

THE EFFECT OF ALTERNATIVE LIVELIHOOD STRATEGIES ON SOCIAL AND ECONOMIC OUTCOMES OF PASTORAL COMMUNITIES OF SAKU SUB-COUNTY IN MARSABIT COUNTY

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ABSTRACT

The general objective of this study was to explore the effect of alternative livelihood strategies on social and economic outcomes of pastoral communities of Saku Sub-county in Marsabit County. The specific objectives were: To measure the extent of adoption of alternative livelihoods in Saku Sub-county; To determine the effect of alternative livelihoods on economic outcomes on pastoral nomadic households of Saku Sub-county; To establish the effect of alternative livelihood on social outcomes of pastoral nomadic households of Saku Sub-county in Marsabit County. Descriptive research method was applied. The target population was communities living in Saku Sub-county in Marsabit County. Stratified random sampling was used to select the sample size. The sample size was 384 respondents; of this 30 percent is the control group. Secondary data was obtained from development organization and non-governmental experts. Questionnaires were utilized to collect data and guides for interviews and involving NGOs. A pilot test carried out to ascertain the reliability and validity of the instruments used. The quantitative data collected was edited and coded into the Statistical Package for Social Sciences (SPSS- version 21) for analysis. Both descriptive and inferential statistics were used to analyze the data. Frequency, mean, standard deviation and percentages were used in descriptive statistics. These analyzed data was then presented in tables and figures. Qualitative data was coded thematically and evaluated statistically thereafter. Chi square is used to determine the relationship between the dependent variable and the independent variables. On the other hand, binary logistic regression is used to describe data and to explain the relationship between one dependent binary variable and the factors that affect it. The study established that adoption of Alternative Livelihood Strategies plays a very essential role for economic empowerment of pastoralist nomadic communities. The adoption of Alternative Livelihood Strategies, households are able to experience major changes in both social and economic outcomes. The study concludes that factors like education or schooling, distance to urban centers, access to income as well as access to information have influence towards the adoption of alternative livelihood strategies. The study recommends that continuous learning and empowerment programs for pastoral nomadic communities should be undertaken to increase their chances of adoption of ALS. Learning centers should be established and encourage people. People should be encouraged to form and join small groups, cooperative societies and associations with the common aim of adoption of Alternative Livelihood Strategies and general improvements of livelihoods.

Key Words: *livelihoods, alternative livelihood strategies, sustainable livelihoods, pastoralism, economic outcomes, social outcomes*

INTRODUCTION

In the world at the moment, there are nearly 200 million pastoralists working tirelessly to generate income where conventional farming is limited or not possible. In sub-Saharan Africa,

pastoralism is a way of life for over 20 million people. Their livelihoods depend majorly on livestock or livestock products for a living. Pastoralist people in Sub-Saharan Africa raise domestic animals including camels, sheep, goat, cattle and donkeys which are sources of milk, meat, blood, trade and transport.

Eighty four percent of Kenya's territory is arid and semi-arid lands, commonly known as the Arid and Semi-Arid Lands. In these territories, more than 10 million people live, that is slightly more than 25 percent of Kenya's population (YazanElhadi *et al*, 2012). The economic activity practiced in this region is pastoralism (Mugo *et al*, 2009; Krätli, 2001). At the same time, these areas comprise the most marginalized parts of the country. For very many years, drought and famine has become a common and recurring phenomenon in many parts of Kenya especially in the ASALs areas. The pastoralists communities mostly inhabiting the ASALs regions have been affected by drought since their economic activity is livestock keeping which is affected by drought brought by the lack of rainfall that reduces water and forage availability .

Pastoralist in ASALs own 70% of Kenya's livestock which contributes indirectly to the livelihoods of many households through livestock products. The 20 poorest constituencies in Kenya are found in Northern Kenya where 74-97% of the people live below poverty line. Pastoralist communities constitute Kenya's most vulnerable population in terms of access to basic infrastructure and exposure to environmental hazards. These pastoralists communities remain the most chronically food insecure groups in the country experiencing consistently high malnutrition rates mostly above the international emergency rate. In terms of health provision, Northern Kenya has the lowest density of health facilities and high maternal mortality (Voet, 2013).

Compared to other economic activities in Kenya, pastoralism is the most efficient use of the dry lands especially in Arid and Semi-Arid Lands (ASAL). It contributes about 50% of the total agriculture GDP (GOK, 2006). In Marsabit, livestock and livestock-based industries support nearly 80 percent of the households in terms of the economic activity. This makes pastoralism the most dominant economic activity in the region. The main traditional livestock types kept are cattle (Zebus and Boran), sheep, goats and camel. The emerging challenges like climatic change and cattle rustling have led to slow adoption of other economic activities like agriculture and retail business as forms of complimenting the traditional livestock keeping (Republic of Kenya, 2001).

In 2011 and 2013, a severe drought and famine hit the horn of Africa attracting the attention of local and international media networks. This calamity led to massive death of livestock and even people. Over 13.3 million people were affected; 4 million need critical humanitarian assistance while 250,000 people were in dire need of food and risk of starvation (Margesson *et al*, 2012). In Kenya, mostly Northern region nearly 70 percent of livestock was affected by the recurring

droughts. The neighboring countries that were affected too are Somalia, Djibouti, and Ethiopia. In Somalia, 4 million people required humanitarian assistance; 4.8 million in Ethiopia were affected and in Djibouti 165,162 people needed urgent assistance (Retrieved August 2014, from http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/).

Saku Sub-county with population of 29,982 inhabitants (GoK, 2009) lies in the larger Northern Kenya region. It forms the largest portion of the Kenyan ASAL area. It is found in Marsabit County, which is the largest county in land size in Kenya. Marsabit is located in the driest regions in Kenya. Over eighty percent of the population is pastoralists. It is faced with numerous environmental challenges. Recurrent droughts have contributed to serious loss of range biodiversity leading to serious livelihoods challenges. This has posed a serious challenge to communities residing in the region due to stretching of resources and weakening of their livelihoods hence exposing them to vulnerability.

About half of Saku Sub-county population lives below the poverty line due to limited livelihoods opportunities with absolute poverty index of 88.2 percent (GoK, 2009). Literacy level stands only at 15 per cent showing that the highest percentage of the population did not get even basic education (Kumssa et.al, 2009). The only dependency relies only on traditional livestock keeping which is now facing challenges due to new dynamics of the area like changing climatic conditions, ethnic clashes, emerging diseases, immigrants from other areas and markets.

