36.7%, as for other reasons it is 11.7%, also the spread of disease and the lack of water sources, it is an equal percentage of 6.7%, these are clear effects as result of internal displacement in the area.

The social effect	Frequency	0/0
Poor education	23	38.3
The spread of disease thefts	4	6.7
Shortage of water sources	4	6.7
Instability	22	36.7
Other	7	11.7
Total	60	100%

Figure (5) The Environmental impact of internal displaced people in study area:

From figure (5), the majorly of respondent confirmed the existence of environmental impact in the area result of internal displacement, and these effects are the excessive cutting of trees (fire wood, coal and building materials) and frequent fire on agricultural and pasture land, lead to drought and desertification, and especially in the northern part of the area. Where 45% said the impact is sharp while 43.3% said is average and 11.7 is said the impact is alight.



5.3 Effect of displacement on vegetation cover in study area

The natural vegetation cover of the study area commonly consists of shrubs and grasses mix together with numerous large trees. Furthermore, respondents mentioned that natural rangeland and trees were considered as major sources of feed for livestock in the study area.

The result in table (3) revealed that about 68.3% of respondents agreed that the vegetation cover were dense before the arrival of displaced the in the study area, while, about 55% of respondents confirmed that there were wide range of environmental impacts after arrival of displacement people on vegetation cover. Trees were felled to make way for shelters and other infrastructure, besides uses trees as fuel for cooking, heating and lighting. This findings agreed with Kanyamibwa (1998), in Rwanda who stated that, the forested areas suffered significantly from clearing mainly due to people displacement, new settlement establishment, and new agricultural land foundation. Moreover, respondents mentioned that greatly affected communal grazing resources; feed supply form natural pasture was become inadequate both in quality and quantity in settled areas. This attributed due to the expansion of agricultural, lack of water sources and change in patterns of grazing system, these leads to disappearance of the lack of some desirable plants such as *cenchrusspp* (Haskanite), Eragrostistramulla (Albnuo), Aristidaspp (Algou), Andropogongayanus (Abu ALRakhees), and the spread of the undesirableplantssuchasidecordifolia (Alnayada) alotrpisprocera (oshaer) Sennatorassp (koale).

Table (3): The status of vegetation cover before and after arrival of internal displacement on in the study area:

vegetation cover Status of	Before		Aft	ter
Dense	Frequency	%	Frequency	%
	41	68.3	11	18.3
Medium	19	31.7	16	26.7
Low	0	0	33	55
Total	60	100	60	100

5.4 Activities that Practice by the Pastoralist besides Grazing

Figure (6): Patterns of Grazing Practice by the Pastoralist in the study area:

As shown in Figure(6), the study results revealed that about 65% of the pastoralist were practice grazing though semi sedentary pattern, while about 23.3% of them were practice as nomadic grazing system and those who depend on sedentary system were constituted about 11.7%. These result indicated that an increase settlement and great change in the livelihoods of the pastoral communities life style, that lead most of them practiced others activities such as agriculture, grazing and trade in the study area. This result was confirmed with (Galvin et al., 2004), who cited that Pastoralists nomadic mobility lifestyle enables them to access water sources and productive patches of land for forage and move away from disease. In the range lands the pastoralists have dry and wet season grazing areas where they have distinct calendar of movement between these areas.

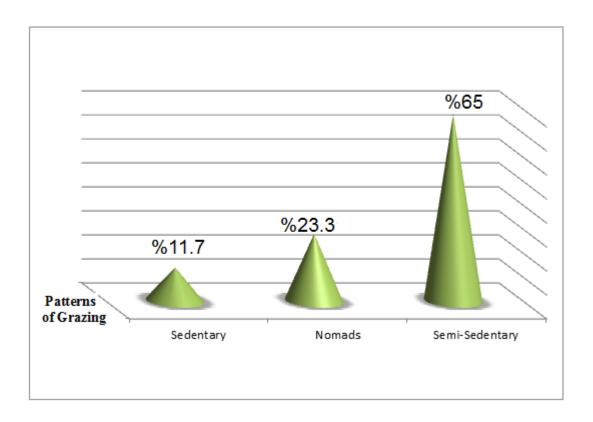


Figure (7) Type of livestock owned by Households in the study area:

