

## INNOVATION PLATFORMS IN SUB-SAHARAN AFRICA: MOVING TOWARDS A NEW WAY OF ORGANISING THE AGRICULTURAL EXTENSION SYSTEM?

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### ABSTRACT

Innovation systems thinking is becoming an emerging paradigm for fostering innovation processes in sub-Saharan Africa. At the same time research and extension services are still organised and operated using the transfer of technology approach. To operationalise innovation systems thinking, innovation platforms are increasingly being used within agricultural research and development in Africa. In this paper we look at ten cases of multi-stakeholder platforms, and the role of extension and advisory services within them. From the ten cases it appears that a platform can take different forms, fulfil different functions and operate at different levels. The majority of the cases analysed were platforms operating at local or district level, with a deliberate focus on a specific

commodity or value chain. A smaller number of platforms operated at national level, focusing on institutional changes. Local platforms are mostly concerned with solving concrete on-the-ground issues, depending on their lifespan and their potential for expansion. To make this happen, platforms work with a wide range of agricultural advisory services providers. As a consequence, services become more demand-driven and tailored to the needs of the platforms and platform members. Public sector agricultural extension providers are involved in virtually all platforms. The cases show that other service providers also take up extension and advisory tasks while the 'traditional' extension services get involved in new tasks, particularly in the facilitation of stakeholder interaction. This has consequences for the future

role of public sector extension and advisory service providers.

**KEY WORDS:** *TRADITIONAL, INNOVATION PROCESSES, FACILITATION, INTERACTION*

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## INTRODUCTION AND OBJECTIVES

Research, extension and advisory services play a key role in agricultural development in general and in innovation in particular. In this respect, agricultural research and extension in sub-Saharan Africa are often still organised according to the ‘transfer of technology’ model. In this model, researchers are seen as those who develop ‘new’ knowledge, while farmers are considered to be the receivers of it. In between, extension officers are seen as the mere transmitters of this knowledge. However there is broad agreement that this model does not significantly contribute to the development of the agricultural sector in an increasingly globalised environment.

Chambers (1990; 1997) was one of the first widely read authors who highlighted the fact that knowledge about agricultural production systems is not only in the hands of scientists and researchers. He pointed out that farmers are also knowledgeable and have their own ideas and ways to improve their work. He suggested that new technologies must be developed in line with farmers’ ideas on how and why they fit into their work, in order to be adopted by farmers. Researchers and farmers should reach mutual agreement on how, when and where to develop new technologies. Chambers’ main conclusion was that rather than bringing new technologies to the farmer, the farmer should help to decide what should be researched in the first place and how the research should be done. In other

words, the farmers should be allowed to *participate* in this process.

During the years that followed, participatory approaches became a widely accepted and applied way of working with farmers. However, it soon became apparent that knowledge development and new technologies were not sufficient to increase agricultural production. Effective technology adoption also includes adaptation by the farmer and those who work with the farmers. With this recognition a new word gained strength in agricultural development thinking, namely: innovation. For innovations to occur, the technology (hardware) is not sufficient; there is need for a specific set of skills and knowledge (software), and the organisations and institutional arrangements that enhance collaboration between people and organisations (orgware) must change (KIT and CFC, 2011; Leeuwis and van de Ban, 2004).

In the 1990s and early 2000s the ‘agricultural innovation system’ became a widely accepted term. It was acknowledged that for innovations to occur and lead to a sustainable improvement of the livelihoods of farmers, a wide range of stakeholders needed to be involved. Interaction and collaboration between these stakeholders was considered crucial. These stakeholders include farmers and their organisations, (local) governments, providers of research and extension services, both public and private sector, financial

service providers and agricultural input sellers and output buyers.

It is now acknowledged that within the wide range of stakeholders active in the agricultural innovation system, there are a number of stakeholders who can provide information and advice to farmers. These services are also called ‘agricultural advisory services’. Currently, agricultural advisory services are seen as an element of the agricultural innovation system. In this paper we refer to agricultural advisory services as:

*...the entire set of organizations that support and facilitate people engaged in agricultural production to solve problems and to obtain information, skills, and technologies to improve their livelihoods and well-being* (based on Davis, 2008: 16).

### Innovation platforms

Innovation system thinking has led to numerous diagnostic studies on agricultural innovation systems in sub-Saharan Africa, particularly in commodity subsectors and value chains of agricultural products (e.g. cassava, mangoes and soybean). In fact markets are considered to be important triggers for agricultural innovation, which includes technological as well as organisational and institutional changes.

So far we have outlined the current discourse on agricultural innovation and advisory services. But what does this imply for those working within



the agricultural innovation systems in sub-Saharan Africa? What does this imply for the organisations that provide agricultural advisory services? One way of putting the agricultural innovation systems' thinking into practice is through the creation of innovation platforms (Nederlof *et al.*, 2011). Originating from the private sector, innovation platforms are not a new phenomenon. However, the manner and the extent to which they currently are being set up in many countries within different programmatic and project frameworks<sup>2</sup>, are new. In this paper we discuss the role of advisory services within a number of innovation platforms.