STATEMENT OF THE PROBLEM

Pastoralist communities have traditionally led a lifestyle geared towards subsistent production. The major asset and also the primary source for sustenance is livestock. These communities keep cattle, sheep, goats, camels and donkeys, where the staple food is milk, meat and blood (RoK, 2002). These communities engage in flexible movement of livestock in response to little and scattered rainfall pattern which leads to scarce water and foliage. This in many cases has led to conflict and security concerns.

Drought and famine has become a domestic issue in the horn of Africa. This continuous calamity affects both human and animal hence jeopardizing their livelihood. In extreme cases, there is loss of both human life and livestock. Due to this ever occurring phenomenon, governments, local and international organizations have come up with alternative approaches to manage it. Despite all these efforts, pastoral communities living in Saku Sub-county still continue to face recurring drought and famine. It is because of this paradox that this study departs. Due to continuous occurrence of drought and famine affecting pastoralist livelihood, adoption of alternative livelihoods was necessitated.

In order for households to cope with recurring droughts, alternative livelihoods strategies are needed to be strengthened. They act as necessary coping mechanism and building resiliency for pastoralist communities who are ever vulnerable and living in Saku Sub-county. In order to

strengthen and build on these strategies, it is essential to get to know to what extent they are useful and the impact they have. It is important to measure the effort put by development and humanitarian support interventions in strengthening pastoral communities in Saku Sub-county as far as alternative livelihoods tactics are concerned. This opens another window for more effort to be put or it acts as another step towards strengthening communities' resiliency towards drought and famine menace.

This study was designed to explore the effect of alternative livelihood strategies on socio-economic outcomes of pastoral communities of Saku Sub-county in Marsabit County, investigating on different supported and established alternative livelihood strategies and their task on combating drought and famine threat. It creates an opportunity for further consideration and recommendations on ways to improve them.

GENERAL OBJECTIVE OF THE STUDY

The general objective was to explore the effect of alternative livelihood strategies on social and economic outcomes of pastoral communities of Saku Sub-county in Marsabit County.

SPECIFIC OBJECTIVES

1. To measure the extent of adoption of alternative livelihood strategies in Saku Sub-county in Marsabit County.
2. To determine the effect of alternative livelihoods on economic outcomes on pastoral nomadic households of Saku Sub-county in Marsabit County.
3. To establish the effect of alternative livelihood on social outcomes of pastoral nomadic households of Saku Sub-county in Marsabit County.

LITERATURE REVIEW

Sustainable Livelihood Framework

Livelihood approach emerged as a way of combating development deficiencies that has affected poor people for very many years is attributed to the British Department of International Development (DFID). This was necessitated by the lack of progress especially after the era of modernization theory which did not bear any progress especially to the development of the rural poor.

The DFID has borrowed a lot from Chambers and Conway (1992), and modified it to fit its domain. Livelihoods approach cannot be termed as a theory since it does not independently explicate any phenomenon; this therefore makes it a model. It can be said to be a framework since it gives an approach on the way of looking at the development world. Livelihoods approach helps at considering the phenomenon and helps to find the way forward on how to draw near (Mazibuko, 2013).

This approach recognizes that people have much potential, assets and various activities that need to be explored in order for them to be empowered. What is lacking is an opportunity to make things work. This aspect identifies sustainable livelihood approach to be empowerment rather than to provide needs. It means exploring what people have and putting their skills into action in order for them to rise above the current state of living to improve their livelihoods (Mazibuko, 2013). It also borrows from Sen's (1999) concept of freedoms where it argues that people should have freedoms or rights of choices for their lives in what they value. This shows that this livelihood approach, just like Sen's freedom of choices goes beyond the monetary limit to determine poverty.

In 1992, Chambers and Conway in their working paper they presented to the Institute of Development Studies in Sussex gave the much accepted definition of sustainable livelihoods. A livelihood comprises the capabilities, assets (including both material and social resources) and activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks maintain or enhance its capabilities and assets, while not undermining the natural resource base (Scoones, 2009) adopted from Chambers & Conway, 1992).