The results of analysis in Figure (7) showed that about 45% of the pastoralist owned cattle while 25% of the owned gouts, and only about 21.7 of the pastoralist owned sheep and few of them owned others types of animals such as camels, horses and donkeys. The majorities of respondents were dominated by cattle species who called (Baggar system) that practice grazing as nomadic or mobile systems (seasonal movement) according to available of range resources in the study area, because the pastoralists need seasonally varied grazing lands and water sources for their different livestock species. Also, the study revealed that goats and sheep animals are kept as a source of food and money that take care of their basic needs. While other animals such as camels and horses were used in some traditions customs related to marriage, besides preparing the land for agricultural activities, while the donkeys are used in plowing and fetching water. This result was in line with (Deresa et al., 2015) in Ethiopia, who announced that there are several

reasons that a household keeps livestock. The primary purposes of herding livestock as a form of capital accumulation serving as security against emergencies, to fulfill social obligations such as gift, and provision of dairy and meat products, which have a role in the household income.

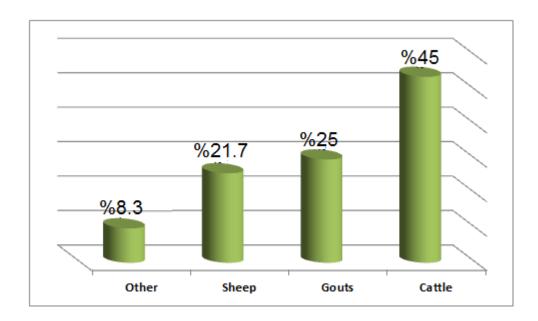


Figure (8) The impact of internal displacement in number of animals in study area:

According to the result in figure (8) that more than 73% of the respondents confirmed the decrease in the number of animals in the study area, while 15% of them have constant in their numbers, and about 11.7% of them said that there is an increase. Although cattle were the dominant livestock species in the study area, the majorities of respondents mentioned that they were involved in the other alternative sources on income of small private business. More than 70% of respondents said the numbers of livestock species were decrease in the area after the arrival of displaced people. This may be attributable to the major problems in terms of rangeland such as reduction of communal rangelands for livestock

grazing, agricultural expansion, inadequate feed supply, limitation of livestock mobility and livestock disease under increased resettlement.

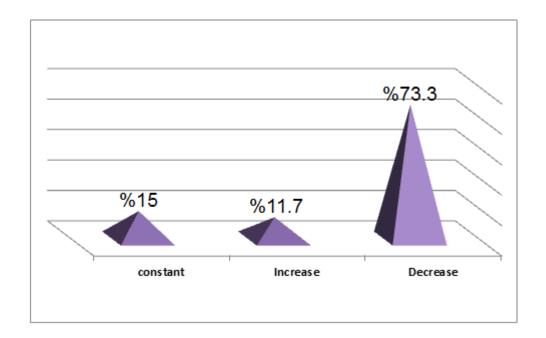


Table (4): Sources of water used by Households in the study area:

The result in table (4) shows significant differences among pastoralist's respondents according to water sources used (77%) said they used dinkies more than other water sources for drinking to the humans and animals, due to the characteristics and nature of the area from seasonal rains and along dry season. This may be due to fact that, dinkies can keep water for long time (21.7%) mentioned that they used wells these may be during shortage rainy season or in dry season grazing areas, while (3.3%) said they use surface source such as Wadis .

Sources	Frequency	%
Dinkies	45	75
Wells	13	21.7
Wadis	2	3.3
Total	60	100

5.5. Change in land use and its relation with internal displacement:

Figure (9) Sources of income for before the displacement people in the study area:

According to the results in the Figure (9) confirm that about 66.7% of the respondents depend mainly on grazing animals, while 23.3% of them depend on agricultural activities, also about 6.6% depend on trade for animals products such as milk and yoghurt and only a few of them 3.3% confirmed they depend on other sources of income, such as the trade of firewood, charcoal, leather, local handicrafts and sale of water.

