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## Analyzing the nexus between agricultural knowledge management and climate change adaptation, vulnerability status of rural women in Ethiopia

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### Abstract

Effective sharing and management of climate knowledge in rural communities are crucial for enhancing climate adaptation practices, fostering inclusive growth, and reducing the vulnerability of marginalized groups to climate change. This, in turn, contributes to creating a safe and healthy environment.

The primary objective of this paper is to analyse the relationship between agricultural knowledge management, climate change adaptation, and the vulnerability status of rural women in Ethiopia.

Our food and agriculture systems face significant challenges in sustainably producing sufficient, nutritious, and affordable food. Ethiopian farmers are struggling with climate change events such as droughts, erratic rainfall, floods, and food shortages. For example, in October 2023, over 24 people died, 23,000 were displaced by floods, and 2,000 were displaced by drought. Currently, the most vulnerable groups, particularly women, have limited access to agricultural knowledge management, innovation, and public services like short-term training, knowledge sharing, and digital communication. Despite more than 52 drought-resistant crop varieties being released by Amhara Regional Farmers, there is very restricted knowledge or scientific information about climate change; instead, it is often attributed to supernatural causes. Providing inclusive climate information access to rural communities can significantly contribute to global efforts to mitigate climate change.

1. To analyse existing climate change adaptation practices in response to shocks at the rural household level in Ethiopia, using a gendered approach.

2. To assess the status of agricultural knowledge management (climate knowledge) in northern Ethiopia.

3. To evaluate the climate change vulnerability status of rural women in northern Ethiopia.

4. To identify the determinants of climate change adaptation practices, climate knowledge, and the vulnerability of women in northern Ethiopia.

5. To evaluate existing social protection measures that promote adaptation to climate change in northern Ethiopia.

Both qualitative and quantitative methods were employed, with interviews conducted with 664 rural households. Focus group discussions (FGD) and key informant (KI) interviews were held and analysed using STATA. Both inferential binary probit models for climate adaptation practices of farm households and descriptive statistics were applied. Secondary data from NASA's Power Climate dataset were used for each selected study district.

**Keywords:** Climate adaption, climate information, rural household, rural women and food system