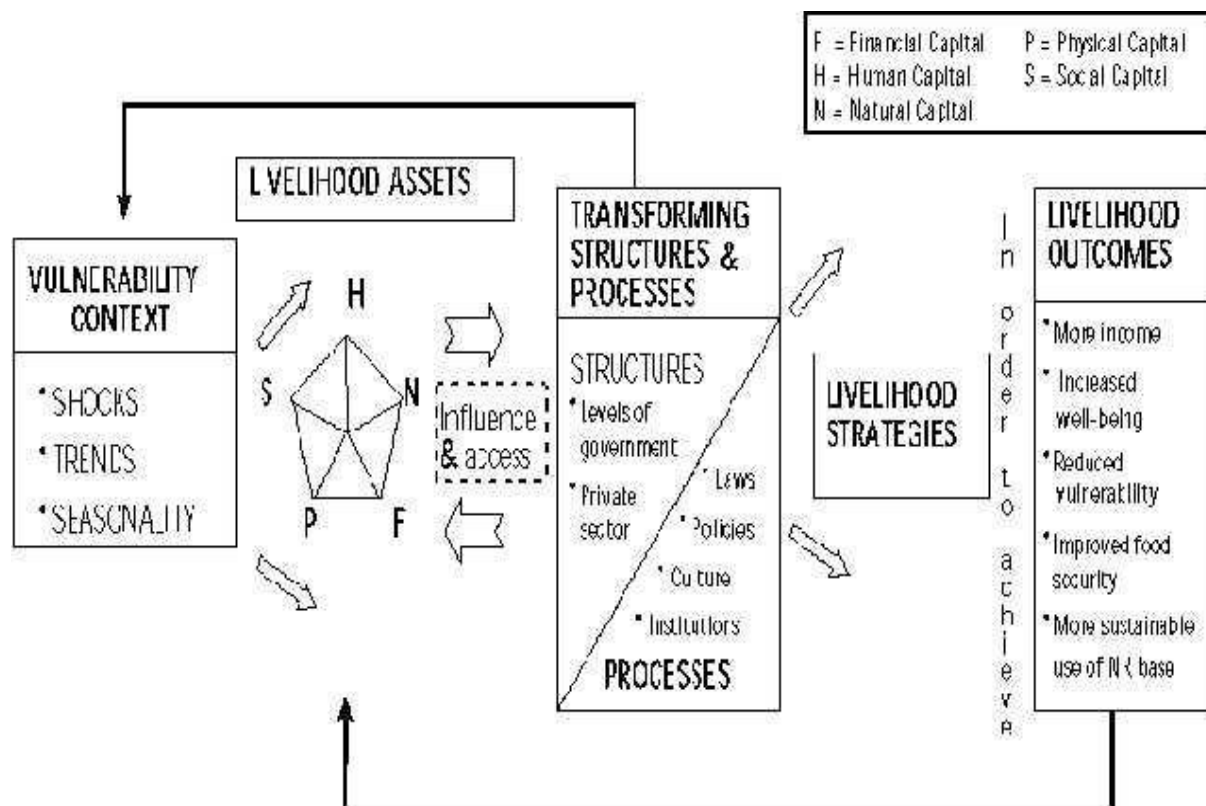


Figure 1: DFID Sustainable Livelihoods Framework

The figure is a sustainable framework developed by the British Department of International Development (DFID). It does not describe reality in any specific way, but rather intended as analytical structure to understand the whole complexity issues of livelihoods and how it can be applied in development intervention. The underlying assumption is that people engage in livelihoods so that to enjoy outcomes like health, income and reduce vulnerability by engaging in range of assets to pursue a variety of activities (Carney, 1998). Sometimes they are faced by uncertainties like resource stocks, seasonal variations like drought, together with other structural factors like the role of government or private sector and processes such as cultural, institutional and policy factors. In general, all these factors will have effects on the access to assets and livelihood opportunities and the way they become functional, all above factors will determine its success (Farrington *et al*, 1999).

This definition by Chambers and Conway opened the debate of what could later become sustainable livelihood approach. This line of thinking shows that Sustainable livelihood strategies approach goes beyond the means and ways to earn a living. It recognizes other elements that contribute to or affect the ability to ensure a living. All these aspects will include the assets reachable, activities, factors that affect vulnerability and policies, institutions and processes for livelihoods success (Fabusoro *et al*, 2010).

Sustainable livelihood strategies emerged as an approach to combat rural poverty, but it introduced a way which will give a broader meaning of poverty to include well-being and livelihoods. The poor are recognized to have resources and abilities in which they can maximize in order to support their livelihoods. This means that, it included the social set up of the society, not just the economic aspect. It gave room to wider social and institutional dimensions (Scoones, 2009). It is an approach that is sensitive to local, domestic and cultural background. It shows how social actors merge together different resources and strategies to conquer deprivation. It shows the concern and advantage of social setup that can team up to bring change in the living standard rather than just stare at the risks that they are exposed in (Jacobs & Makaudze, 2012).

According to Small (2007), the key concepts behind the sustainable livelihood strategies lie on people centered development which can be also termed as participative development where people take charge of their own development destiny. The other concept is, poor centered. This means that the target are the poor people but those involve in this venture can be wider to include multi-level activities, conducted in partnership with private and public sector, sustainable activities, that is, it should include economic, institutional, social and environmental activities and should be dynamic (Small, 2007).

Mazibuko (2013) further argues that sustainable rural livelihoods approach is based on strength the people have to respond to their needs rather than being provided with needs. This testifies that the most important thing is not the provision of needs, rather on how to get them. The

emphasis is on what people already have in terms of possessions and how they can use it to improve their livelihoods. It access the assets people have that can help them lead fulfilling lives.

Just like the concept lay forward by Sens' capability approach, the sustainable rural livelihoods goes beyond the concept of poverty in terms of monetary value as a determinant of poverty to empowerment (Mazibuko, 2013). It is a bold move to use sustainable livelihoods framework to examine the welfare of pastoralists as it helps in identification of the causes and dynamics of poverty. This is because the livelihoods framework puts emphasis on the overall livelihood of pastoral people which is based on the access to assets like pasture, water and production (Nikola, 2006).

Unlike rural development which focused majorly on agriculture as a priority activity, sustainable livelihood approach recognizes a variety of activities that the poor engage for their livelihoods. All these activities are equal; none is regarded superior to other. It has been argued that people receive good income from non-agricultural activities which in turn will require attention. Poor regions especially in Sub-Sahara Africa are faced by a chain of problems which are obstacles in achieving development. They include, famine, ethnic conflicts, HIV/AIDS pandemic and even the Structural Adjustment Programs introduced by World Bank and International Monetary Fund, which all diverted development attention and energy away from the rural poor. It became a priority to employ a sustainable mechanism in order to respond to problems and demands of life (Mazibuko, 2013).

Mazibuko, (2013) borrowed from Chambers (1999) and Chambers & Conway 1992), that there are five key points that are fundamental in development spheres and especially in sustainable rural livelihoods approach, namely: well-being which means a good quality of life, livelihood security which refers to access to food and other necessities, capability and freedom in doing and being, equity which refers to equality of opportunities in human rights and gender perspectives and sustainability which is central to development and being able to recover from stress and shocks and applying durable policies, actions and solutions (Mazibuko, 2013).

Other sustainable livelihood approaches also do exist. DFID together with other several development agencies on their evolving development strategies introduced sustainable livelihood strategy as a way of putting greater emphasis on the elimination of poverty based on involving the poor themselves. This initiative is not linked to a single organization; rather it has developed within research institutes for example the Institute of Development Studies, NGOs (e.g CARE and Oxfam) and donor organizations like DFID and UNDP, although DFID emerged the first to adopt and use SL approaches and framework (Ashley, C & Diana, C, 1999).

Sustainable livelihood framework is not a formula towards fighting poverty but rather one way of finding solution incorporating the already existing efforts. The framework works hand in hand with other already established ways that are important to poverty elimination. According to

Farrington *et al*, (1999), SL is an integrating device which tries to gather together other perspectives which are valuable to people-centered development approach. It does not replace the already existing methods but rather builds on them.

Alternative Livelihoods IN Saku Sub County

Most nomadic pastoralist communities have come up with strategies to deal with perennial drought. These mechanisms have been acknowledged to be overcoming long periods of drought till they recover. However, drought has become more frequent and persistent; the recovery periods became too short before another drought bites again. This made them more prone to drought and eventually to famine which results to massive death of livestock and sometimes people die. The effort to seek alternative livelihoods by pastoralist communities is not a new phenomenon. These livestock keeping people have historically tried to utilize activities like farming, foraging and urban migration in times of famine and drought. Recently, these communities have become more vulnerable to famine and drought due to impoverishment and stock loss because of reduced movement, raiding and political (Franklin *et al*, 2011).