The highly percentage of the respondents depend on grazing animal as sources of income this indicates that pastoral community in the study area were settled and herding animals in addition to agriculture activities in order provide fodder during the summer season. It also reflects their stability due to the high percentage prefer to send their children to schools.

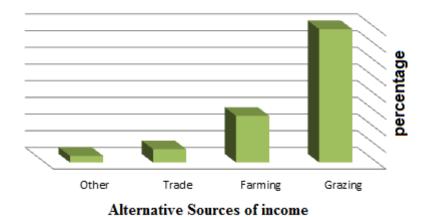


Table (5) Alternative Sources of income after arrival of internal displacement in the study area:

From the result in table (5) most of the Respondents were reported that they engaged in multiple sources of income generating activities to support their livelihoods. About 66.7% of them confirmed they increase depend on agriculture activities rather than animal grazing and this is clear reflect the change on livelihoods systems of pastoralist in the study area ,where the semi sedentary and nomadic system has changed to complete stability in the out site of the cities . 10% of respondents depend on relief form organizations as sources of income, while 6.7% of them work as governmental employees in ALgazalagawazat, research station. About 5% of them work as traditional gold miner in order to increase their income and few of them have small private businesses which represents about 11.6% likesale forest products such as firewood , charcoal, building materials, and water.

Changes in sources of income	Frequency	%
Agriculture	40	66.7
Relief	6	10
Employees	4	6.7
Miners	3	5
Others	7	11.6
Total	60	100

5.6 Main causes of conflicts in the study area:

The study found that 38.3% of the pastoralists indicated that the direct and main causes of conflict were the land ownership and the un registration of rangeland, beside these the absence of demarcation and mopping of the animals routs these due to the of coordination between the institutional related to land use, while 21.7% affirmed that the scarcity and shortages water use drinking humans of animals specially in the summer season that lead to the conflict especially the water point that exploited used by different users, pastoralist Also the study found the pastoralists explained that the sedentary of the Nomadic pastoralists in explanation of range resources water and fodder indention of the expansion agricultural and other in area of range lands.

Table (6): The causes of conflicts in the study area:

Causes of Conflict	Frequency	%
Land ownership	23	38.3
Decrease of pasture	16	26.7
Water sources	13	21.7
Agriculture expansion	2	10
Others	6	3.3

5.7 :Common places where conflict occurs in the study area:

The results in table (7) indicate that the most places where conflicts occur are water points, which represents 45% and about farms represents 30% while the Routes represents 10% and grazing areas presented 8.3% while the other 3.3%.

The majorities 45% of the respondents agreed that conflict that occurs between the pastoralist and farmers these during the practice of grazing process and the pastoralist about (10%) reported that animals' routes were one of the majority areas where conflicts were broking.

These due to expansion of agricultural and block rout by farmers during the range season, also study found the respondents confirmed that the areas of water point led to the conflict because of large numbers of animals, lead to the frequency of conflicts between different pastoral groups, in addition to conflicts occur between IDPS and Pastoralists.

Table (7) The most common places where conflict occurs:

Common Places of Conflict	Frequency	%
Water points	27	45
Farms Lands	18	30
Grazing area	5	8.3
Routes	6	10
Other	2	3.3

5.8: Groups of Conflicts in the study area

According to the result in table (8) which showed that the most conflicts occur between farmers and pastoralist ,which is constituted about 75%, while it occurs at rate of 16.7% between internal displaced people and herders, and this occurs as result of theft and only about 8.3% sometimes broken between the pastoralist themself

As stated by the respondents, the majors drivers of conflict that exist in the study area between different ethnic groups are competition over, and access to, natural resources and mostly involve conflict between farmers and pastoralist due to entrance of pastoralist to farm boundaries, especially at the beginning of harvesting season that lead to damage the crops. Also the block of livestock routes are major causes of the broken of pastoralists and farmer conflicts in the area. Other dominant types of conflict include disputes over water sources, animal thefts between pastoralists themself.

