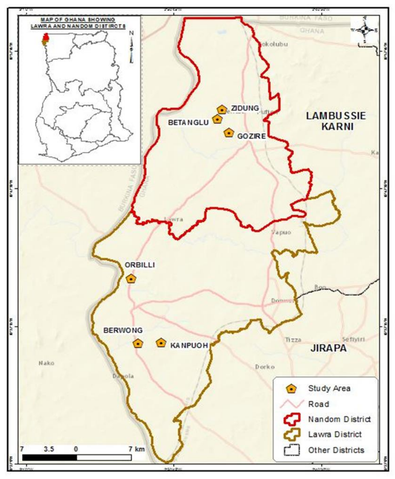
Formal and Informal Institutions in Agricultural Adaptation: The Case of Lawra and Nandom Districts, Ghana

Background

The semi-arid northern Ghana is characterized by extreme temperature, low rainfall, poor soil fertility and poverty (Nyantakyi-Frimpong & Bezner-Kerr, 2015). Climate variability and change is expected to exacerbate these stressors and increase the vulnerability of smallholder farmers in these areas. While the current frequency of climate impacts are expected to increase, smallholder farmers will require new information and strategies to successfully adapt. However, institutional support is increasingly gaining attention as the way forward to effective and successful adaptation and the achievement of the Sustainable Development Goals (SDGs) in developing countries. Despite the growing number of institutions, there is limited knowledge of their roles in implementing strategies to improve adaptation among smallholder farmers in the semi- arid Ghana.



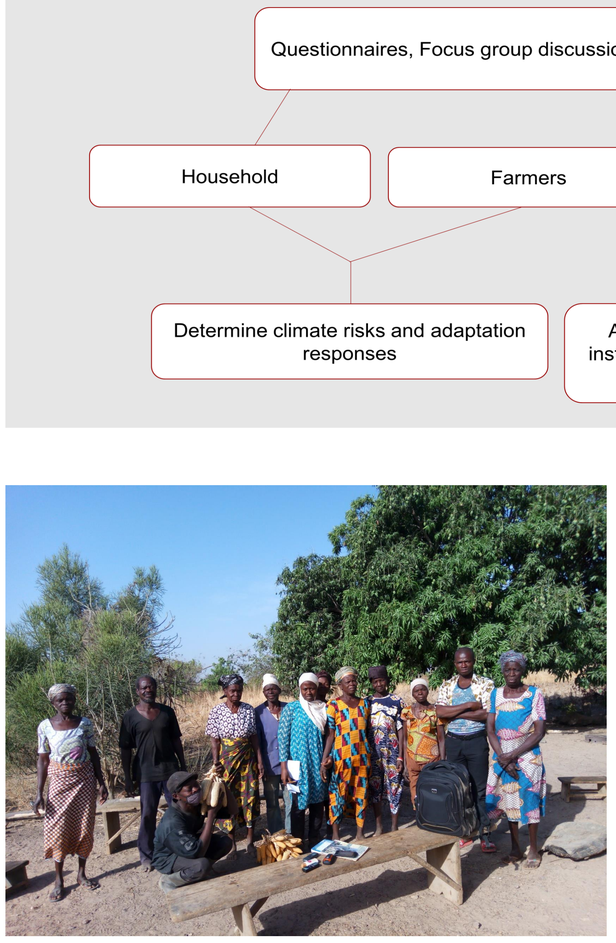
Objectives

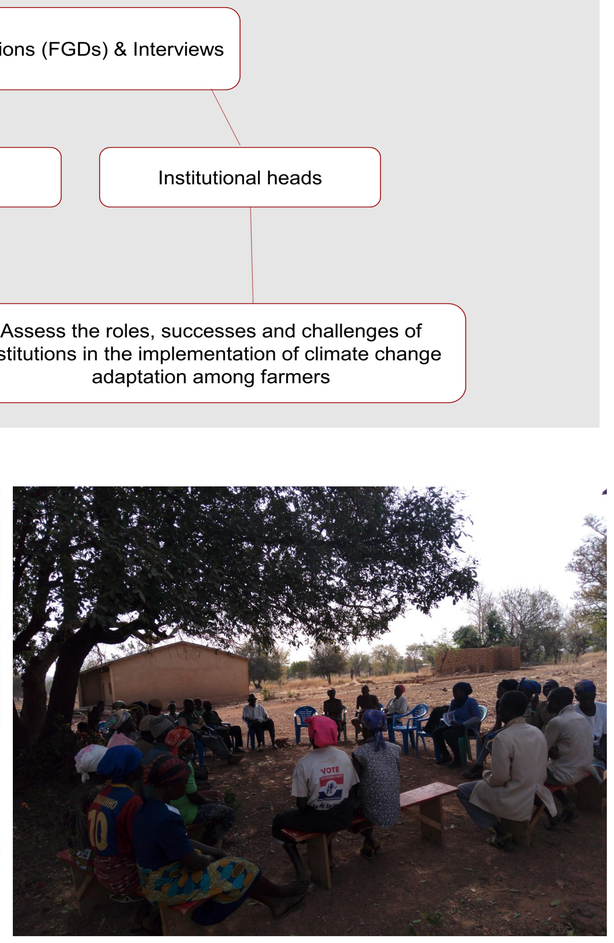
- Examine the existing formal and informal institutions and their roles in implementing adaptation strategies among smallholder farmers.
- Analyse the challenges institutions encounter in the implementation of the adaptation strategies and highlight useful lessons borne out of the experiences of the institutions.

