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#### Research paper

# How does institutional embeddedness shape innovation platforms? A diagnostic study of three districts in the Upper West Region of Ghana

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#### ABSTRACT

Innovation platforms have emerged as a way of enhancing the resilience of agricultural and food systems in the face of environmental change. Consequently, a great deal of theoretical reflection and empirical research have been devoted to the goal of understanding the factors that enhance and constrain their functionality. In this article, we further examine this enquiry by applying the concept of institutional embeddedness, understood as encompassing elements of platform design, structure, and functions as well as aspects of the broader historical, political, and social context to which platforms are connected. We present a case study of sub-national platforms established in three districts of the climatically-stressed Upper West Region of Ghana and charged with facilitating climate change responses at the local level and channelling community priorities into national climate change policy. A different kind of organization - the traditional chief council, the agricultural extension service, and a local NGO - was chosen by members to convene and coordinate the platform in each district. We examine platform members' accounts of the platform formation and selection of facilitating agent, their vision for platform roles, and their understandings of platform agenda and impacts. We analyse these narratives through the lens of institutional embeddedness, as expressed mostly, but not solely, by the choice of facilitating agents. We illustrate how the organizational position - and related vested interests - of facilitating agents contribute to shaping platform agendas, functions, and outcomes. This process hinges on the deployment of legitimacy claims, which may appeal to cultural tradition, technical expertise, community engagement, and dominant scientific narratives on climate change. Iinstitutional embeddedness is thereby shown to be a critical aspect of agency in multi-actor processes, contributing to framing local understandings of the climate change and to channelling collective efforts towards select response strategies. In conclusion, we stress that the institutional identity of facilitating agents and their relationship to members of the platform and to powerholders in the broader context provides a useful diagnostic lens to analyse the processes that shape the platform's ability to achieve its goals.

#### 1. Introduction

The latest Intergovernmental Panel on Climate Change (IPCC) assessment finds strong consensus that climate change will negatively impact food security worldwide, but especially in Africa due to its rapid population growth, dependence on rainfed crop production, and persistent poverty and dearth of livelihood alternatives in rural areas (Niang et al., 2014; Campbell et al., 2016). Extreme climatic events combined with soil erosion, pests and diseases, and other environmental effects are very likely to result in declining yields of food crops and reduced ability of rural households to adapt (Connolly-Boutin and Smit, 2016). There is high confidence that these trends will interact

with non-climate stressors to exacerbate the vulnerability of agricultural and food systems, particularly in semi-arid regions where the large majority of the population depends on cereal crop production for their subsistence (Campbell et al., 2016). The IPCC report recognizes that more than mere technical solutions are needed to respond to climatic shocks in the short-term and to prepare for uncertain climate conditions in the long term. In particular, it highlights the need for participatory research approaches and communication networks involving scientists, farmers, and other key actors (Niang et al., 2014; Douxchamps et al., 2016).

It is now recognized that the resilience of African agricultural and food systems hinges on institutional arrangements that can help farmers

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address climatic and non-climatic drivers (Roling et al., 2012). Increasing attention has been therefore directed to diagnosing the barriers and enablers — norms, policies, processes, alliances, etc. —remove hindrances and promote innovation at multiple scales (Roling et al., 2012). Diagnostics investigations deploy observation, comparison, and experimentation to identify what constraints can be realistically addressed and what are the appropriate intervention options and levers to do so (Rodrik, 2010). They span multiple scales, including studies of national economies and policies (Rodrik, 2010), contextually sensitive analytics of governance at meso-levels (Chaudhury et al., 2016), and cases studies of locally-embedded innovation systems (Campbell et al., 2016). As African countries increasingly embrace decentralization (Olowu and Wunsch, 2004), diagnostic analyses of institutional innovations at sub-national levels can link centrally-devised policies with localized priorities and practices (Roncoli et al., 2016).

Multi-actor platforms have been identified as promising institutional mechanisms that can foster transformative changes in agricultural economies and have therefore been the focus of diagnostic enquiry and experimentation (Klerkx et al., 2013; Schut et al., 2015; Sanyang et al., 2016). The term denotes a structured space that enables interaction among social actors, entailing a multiplicity of modalities and functions (Kilelu et al., 2011). For example it may refer to a virtual tool in information and communication (Pahl-Wostl and Hare, 2004), an integrated agricultural research program (Schut et al., 2015), a landscape-wide network for natural resource management (Cullen et al., 2014), a multi-scale, multi-actor, value chain consortium (Kilelu et al., 2013), or a private-public partnership for market development (Thiele et al., 2011). In this study, we conceptualize multi-stakeholder platforms broadly as structured spaces for communication and collaboration among interdependent stakeholders who come together to pursue a shared goal or address a common challenge (Cullen et al., 2014; Kilelu et al., 2013; Thiele et al., 2011). Though platform engagement, differently-positioned actors work together in identifying needs, negotiating priorities, identifying solutions, mobilizing resources, building capacity, and participating in co-learning and collective action (Kilelu et al., 2011, 2013; Turner et al., 2016). The assumption behind this approach is that the pooling of knowledge and experiences generates technological and institutional innovations that address stakeholders' priorities and are adapted their circumstances (Holmes, 2011).