The inhabitants of Saku Sub-county engage in a number of alternative livelihoods activities, they include; any form of informal trading occupation (i.e. selling milk, firewood, animals or other products, wage employment (both local and outside the area, including working as paid herder, farm worker, or migrant laborer), Retail shop activities, gathering and selling wild fruits, Farming (both for subsistence and cash incomes), craft production, micro-financing and transportation. In most cases, women do play a very important role as family pillars for economic well-being. Most socio-economical activities are carried out by women (Franklin *et al*, 2011).

There are various reasons as to why recently nomadic pastoralist communities have suffered most drought and famine. Some of the factors include population increase due to sedentarization, commoditization, urban migration, climatic change and political instability (Franklin *et al*, 2011). Many development organizations have introduced alternative livelihood strategies to act as safety net for these communities to reduce the negative consequences brought by drought and famine. It will be valuable to explore the genesis of these alternative livelihood strategies before embarking on their impact towards pastoralists communities.

Social Outcomes

After the traditional nomadic livelihood strategies became not sustainable to pastoralist nomadic communities of Saku Sub-county, they tried to find a way to make the ends meet in ever changing and dynamic lifestyle. This change is now even more necessitated not only by the persistent drought but also by the climatic change and population growth. Alternative livelihoods became an option for them. In social aspects of alternative livelihood, Amartya Sen's capabilities approach presents the most appropriate analysis on its outcomes. It presents human life as a

combination of various functioning and capabilities, and analysis of human freedom as a central feature of living which provides a grounded foundation (Sen, 1985).

According to Sen (1983), the economic growth and expansion of goods and services are necessary for human development. This means that they are needed but far much more than just fulfilling a certain end. Sen's definition of development as freedom goes far much beyond the mere benefits of goods and services (Sen, 1983). For example, it goes beyond the satisfaction got from primary goods. In the case of Pastoralist nomadic communities of Saku Sub-county, it goes beyond mere benefits to a new social status. It gives them a paradigm of life whether on transitory or stabilized. At the same time, Sen criticizes the utility approach which gives value to pleasure and fulfillment. Sen (1983) points out that there is much more in life than just achieving utility. Happiness forms only one aspect of human existence (Sen, 1984). These approaches neglect other important aspects of life like the rights and freedoms. Capabilities approach tries to enlarge the base of people as ends in themselves rather than seeing them as means to economic activity. It tries to recognize human heterogeneity and diversity through different functions; gender, race, class age. It embraces human agency and participation, recognizing that different people, cultures and societies may have different values and aspirations. The CA shows that the paramount objective of development is the expansion of human capabilities rather than economic growth. The human capabilities function through rapid and broad based economic growth. This assists in the expansion of basic capabilities through higher employment, improved prosperity and better social services. On the other hand, economic growth works through proficient welfare programs that support health, education and social security (Sen, 1999).

Economic Outcomes

For economic outcomes, the appropriate approach is the income approach also commonly known as monetary approach. It considers one to be poor due to inability to raise an income that can be considered enough to sustain his/her needs, especially the basic ones. This approach uses poverty line as a benchmark to distinguish between poor and not poor. This is considered to be the measure to analyze poverty. This poverty line stands as a gauge where the one above it is considered not poor while those below it are considered poor. This means that an individual is considered to be living in absolute poverty if is unable to obtain the minimum necessities to maintain a physical existence (Laderch *et al*, 2003). Income is used as indirect measure of standard of living. It measures a command of resources thus potential standard of living (Greeley, 1994).

The society today has become more performance oriented either on country, firm or individual basis. Mechanisms have been created to monitor the progress especially economic performance to show the direction being taken. In economic terms some of the tools like GDP used to show the economic progress. This economic progress will lead to improved quality of life which means that the improvement of social life, that is Access to water, food, social amenities, non-

polluted air. This shows that economic aspects are not end but means to a quality life (www.stiglitz-sen-fitoussi.fr.).

Conceptual Framework

Independent variables

Dependent variables

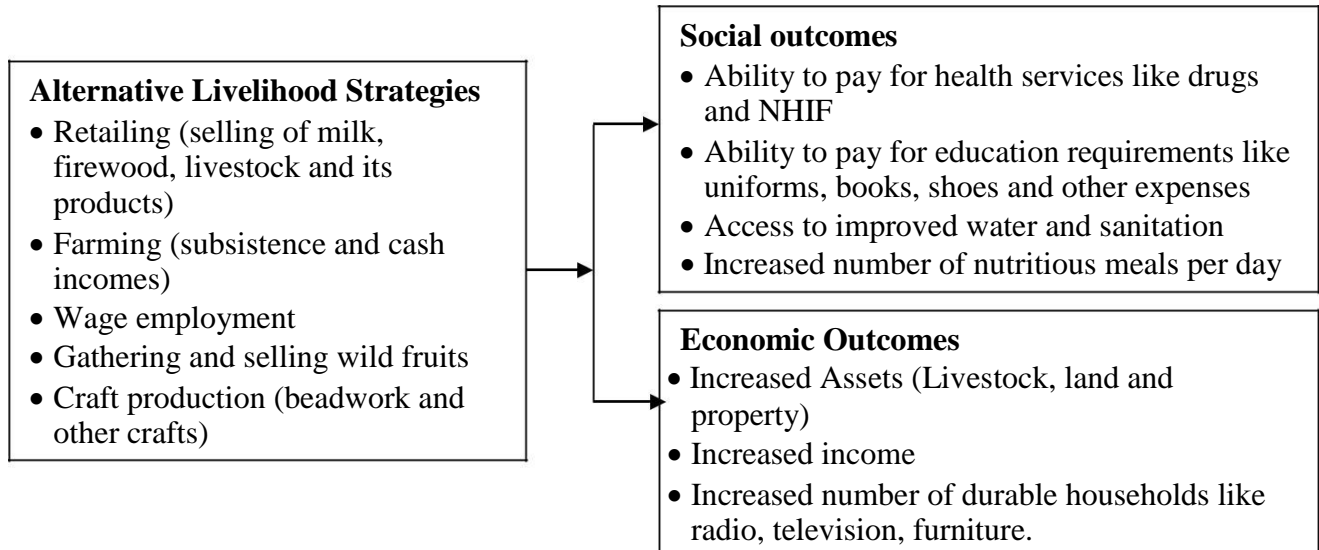


Figure 2: Conceptual Framework

RESEARCH METHODOLOGY

The research methods to be applied in this study are both qualitative and quantitative research designs creating a triangulation of methods called mixed methods research or approach. The total estimated number of those to be involved was 9, 657 households drawn from twenty five villages found in the study area distributed in the three administrative wards. They are; Karare, Sagante/Jaldesa and Marsabit Central wards. The study also targeted the Non-Governmental Organization experts who are competent in the development field with the experience of working in Saku Sub-county. In this study, the sampling frame was those who practice sustainable livelihoods in Saku Sub-county. This study used the stratified random sampling method which gives everyone an equal opportunity for participation. The criterion for stratification was administrative location. to get the sample size the following formula is used (Israel, 2006).To determine the sample size Fischer’s formulas quoted in Mugenda and Mugenda (1999) is used.

