

CLIMATE CHANGE PERCEPTION AMONG THE PASTORALIST WOMEN IN NAROK COUNTY

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ABSTRACT

With regards to the effects of climate change, Kenya has identified its ASALs as the most vulnerable areas to climate change with huge impacts on livestock rearing, small-holder agriculture and tourism, which are the dominant sources of livelihoods in these areas. Despite their limited ownership, women control most of the productive livelihoods including land and livestock. Despite the role played by women in livelihood activities, the attention given to them is still insufficient. More importantly is their vulnerability to the adverse effects of climate change. For appropriate national and county climate change adaptation strategies to be formulated, it is imperative to establish already existing mechanisms which are likely to form basis for some entry points. This study was aimed at assessing the perception of climate change and the response strategies of the pastoralist women in Narok County. A sample of 51 respondents was used and data analyzed qualitatively through content analysis. The findings revealed that a majority of the women are aware of climate change and its effects. There are a number of livelihoods embraced by women as adaptation strategies.

Keywords: Climate change, livelihood, adaptation, effects, Narok county

INTRODUCTION

The United Nations Framework Convention on Climate Change (UNFCCC), defines climate change as “*change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods*” (UNFCCC, 2005). Climate change is a global phenomenon and Kenya is not exceptional. According to IPCC (2007), Kenya’s mean annual temperatures are expected to increase by 1-2.8 ° C by the 2060s and 1.3-4.5 ° C by the 2090s with an expected overall increase in mean annual rainfall by up to 48 percent. The (2010-2011) Horn of Africa drought crisis demonstrated how vulnerable Kenya is to climate change. It also presented an opportunity for the country to develop appropriate response strategies and activities required to making communities safer and resilient (World Bank, 2011). With regards to this, the government of Kenya has put in place a number of programmes geared towards mitigating the impacts of climate change. Among the programmes include the launching of the National Climate Change Response Strategy (NCCRS) in 2010. The Strategy was Kenya’s first climate change agenda guide as it provided a basis for strengthening and focusing nationwide action towards climate change adaptation and mitigation. It enhanced the perception of the global climate change regime, the impacts and response strategies of climate change in Kenya. In addition, the strategy provided response measures geared towards achieving the global and national goals such as the Millenium Development Goals (MDGs) and the Kenya’s Vision 2030 respectively (GoK, 2010).

Further, the National Climate Change Action Plan (NCCAP) was developed in 2012 aimed at operationalizing the National Climate Change Response Strategy. To achieve this the Ministry of Environment, Water and Natural Resources is currently implementing 9 sub-

components of the NCCAP, namely: (a) long-term national low carbon development pathway; (b) enabling policy and regulatory framework; (c) national adaptation plan; (d) nationally appropriate mitigation actions; (e) national technology action plan; (f) national performance and benefit measurement; (g) knowledge management and capacity development; (h) finance; and (i) coordination (GoK, 2012).

Kenya has identified its ASALs as the most vulnerable areas to climate change with huge impacts on livestock rearing, small-holder agriculture and tourism, which are the dominant sources of livelihoods in these areas (GoK, 2009) whose sustainability is continuously getting threatened due to climate variability and change which are expected to further exacerbate the variability in rainfall and temperatures (IPCC 2001; 2007) in these areas. However strategies to address the differential effects of climate change amongst populations are still lacking.

Geographical Characteristics Narok County

Narok County is situated in Kenya along the Great Rift Valley. Narok County is located in Rift Valley and constitutes 3 constituencies (Kilgoris, Narok north and Narok South). The county has varied topography, with a plateau from 1000m-2350m asl in the southern parts, mountainous landscape in the southern Mau Ranges peaking at 3098m asl in the North and the Great Rift Valley in the Northern parts around Suswa and Naivasha. The climate of Narok County is strongly influenced by the altitude and physical features. The county has five agro-climatic zones namely; humid, sub-humid, semi-humid to arid and semi-arid. Two-thirds of the district is classified as semi arid (Narok DEAP 2009- 2013). Temperatures range from 200C (January- March) to 100C (June- September) with an average of 180C. Rainfalls amounts are influenced by the passage of inter tropical convergence zones giving rise to bi-modal rainfall pattern. Long rains are experienced between the months of February and June while the short rains are experienced between August and November. Rainfall ranges from 2,500 mm in wet season to 500 mm during the dry season (Republic of Kenya, 2013). The lowlands have poor quality soils and the rains are unreliable. These areas are suitable for sheep, goats, beef and dairy cattle and bee-keeping. The area is also rich in wildlife that is harnessed or can be harnessed for the tourism and ecotourism industries (Skidmore and Ferwerda, 2008). This area formerly comprised of group ranches that have been subsequently sub-divided into individual holdings or parcels. In the mid elevation between the lowlands there is large scale wheat, barley and maize cultivation. Over the past decade or so, the county has witnessed varying changes with regards to their health and livelihoods. The changes include: crop failures leading to food insecurity; pasture shortages; loss of human life; death of livestock & wildlife; human wildlife conflict and shortage of water among other challenges.