Table (8): Groups of conflicts that occur in the study area:

Groups of conflicts	Frequency	%
Between Farmers and Pastoralists	45	75
IDPS and pastoralists	10	16.7
Pastoralists and Pastoralists	5	8.3
Total	60	100

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6-1Conclusions:

- The study concluded that majorities the respondents before the arrival of displaced people to the study area, highly percentage of the respondents depend on grazing animal as sources of income this indicates that pastoral community were settled and herding animals in addition to agriculture activities in order provide fodder during the summer season. It also reflects their stability due to the high percentage prefer to send their children to schools
- There were wide ranges of environmental impacts after arrival of displacement people on vegetation cover through illegal cutting for trees in order to make way for shelters, infrastructure and fuel for cooking. Moreover, they have greatly affected communal grazing resources in term of feed supply form natural pasture was become inadequate both in quality and quantity in settled areas. This due to the expansion of agricultural, lack of water sources and change in patterns of grazing system.
- The majorities of respondents were dominated by cattle species who called (Baggar system) that practice grazing as nomadic or mobile systems(seasonal movement) according to available of range resources in the study area, because the pastoralists need seasonally varied grazing lands and water sources for their different livestock species. Also, the study revealed that goats and sheep animals are kept as a source of food and money that take care of their basic needs. While other animals such as camels and horses were used in some traditions customs related to marriage, besides preparing the land for agricultural activities.

- The numbers of livestock species were decrease in the area after the arrival of displaced people. This may be attributable to the major problems in terms of rangeland such as reduction of communal rangelands for livestock grazing, agricultural expansion, inadequate feed supply, limitation of livestock mobility and livestock disease under increased resettlement
- The study showed that there was sever decrease in rangeland in the study area as result of the agricultural expansion associated with arrival of IDPs which was reflected in the occurrence of frequency conflict over the use of grazing resources between the pastoral communities and other users in the study area.

6.2 Recommendation:

From the conclusions reached recommend the following:

- Priority attention should be adopted by governmental bodies and non- governmental organizations for providing necessary needs and basic service for the IDPs and sedentary pastoralist in their areas through supporting livelihoods asset, diversifying sources of income beside establishment of health center and schools.
- Practical efforts should be made by the decision —makers on targeting of education and skill development trainings towards household heads in the study area is likely to have a relatively large impact on their ability to diversify livelihood strategies. Therefore, actions to enhance education should be given into consideration by the concerned bodies.
- Expand the provision of services particularly (water point distributions) in suitable place in grazing areas in order to reduce conflicts occurs; in addition to that, the number of other water sources such as Duankies should be provide to available of drinking water for humans and livestock.

- Pastoral communities in the study area like others all pastoralists over the world are unexpected to receive IDP's so, there is need for humanitarian organizations both nationally and internationally to rise the level of awareness of the Pastoral communities about IDPs and how they could be adapt with the new situations.
- Carry out interventions should be coordinate between Pastoralist and IDPs so as to assistance in providing the prioritize services and avoid the duplicated and conflicts generated between the groups in the study area.
- Supported the traditional structures and approaches of conflict resolution processes and opinion of local leaders and elders in the pastoral community should be involved in any review of the traditional structures of governance.
- Government should ensure enforcement of rules and regulations to organize and management of pasture and water points. Also, movement into the dry season grazing zones (grazing/migration routes) should be demarcated to reduce the occurrence of conflict between nomadic pastoralist and sedentary.

References:

Blench, **H. R.** (2001). 'You can't go home again' Pastoralism in the new millennium. This version: ODI.

Darag, A. Abd le Rahim. A. and Mohamed Khiar. M. A. (1995). Range and other forage resources utilization in the 27.livestock feeding. Paper for Sudanese pastoral development. Kosti Sudan 2-5 October 1995.

Deresa, F; and **Legesse, T**; **gachew**. (2015) Cause of Land Degradation and Its Impacts on Livelihoods of the Population in Toke Kutaye Woreda, Ethiopia, Mizan Tepi University, School of Agriculture and Natural Resource, Department Of Natural Resource Management

Eileen K. Omosa, (2005). The impact of water conflict on pastoral livelihoods, the case of Wajir district in Kenya,

ELdoom, I. A. (2021). Assessment Impact of Rangeland Degradation on Pastoral Communities Livelihood Systems in Al-Salam Locality-South Darfur State – Sudan, a dissertation Submitted in partial Fulfillment of Requirement M.Sc. Degree in Range Science, Sudan University of Science and Technology.

