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Understanding innovation platform effectiveness through experiences from west and central Africa

Jocelyn Davies [a,1], Yiheyis Maru [a,*], Andy Hall [b], Issoufou Kollo Abdourhamane [c,2], Anselme Adegbidi [d], Peter Carberry [e,3], Kumuda Dorai [f], Stella Ama Ennin [g], Prince Maxwell Etwire [h], Larelle McMillan [i], Aboubakar Njoya [c,4], Souleymane Ouedraogo [j], Adama Traoré [k], Nessenindoa Julienne Traoré–Gué [l], Ian Watson [m]

[a] Commonwealth Scientific & Industrial Research Organisation [CSIRO] Land & Water, PO Box 2111, Alice Springs, NT 0871, Australia
[b] CSIRO Agriculture & Food, GPO Box 1700, Canberra ACT 2600, Australia
[c] Conseil Ouest et Centre Africain pour la Recherche et le Developpement Agricoles/West and Central African Council for Agricultural Research and Development [CORAF/WECARD],7, Avenue Bourguiba, Dakar BP 48, Dakar RP, Senegal
[d] Faculté des Sciences Agronomiques, Université d'Abomey-Calavi, 03 BP 2819 R.P. Cotonou, Benin
[e] CSIRO Agriculture & Food, Ecosciences Precinct, 41Boggo Rd, Dutton Park Qld, 4102, Australia
[f] Link Ltd, 8-2-608/1/2 Karama Enclave, Banjara Hills, Road No 10, Hyderabad 500 034, India
[g] Council for Scientific & Industrial Research (CSIR) Crops Research Institute, PO Box 3785, Fumesua, Kumasi, Ghana
[h] CSIR Savanna Agricultural Research Institute, PO Box 52, Tamale, Ghana
[i] CSIRO Agriculture & Food, Ecosciences Precinct, 41Boggo Rd, Dutton Park Qld, 4102, Australia
[j] L'Institut de l'Environnement et de Recherches Agricoles (INERA), 04 BP 8645, Ouagadougou 04, Burkina Faso
[k] Association pour la Promotion de l'Elevage au Sahel et en Savane (APESS), 04, BP, 590, Ouagadougou 04, Burkina Faso
[l] L'Institut de l'Environnement et de Recherches Agricoles (INERA), 04 BP 8645, Ouagadougou 04, Burkina Faso
[m] CSIRO Agriculture & Food, Building 145, James Cook University, James Cook Drive, Townsville Qld 4811, Australia

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ABSTRACT

Innovation platforms (IPs) are a way of organizing multistakeholder interactions, marshalling ideas, people and resources to address challenges and opportunities embedded in complex settings. The approach has its roots in theories of complexity, the concept of innovation systems and practices of participatory action research. IPs have been widely adopted across Africa and beyond in recent years as a "must have" tool in a range of "for development" modes of agricultural research. Our experiences with establishing and facilitating nine IPs in local settings in west and central Africa contribute to understanding factors that impact on their effectiveness.

The nine IPs were variously focused on developing dairy, crop and/or meat value chains by strengthening mixed crop-livestock production systems or seed systems. Using case study methods, we identified variables that contribute to explaining the performance of these IPs in relation to six domains of change in the agricultural system and the sustainability of changes. Thematic analysis was guided by a conceptual framework which grouped variables into four categories (context, structure, conduct, and process) that interact to influence IP performance.

Stronger market connections and value chains were generated through some of these IPs but the most prevalent changes overall were in farm productivity and technical knowledge of producers. The structures evolved in some IPs, akin to those of producer collectives, suggested they were filling an institutional gap locally. The effect of the IPs on deeper level institutions that influence agricultural systems and food security was modest, constraining prospects for the IPs to generate impact at scale. Impacts from the IPs on research and development organisations were uncommon but had transformative significance.

Our conceptual framework did not offer optimal guidance to understanding how the many variables that contributed to performance of these IPs combined and sequenced, but the pattern of interactions was consistent with increased social capital being the prime mediator for change. Achieving greater prospects for transformational

* Corresponding author.
E-mail addresses: s.jocelyn.davies@gmail.com (J. Davies), yiheyis.maru@csiro.au (Y. Maru), andrew.hall@csiro.au (A. Hall), akollo.issoufou@gmail.com (I.K. Abdourhamane), ansadegbidi@yahoo.fr (A. Adegbidi), P.Carberry@cgiar.org (P. Carberry), kumuda.dorai@gmail.com (K. Dorai), etwiremaxwellprince@yahoo.co.uk (P.M. Etwire), larelle.mcmillan@csiro.au (L. McMillan), Aboubakarnjoya2015@gmail.com (A. Njoya), osilamana@yahoo.fr (S. Ouedraogo), tradamas@gmail.com (A. Traoré), guejulienne@yahoo.fr (N.J. Traoré–Gué), ian.watson@csiro.au (I. Watson).
[1] Present address: The Northern Institute, Charles Darwin University, Grevillea Drive, Alice Springs, NT 0870, Australia.
[2] Present address: The African Agricultural Technology Foundation (AATF), ARCN Annex, No. 3, Ibrahim Idris St., Jabi-Abuja, NIGERIA.
[3] Present address: ICRISAT, Patancheru 502324 Telangana, India.
[4] Present address: ARDS-CG, PO Box 33 620, Yaoundé, Cameroon.

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change and impact at scale warrants at least equal attention to three other interconnected change pathways: through markets, institutions and innovation capacity. Important factors for increased impact are individuals and organisations with capacity to purposefully build and manage inter-organisational and cross-scale networks, early diagnostic studies of the institutional landscape, and adaptive processes of critical reflection and learning that continue beyond the short term.

