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## Climate change and its impact on livelihood pattern change in the tana basin of ethiopia: implication for poverty and food security

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### Abstract

The main objective of the study was to examine the effect of climate change and adaptation on livelihood pattern change and the concomitant implications for poverty and food security in the the lake Tana livelihood system of Ethiopia. The research used a mixed-method research approach to address the study objectives. In this regard, the research applied various types of data collection techniques including household survey, focus group discussion, key informant interview, in-depth interview and participatory scenario development workshops. In line with this, a time series analysis of the relationship between climate change variables and crop production showed that changes have occurred in the variables that have led to a reduction in crop production. In order to respond to the negative effects, community members have used various modern and traditional adaptation techniques. However, climate change and adaptation strategies have brought changes in livelihood pattern (expressed in terms of change in assets and livelihood strategies in the Lake Tana Basin). Accordingly, the study assessed the effect of changes in livelihood pattern on food security and poverty. The result shows that the observed changes in livelihood pattern has affected thee different components of poverty and food security. And with regard to the components of livelihood assets, the research revealed that almost all of them are under climate threat but with different levels of vulnerability. Another finding is that current adaptation strategies are not pro-poor. The result of a ranking exercise using local criteria shows that while afforestation, tree planning, shifting cultivation and modern irrigation ranked relatively at the top as pro-poor strategies, improved seeds and improved animal hybrids ranked lowest.

**Keywords:** Climate change impact, food security , livelihood pattern change, poverty