Most of the natural resources occurring within the county are located on community lands. These community lands are managed as group ranches under the Group Ranch Act; these include Laila Group Ranch, Olomismis Group Ranch, Shartuka Group Ranch among others.

The main crops grown in the county are wheat, barley, maize, beans, Irish potatoes and horticultural crops. These crops are grown under rain fed, micro irrigation, and sprinkle and drip irrigation. Maize, wheat, barley and sugarcane are grown as cash crops. Maize and wheat are the highest income earning cash crops in the county. Most part of Narok County is populated by the Nomadic pastoralists, the Maasai community; they have also assimilated the Ogiek who are minority tribe in the county. Kalenjins, Kikuyu and the Kisii also reside in other parts of the county. Livestock farming is practiced for both local and adaptive exotic breeds. Livestock farming in Narok contribute 10 % of the country's GDP.

OBJECTIVES OF THE STUDY

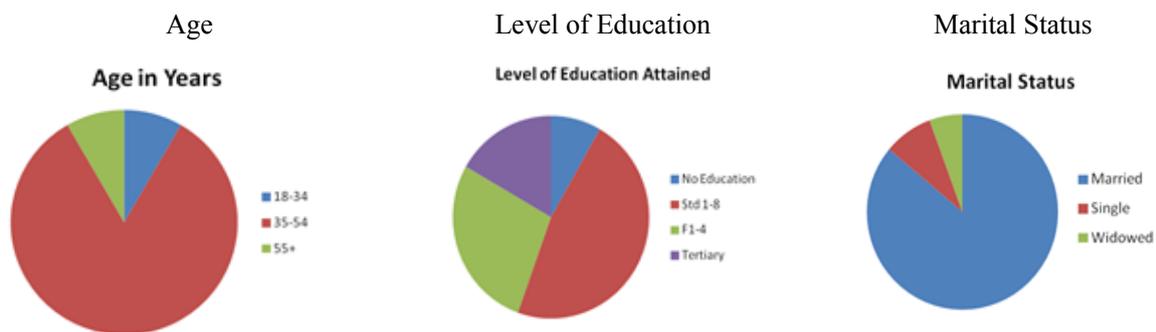
The objectives of the study were to:

- a. Assess the perception of climate change among the pastoralist women in Narok County.
- b. Examine the coping mechanisms employed by pastoralist women in Narok county.

DESIGN AND METHODOLOGY

The study was conducted between December 2017 and January 2018 whereby a sample of 51 respondents interviewed. Out of the 51 respondents, six were focused group discussions each with 6-8 women and 9 in-depth interviews targeting women above 55 years of age. Selection of the sample was purposively done so as to include women participating in various professions or sectors of economy. An interview guide used was designed to capture varying description of what climate change meant to them, the impacts and their response strategies. The selection of the respondents was based on their availability and willingness to participate in the research. All respondents were requested to consent before being interviewed as per the research ethics requirement. The responses were then recorded in form of notes.

Socio - Demographic Characteristics of the respondents



With regards to data analysis, content analysis formed key method of analysis in this study. This is a procedure that organizes transcribed material by coding interview data into blocks that represent a common theme or new themes that emerge from the interviewee quotes (Côte et al., 1993). The responses were therefore described based on the two preset themes i.e. (i) manifestations of climate change and (ii) Response strategies.

KEY FINDINGS

This section presents the results of a qualitative study aimed at gaining a deeper understanding of the pastoralist women's perception and response strategies to climate change. Overall, the interviews suggest that women are aware of climate change and that in one way or another, the effects of climate change in all the county have been felt socially and economically. Climate change may have also indirectly facilitated inter-clan or ethnic violence.

