

CSIR-STEPRI POLICY BRIEF



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Innovation platform as a tool for agricultural development: Insights for research and extension

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1. Introduction

Effective linkages and experimentation among food value chain actors promote learning about new agricultural technologies to enhance food security. Food insecurity continues to be a challenge, because food production is mainly by smallholders who are constrained by complex production and marketing problems. For instance, farmers have low access to reliable credit, agro-input and output markets. Also, their average yields are relatively low, compounded by high post-harvest losses. This policy brief is based on a research project that studied the dynamics and effect of public-private partnerships and innovation platforms in well-established export, vis-à-vis food value chains in Ghana. This policy brief highlights the experimentation and learning activities in cassava innovation platform (IP), and the need for networking with private sector actors, to get a contractual market arrangement.

Cassava, (*Manihot esculenta*), a common versatile root crop, and a major household staple food offers opportunity as a food security and income crop in its raw and/or processed forms. This opportunity however, has not been fully realised, because of the low productivity of the crop, arising from low adoption rate of improved and disease tolerant varieties, technologies, as well as weak linkages among cassava value chain actors. Interventions that support farmers to address these challenges, are needed to enhance food security in Ghana.



Pictures of cassava crop, fresh cassava and gari (grits)

In recent times, IPs are being facilitated as a strategic tool by researchers and/or extensionists for the dissemination and adoption of new technologies. A well organised IP can effectively coordinate production and marketing activities to upgrade food value chains and make them more productive. This policy brief draws on insights from IPs of the cassava value chain under the *Dissemination of New Agricultural Technologies in Africa (DONATA)* project in Ghana.

A value chain comprises an entire system of production, processing and marketing, from inception to finished product. It consists of a series of actors, such as farmers, traders, processors, wholesalers, retailers and consumers, linked together by flows of products, finance, information and services. Value chain supporters such as government regulators, financial institutions, researchers, agricultural advisors, and transporters provide various services to the chain (IIRR policy brief 1).

2. The Approach of the DONATA project

The African Development Bank funded programme DONATA, was initiated by the Forum for Agricultural Research in Africa (FARA) and the West and Central African Council for Agricultural Research and Development (CORAF/WECARD). In Ghana, the cassava project of DONATA was facilitated by a researcher of the Crops Research Institute of the Council for Scientific and Industrial Research (CSIR-CRI). In collaboration with the project focal person from CSIR-CRI, the District Agricultural Development Unit (DADU) of the Ministry of Food and Agriculture (MoFA) set up five innovation platforms (IPs) in the Wenchi Municipality of the Brong Ahafo Region. The IPs involved cassava value chain actors: farmers, agro-input dealers, traders and processors at the community levels

Innovation platform (IP) is like a cooking pot to which the actors involved jointly contribute to problem diagnosis, identification of opportunities, coordination, experimenting, learning and implementing of ideas to address problems in a value chain. An IP involves a group of individuals (who often represent organizations and value chain actors) with different backgrounds, skills and interests. Actors whose skills are not needed for a particular cooking activity may stay away (Figure 1).



Figure 1: Diagrammatic representation of a typical innovation platform

Source: ILRI/Bonaventure Nyotumba

A local NGO together with the DADU formed a coordinating unit which closely collaborated with the actors of the IPs. The coordinating unit actors were trained in IP facilitation, experimentation and group dynamics to be able to effectively perform their task. The project focal person served as a link between the coordinating unit, FARA/CORAF and the donor to give feedback and mobilise the needed resources (especially funds) for planned activities. The cassava DONATA project in Wenchi focused on improving productivity and income of smallholder cassava producers, processors and traders through the transfer, sharing and dissemination of improved technologies based on three priority entry points: (1) Access to improved cassava varieties and enhanced soil fertility management; (2) Use of herbicides to control perennial weeds in cassava; (3) Cassava product development and market access. To achieve these, researchers from CSIR-CRI, extensionists from DADU, and the IP members through the use of group demonstration plots, jointly experimented with improved high yielding and disease tolerant cassava varieties plus good agricultural practices (row planting on flat or mounds, in long ridges, pre-sprouting cassava technologies, 2-3 nodes cuttings, appropriate

techniques for herbicide application). The coordinating unit facilitated the acquisition and supply of different improved planting materials based on need for individual farmers to start their on-farm experiments. Input dealers (also linked to relevant wholesale distributors), traders and transporters networked on the platform to make their services readily available to farmers and processors. An FM radio station disseminated the processes and outcomes of the experimentation to the larger community.

