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Gambian farmers’ perception of and access to climate services on early warning and adaptation

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Abstract

Climate variability and extreme weather are the main contributors to the current increase in global food insecurity. As global temperatures rise, extreme climatic conditions will become more frequent and severe. Using seasonal weather forecasts and early warning systems will enable farmers and households to adjust their production plans and take measures to account for expected weather events. Linking early warning to early action is particularly vital in the agriculture sector.

In agriculture, an estimated 5–10% of domestic agricultural losses are due to changes in weather. A one-meter rise in sea level would effectively submerge up to 8% of the country’s land area. In the Gambia, these phenomena are reflected in a significant drop in harvest, water shortage, and worsening of health crises, resulting in growing food insecurity and threatening the progress made in the fight against poverty in the last decades. Studies show that obtaining and using weather forecasts can reduce the impact of weather shocks by 10–30%.

If climate information is available but does not enable households to adopt adaptation strategies their value will be lost. Therefore, this study is set to assess how access to climate information services enables households to adopt climate risk adaptation strategies.

The binary logistic regression model is used to analyse household access to and the usefulness of the information for decision-making while the multinomial logit (MNL) model is used to analyse the perceptions of the usefulness and reliability of early warning and weather forecasting information. The recursive bivariate probit (RBP) model is used to analyse the determinant of the use of climate information and its impact on adopting an adaptation measure.

This research results show the level of access to climate information services in the Gambia, and the main factors that influence access to climate information. How farmers perceived the usefulness and reliability of early warning and weather forecasting information. The impact of the use of climate information on the adoption decision of farmers.

Keywords: Access, adaptation, climate services, climate variability, early warning, perception, The Gambia