



Gender Differences in Climate Change Adaptation Strategies and Participation in Group-based Approaches: An Intra-household Analysis From Rural Kenya



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ABSTRACT

Existing studies on adaptation to climate change mainly focus on a comparison of male-headed and female-headed households. Aiming at a more nuanced gender analysis, this study examines how husbands and wives within the same household perceive climate risks and use group-based approaches as coping strategies. The data stem from a unique intra-household survey involving 156 couples in rural Kenya. The findings indicate that options for adapting to climate change closely interplay with husbands' and wives' roles and responsibilities, social norms, risk perceptions and access to resources. A higher percentage of wives were found to adopt crop-related strategies, whereas husbands employ livestock- and agroforestry-related strategies. Besides, there are gender-specific climate information needs, trust in information and preferred channels of information dissemination. Further, it turned out that group-based approaches benefit husbands and wives differently. Policy interventions that rely on group-based approaches should reflect the gender reality on the ground in order to amplify men's and women's specific abilities to manage risks and improve well-being outcomes in the face of accelerating climate change.

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1. Introduction

The impacts of climate change worsen pre-existing social inequalities specifically for women who are more vulnerable because of limited access to resources and because their livelihood depends on agriculture and natural resources, which are highly susceptible to climate variability (UN Women Watch, 2011:1; Alston, 2013). To lessen the adverse impacts of climate change and variability, local farmers have adjusted to harsh weather conditions and have already developed coping strategies over time. The uptake of these innovative practices and technologies, nonetheless, depends on individual characteristics, inequalities in household capital endowment and access to rural services including climate and agricultural information (Bohle et al., 1994; Adger et al., 2009; Nelson, 2011). In particular, much remains to be learned on how men and women are adjusting to harsh weather conditions and why they are taking up specific climate-smart agricultural practices.

The interaction between gender and climate change has received considerable attention in recent years, especially regarding the susceptibility of women to climate change impacts (Neumayer and Plu, 2007; Bynoe, 2009; Lambrou and Nelson, 2010; Dankelman, 2011; Serna, 2011; Goh, 2012; Alston, 2013). For instance, it has been widely acknowledged that the effects of climate change and variability are not gender neutral. Further, there is a far-reaching literature on adaptation to climate change in the domain of developing countries (see Grothmann and Patt, 2005; Deressa et al., 2009; Below et al., 2012; Bryan et al., 2013; Di Falco and Veronesi, 2013; Pérez et al., 2014). Nonetheless, these studies often miss out more nuanced gender aspects, or their empirical approach only permits comparing male- and female-headed households. Therefore, there is limited empirical evidence on how gender at the intra-household level influences the adaptive capacities of men and women.

Further, substantial empirical evidence indicates that gender disparity exists in access to resources, information and access to agricultural inputs (see FAO, 2011; Peterman et al., 2014 for a review). In spite of policies and interventions supporting gender equality and empowering women's inclusion in governance, gender disparity remains a worldwide challenge. To improve their fallback positions and to obtain better access to resources and improve their bargaining power and well-being, the poor and women draw upon social capital created through group-

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based approaches (GBA). Recent studies show that social capital promotes rural livelihoods and access to rural services (Kirori, 2015; Hoang et al., 2016) and resilience of households against extreme events and climate change (Mueller et al., 2013; Bernier and Meinzen-Dick, 2014; Ngigi et al., 2015) as well as recovery from other adverse events (Adger, 2003; Adger et al., 2009; Bezabih et al., 2013). Nevertheless, there has been little attention to gender-differentiated group-based approaches in the context of improving men's and women's adaptive capacity, ability to manage climate-related risks and protect household assets. A research gap exists with respect to what kinds of groups are most effective for empowering men and women in the face of climate change. Understanding the potential for gender-differentiated group-based approaches is relevant for policy formulation and program design, while targeting development interventions through social groups in developing countries like Kenya.