List of key activities of the cassava IPs

1. Identifying new and emerging constraints of cassava production, processing and marketing
2. Meeting to review and prioritise identified constraints as entry points, and then discussing innovation platform activities based on the entry points
3. Establishing demonstration plots on group and farmers' own cassava farms for experimentation and experiential learning
4. Creating space and trust (through open discussion and accountability) for knowledge sharing between scientists, farmers, local NGO, DADU technical staff and among IP members
5. Building IP cassava processing centre (part financed by actors) and training actors in basic book keeping and entrepreneurial skills to manage processing enterprise
6. Disseminating proven cassava varieties and technologies through the media (local FM radio station)

Source: DONATA project report, 2013

3. Lessons from the DONATA cassava IPs

The activities of the coordinating unit led to the creation of five IPs that met to discuss emerging value chain opportunities and problems, coordinating actions to solve them. Though the project has ended, the DADU plays an advisory role to help two very functional IPs to address conflicts and also provide them with market access information. Farmers involved in the IPs have considerably **increased their yields** (from average of 14t/ha to 42t/ha) by experimenting, adopting good practices and having timely access to improved cassava varieties, inputs, and transport services arrangements from the IPs. **Processors have also been trained in good practices and have obtained mechanised equipment** that enhances efficient gari (cassava grits) production. However, farmers and processors continue to sell at existing local and the long distant Burkina Faso markets for household consumption.

The value chain actors mobilised themselves to cultivate the introduced high yielding varieties, and as a result produced a lot of fresh cassava, chips (*nkonkonte*) and gari. Unfortunately, they were not able to build the capacity to link to a large-scale guaranteed market. Improved access to alternative sources of markets is an important motivation for farmers, processors, input dealers and transporters to continue their participation in the IPs. Hence, **there is a need for IP coordinating unit to network with potential private sector actors (buyers), and if interested, get a formal commitment to buy from the IP**. However, this can be sustainable, if the IP is nurtured to become a viable enterprise with the necessary negotiating skills.

Researchers and extensionists were found to play critical roles in creating IPs for technology dissemination and adoption. DADU had a coordination role, while researchers took the lead to mobilise resources, network, facilitate and monitor the IP approach, to ensure focus and momentum. Researchers are respected partners at both local and national levels, and are therefore in a position to pose critical questions on the IP process, and organise accompanying research when needed. Yet, IPs can be effective for agricultural development if strategic actors like researchers and DADU officers are **able to mobilise private sector enterprises** to buy the excess cassava and its products from the IPs. Figure 2, proposes how the IPs could be supported by a district coordinating unit, to facilitate an organisational link **to a national coordinating unit of MoFA, the regional Research Extension Liaison Committee (RELC) or the media**, as a source of market access information from private sector actors.

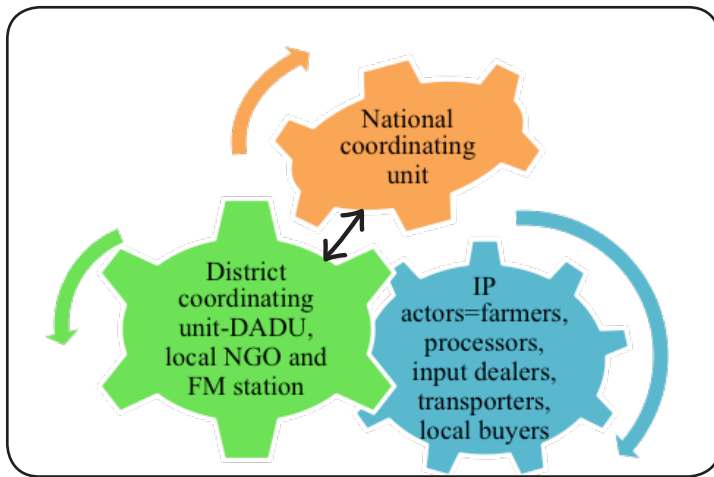


Figure 2: Diagram of proposed IP coordination for the cassava value chain

4. Implications and recommendations

Researchers are involved in research projects, gain insights and write reports and articles about it. Sometimes there is a final knowledge sharing workshop with policymakers at the end of a project. However, there is no network and structural exchange of insights on how research for agricultural development activities could be effectively organised, for farmers and value chain innovations, including marketing. A more structural exchange of insights amongst researchers, and between them and extensionists may provide opportunity to:

- share experiences about societal relevant research, to inspire each other
- use insights to improve the design of effective IPs and other partnership approaches. When researchers take the role of focal persons, to network, establish and facilitate partnerships, it is important for them to know the critical roles that government development officers and private actors play in the success of IP, and how crucial

it is to engage these actors in an early stage of the collaboration process. It is important to include more market and business knowledge in the IP activities to create space for linking up with private actors. Thus, insights gained by researchers through their involvement in IPs are very relevant and should be shared with policy makers, but also with private companies as this stimulates further reflection and action (research) to improve value chain functioning, sustainable resourcing and smallholder livelihoods

- ensure researchers and extensionists, can put the constraints of local value chains actors on the national political agenda, by highlighting the importance of IPs, the need for institutional support and an enabling regulatory framework for the IP approach. Extensionist cannot fulfil the networking- and coordinating roles without proper support from MoFA. They need IP-related training, support in networking, and should be backed by financial support by MoFA at national, regional and district levels
- mobilise private sector actors, through public-private partnership arrangements with clear commitments, with cost-sharing business models and benefits for input and output markets. This is because the IP arrangements, involving time-consuming learning approaches are less likely to attract private sector actors to partner for agricultural development.

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