Comparative analyses of platform experiences in different countries have yielded key lessons for platform formation and functionality (van Paassen et al., 2013; Swaans et al., 2013; Hermans et al., 2017). In particular, empirical studies have highlighted the importance of stakeholder coordination and network orchestration in creating an enabling environment for innovation (Cullen et al., 2014; Swaans et al., 2013). Social actors who play these roles may be referred as "facilitators" (Nederlof and Pyburn, 2012), "intermediaries" (Kilelu et al., 2013; Howells, 2006), "conveners" (Dore and Lebel, 2010), "brokers" (Cullen et al., 2014; Klerkx and Gildemacher, 2012), "entrepreneurs" (Luke et al., 2010), "champions" (Klerkx and Aarts, 2013), or "promotors" (Klerkx and Aarts, 2013). The different terms reflect variation in the extent to which these actors' position and functions are formalized, the authority and responsibilities they entrusted with, and in which context and at what scale they operate. We opt to use "facilitating agent" to highlight their envisioned role as catalysts of synergies as well as the agency they exercise in performing their roles. While many studies have discussed the organizational positioning, operational modalities, and distributive nature of these agents (Kilelu et al., 2011; van Paassen et al., 2013; Klerkx and Aarts, 2013), they have largely focused on the implications of those features for stakeholder integration, interactions, and inclusiveness. Insufficient efforts have been directed to more subtle processes, such as how the choice of facilitating agents affects problem framing and agenda setting. Such knowledge is critical to improving the design of innovation systems and supportive policies.

In this article we address this challenge by applying an analytical lens to an experience of multi-actor platforms in three climaticallystressed districts of the Upper West Region of Ghana. The platforms were established by a similar process and with the same goal of supporting adaptive strategies and food security in response to climate change, but differ in terms of leadership and, to some extent, composition. Each district platform is facilitated by a different entity - respectively a local development NGO, a government agency, and the traditional authority, a reflective variation of historical influences and patterns of public authority in the region. Following a definition of our theoretical position, we describe the research setting and methods. The core section of the article analyses the processes of platform formation. selection of platform facilitators, members' visions of the platform role. and the platform agendas and outcomes as represented in respondents' narratives. Finally, we highlight conceptual insights and methodological lessons emerging from this study that can guide the design of institutional innovations in small-holder agriculture and food systems in Africa.

#### 2. Theoretical framework

Two main theoretical approaches - known as mainstream and critical institutionalism - have been deployed to study institutional frameworks, the former focusing on design, the latter on context (Hall et al., 2014; Nielsen, 2001). Mainstream institutionalism emerged from Ostrom's analysis of collective action in environmental management and seeks to uncover features that are predictive of success, such as stakeholder involvement and resource monitoring (Ostrom, 2009). Critical institutionalism challenges such emphasis, claiming that efforts to "get the institution right" fail to address systemic drivers of global poverty, environmental degradation, and livelihood insecurity (Hall et al., 2014). These theorists stress that collective action institutions must be analysed in relation to the historical and political context in which they are embedded. From this standpoint, institutional innovations are seen as "the outcome of the accidents of history rather than design, an assemblage that no single actor commands or understands in its entirety' (Jiggins, 2012). In our article we take the "middle way" between these two approaches. On the one hand, we believe that choices concerning organizational design, composition, leadership, and procedures do matter as they embody political agency by giving voice to select groups and visibility to specific issues. On the other hand, we recognize that the design of new organizational frameworks is operationalized in a context of historically contingent, locally-specific dynamics of power and authority that play out in unpredictable and uncontrollable ways. In fact, growing empirical evidence suggests that the viability and outcomes of multi-stakeholder platforms are shaped by an array of factors, some pertaining to design, others emanating from context (Nederlof and Pyburn, 2012; Howells, 2006).

A focus on design illuminates the agency that is embodied in processes of platform formation or facilitation (Schut et al., 2015; Cullen et al., 2014; van Paassen et al., 2013). Platforms seldom emerge spontaneously; rather, they are typically established by a research or development project (Kilelu et al., 2013) a public or private sector agent, (Klerkx et al., 2015), a national or local stakeholder group (Warner, 2006). Platform development and coordination entails a panoply of strategic choices, including how to recruit and engage participants and how to foster communications and collaboration among them (Klerkx et al., 2013). In seeking to elucidate the effect of facilitating agents on platform functioning, the innovation systems literature has mostly focused on individual characteristics, such as attitudes, skills, and capacities (Cullen et al., 2014), dynamism and commitment (Klerkx et al., 2013), and experience, personality, and leadership qualities (van Paassen et al., 2013). There has been less attention to whether and how the organizational position, linkages, interests, and commitments of facilitators may affect platform agendas and outcomes (Kilelu et al., 2013; Turner et al., 2016). For example, in a comparative

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