## **MATERIALS, METHODS AND DATA SOURCES**

A total of ten innovation platform initiatives were selected, described and analysed through a case-study methodology. The cases were selected according to the following criteria:

- cases should be from both West and Eastern Africa in order to cover various agricultural systems in sub-Saharan Africa
- the platforms should at least involve stakeholders from the public and private sector and farmers (organisations)
- the platforms should also include active multi-stakeholder facilitation by one of the stakeholders or specially appointed facilitators
- cases should cover different levels (local, regional-nested, national).

The selected cases were described by

practitioners involved according to several characteristics and elements in order to fully grasp their context, initiation, evolution and results. Consequently this allowed for a cross-cutting analysis for key issues such as the design and facilitation of innovation platforms and the results of the platforms.<sup>3</sup> Additional analysis of the experiences and results of the innovation platforms has been done for the function and role of actors involved in agricultural advisory services.

## **RESULTS AND DISCUSSION**

Table 1 gives an overview of the key characteristics of the innovation platforms and the key issues for which the platforms' experiences have been analysed.

### **Aims and focus of innovation platforms**

The aim and focus of platforms is based on their level of operation. Local platforms (districts, states or other decentralised administrative entities) seek to improve production and processing activities in specific value chains. Farmers are considered entrepreneurs within the value chain. The focus is on the use of technologies, which have the potential to contribute to more effective and efficient production and processing. The market and requirements from the demand side are considered to be important triggers for innovation. Subsequently, private sector stakeholders from the value chain are introduced to the platforms

because effective value chain development requires enhanced co-ordination of activities and flows of information between both chain actors and support services.

Four of the ten cases concern platforms that operated on a national level. In two of these cases (Ghana and Zambia) there were strong linkages with local level platforms. These platforms aim to get improved production and processing through creation of an enhanced capacity and enabling environment for technological innovation. Contrary to the local level platforms, the focus of these national platforms is on policy and institutional changes within specific commodity subsectors. In these cases, policy and institutional changes are considered essential for effective innovation within the subsector.

<sup>2</sup> Examples are platforms being initiated under the competitive grant system (CGS) of ASARECA, the African country programmes of Research Into Use (RIU), the Convergence of Sciences-Strengthening Innovation Systems (CoS-SIS) by Wageningen University, and the agribusiness cluster approach of the International Fertilizer Development Centre (IFDC).

<sup>3</sup> This process and the results will be published by Nederlof *et al.* (2011).



**TABLE 1: TEN CASE-STUDY INNOVATION PLATFORMS IN SUB-SAHARAN AFRICA (NEDERLOF *et al.*, 2011)**

Country/ commodity	Objective	Level of operation	Focus			Agricultural advisory services	
			Technology	Value chain	System change	Role of public extension officers	Other organisations that provided advisory services
<b>Ghana soybean</b>	Value chain development	Local	•	•		Technology dissemination and management advice (business development services, BDS)	University (extension) research, NGOs (training and advice). Microfinance institutes (BDS advice)
<b>Nigeria maize-legume</b>	Improvement of cropping systems	Local	•			Technology dissemination. Management support of the platform	Research (participatory learning and action research)
<b>Ghana oil palm</b>	Local: improvement of processing. National: improvement of opportunities (institutional change)	National and local	•	•	•	Facilitation of platform meetings	Equipment suppliers (information and advice)
<b>Benin agriculture</b>	Multi-stakeholders and inter-organisational coordination and collaboration in the agricultural sector	National				Extension services had a representative in the innovation platform committee	
<b>Uganda vegetable oil</b>	Enabling policy and regulation for technological upgrading and innovative capacity	National				Advising the platform	
<b>Tanzania poultry</b>	Enterprise development	National, district and local	•	•	•	Coordination of activities. Advisory services to farmers	Contracted graduates of vocational college (training and management advice). Contracted specialised trainers (BDS).
<b>Nigeria cowpea and soybean</b>	Value chain development	District and state	•			Technology dissemination	Research (information on seeds, inputs and technical services)

### Results of innovation platforms

Although the selected platforms have different lifespans, the first results are visible and can be categorised as follows:

- use of improved technologies and increased production and processing capacity
- connecting supply and value chain actors, particularly producers, processors and traders, leading to business opportunities and deals for farmers and better incentives for technology adoption
- improved organisation of stakeholders (e.g. producers or processors)
- new ways of working together as a prelude to, or as a result of, the above-mentioned results.

### Role of public extension services in innovation platforms

Public extension services are present in almost all platforms but their roles differ according to the aim and focus of the platform. In local platforms their primary role is to ensure dissemination of information on the technologies related to production and processing activities. In some cases, they give training and provide advice to farmers on how to use the technologies in an entrepreneurial context. In other platforms they facilitate stakeholder meetings and broker links between stakeholders. Public extension services are mainly represented through ministerial departments in national platforms.