Perception of Climate Change

According to Haque, et al. 2012, different population groups may have different opinions about climate change. With regards to knowledge on climate change, approximately 78 % of the respondents interviewed acknowledged their awareness of climate change through forums organized by the county governments, Non-Governmental organizations and Faith Based Organizations. Most descriptions given were cited from the changes that occur in their

environments as well as those that affect their livelihoods. Some of the common definitions include: disappearance of certain bird species, shortage of rainfall, shrinking of rivers, drying up of some springs, extinction of certain plant species some with medicinal value and unprecedented changes in temperatures during day and night. Other respondents could not correctly describe the concept of climate change as some related it with aspects such as lightning and earthquake. Others associated it with some form of punishment or curse from God for not obeying him, while others described climate change in relation to how it is manifested in their livelihoods. The table 5.1.1 below illustrates some of the excerpts taken from the FGD notes with regards to the respondents' perception to climate change.

Table 1. Perception on climate change

Climate change?
- Lack of rainfall
- Refers to the rise in average surface temperatures on earth
- Hot temperatures characterized by long drought
- Consequences of unchecked population
- It is long term shift in the planets weather pattern or average temperatures
- It is when there is lack of pasture and our livestock are forced to go for long distances to look for pastures and water. During this time, there are many incidences of animals falling sick and dying.
- A condition where different seasons appear differently in a year for example drought and rainy season.
- It refers to changes in the mode of dressing for example during rainy season people intend to put on pullovers and heavy clothing but in dry season they only put on light clothes.
- It is when grass dry and animals die
- It is the disappearance and appearance of certain trees and rivers. The period of extreme weather conditions.
- Seasons have become more difficult to predict.
- Yields from the farm have reduced and planting seasons have changed hence less agricultural production.
- Emergence of new diseases
- Drying up of water wells
- Extinction of some plants that were used for medicinal purposes
- Disappearance of some birds (played key role in weather prediction)
- Scarcity of wild fruits

Effects of climate change on livelihoods

With the shifts in rainy seasons accompanied by delays has disrupted their major livelihood which is livestock keeping. According to the respondents when the dry season is prolonged, their men and sons are forced to move with their livestock in search of water and pasture. Consequently, they are left behind with other members of the family and the responsibility of fending for them. Shortage of rainfall and related effects has seen them lose their livestock. The dry spells are becoming more pronounced every passing year proving to threaten the sustainability of their main livelihood.

Majority of the pastoralist communities have embraced crop farming in addition to livestock keeping. During a good season, they are able harvest maize/wheat, sell them and get good income, however, the success of this activity too relies on the stability of the weather conditions (Republic of Kenya, 2013). Most women interviewed expressed their concern on

the reliability of the weather patterns that when harvests appear to be good in one season, one is never guaranteed of the same during the subsequent seasons.

Other than affecting their livelihoods, the respondents also linked the shifting and variability of weather patterns to the enhanced spread of disease causing parasites like mosquitoes which causes malaria. According to them there are more malaria incidences compared to earlier years and that this could be explained by the fact that mosquitoes thrive well in warm areas, conditions perpetuated by increased temperatures in the region. Shortage of water is likely to result in the spread of cholera. In addition, incidences of terminal illnesses like cancer are becoming rampant and according to the respondents, this could be linked to climate change.

With regards to the economic aspects, the climate change has led to seasonal shrinking of some markets. This is attributed to inter-ethnic conflicts that arise from scarcity of resources. When communities are in conflicts, chances are that markets situated along the boundaries close due to insecurity. Commodities from the neighboring communities may not find their way through the borders, this limits the variety of commodities being traded consequently lowering the prices of the commodities and thereby exacerbating the effects of climate change.

