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The interplay between planned and autonomous adaptation in response to climate change: Insights from rural Ethiopia

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ABSTRACT

Using the notion of institutional interplay, which refers to situations where the operation or consequences of one regime influence another regime, the article explores the interplay between planned adaptation and farmer households' autonomous adaptation. Drawing empirical data from two drought-prone districts in Northeastern Ethiopia (Kobo and Raya Azebo), this article deals with the differentiated effects of planned adaptation, exemplified by Ethiopia's Productive Safety Net Programme (PSNP). Two layers of differentiating effects are studied by looking at the differences between households that are and households that are not targeted by PSNP; and the more detailed differences are explored by zooming in on male and female-headed households, respectively, within the subset of households targeted by PSNP. We use semi-structured interviews and focus group discussions with female and male household heads and key informant interviews with government officials. Our study indicates that the interplay has a differentiated effect following the participation of households in planned adaptation programs and gender lines. We show that the effect on building community assets can be positive at the community level and expands autonomous adaptation particularly for non-targeted households; however, targeted households in general and female-headed households in particular experience a negative effect of the interplay: planned adaptation constrains autonomous adaptation due to time and labor demands of public work, program restrictions and local gender norms.

1. Introduction

As evidence has shown, most African countries, and destitute communities in those countries in particular, are disproportionately affected by climate-induced problems. Prevalent poverty, social inequality and environmental problems such as land degradation, low adaptive capacity and, arguably most importantly, their high reliance on agriculture make them susceptible to the adverse effects of climate change (IPCC, 2014). Agriculture remains fundamental in economic, social and cultural aspects of life in African countries (Bryan, Deressa, Gbetibouo, & Ringler, 2009; IPCC, 2014). For instance, in Ethiopia, agriculture accounts for 43 percent of the gross domestic product and 90 percent of all exports. It also employs nearly 80 percent of the population, i.e. about 72 million people (FDRE, 2015). Thus, in view of the observed trends in climate change, the urgent need for adaptation in agriculture to protect the livelihoods of people is widely acknowledged (Bryan et al., 2009; Kumamoto & Mills, 2012).

This article considers vulnerability as a product of the interaction of both climate and non-climate stressors. With this understanding, adaptation responses need to focus on not only direct climate-related impacts (for instance, the provision of drought-resistant crops and irrigation) but also the underlying socioeconomic and institutional factors that influence people's vulnerability and their adaptive capacity (cf. Moser & Ekstrom, 2010; Pelling, 2011). This is particularly relevant for the case of developing countries, where social inequality, institutional, financial and technological constraints shape actors' vulnerability and adaptive capacity in relation to climate change (Kumamoto & Mills, 2012). In light of this, as stated in the Agriculture Sector Programme of Plan on Adaptation to Climate Change (ASPPACC), the Productive Safety Net Programme (PSNP), despite being originally a "safety net" program, is now also explicitly considered and treated as an adaptation intervention by the government to reduce people's vulnerability to extreme climate events such as drought and to enhance their adaptive capacity (FDRE, 2011). Adaptation to climate change has been carried out throughout society by individuals, community and governments and materializes in different types and forms (Smit et al., 2001). Farm communities and

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households have been engaged in adaptation in response to experienced or perceived changes in climate. Such responses have commonly been referred to as *autonomous* adaptation. Similarly, governments and other public bodies also engage in what is called *planned* adaptation (Füssel, 2007; Smit et al., 2001). Our premise here is that autonomous and planned adaptation regimes interplay, with the latter having a differentiating effect on the way in which local actors can and will adapt autonomously.

Planned and autonomous adaptations emerge as important subjects in the adaptation literature. On the one hand, part of the literature emphasizes the value of planned adaptation interventions and questions the extent to which society can realistically rely on autonomous adaption processes alone, especially as more intense climate change-induced problems can be expected to occur in the future (Easterling et al., 2007). Therefore, some analysts claim that autonomous adaptation is inefficient and suggest focusing on planned adaptation instead (cf. Eisenack, 2009). In planned adaptation regimes, the government is perceived as the main actor with the capacity to take a leading role by developing and implementing adaptation strategies and mainstreaming adaptation into existing policies and practices (Adger et al., 2007).

On the other hand, the need to emphasize autonomous adaptation practices has also been advocated (Bonzanigo, Bojovic, Maziotis, & Giupponi, 2015; Christoplos et al., 2009; Forsyth & Evans, 2013; Thorn, Thornton, & Helfgott, 2015). On this side of the debate, it is stated that even though vulnerable people have been engaged in adaptation autonomously, such practices are often "unnoticed, uncoordinated, and unaided by national governments, development agencies or international agencies" (Christoplos et al., 2009, p. 3); this results in further marginalization of vulnerable groups. Furthermore, Malik and Smith (2012) note that government planned adaptation that restricts autonomous adaptation can lead to a risk of conflict.