FAO, (1975). The ecological management of arid and semi-arid rangelands in Africa and the near and middle east AGPC: Misc/31. Report of an International Conference, Rome.

FAO, (1991). Sustainable agriculture and rural development in the Near East. FAO-Netherlands Conference on Agriculture and the Environment, S-hertogenbosch, The Netherlands, 15-19.

Galvin, K; Thorton, P; Boone; R.B and Sunderland, J. 2004. Climate variability and impacts on East African livestock herders. Natural Resource Ecology Laboratory and Department of Anthropology. Colorado State University.

Humphreys, L. R. (1991). Tropical pasture utilization. Cambridge University Press. Pp73.

Kaimowitz, D. & Angelsen, A. 1998. Economic models of tropical deforestation: a review, Bogor, CIFOR.

NGO, (2002). Forum for Food Sovereignty, Policies for mobile for the Pastoralism, rangeland management, and arid lands (Draft version) Prepared workshop on mobile Pastoralism, rangeland management, and arid lands of the June 12, 2002 5:30-8:00pm Background of Pastoralism in the world.

Norris, J. J. (1972). A glimpse at the future of rangelands international.

NRC, (1994). National Research Council. Rangeland health: new methods to classify, inventory and monitor rangelands. Washington, DC: Committee on Rangeland Classification, Board of Agriculture.

NRC, (1994). National Research Council. Rangeland health: new methods to classify, inventory and monitor rangelands. Washington, DC: Committee on Rangeland Classification, Board of Agriculture.

Oba, G. and Lusigi, J. W. (1987). An over view of drought strategies and land use in Africa pastoral systems. Paper 23a March 1987.

Pardini, A. Longhi. F, Orlandini, S. and Dalla, M. A. (2003). Integration of pastoral communities in the Global economy. Rural Development and the New Rural Economy. Conference: Reinventing regions in a Global Economy. Pisa, 12-15 Gateway 4: Department of Agronomy and Land Management – University of Florence Agenzia Regionale per lo Sviluppo e l'Innovazione nel Settore Agricolo-Forestale.

Sidahmed, E. A. (2001). The rangelands of the arid/semi- Arid areas: Challenges and hopes for the 2000s1. 1 Key-note address to Symposium D: Range Management. The International Conference on Desert. (IFAD) of the UN; via delSerafico 107, 00142 Rome Italy.

UN, (2013) Developing Darfur: A Recovery and Reconstruction Strategy. Pursuant to Article 31 of the Doha Document for Peace in Darfur.

UNEP, **(2007)**, Sudan Post-Conflict Environmental Assessment. Nairobi, Kenya.

West, N. E. (1993). Biodiversity of Rangelands. Journal of 29.Range Management 46: 2-13. aspects. Unpubl. presentation, 1972. Annual SRM Mtg., Washington, D.C., U.S.A.

WFP (2000a) Reaching People in Situations of Displacement, Discussion Paper presented to March 16, 2000 Executive Board Consultation – Situations of Displacement: Issues and Experiences, Rome, Italy: WFP WFP (World Food Programme) (2000a) Reaching People in Situations of Displacement, Discussion Paper presented to March 16, 2000 Executive Board Consultation – Situations of Displacement: Issues and Experiences, Rome, Italy: WFP.

Widstrand, G. C. (1975). The rationale of nomad economy. Ambio 4(4): 146-153.

WRI and IIED (1990). World Resources Institute and International Institute for Environment and Development. World Resources. An Assessment of the Resource Base that Supports the Global Economy. Basic Books, Inc. New York, New York, U.S.A. As cited by Belk, et al., 1990A.

