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Barriers to and Determinants of the Choice of Crop Management Strategies to Combat Climate Change in Dejen District, Nile Basin of Ethiopia

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Abstract

Climate change without adaptation is projected to impact strongly the livelihoods of the rural communities. Adaptation to climate change is crucial for developing country like Ethiopia due to high population and dependency on agriculture. Hence, this study was initiated to examine the barriers to and determinants of the choice of crop management strategies to combat climate change. The Intergovernmental Panel on Climate change (IPCC) concepts of climate change adaptation provided the framework. Stratified and snowball sampling techniques were employed to select a sample of 398 households. The household survey was employed to collect data on current adaptation strategies. Logistic regression was used to analyse the determinants of choice of adaptation strategies. Logistic regression analyses were carried out at $p \leq 0.05$. Small farmland size, agro-ecology, farmland location, financial constraints, and lack of skills were the major barriers to adoption of crop management strategies. Age, farming experience, income, family size, government experts' extension services, agro-ecology, and crop failure history of households were significantly related to the choice of most of the crop management strategies. Socio-economic and institutional factors determined rural communities' ability and willingness to choose effective adaptation strategies. Policy priority should be given based on agro-ecology and households demand of policy intervention such as providing extension services and subsidising the least adopted strategies due to financial constraints. The rural communities were included those who were engaged in farming and off-farm activities like livestock rearing and bee keeping among others who reside in the rural areas. According to Food and Agricultural Organisation (FAO 2010), due to climate change and variability almost one billion people experienced hunger in 2010 globally.

Keywords: Adaptation, Blue Nile of Ethiopia , climate change, crop management

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