Methodology

Stratified sampling used to select three communities each from the two districts in Upper West Region of Ghana:

- Lawra district (Kanpuoh, Orbilli and Berwong)
- Nandom district (Zidung, Gozire and Betanglu)





Questionnaire surveys on the socio-economic and demographic characteristics of respondents, perceptions about climate change and variability, adaptation strategies, institutions and their roles in adaptation to climate change.

Focus group discussions (FGDs) and with smallholder farmers in-depth interviews with key informants in leadership positions on awareness of climate change and adaptation mechanisms of communities across space and time

Results

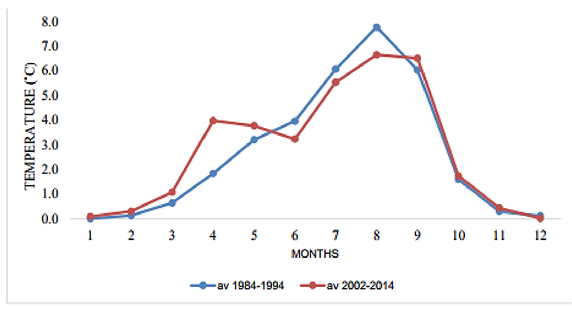


Figure 1: Changes in temperature pattern in Upper West Region over 30 years

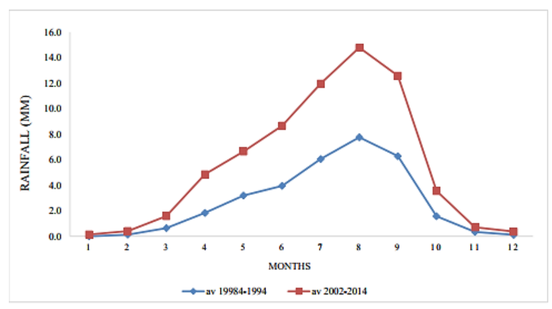


Figure 2: Changes in rainfall pattern in Upper West Region over 30 years

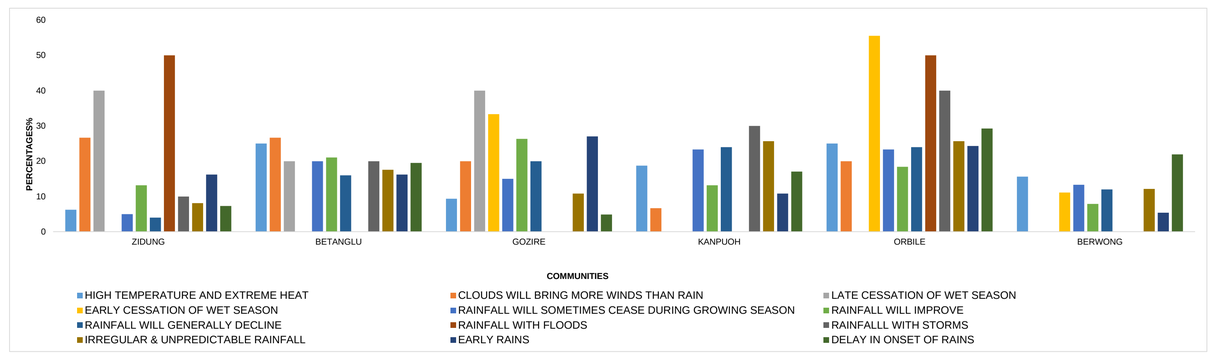


Figure 3: Observed changes in weather over the last 10years

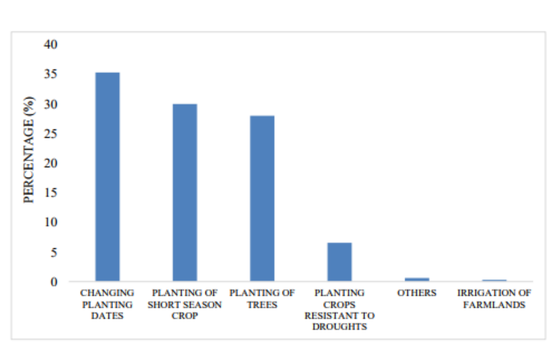


Figure 4: Strategies of climate change adaptation by individual farmers

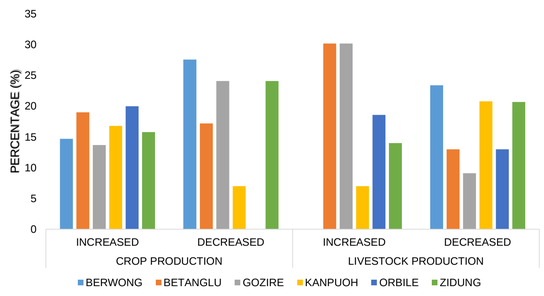


Figure 5: Changes in Agriculture Production in the last 10 years

Table 1: Adaptation options, type, institution responsible and the kind of support

Adaptation options	Type of adaptation	Institution	Type of support
Crop diversification	Planned	MoFA, CIKOD	Information & knowledge transfer and Technical support
Different varieties of same crop	Planned	MoFA, CIKOD	Information& knowledge transfer and Technical support
Tree planting	Planned	MoFA	Information & knowledge transfer and Technical support
Diversify to non-farm income	Planned	Care Intl. (VSLA)	Information & knowledge transfer
Changing of planting dates	Autonomous/ Planned	MoFA	Information & knowledge transfer
Change in seasonal water use pattern	Autonomous	Local Initiative	Information & knowledge transfer
Water stress related migration	Autonomous	Local Initiative	Information & knowledge transfer
Surface/ground/rain harvesting	Autonomous	Local Initiative	Information & knowledge transfer
Change seasonal migration patterns	Autonomous	Local Initiative	Information & knowledge transfer

Care Intl. Care International
