

**Farmers' preferences and effectiveness of climate smart agricultural practices in
Tehuledere district, Northeastern Ethiopia**

Adera Sisay Wassie

Master of Science (Natural Resources Assessment and Management)

University of Dar es Salaam, Institute of Resources Assessment, 2016

The objective of this study was to assess farmers' preference and effectiveness of climate smart agricultural (CSA) practices. Both primary and secondary sources of data were collected and analyzed using both qualitative and quantitative methods. Conjoint experiment method was employed to identify most important attributes of CSA practices. The study has revealed that majority of participants are aware of climate change and variability. The indicators of climate change include drought, off-season rainfall, too little and/or too much rainfall, and high temperature. The impact of climate variability observed by participants include, decreasing crop yield and livestock production, increasing pest and disease, decreasing water quantity and quality. Changing crop varieties, integrating livestock and crop production, soil and water conservation practices were some of the adaptation measures in response to climate change. Findings from the conjoint experiment showed that high and moderate climate resilience, and high crop yield agricultural practices had a positive utility. Contrary, high greenhouse gas emission, low climate resilience and low crop yield had a negative utility. The study found that crop yield and resilience are the most important factors influencing farmers' preferences of CSA practices. The main barriers limiting wide adoption and practicing of climate smart agriculture include inadequate law enforcement, lack of incentives, inadequate and unreliable extension and weather information. The study established that climate smart agricultural practices were viable and effective response measures, and hence it recommended increased support through adoption of innovative policies and strategies to address the barriers and widen the adoption scope