Country/ commodity	Objective	Level of operation	Focus			Agricultural advisory services	
			Technology	Value chain	System change	Role of public extension officers	Other organisations that provided advisory services
<b>Rwanda maize</b>	Improvement of production and processing	District and state	•			Technology dissemination and training. Sharing and exchange of knowledge (farmer field schools and study tours)	Research and NGOs
<b>Zambia conservation agriculture</b>	Adoption of conservation agricultural practices	Local, state and district	•			Extension of technologies. Facilitation (platform meetings). Linking stakeholders.	NGOs, business associations, agro dealers (technical advice). Media (dissemination of information)
<b>Malawi vegetables</b>	Development, dissemination and uptake of science-based agricultural practices	Local, state/ district	•	•		Advising and mobilising farmers	Research and NGOs (advice on production and marketing)

All of the technologies disseminated through the extension service were already available prior to the establishment of the platforms ('on-the-shelf technologies'). Through the platforms, they have been introduced to farmers through the use of participatory processes (e.g. farmer field schools). This required the active participation of farmers, researchers and extension agents in order to adapt the technologies to cropping and farming systems and to facilitate their adoption. The selection of technologies is the result of the interaction between farmers, researchers, extension agents, traders and processors. In these processes of interaction,

public extension officers were increasingly asked to take up the facilitation and brokerage roles. This is a relatively new development and has been particularly challenging for extension officers who have been trained to transfer technology to farmers. They therefore required additional training in order to equip them with the necessary facilitation skills.

### Knowledge and information sources and services

Information and knowledge for producers and processors to improve their practices are supplied

by an array of actors, both public and private in the platforms. The necessary knowledge and information often accompany the services and products (technologies) that are being provided; e.g. supply of processing equipment. Furthermore, NGOs increasingly take over the role of extension and advisory services in skills and capacity development, especially within a context where grass roots public extension services have drastically diminished. Finally, media and the internet are increasingly important sources of information.

Producers and processors now can access different sources of knowledge and information and compare and 'pick' what they need to improve their practices. More importantly, the platform can enhance the focus of knowledge and information services, through the contribution from other value chain actors such as processors and traders. Production and processing technologies must comply with market demands. This means that research and extension services must become more demand-driven and more client-oriented.

### CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

Innovation platforms are inspired by the innovation systems thinking and (sometimes) claim to represent, or even be, the innovation system. The results from the case-studies show that local platforms remain primarily technology-focused.



Quick results motivate stakeholder collaboration and interaction and may allow for aiming at higher aims. System change to create a sustainable capacity for innovation requires institutional changes. This may be facilitated by linking local and national platforms with complementary agendas, roles and member composition.

The experiences documented in the case-studies confirm that extension services no longer have a monopoly on supplying knowledge and information. Other actors, both private-non-profit and private-for-profit, are successfully taking over (parts of) this role. The private-for-profit increasingly fulfils this function in areas where there is an emerging market for agricultural products and market linkages are being established. Users of these embedded services implicitly pay for the advisory services.

The public sector extension service is taking up additional roles such as facilitating multi-stakeholder interaction, brokering linkages between stakeholders and providing business development services. Facilitation of multi-stakeholder interaction for sharing and exchanging knowledge is taking place at the platform and field level. The latter increasingly involves approaches that are based on the farmer field schools concept. Facilitation approaches at both levels contribute to strengthening of the organisation of stakeholder groups; an important element in innovation. Apart from facilitation, brokering and business

development services are increasingly becoming part of the public sector extensionists' role. From an innovation systems' perspective, extension services shift from 'traditional functions related to the transfer of technology' to a 'support function' in the system (adapted from Johnson, 2001).<sup>4</sup>

Facilitation, in combination with a trigger for innovation (e.g. markets), is an important factor in maintaining and strengthening the required capacities for innovation through multi-stakeholder interaction and learning. The majority of platforms depend on external (donor) funding for their facilitation services. Platforms that are anchored within commodity subsectors or supply/value chains offer opportunities for cost-sharing and eventually full funding of facilitation services by public-sector extension service providers. These providers see their traditional roles increasingly being taken over by the private-for-profit sector and at the same time, they have the advantage of no direct profit interest in the subsector or chain. In areas where markets are difficult to access and market linkages are weakly developed, the public sector should still provide extension and advisory services while private-non-profit service providers could facilitate innovation platforms (Berdegué and Escobar, 2002).

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<sup>4</sup> 'Basic functions' are directly related to the innovation process (identification of needs and opportunities for innovation, research and extension). 'Support functions' facilitate the effective use of new knowledge (guiding the direction of the innovation process, facilitating the exchange and sharing of knowledge, funding of research and extension, and providing complementary services and an enabling environment (adapted from Johnson, 2001).



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