Where: n= the sample size; N = the total population
e= is the precision or sample error

$$n = \frac{N}{1 + N(e)^2}$$

In this case, the researcher used a confidence level of 95% which gives a margin of error of 5% which is 0.05. This was because 95% confidence level and a 0.05margin of error is most commonly used in research (Monkeys, 2013). Therefore the calculations below give the desired simple size.

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$$n = \frac{9657}{1 + (9657)(0.05)^2} = 384 \text{ households}$$

From the above calculations, the desired sample size is 384 respondents. For each stratum, a corresponding percentage of the sample size is selected for study. For Karare Ward, 21 percent of the sample is selected, Sagante / Jaldesa Ward 36 percent and Marsabit central Ward to take 43 percent. Out of the 384 households sampled, 30 percent is selected to represent the control group in the study. This makes a significance representation to make a good conclusion. This means that 30 percent of 384 households are 115 households. This is still further calculated to fit the percentages distributed per strata. Karare ward of 21 percent which has 24 households, Sagante/Jaldesa of 36 percent has 41 households and Marsabit central of 43 percent has 50 households.

In conducting household survey, questionnaires are chosen. Many humanitarian organizations especially the local NGOs involved with alternative livelihoods programs provided the key informants. The development experts are interviewed to collect relevant information especially on the impact of alternative livelihoods on the populations they serve. The local chief or assistant chief and the local village elders were informed of this initiative. In both questionnaire and interviews, a short introduction was made about the researcher and the research topic. The researcher worked with five school leavers who help in administering questionnaires. The Focus Group Discussions and Interviews were done in person so that to take advantage to pinpoint directly the most important aspects of the research.

The study generated both qualitative and quantitative data. Quantitative data was analyzed using the statistical package for social science (SPSS) computer software. For descriptive data, frequencies, percentages, means and standard deviation were used to summarize variables such as age, income, educational level. Chi-square was used to establish relationship between two variables both which are categorical in nature. Logistic model was used to estimate odds ratio for each of the independent variables in the model.

RESEARCH FINDINGS AND DISCUSSION

From the 384 questionnaires distributed, 269 were received from those who adopted alternative livelihood strategies while 115 were received from those who did not adopt alternative livelihood strategies. Accordingly, all the 384 questionnaires in total were returned representing a response rate of 100%. Majority of the respondents (70.1%) indicated they adopt alternative livelihood strategies while 29.9 % indicated that they did not adopt alternative livelihood strategies. At the same time, 64.8 % of those who adopted Alternative Livelihood strategies mentioned that they benefited from the adoption of Alternative Livelihood Strategies. Further, 65.6 % of the respondents agree that the Adoption of Alternative Livelihood Strategies have acted as a remedy to the traditional pastoralism.

Table 1: Adoption Alternative Livelihood Strategies

| Item | Adopted | | Non adopted | |
|---------------------------------------------------|---------|------|-------------|------|
| | Yes | % | Yes | % |
| Adoption of alternative livelihood strategies | 269 | 70.1 | 115 | 29.9 |
| Benefits from adoption of alternative livelihoods | 249 | 64.8 | 0 | 0 |
| ASL act as remedy to traditional pastoralism | 252 | 65.6 | 35 | 9.1 |

For those who adopted alternative livelihood strategies, 67.7 of the respondents showed that their source of livelihood is from selling crop products, mostly drought resistant crops. 10.4% obtain income from selling of animal products; 8.2% were in formal employment 7.4% were in business while 6.3% obtained income from selling firewood. While for the Non-Adopted, majority of the respondents 27.7% main source of income was selling crop products; while other 27.7% obtain income from traditional sources of livelihood; 19.6% were in selling firewood; 10.7% were in selling animal products; 8.9% were in business 5.4% were in formal employment.

Table 2: Response on Family Main Source of Livelihood

| Source of income | Adopted | | Non adopted | |
|-------------------------|-----------|------|-------------|------|
| | Frequency | % | Frequency | % |
| Selling crop products | 182 | 67.7 | 31 | 27.7 |
| Selling firewood | 17 | 6.3 | 22 | 19.6 |
| Selling animal Products | 28 | 10.4 | 12 | 10.7 |
| Business | 20 | 7.4 | 10 | 8.9 |
| Formal employment | 22 | 8.2 | 6 | 5.4 |
| Others | 0 | 0 | 31 | 27.7 |

Before adoption, majority of the respondents 58.2% indicated economic status before adoption to be fair, 30.2% indicated the status to be good, 7.8% indicated that economic to be bad while 3.7% indicated that economic was very good. After adoption, majority of the respondents 41.8% indicated economic status has improved to be good, 29.5% say that the economy improved to be very good, 27.8% say economy was fair while only 0.9% say there is no sign of improvement.

Table 3: Economic Status Before and After Adoption

| Economic status | Before adoption | | After adoption | |
|-----------------|-----------------|-------|----------------|------|
| | Frequency | % | Frequency | % |
| Bad | 21 | 7.8 | 2 | 0.9 |
| Fair | 156 | 58.2 | 75 | 27.8 |
| Good | 81 | 30.2 | 112 | 41.8 |
| Very good | 10 | 3.7 | 79 | 29.5 |
| Total | 268 | 100.0 | 268 | 100 |

For adopted, majority of the respondents 52.2% indicated that NGOs are the major source of information concerning other sources of livelihood; 25.4% indicated they got information from International Academic Journals

government sources, 17.2% got information from media while 5.2% of the respondents got information from other sources. For Non-adopted, 37.7% indicate that the NGOs are their main source of information, 26.3% say the government provided information, 8.8% mentioned Media to be source of information while 27.2 say that other institutions provided information on adoption of Alternative Livelihood Strategies.

According to study findings in Table 9, for Adopted; majority of the respondents 70.7% indicated that NGOs was the entities supporting alternative likelihood; 21.3% indicated government support while 8% indicated they receive support from private institutions.

