Assessment of Household Food Security in the Face of Climate Change and Variability in the Upper Blue-Nile of Ethiopia

Abstract [1]

It is widely recognized that climate variability and frequent droughts resulting from El-Nino phenomenon are among the major risk factors affecting agricultural production that might contribute to hunger and food insecurity in East Africa in general and Ethiopia in particular. The objectives of the present study were to examine the food security status and determinants of household food security among 442 randomly selected households in the Muger sub-basin of the Blue-Nile basin using household survey, focus group discussion (FGD) and key informant interview data collection methods. Both descriptive statistics (mean, chi-square test and t-test) and binary logit econometric model were used to analyze the data. The results showed that 57.8% of the households are food secure, while the remaining 42.2% of the households are food insecure. The binary logit regression results revealed that adoption of soil conservation, small-scale irrigation and employing different agronomic practices are important factors influencing household food security. Moreover, land holding and livestock ownership positively and significantly affected household's food security. The results further showed that family size and distance to the nearest market are important factors affecting food security in the inverse direction. The results highlighted careful investments on sustainable land management practices and small-scale irrigation that reduced sensitivity and increased the adaptive capacity of smallholder farmers to the adverse effect of climate change and variability. This study further highlighted the significance of livestock ownership and landholding in attaining food security under changing climate. The findings call for action based on advocacy family planning to curb population growth and invest in creating functional value-chain that help farmers' viable market for their produces. Key words: Food security, climate change, drought, determinant.

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