Response strategies employed by women to mitigate climate change effects

Findings in this study revealed that pastoralist women have employed diverse strategies in response to climate change effects. They include diversification of livelihoods; purchasing storage tanks for water; planting and nurturing endangered medicinal plants in their farms; changing the planting seasons; paying attention to reports on weather forecasts from the meteorological departments since their indigenous way of predicting weather is continuously diminishing due to continued disappearance of important bird species. Women have also joined hands in form of *chamas* (groups) which are aimed at making monetary contributions as savings and shared equally at a stipulated period. According to the respondents, this strategy has cushioned them in times of economic crisis, with some using the money to buy storage tanks while others use them as capital to start up or scale up their businesses. Some women are also doing commercial beadwork alongside selling of animal products moreso milk. However, involvement in so many activities as source of livelihood signifies stress in the pastoral system. According to Amsalu, et al., 2013, some strategies, such as cultivation of unsuitable areas, overgrazing, charcoal burning and fuel-wood selling are not only unsustainable but can also contribute to further degradation of resources and desertification which accelerates both vulnerability and retards local and national development endeavors.

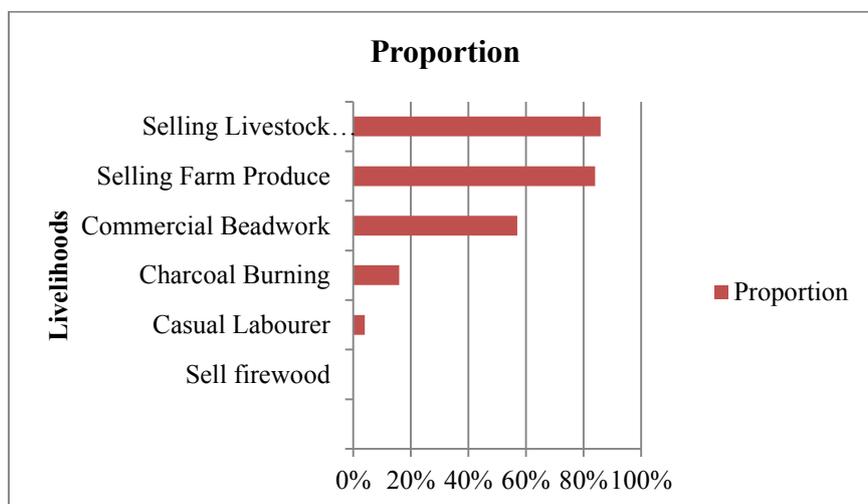


Figure 1: Livelihoods adopted by women in Narok County

Examples of adaptation strategies adopted by women in Narok county include: joining merry-go-round groups, transformation of pastoralists into agro-pastoralists, especially in areas situated next to water sources, sale of animals and animal products e.g. milk, seeking employment (mostly casual labour), engaging in businesses, for example, selling firewood, charcoal, selling sugar, soap, tea leaves, etc. Figure 5.2.1 shows the response strategies adopted by women in form of alternative livelihoods. It is worth noting that the women have adopted more than one alternative livelihood in some cases while majority are sticking to one main livelihood especially those selling animal products.

As a result of climate change impacting on their usual livelihoods which is pastoralism, women have resulted to explore alternative livelihoods to help them meet their daily needs. The type of alternative livelihood women opt for is dictated by the availability of the livelihood and the capability of the women to access thus variability in their adoption.

For example in the above figure majority of the women in Narok are engaging in selling of livestock products which are mostly milk. Initially milk was mainly for consumption but with the decline in farm produce due encroachment of desert like conditions, women have opted to sell milk to a cooperative society which was availed recently in the small towns across the county. Majority of the women are also engaging in charcoal burning for commercial purpose which consequently contributes to environmental degradation. With the money they get they are able to purchase household goods, upscale their businesses, pay school fees for their children and medical expenses. Charcoal burning has been a highly contested issue nationally and even at the county level. This is because of the effects it has on deforestation and hence environmental degradation.

CONCLUSION

The fact that climate change is a global phenomenon, it is important to acknowledge that its effects affect different population groups variedly. Pastoral communities are the most affected and more so the pastoralist women. Majority of the women poses control over land, livestock and household income. This forces them to interact with the environment on daily basis in search of their upkeep. Their awareness of climate changes indicates a success in the adaptation of adaptation strategies. Wide range of strategies are being adopted by women in Narok county like diversification of income, resource sharing, savings, setting up businesses, crop farming, engaging in casual labour and charcoal selling.

A number of women however have little knowledge o climate change and it is necessary for the county government through its ministry of environment to enhance the climate change awareness through various platforms. This will increase the adaptation level and hence cushion the community from the adverse effects of climate change and available adaptation strategies including adoption of alternative livelihoods.

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