Table 4: Source of Information and Support Entities

| Source of information | Adopted | | Non adopted | |
|-------------------------|-----------|------|-------------|------|
| | Frequency | % | Frequency | % |
| NGO | 140 | 52.2 | 43 | 37.7 |
| Government | 68 | 25.4 | 30 | 26.3 |
| Media | 46 | 17.2 | 10 | 8.8 |
| private institutions | 14 | 5.2 | 31 | 27.2 |
| Support entities | | | | |
| NGO | 186 | 70.7 | | |
| Government | 56 | 21.3 | | |
| private institutions | 21 | 8.0 | | |

The average before the adoption of ALS is 36,483 Ksh. While the mean average income after the adoption rose to 59,847 Ksh. This shows a significant rise after the adoption of Alternative Livelihood Strategies.

Economic Outcomes

Table 5: Average Income Before and After Adoption of Alternative Livelihood Strategies

| Income | N | Minimum | Maximum | Mean | Std. Dev |
|------------------------|-----|---------|---------|-------|----------|
| Before adoption of ALS | 253 | 2000 | 200000 | 36485 | 39127 |
| After adoption of ALS | 255 | 8000 | 400000 | 59847 | 64316 |

For the Adopted, majority of the respondents 25.4% indicated they bought Radio and Furniture, 24.6% indicated they bought Radio and Television; 17.5% bought furniture; 15.8 % bought radio alone, 7.9% bought all listed items, 7% bought Television only and 1.8% bought Television and Furniture. While for the Non-Adopted, majority of the respondents 28% indicated they bought Radio and Furniture, 23.7% indicated they bought Radio and Television; 20.4% bought radio; 15.1% bought Television, 10.8% bought Furniture, and 2.2 bought other items.

Table 6: Durable Household Goods Acquired

| Durable household goods | Adopted | | | Non adopted | | |
|--------------------------|-----------|------|------------------|-------------|------|------------------|
| | Frequency | % | Mean Value (Ksh) | Frequency | % | Mean Value (Ksh) |
| Television | 8 | 7 | 16966 | 14 | 15.1 | 5333 |
| Radio | 18 | 15.8 | 6507 | 19 | 20.4 | 2933 |
| Furniture | 20 | 17.5 | 18200 | 10 | 10.8 | 11380 |
| Radio and television | 28 | 24.6 | 15134 | 22 | 23.7 | 14481 |
| Television and furniture | 2 | 1.8 | 31000 | 0 | 0.0 | 14481 |
| Radio and furniture | 29 | 25.4 | 7000 | 26 | 28.0 | 5369 |
| All | 9 | 7.9 | 37083 | 2 | 2.2 | 13000 |
| Total | 114 | 100 | | 93 | 100 | |

For the adopted, the mean value for land is 98,987 Ksh., for domestic livestock is 56,043 Ksh., and for both Land and domestic livestock is 225,711 Ksh. For the Non adopted, the mean value of land is 51,385 Ksh., the mean value for domestic livestock is 28,333 and for both land and domestic livestock the mean value is 70,000.

Table 7: Assets Value

| Asset | Adopted | | | Non adopted | | |
|-------------------|-----------|------|-------------------|-------------|-------|-------------------|
| | Frequency | % | mean Value in Ksh | Frequency | % | mean Value in Ksh |
| Land | 146 | 55.7 | 98987 | 13 | 50.0 | 51385 |
| Domestic | 48 | 18.3 | 56043 | 12 | 46.2 | 28333 |
| land and domestic | 68 | 26 | 225711 | 1 | 3.8 | 70000 |
| Total | 262 | 100 | | 26 | 100.0 | |

Social Outcomes

For adopted, majority of the respondents 94.4% are able to access medical scheme services that they are not able to access before adoption of alternative source of livelihood 5.6% were not able to access. For the non-adopted, 28.9% are able to access medical services, 71.1% are not able to access medical services at all. For the Adopted, 69.9% of the respondents have access to a public medical scheme (NHIF), 27.1% are with private medical scheme (BRITAM, JUBILEE). For the non-adopted, 86.5% don't have medical scheme while only 13.5% say to have access to medical scheme.

Table 8: Access to Medical Scheme Services

| Item | Level | Adopted | | Non adopted | |
|-----------------|----------------|-----------|------|-------------|------|
| | | Frequency | % | Frequency | % |
| Access | Yes | 253 | 94.4 | 33 | 28.9 |
| | No | 15 | 5.6 | 81 | 71.1 |
| Scheme accessed | NHIF public | 188 | 69.9 | 32 | 86.5 |
| | Others private | 70 | 27.1 | 5 | 13.5 |

For the adopted, 90.7% of the respondents agree that their family members got sick, while 9.3% did not have family members who got sick. Of the above findings, 67.9% of the respondents are able to access public hospital and 32.1% accessed private hospitals. On the other hand, the respondents for Non adopted agree that 61.4% of the family members got sick, while 38.6% did not fall sick. Of the above findings, 58.2% got treatment from Public hospitals and another 41.7% got treatment from private hospitals.

Table 9: Access to Hospital

| Access to hospital | Level | Adopted | | Non adopted | |
|------------------------|---------|-----------|------|-------------|------|
| | | Frequency | % | Frequency | % |
| Family member got sick | Yes | 243 | 90.7 | 70 | 61.4 |
| | No | 25 | 9.3 | 44 | 38.6 |
| Hospital | Public | 180 | 67.9 | 42 | 58.2 |
| | Private | 85 | 32.1 | 30 | 41.7 |

For the Adopted, 99.6% of the respondents are able to pay for the simple drugs, while only 0.4% is not in a position to pay for the same simple drugs. 99.3% of the respondents paid money needed for the drugs while 0.7% is not able to pay for the same drugs. For the Non adopted, only 50% of the respondents say that they are able to pay for simple medical drugs, 56.1% say they are not able to pay for simple medical drugs. 49.1% of the respondents say they pay the money for simple drugs while 50.9% are not able to pay money for the drugs.