Website

https://reliefweb.int > report > Sudan

https://www.nrc.no

https://en.m.wikipedia.org

https://www.unep.org > story >30/6/2016

https://www.odi.org/sites/odi.org.uk/files/odiassets/

Publications-opinion-files/1644.pdfand "

https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/4848.pdf

https://en.m.wikipedia.org

 $\underline{www.internal displacement.org/global estimates..https://eastdarfur.gov.sd}$

Appendices

Appendix (1)

Sudan University of Science and Technology College of Graduate Studies

Questionnaire to collect information form the pastoral communities in Asalyia locality- East Darfur- State

M.sc Degree in Range science

Under the Title: Assessing Impact of Internal Displaced Persons on Pastoral Communities Livelihood Systems in Aslayia Locality-East

Darfur State – Sudan

(A) Socio- economic characteristics of Pastoral Communities in the
study area:
1\ Village
2\ Name
3\ Sex:
Male Female
4\ Age:
30-40 years More than 50 years More than 50 years
5\ Education level:
Literate Primary Secondary University
6\ Marital status:
Married Single Divorced Widower
7\ Occupation:
Harder Farmer Private Enterprise
Trade Farmer and harder
(B) Impacts of Internal Displaced People on Pastoral life style:
1\ what the status of your family?
Nomadic Displaced
Sedentary

2\ Describe the displaced person impact on impact your life?
Stable practice of agricultur Herds around villages
others
3\ The social impacts of internal displaced person on pastoralist
livelihoods:
Weak of education broken of diseases
Short of water
4\ Is there any environmental impact for displaced persons in the study
area?
Yes No 5\ If yes please mention the impacts?
Expansion Land Towner Insecurity
(C) The Effect of displaced persons on vegetation cover before and
after arrival of displaced person in the study area:
1\ Describe the condition of vegetation cover before arrival of displaced
to the area?
Low Medium Dense
2\ Describe the condition of vegetation cover before arrival of displaced
to the area?
Low Medium
Dense
3\ What are the main composition of vegetation in the area?
Tree Shrubs
Range plants

D) Main activities practiced by pastoral associated with grazing:
1\ Did you practice and herd animals in the study area?
Yes No
2\ What is the type of animals did you owned?
Cattle Gouts Camels Others
3\ Grazing area pattern that practices by pastoralist in the study area:
Sedentary
4\ Sources of water in the study area?
Wells Duwanki Duwanki
5\ Main reasons for blocking of animal routs in the study area
Expansion Land Towner Insecurity
6/Are there grazing plants prevalent and preferred to animals in the
region?
If yes? Remember these plants?
Are there poisonous pasture plants unpalatable to animals in the area?
If the answer is yes, what are these plants?
Livestock and activities related to grazing in the study area: (F)
Do you still practice herding as you were before the arrival of the
displaced?
If the answer is no, what are the reasons?

Describe the number of animal	s after the arrival of the displaced in
the area?	
1. Increase.	
2. Decrease	
3. Fixed	
If the numbers were decrease, ex	plain why?
(F) The Effects of internal disp	laced person on the food security and
income of pastoralists in the str	ıdy area:
1\ Alternative sources of income	and livelihoods of pastoralist
community study area?	
Gold mining	Animal trade
Vegetables	Employment
2. What are the livelihoods and	source of income that you previously
depended on in the area?	
1. Practice grazing 2. Agricult	ure 3. Agricultural crops trade 4.
Selling livestock products 5. Se	elling coal and firewood 6. Others.
3. What are the types of curren	t livelihoods?
1. Relief 2. Agriculture only	3. Employee 4. Gold Mining
5. Daily worker 6. Trade 7.	Other.
4. What are the forms of the im	pact of the displaced on the food
security of pastoral communiti	es?
1. Food is not enough 2. Not b	eing able to access it 3. Food is
unhealthy 4. Not being able to	buy 5. Low production 6. Other.

Conflicts related to internal displacement persons in the study area What are the main causes of the conflicts, in your opinion?

Land ownership
 Pasture use and decrease
 Lack of water
 Agricultural expansion.
 The stability of the displaced.
 Other.

What are the frequent Places where conflicts occur in the study area:

- 1. Water Points 2. Around the farms 3. Grazing areas 4. Animals routes
- 5. Other.

What are the types of community that conflicts broken between them?

Farmers and Herders.
 Between the Pastoralist only
 IDPs and pastoralists