To bridge this gap, the study used unique intra-household data from rural Kenya to address the following objectives:

- To assess husbands' and wives' perceptions of climate change and adaptation measures
- To examine husbands' and wives' adaptive capacity in the domain of differentiated access to agricultural information
- To investigate the potential for gender-differentiated group-based approaches in enhancing husbands' and wives' adaptive capacity and managing climate risk
- To examine drivers of adoption of climate-smart agricultural practices for husbands and wives

A theoretical approach that assumes intra-household bargaining requires interviewing household members individually and calls for gender-sensitive analyses. Collective and bargaining approaches indicate that intra-household perspectives are important because households rarely operate as a production or consumption unit, but actors have different preferences while making household decisions, distributing resources and when responding to policy initiatives (Alderman et al., 1995). Hence, the data set used for this study comprises individual- and intra-household level data of 156 pairs of spouses and 15 gender-differentiated focus group discussions (FGDs) to address its objectives. This approach enables identifying gender differences in perceptions, adaptive capacity, and uptake of climate-smart agricultural strategies.

Moreover, collective and bargaining perspectives designate that husbands and wives within the same household have different abilities to make timely decisions, such as adaptation decisions and therefore are likely to respond differently to climate change. Furthermore, studies that consider gender-differentiated social capital formed through group-based approaches and accrued benefits are rare. For example, it is not clear which kinds of social groups are vital while targeting men and women in rural settings.

2. Conceptual Framework

The conceptual framework of the study focuses on understanding gender differentiated responses to climate change and variability with a special focus on the ultimate role of institutions, such as 'group-based approaches' and access to appropriate information to enhance resilience and adaptation processes (see Fig. 1).

The climate signal consists of long-term variations in average climate variables and volatility. These signals include a change of timing, frequency, magnitude of climate variables, hence profound erratic precipitation, and incidence of drought, flooding, and hailstorms. In Kenya, incidents of drought are the major climate signal affecting rural households (Ngigi et al., 2015).

As shown in the conceptual framework, certain characteristics make individuals or households (i.e. users of natural resources) vulnerable to climate change and other non-climate risks and shocks. These user characteristics comprise of assets at disposal, perceptions, gender, sources of livelihood and personal values in decision-making processes. For instance, the gender of an individual or household head may determine how the impacts of climate change are experienced and hence influence adaptive capacity. The term gender implies different social relations and power dynamics between men and women. Gender is defined as "social, cultural, and psychological traits linked to males and females through particular social contexts" (Lindsey, 2011: 4). The study conceptualizes gender and its interaction with resources, institutions, information, perceptions of climate risks and adaptive capacity. The main focus is an intra-household perspective, i.e. how husbands and wives within the same household access information, institutions, perceive and adapt to climate change.

Information and knowledge sharing is the second component of the vulnerability context that determines the ability to adopt appropriate

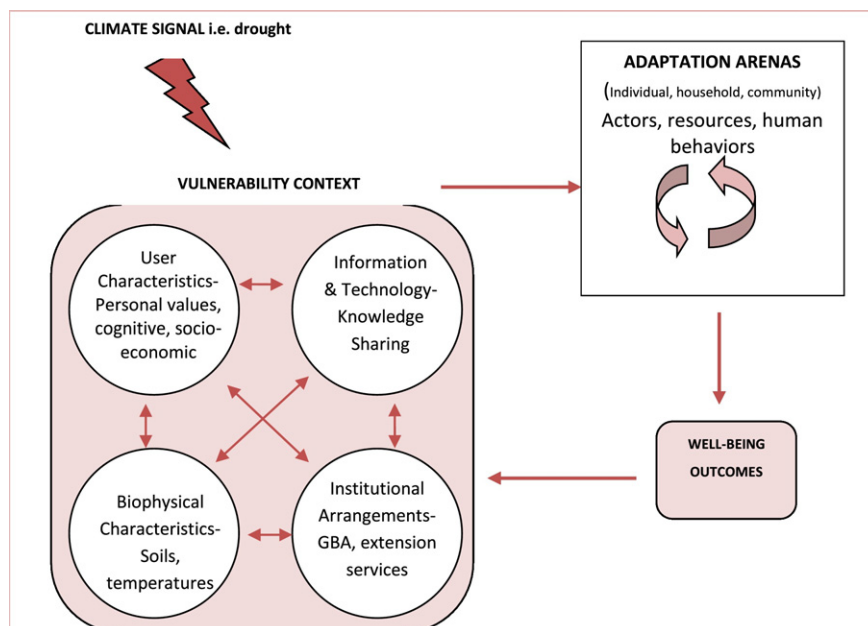


Fig. 1. Interaction of gender and climate change. Source: adopted from Bryan and Behrman (2013).

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