Table 10: Access to Medical Drugs and Amount Incurred

| Access to medical drugs | | Adopted | | Non adopted | |
|-----------------------------------------|-----|-----------|------|-------------|------|
| | | Frequency | % | Frequency | % |
| Ability to pay for simple medical drugs | yes | 267 | 99.6 | 50 | 43.9 |
| | No | 1 | 0.4 | 64 | 56.1 |
| paid the money | yes | 266 | 99.3 | 56 | 49.1 |
| | No | 2 | 0.7 | 58 | 50.9 |

Table 11: Overall Binary Model

| Omnibus Tests of Model Coefficients | | | | |
|--------------------------------------------|-------|------------|----|------|
| | | Chi-square | Df | Sig. |
| Step 1 | Step | 81.972 | 10 | .000 |
| | Block | 81.972 | 10 | .000 |
| | Model | 81.972 | 10 | .000 |

Table 12: Model Summary

| Step | -2 Log likelihood | Cox & Snell R Square | Nagelkerke R Square |
|------|----------------------|----------------------|---------------------|
| 1 | 320.202 ^a | .315 | .409 |

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Table 13: Classification

| | B | S.E. | Wald | Df | Sig. | Exp(B) |
|-------------------------|--------------|-------------|---------------|----------|-------------|--------------|
| Step 1 ^a | | | | | | |
| Education | | | 43.542 | 4 | .000 | |
| Primary | 1.066 | .454 | 5.521 | 1 | .019 | 2.903 |
| Secondary | 1.198 | .478 | 6.275 | 1 | .012 | 3.314 |
| College | 1.795 | .548 | 10.730 | 1 | .001 | 6.020 |
| University | 2.067 | .609 | 11.523 | 1 | .001 | 7.901 |
| Distance | | | 9.788 | 2 | .007 | |
| Karare | -1.434 | .440 | 10.632 | 1 | .001 | .238 |
| Sagante | -1.181 | .378 | 9.782 | 1 | .002 | .307 |
| Increased income | 1.899 | .617 | 9.484 | 1 | .002 | 6.682 |
| Information | | | 13.928 | 3 | .003 | |
| Government | -1.575 | .439 | 12.872 | 1 | .000 | .207 |
| Media | -1.294 | .481 | 7.252 | 1 | .007 | .274 |
| Private | -1.726 | .577 | 8.941 | 1 | .003 | .178 |
| Constant | 1.885 | .571 | 10.909 | 1 | .001 | 6.585 |

a. Variable(s) entered on step 1: Education, ward, income, information.

CONCLUSIONS

From the findings of the study, adoption of Alternative Livelihood Strategies plays a very essential role for economic empowerment of pastoralist nomadic communities. The study discovers that after the adoption of Alternative Livelihood Strategies, households are able to experience major changes in both social and economic outcomes. In economic advantages, the households experiences Increased Assets (Livestock, land and property), increased income and increased number of durable households like radio, television, furniture.

For social outcomes, households increases ability to pay for health services like drugs and NHIF, ability to pay for education requirements like uniforms, books, shoes and other expenses, access to improved water and sanitation and increased number of nutritious meals in a day.

Furthermore, the study concludes that factors like education or schooling, distance to urban centers, access to income as well as access to information have influence towards the adoption of Alternative Livelihood Strategies. Households who meet these factors have likelihood to adopt ALS than those who do not meet.

RECOMMENDATIONS

Continuous learning and empowerment programs for pastoral nomadic communities should be undertaken to increase their chances of adoption of ALS. Learning centers should be established and encourage people.

People should be encouraged to form and join small groups, cooperative societies and associations with the common aim of adoption of Alternative Livelihood Strategies and general improvements of livelihoods. Such groups will make easier the information flow hence equipping them with skills. Furthermore, the groups will assist in marketing, procurement of inputs and equipment as well as give households bargaining power.

REFERENCES

- Ashley, C., & Carney, D. (1999). *Sustainable livelihoods: Lessons from early experience*. London: DFID.
- Behnke, R & Muthami, D. (2011) *The Contribution of Livestock to the Kenyan Economy*; IGAD LPI Working Paper No.03-11.
- Brockington, D. (2001). Women's income and the livelihood strategies of dispossessed pastoralists near the Mkomazi Game Reserve. *Human Ecology Journal*, 29:307.
- Bryman, A. (2008). *Social Research Methods*. (3rd ed.).Oxford: Oxford University Press.
- Carney, D. (1999). *Approaches to sustainable livelihoods for rural poor*, ODI.
- Catley, A., Lind, J., & Scoones, I. (2013). *Pastoralism and Development in Africa: Dynamic change at the margins*. London: Routledge and Earth scan.
- Chung, L. (2007). How Livestock is used as a Coping Mechanism with Respect to Food Insecurity among Livestock Keepers of Africa: a Literature Review from a Current Perspective Working Paper Land O'Lakes International Development.
- Creswell, J. W. (2003). *Research Design: qualitative, quantitative, and mixed methods approaches*. (2nd ed.). London: Sage Publications.
- Doyle, L., Brady, A & Byrne, G. (2009). An Overview of Mixed Methods Research. *Journal of Research in Nursing*.
- Debus, M. (1988). A handbook for excellence in focus group research. HEALTHCOM Project special Report Series. Washington, D.C.: Porter/Novelli.
- Drinkwater, M., & Tamara, R. (1999). *Application of CARE's Livelihoods Approach: Presentation for NRAC*, Mimeo.

- Engel, Rafael J. & Schutt, Russell, K. (2014). *Fundamentals of Social work research*. 2nd edition. Thousand Oaks, CA: Sage Publications.
- Fratkin, E, Nathan, M., & Roth, E. (2011) *Seeking alternative livelihoods in northern Kenya: costs and benefits in health and nutrition international conference on the future of pastoralism: Future agricultures consortium, University of Sussex and the Feinstein international centre of Tufts University*, 21-23.
- Ellis, F., & Allison, E. (2004). *Livelihood diversification and natural resource access*. UK, University of East Anglia.
- FARM-Africa (2002). *Microenterprise Development: Best practices from FARM-Africa's Pastoralist Development Project in Kenya*.
- Farrington, J., Carney, D., Ashley, C., & Turton, C. (1999). *Natural Resource Perspectives* London: Overseas Development Institute, 42.
- Fratkin, E. (1986). Stability and resilience in East African pastoralism: The Rendille and the Ariaal of Northern Kenya. *Human Ecology*, 14.(3).
- Fratkin, E. & Roth, E. (2005). *As pastoralists settle – social, health and economic Consequences of pastoral sedentarization in Marsabit District, Kenya*. New York: Kluwer Academic Publishers.
- Government of Kenya (2007). *Kenya Vision 2030: A globally competitive and prosperous Kenya*. Nairobi: Government Printers.
- Government of Kenya (2006). *National policy for the sustainable development of arid and semi-arid lands of Kenya*. Nairobi: Government Printers.
- Government of Kenya (2009). *Draft Sessional Paper on National Policy for the Sustainable Development of Northern Kenya and other Arid Lands*: Nairobi: Government printers.
- Greeley, M. (1994). *Measurement of Poverty and Poverty of Measurement*. IDS Bulletin, 25(2).
- Hennink, M, M. (2007). *International focus group research: A handbook for the health and social sciences*. Cambridge: Cambridge University Press.
- <http://marsabit.go.ke/population/> retrived on 20th September 2014, 10pm.
- http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/ retrived on October 2014.
- Illius, A.W., Derry, J.F. & Gordon, I.J. (1998). Evaluation of strategies for tracking climatic variations in semi-arid grazing systems. *Agricultural Systems* 57:381-398.
- Johnson, R. B., Onwuegbuzie, A. J & Turner, L.A (2007). Towards a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1(2),112-133.
- Johnston, B. F., & Mellor, J. W. (1961). The role of agriculture in economic development. *The American Economic Review*, 566-593.
- Krätli, S. (2001). *Educating nomadic herders out of poverty? Culture education and pastoral livelihood in Turkana and Karamoja*. London: IDS.