CIKOD – Centre for Indigenous Knowledge and Organizational Development
MoFA – Ministry of Food and Agriculture
VSLA – Village Savings and Loan Association

Key Findings

Farmers have long been coping with the changing climate locally, however, there is the need for increased formal institutional effort to sustain adaptation, especially because:

- Formal institutions support to communities enable them to develop effective initiatives of climate change agricultural adaptation
- Government-led adaptation is more sustained than NGO-led programmes although it comparatively lacks mandates and financial resources

Key Literature

Agrawal, A., Brown, D.G., Rao, G., Riolo, R., Robinson, D.T. and Bommarito II, M., (2013). Interactions between organizations and networks in common-pool resource governance. Environmental Science & Policy 25:138-146.

Agrawal, A. and Perrin, N., (2008). Climate adaptation, local institutions and rural livelihoods. In IFRI Working Paper # W081-6. Michigan: International Forestry Resources and Institutions Program, University of Michigan.

Bishaw, B., Neufeldt, H., Mowo, J., Abdelkadir, A., Muriuki, J., Dalle, G., Assefa, T., Guillozet, K., Kassa, H., Dawson, I.K. and Luedeling, E. (2013). Farmers' strategies for adapting to and mitigating climate variability and change through agroforestry in Ethiopia and Kenya.

Nyantakyi-Frimpong, H. and R. Bezner Kerr. (2015). The relative importance of climate change in the context of multiple stressors in semi-arid Ghana. Global Environmental Change 32: 40-56.

Contact

Poster based on MPhil research by **Rabiatu Abass** (University of Ghana)

For more information, visit ASSAR official website at http://www.assar.uct.ac.za/ or email the ASSAR Technical Officer at *iess-assar@staff.ug.edu.gh*

This work was carried out under the Adaptation at Scale in Semi-Arid Regions project (ASSAR). ASSAR is one of five research programmes funded under the Collaborative Adaptation Research Initiative in Africa and Asia (CARIAA), with financial support from the UK Government's Department for International Development (DfID) and the International Development Research Centre (IDRC), Canada. The views expressed in this work are those of the creators and do not necessarily represent those of DfID and IDRC or its Board of Governors.