However, little attention has been paid to the *interplay* between planned and autonomous adaptation regimes (IPCC, 2012; Smith & Malik, 2012). This article seeks to partially fill this gap but also to extend the notion one step further by exploring the *socially differentiated effect* of the interplay between planned and autonomous adaptations. In this regard, despite the common framing of interplay as having a unanimous effect, i.e. that planned adaptation can either stimulate or hinder autonomous adaptation, the intention here is to explore how the effects vary across segments within communities by giving special attention to differences between households that are and households that are not targeted by PSNP and to differences between male and female-headed households within the subset of households targeted by PSNP.

Feminist scholars have asserted that state policies and interventions, often unintentionally, tend to (re)produce the gender order in society, and consequently, they reject top-down policy interventions and programs as manifestations of hegemonic masculinity (Walby, 1991). Also, adaptation policies are not free from socioeconomic and gender dynamics; unless planned adaptations are designed and implemented with consideration given to the vulnerability and adaptive ability differences, they will result in discriminatory effects that make women and other vulnerable groups more vulnerable (Ayers, 2011; Pearse, 2016; Terry, 2009). Similarly, autonomous adaptation processes are neither asocial nor apolitical. The ability of individuals and households to adapt autonomously is shaped by a number of factors, including financial, social, institutional and gender-related (Adger et al., 2009; Ayers, 2011; Mersha & Van Laerhoven, 2016). This results in variation in the number and kind of alternative adaptation measures available to different groups such as men and women, respectively. It also leads to variation in the effectiveness of any adaptation strategy that a male or female-headed household may end up choosing (Mersha & Van Laerhoven, 2016).

Therefore, the premise here is that autonomous and planned adaptation interplay, with the latter having a differentiated effect on households based on their participation in the program and based on gender (i.e. differences between male and female household heads) within the subset of participating households. The study has been guided by two research questions: *How does planned adaptation emanating from the state interplay with autonomous adaptation operating at the household level?* and *How and why are the effects differentiated?* We intend to answer these questions by looking at adaptation to drought in rural Ethiopia.

2. Research context

Ethiopia is a pertinent case for achieving the objectives laid out above because it often has been portrayed as a prime example of the consequences of the current climate crisis. Overreliance on rain-fed smallholder agriculture along with widespread poverty and land degradation increase Ethiopia's vulnerability to climate change and variability (Bryan et al., 2009; Conway & Schipper, 2011; FDRE, 2015). Identified climate change-related threats for Ethiopia include rising temperature trends, fluctuating and erratic rainfall and increased climate extremes such as flooding and drought (FDRE, 2015).

Particularly, extreme events such as drought have been acknowledged as an important climate-related threat in Ethiopia that affects millions of people's livelihoods. Their frequency, magnitude and spatial coverages have become more significant in recent decades. Future projections also expect a likely increase in climate extremes and rainfall variability (*cf.* FDRE, 2015; Viste, Korecha, & Sorteberg, 2012). Every drought incident has caused human death and displacement, combined with immense economic and livelihood costs (FDRE, 2015; Gebrehiwot & van der Veen, 2013). Specifically, every drought incident so far has caused an estimated decline in GDP of between 1 and 4%. The figure is expected to rise up to 10% (FDRE 2015). Beyond humanitarian consequences, droughts and subsequent famines have had significant political and historical implications as well. For instance, the 1972–73 drought and famine precipitated the removal of the imperial regime in 1975. The failure of the military regime to handle the 1984–85 drought and famine helped the current regime, then guerrilla fighters, to garner international attention and local support to overthrow the military regime in 1991 (Comenetz & Caviedes, 2002; Young, 2006). This historical and political context not only influences the current response to drought but also affects how the success and failure of adaptation interventions are evaluated and presented.

Regarding the adaptation responses of smallholders, especially in the highlands of Ethiopia, studies report ongoing adaptation strategies that can be classified into two groups: farm-level adaptation (irrigation, crop diversification, soil conservation, changing planting dates, planting trees) and non-farm adaptation (off-farm and non-farm diversification, temporary and permanent migration) (Bewket, 2012; Deressa, Hassan, Ringler, Alemu, & Yesuf, 2009; Gebrehiwot & van der Veen, 2013; Mersha & Van Laerhoven, 2016). Different financial, social (e.g. gender inequality), structural and institutional (e.g. access to information, credit, extension services) factors determine the adaptation choices and decisions of smallholders (Bewket, 2012; Deressa et al, 2009; Gebrehiwot & van der Veen, 2013; Mersha & Van Laerhoven, 2016). Planned adaptation and government interventions are suggested to overcome such obstacles (Bewket, 2012; Gebrehiwot & van der Veen, 2013).

So far, a number of policies and institutional arrangements in response to climate change have been put in place by the government. Table 1 presents the main policies and programs that