- Kaplinsky, R. (2000). *Spreading the gains from globalization: what can be learned from value chains analysis?* IDS working paper 110. Brington: IDS.
- Kumar, K. (1987). *Conducting focus group interviews in developing countries.* A.I.D. Program Design and Evaluation Methodology Report No. 8. Washington, D.C.: U.S. Agency for International Development.
- Kumssa, A., Jones, J.F., & Williams, J.H., (2009). *Conflicts and Human security in the North Rift and North Eastern Kenya.* United Nations Centre for regional Development, Africa, Office, Nairobi, Kenya and Graduate of School of Social Work, University of Denver, Colorado, USA.
- Krantz, L. (2001). *The sustainable livelihood approach to poverty reduction.* Stolcom: Swedish International Development Cooperation.
- Leichenko, R. M & O'Brien, K, L. (2008). *Environmental Change and Globalization: double exposures.* Oxford, Oxford University Press.
- Luc J. Christiaensen & Kalanidhi Subbarao (2001). *Towards an Understanding of Vulnerability in Rural Kenya,* New York: World Bank.
- Laderch et.al (2003). *Does it Matter that we do not Agree on the Definition of Poverty? A Comparison of Four Approaches.* Oxford: Carfax Publishing- Taylor & Francis Group.
- Margesson R, Dagne T, Charles E, Ploch L, Rennack D. E., Ann Browne M & Chesser S.G. (2012). *Horn of Africa Region: The Humanitarian Crisis and International Response, Congressional research service.*
- Moses, S., & McNamara, N. (2013). *Sustainable livelihood approach, a critique of theory and practice.* Springer.
- Morton, J. (2008). *DFID's Current and Potential Engagement with Pastoralism: A Scoping Study,* Greenwich: NRI.
- Mugenda, O., & Mugenda, A. (1999). *Research methods: Qualitative and quantitative Approaches.* Nairobi: Acts press.
- Mugo, J., Ogwenyi, Z. & Ruto, J. (2009). *Educational Marginalization in Northern Kenya* Paris: UNESCO.
- Nduma, I, Kristjanson, P. & J. Mcpeak (2001). *Diversity in Income-Generating activities for sedentarized pastoral Women in Northern Kenya.* Human Organization 60.
- Nikola, R. (2006). *Policies and Strategies to Address the Vulnerability of Pastoralists in Sub-Saharan Africa.* Pro-poor livestock policy initiative.
- Orindi, V. A., Nyong, A. & Herero, M. (2007) *Pastoral livelihood adaptation to drought and institutional interventions in Kenya.* In *Human Development Report 2007/08.* UNDP.
- Republic of Kenya (2001). *Marsabit District Poverty Reduction Strategic Papers for period 2001-2004.*

- Republic of Kenya, (2002) *Marsabit District development plan, 19997-2001*, ministry of planning and national development, Kenya.
- Republic of Kenya. (2008a) Review and analysis of existing drought risk reduction policies and programmes in Kenya Ministry of Special Programmes, Republic of Kenya, Nairobi.
- Otieno, J.R., (2009) *Turkana livelihood strategies and adaptation to drought in Kenya*, unpublished thesis, Victoria University of wellington: New Zealand
- Sen, A. (1981). Poverty and famines: an essay on entitlement and famines.
- Sen, Amartya K. (1985), *Commodities and Capabilities*, Oxford: Elsevier Science Publishers.
- Sen, A. K. (1983), Development: Which Way Now?, *Economic Journal*, 93, 745-62.
- Sen, Amartya K. (1984), *Resources, Values and Development*, Oxford: Basil Blackwell.
- Szirmai, A. (2005). *The Dynamics of Socio-Economic Development*, Cambridge: Cambridge University Press, pp. 400.
- Syagga, P. M. (2006). Land Ownership and Uses in Kenya: Policy prescriptions from an inequality Perspective. *Readings on Inequality in Kenya. Sectoral Dynamics and Perspectives, Nairobi*, 289-344.
- Smith, K. (1998) Sedentarization and Market Integration: New Opportunities for Rendille And Ariaal Women of Northern Kenya. *Human Organization* 57 (4): 459-68
- Turner II, B. L., Kasperson, R. E., Matson, P. A., McCarthy, J. J., Corell, R. W., Christensen, L., Eckley, N., Kasperson, J. X., Luers, A., Martello, M. L., Polsky, C., Pulsipher, A & Schiller, A (2003). A Framework for Vulnerability Analysis in Sustainability Science. *PNAS Early Edition*: <http://www.pnas.org/content/100/14/8074.full.pdf+html> (retrieved on 13/10/2014).
- UNITED NATIONS, (2008) *Measuring sustainable development*, Report of the Joint UNECE/OECD/Eurostat Working Group on Statistics for Sustainable Development New York and Geneva.
- Vandana, D., & Potter, R. (2001). *The Companion to Developmental Studies*. London: Hodder Education.
- www.stiglitz-sen-fitoussi.fr retrieved on 21 september 2014.
- Warren P., (December 2002) *Livelihoods Diversification and Enterprise Development: An initial exploration of Concepts and Issues*. FAO, LSP WP 4, Livelihoods Diversification and Enterprise Development Sub-Programme.
- Wilkinson, S. (2004). Focus groups: A feminist method. In S.N. Hesse-Biber & M.L. Yaiser (eds.), *Feminist perspectives on social research* (pp. 271–295). New York: Oxford University Press.
- Yazan Elhadi¹, Nyariki, D.¹ & Wasonga (2012) Food poverty among pastoral communities in dryland Kenya, *Drylands Resource Management*, University of Nairobi.