

Research Application Summary

Gender dimensions of climate change adaptation and mitigation by smallholder farmers in Uganda

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Abstract

Climate change is now recognized as serious with long term negative effects on agricultural productivity, and hence on the well-being of communities especially in Africa. Farmers have experienced climate change effects and have tried to mitigate these effects by adapting new/different production practices. This study has been set up to better understanding farmers' interpretation of the climate change concept and to learn from their adaptation strategies. A study has been initiated in two diverse agro-ecologies in Uganda for this purpose. Results will aid policy makers to better focus mitigation measures to wider areas by taking advantage of farmers' proven interventions.

Key words: Agricultural productivity, climate change, drought, farmer adaptation, greenhouse gases

Résumé

Le changement climatique est désormais reconnu comme sérieux suite aux effets négatifs à long terme sur la productivité agricole et, partant, sur le bien-être des communautés, particulièrement en Afrique. Les agriculteurs ont éprouvé des effets du changement climatique et ont tenté d'atténuer ces effets par l'adaptation de nouvelles / différentes pratiques de production. Cette étude a été mise en place pour mieux comprendre l'interprétation des agriculteurs de la notion de changement climatique et pour s'informer à partir de leurs stratégies d'adaptation. A cet effet, une étude a été lancée dans deux différentes agro-écologies en Ouganda. Les résultats vont permettre aux décideurs de mieux cibler les mesures d'atténuation pour des zones plus vastes en profitant des interventions des agriculteurs expérimentés.

Mots clés: La productivité agricole, changement climatique, sécheresse, adaptation des agriculteurs, gaz à effet de serre

Background

Climate change, mainly attributed to increases in greenhouse gases caused by human activities, is now globally recognized as a serious and urgent issue (Stern, 2006). Developing countries are especially more vulnerable to climate change because of several predisposing factors (Stern, 2006; IPCC, 2001). However, societies can respond to climate change and reduce its impact through adaptation and mitigation (IPCC, 2007). Adaptation refers to spontaneous or planned adjustments in practices, processes, or structures in response to projected or actual changes in climate aimed at reducing negative impacts or taking advantage of new opportunities presented by changing climate conditions (IPCC, 2001). Mitigation refers to limiting global climate change by reducing sources, or enhancing the sinks of greenhouse gases (Vordzorgbe, 2007). Because adaptation in most cases provides local benefits, in short time scales, it is likely to be a more viable approach for private actors such as individuals, households and businesses in response to actual or expected climate change, without the active intervention of policy (Stern, 2006). As such, local communities in Africa have always adapted to climate variations, based on accumulated knowledge and experience and resources available (UNFCCC, 2007). However, in view of climate change impact projections for the future, more effective adaptation is a necessity (UNFCCC, 2007; Oxfam, 2008). In addition, in order to ensure successful adaptation and mitigation policies, it is essential to address gender needs and interests, otherwise climate change will worsen the already existing gender inequalities (UNFCCC, 2004). A better understanding of farmers' knowledge of climate change, coupled with learning from farmers' adaptation experiences can help to further strengthen climate change adaptation. This study has been designed with a purpose of providing a holistic view of farmers' understanding of climate change, and highlight gendered experiences with climate change adaptations so as to help strengthen farmers' adaptation. The overall objective of the study is to understand gender dimensions of smallholder farmers' knowledge, innovations and experiences with climate change adaptation and mitigation. The specific objectives are; (a) to assess smallholder farmers' understanding of climate change, and (b) to document male and female farmers' experiences with climate change adaptation/mitigation innovations.

Literature Summary

Smallholder farmers' understanding of climate change. Farmers perceive climate change in terms of their experiences with perceived changes in climate properties, for instance,

increased frequency of droughts (Nhemachena and Hassan, 2007); and consequences of such changes, for example, poor crop performance. They also claim knowledge on causes and solutions to overcoming climate change impacts in future (Oxfam, 2008; ActionAid, 2006). Generally, the implementation and effectiveness of adaptation measures is limited by technological, cognitive, behavioural, political, socio-economic, institutional and cultural constraints, among others (IPCC, 2007).

Smallholder farmers' experiences with climate change adaptation. Many climate change adaptation strategies are being practiced by different societies in Africa. For more effective and efficient adaptation, there is need to compare adaptation costs and benefits in view of farmers' context and the future (Stern, 2007). For each strategy, the mechanism, costs, constraints and issues should be identified (IPCC, 2001). A field study conducted using Participatory Vulnerability Analysis (PVA) by ActionAid (2006) in Malawi showed that switching to short-season, hybrid maize varieties, though high yielding, proved costly for small farmers. On the other hand, a study on climate change and poverty in Bundibugyo and Kasese districts, Uganda (Oxfam, 2008) revealed that a risky approach adopted by farmers due to erratic rains had cost them more planting material, time and labor, while increased orientation towards a market economy threatened food security and price stability. However, it showed that women had benefited from less labour intensive enterprises. On the other hand, a report on climate change impacts, vulnerability and adaptation in Eastern and Southern Africa (Eriksen *et al.*, 2008) observed that adaptation by one group may increase vulnerability of another, and that the wealth of adaptation strategies available to farmers is no guarantee of successful adaptation.

Study Description

The study will employ an in-depth qualitative case study approach. The study will be carried out in two districts; Mbale (Northern) and Soroti. These lie in different agro-zones, namely, highland ranges and Kyoga plains, respectively thus, likely to present different adaptation strategies. In each district, the most climate change affected sub-county will be selected. In the sub-county, two villages, the most affected and the least affected by climate change impacts will be selected. Five gender disaggregated adaptation strategies will be selected by farmers in a stakeholders' workshop, according to a criteria agreed upon by stakeholders, including farmers, area NGO representatives and government extension workers. Each strategy will be

described and its technical and socio-economic merits/benefits will be assessed in discussion groups of 5-10 farmers, with representation of men and women. Men and women's experiences and lessons from adaptation will be captured separately. Individual household interviews will also be administered. Given the gender perspective of this study, households to be studied will be purposively selected based on sex and status. Three households will be selected, including, an adult male headed household, an adult female/widow headed household and a youth or elderly headed household. Participants will be male and female farmers who have had at least a year's experience in implementing an adaptation strategy. Data from individual and group interviews will be complemented with data from key informants, observation, and relevant documents. Meteorological data of the study areas for the last 30 years will be accessed to compare with the responses obtained. Data will be qualitatively analyzed.

Research Application

Results from this study will provide insight into the understanding of climate change by farmers and help policy makers to make appropriate policy interventions. More importantly, mitigation measures employed by farmers after their experiences with climate change will be obtained, studied and disseminated in similar agro-ecologies where they may have impact.

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