Journal of Emerging Trends in Economics and Management Sciences (JETEMS) 4(1): 31-41

jetems.scholarlinkresearch.org

Effects of Drought and Floods on Crop and Animal Losses and Socio-economic Status of Households in the Lake Victoria Basin of Kenya

[1]Samuel K. Gichere, [3]Geoffrey Olado, [2]Douglas N. Anyona, [2 and 4]Ally-Said Matano, [3]Gabriel O. Dida, [2]Paul O. Abuom, [1]Jairus Amayi and [3]Ayub V. O. Ofulla

[1]School of Business & Economics, Maseno University, Kenya,
[2]School of Environment and Earth Sciences, Maseno University, Kenya,
[3]School of Public Health & Community Development, Maseno University, Kenya,
[4]EAC-Lake Victoria Basin Commission, Kisumu, Kenya.
Corresponding Author: Gabriel O. Dida

Abstract
Most crops and animal losses are witnessed during drought and floods either indirectly through climate induced diseases or directly through the physical impact of floods on crops and livestock or their production. We investigated the effect of drought and floods on crop and animal production and losses among households in six regions within the Lake Victoria Basin (LVB) of Kenya. In this study, a structured questionnaire and focus group discussions were used to collect primary data on the effects of climate variability on houdesholds' income and losses from crops and livestock, while retrospective data on the past climatic events were obtained from media reports and Kenya meteorological department. The demographic information was collecetd from the Kenya population and housing census reports. All (100%) households, from the six regions grew some crops on their farms, though the largest percentage (88%) of households were from Bomet region, followed by Kisii central region (78%). The least was recorded in Bondo region (47%). Most (88%) households also kept a small number of livestock with cattle being most dominant. Livestock losses among households were highest (Ksh. 8,502) in Rarieda and lowest in Bomet (Ksh. 3,115). Pooled average losses per region as a result of crop failure was Ksh. 118,825, with Nyando region recording upto three times (Ksh. 221,709) higher than Kisii central (Ksh. 72,577), Budalangi (Ksh. 73,804) and Bomet (Ksh. 76,365) regions. The disaster prone regions (i.e. Bondo, Rarieda, Budalangi and Nyando) were 25 times more likely to be affected by drought, compared to regions with relatively good weather (i.e. Bomet and Kisii central) (p = < 0.0001). Floods had mostly been experienced in Budalangi and Nyando. Results also indicated that regions with relatively good weather experienced 3 times more rains than the other four disaster prone regions, but the differences were insignificant (p = 0.097). In general, results showed that crops farming had more climate related losses compared to livestock rearing which in this case recorded very minimal losses, suggesting that LVB communities should put more emphasis on livestock rearing which is not as sensitive to seasonal droughts and floods as crop farming.

Keywords: crop and animal production, drought, floods, lake victoria basin, Kenya.

INTRODUCTION

In sub-Saharan Africa, droughts and floods are two extreme climatic events that adversely affect the agricultural sector, and by extension affects the households. These climatic events often have severe socio-economic impacts such as shortages of food, water, energy and other essential basic commodities, as well as long-term food insecurity (IPPC, 2001). Lake Victoria Basin (LVB) is endowed with a wealth of natural resources among them a population of about 30,000,000 (Shepherd *et al*., 2000); with the current estimate putting the population at more than 35,000,000 people, most of whom depend directly or indirectly on the agricultural sector. In this region, human vulnerability to drought appears to be due to high poverty levels, high population growth rates, insufficient sensitization on values of wetlands and politically instigated pressures and interference (IPCC, 2001). However, severe effects of drought are exacerbated by human activities such as deforestation, overgrazing and poor farming methods.

Floods are also a common phenomenon in Kenya, with the country ranked among the 16 worst affected tropical countries during the 1997/98 El Niño event which resulted in severe floods after major rivers in the country attained record peaks causing havoc and destroying livelihoods (Gadain *et al*., 2006). Riverine floods are the most dominant in Kenya and mostly occur along floodplains as a result of exceeded stream flow capacity, leading to over spills of the natural banks or artificial embankments (Smith and Ward, 1998). Rivers Nzoia and Nyando experience extensive floods in their lower reaches affecting the