1. Introduction

Although Innovation Platforms (IPs) only recently joined the toolkit of agricultural research for development programs in sub-Saharan Africa, they are being widely used as a core part of strengthening agriculture productivity, smallholder farmer livelihoods and agricultural innovation systems (e.g. Adekunle and Fatunbi, 2014; Kilelu et al., 2013; Schut et al., 2015). Establishment of IPs aims to counter weaknesses in agricultural innovation systems by building interaction amongst different kinds of actors, promoting change in institutions, and garnering resources to augment and/or effectively deploy available capitals (Adekunle and Fatunbi, 2014; Schut et al., 2015). The approach builds on the well-established association between networks and innovation (Egbetokun, 2015; Pittaway et al., 2004).

Agricultural innovation systems are complex since they are characterised by extensive interconnections across multiple levels of system organisation, amongst multiple actors who are influenced by varied institutions and capacities (Foran et al., 2014). Indeed, an innovation system is this very network of actors, institutions and technologies. It comprises components, relationships amongst components and the varied attributes or properties of these components and relationships (Carlsson et al., 2002). Such systems develop through 'functions' that involve and interrelate structural elements: entrepreneurial activities, knowledge development, knowledge diffusion, guidance through vision and targets, market formation, resource mobilisation and development of political legitimacy (Suurs et al., 2010).

Consistent with their complexity, innovation systems cannot be directed or controlled by any specific actor(s) (Bergek et al., 2008). In contrast, researchers have high control over design and implementation in the technology supply-push approach to change in agricultural systems that has dominated in sub-Saharan Africa, in which research outputs are provided to farmers through extension services (Hounkonnou et al., 2012). The failure of research and development agencies to make a difference to the low productivity of African agriculture has been attributed to this tightly directed pathway (e.g. Adekunle and Fatunbi, 2014). Even with the use of participatory methods, researchers face considerable challenges in reducing their level of control (Hocdé et al., 2008).

The need to overcome limitations of this top-down paradigm for achieving locally beneficial social economic and natural resource management change led to Integrated Agricultural Research for Development (IAR4D), an innovation system framework, being developed for the Forum for Agricultural Research in Africa (Adekunle and Fatunbi, 2014; Hawkins et al., 2009). IAR4D principles (Hawkins et al., 2009) highlight and promote complexity by calling for increased interconnection amongst stakeholders, and between analysis, action and change across sectors, spatial scales and organisational levels. IAR4D, in common with other innovation systems, emphasises diversity in actors, relationships and processes whereas antecedent approaches tended to focus mainly on engaging research and development actors with farmers (ISPC, 2016).

IPs are advocated as the prime operational mechanism for achieving the change in agricultural systems that IAR4D calls for in sub-Saharan Africa (Adekunle and Fatunbi, 2014). They are also being used in agricultural development programs and projects where the specific influence of IAR4D is not apparent (e.g. Kilelu et al., 2013; Swaans et al., 2013a). A variety of different terms are used for entities in other contexts that have a comparable focus on knowledge brokering amongst diverse interdependent stakeholders, building relationships and connectivity to foster systemic change. These include living labs (Dhakal et al., 2013), business clusters (Rosenfeld, 1997), collaborative planning forums (Innes and Booher, 2010), communities of practice (Ison et al., 2014) and adaptive governance networks (Chaffin et al., 2014). Such entities can prepare systems for change by connecting actors in ways that allow them to make shared sense of a situation, develop a new vision, and generate momentum to progress toward the vision (Moore et al., 2014).

By establishing IPs and supporting their activities, projects seek to catalyse change (Struik et al., 2014) with livelihood benefit to smallholder farmers often being the priority for donors (Van Paassen et al., 2014). IPs that engage agricultural domain actors at district or national level, are facilitated by innovation champions, and experiment with changing institutions have been effective in creating an enabling environment for farmers to innovate (Struik et al., 2014). The impact of IPs may extend beyond the stakeholders that are directly involved if action within the IP 'niche' (Schut et al., 2015) catalyses change in deeper-level institutions resulting in impact at broader scales. IPs at various levels and scales are advocated (e.g. Adekunle and Fatunbi, 2012; Nyikahadzoi et al., 2012), with interactions at strategic times (Hall, 2005) to ensure that institutions are sufficiently aligned to enable that kind of transformational (Moore et al., 2014) change.

Operational guides to working with IPs (e.g. Adekunle and Fatunbi, 2012; Kebbeh et al., 2014; Makini et al., 2013) portray IPs as physical, virtual or mixed-mode networks that involve a mix of private and public sector stakeholders who have individual interests in a shared issue; who interact and have a range of direct and ongoing dialogues outside the strictures of formalised sectoral structures; and who collaborate to bring mutually desirable changes in a commodity value chain or natural resource management system, including by improving the functioning of their own organisations and enterprises. IPs are portrayed as temporary structures, involving selected key actors relevant to an issue or purpose, whose establishment is facilitated but which may start to act independently (Hounkonnou et al., 2012). While often established through donor funded projects led by research organisations, IPs are envisaged as evolving to become equitable spaces even though the risk that research organisations and their agendas remain dominant is acknowledged (Boogaard et al., 2013).

Increasing use of IPs in sub Saharan African agricultural systems has focused attention on their effectiveness. Skilled consistent practice in facilitating the establishment and operations of IPs has been found to generate IPs that are similar in parameters such as representativeness of stakeholders and the extent of stakeholder interaction (Nokoe et al., 2013). Nevertheless context and the particular contributions that individual actors and relationships make to an IP's activities can be expected to always substantially influence outcomes (Nokoe et al., 2013), complicating comparative analysis. Nor is there any single recipe for what an IP is or should be (Van Paassen et al., 2014). Questions that warrant attention include how

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