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SIMLESA
Sustainable Intensification of Maize and Legume Systems for Food Security in Eastern and Southern Africa

RAB
RWANDA
AGRICULTURE AND ANIMAL RESOURCES DEVELOPMENT BOARD

Australian Government
Australian Centre for International Agricultural Research

COUNTRY POLICY BRIEF

ENHANCING AGRICULTURAL RESILIENCE AND SUSTAINABILITY IN RWANDA

Agricultural Innovation Platforms: Collective action catalyzes sustainable intensification transformation in Rwanda

Summary and key facts

A lack of innovation models and corresponding institutional frameworks are holding back best-bet technologies from reaching farmer

Mainstreaming AIPs into national agricultural programs and local extension services will improve farmer willingness to trial and adopt new technologies.

Benefits from business-related activities boost the incomes of all members of AIPs.

Equitable benefit sharing among all involved members is a key factor to success AIPs

Agricultural Innovation Platforms (AIPs) are an effective platform to link farmer groups with value chain actors and catalyze sustainable intensification transformation.

What is the problem?

Proven sustainable intensification farm practices exist, but farmers don't know about them

As a result of investments in the availability and distribution of fertilizers and improved seeds by the government of Rwanda, a significant increase in crop productivity has been achieved. However, the widespread adoption of these and other proven Conservation Agriculture-based Sustainable Intensification (CASI) practices by farmers has not been achieved to enable a significant impact on food security.

CASI practices include core conservation agriculture principles namely, reduced soil disturbance, provision of permanent soil cover and use of crop rotations/associations along with improved seed and fertilizers tailored to farmers needs.

The bottleneck is not a lack of knowledge or budget limitation to implement CASI on a wide scale, but the absence of appropriate/innovative models and corresponding organizational and institutional frameworks for scaling existing best bet technologies. While the research system has generated appropriate technologies and the policy framework exists to support adoption, the intervening institutional conduits to support information flow, value chain functioning and market participation are still weak. All this together undermines sustainable intensification technological progress in the nation's agriculture.

Agricultural Innovation Platforms (AIPs) bring value chains together

An Agricultural Innovation Platform (AIP) is a forum established to foster interaction among a group of relevant stakeholders around a shared interest or goal. The stakeholders perform complementary roles in the development, adaptation, dissemination and adoption of knowledge for biophysical and socioeconomic benefits. They can be a way to reduce risks when trialing and scaling out new farm technologies and practices.

What solutions were identified from research?

Equity, knowledge and profit sharing are key to AIP success

Since 2007, the Rwanda Agriculture Board (RAB) in collaboration with the Forum for Agriculture Research in Africa (FARA) has implemented a regional project between the Democratic Republic of the Congo, Rwanda and Uganda, in the Lake Kivu region. This project has experimented with the Agricultural Innovation Platforms (AIPs) as an approach to promote new innovations and technologies.

Here, an AIP is understood as an innovative institutional model whereby a group of actors including researchers of different backgrounds, farmer cooperatives, local authorities and other stakeholders working in a given site, gather to resolve complex problems affecting a crop or any other agricultural value chain or technology. In 2012, the project Sustainable Intensification of Maize-Legumes in East and Southern Africa (SIMLESA) project coordinated by the International Maize and Wheat Improvement Center (CIMMYT) started to promote CASI practices using AIPs as a 'research in development model.' The years of study brought key lessons that can be used to improve the diffusion of agricultural innovations on a wide scale in Rwanda.These include:

The need to understand the biophysical environment: SIMLESA and RAB/FARA studies show that crop production was sensitive to soil fertility management inputs in some sites more than others. The difference in crop response by site and per crop could be explained by soil fertility levels and crop nutrient requirements. This expresses the need to understand the biophysical environment in order to decide on suitable crops and appropriate inputs. The observed differences in crop yields and in soil fertility management requirements justify the multidisciplinary intervention of an AIP. Here soil scientists need to work with breeders, agronomists and economists to identify crop yield responses and crop input rates for maximum profitability while preserving the production environment. A key concern is that there are no institutional and organizational arrangements that allow scientists with different expertize to work in synergy to study and measure CASI.

To be viable and sustainable, AIPs must raise incomes for farmers, processors and traders: The experience of FARA shows that each successful AIP cases analyzed showed evidence that benefits from business-related activities were the key to success. Farmers in successful AIPs reported that on average their incomes had tripled in three years. This was mainly attributed to the improvement of members' skills through capacity development from RAB researchers along three value chains: potatoes, milk and cassava. The acquired skills were beyond the abilities of individual local actors before the intervention. The economic benefits were gained mainly from the sale of potatoes, milk and processed cassava flour. The AIP members received support from various donors in a) processing; b) partnerships; c) infrastructure, machines/ vehicles; d) produce-marketing networks; and e) trainings; all geared towards the generation of benefits and sustainability through business. These benefits applied to income, market access, enterprise skills, and credit access. Each support was to sustainably solve an identified problem in a given AIP.

Social innovation mentorship: The major theme of mentoring in AIPs was social innovation. It was observed that the most successful AIPs were the ones that largely embraced collective business models to encourage livelihood transformations. The various supporting projects had especially focused on financial services (incl. credit) as the main entry point.

Equitable benefits of interest among AIP members, including gender: Successful AIPs reported that the equity among members was guaranteed at three levels:

1. AIP membership was done on an individual not household basis. In this sense, the activity remuneration was also paid to the individual members regardless of gender. These AIPs were also required to have a gender balance with 50% men and 50% female members.
2. Farmer cooperatives bargaining capacity was improved and they were actively involved in the price negotiation for their products (potato, milk and cassava floor).
3. Farmers were empowered to to transform their products and processes, thus adding value. For instance, farmers created new potato selling points . They even went a further step by branding their product and selling it in Kigali supermarkets.

What are the opportunities for policy action?

Support farmer cooperatives under the condition of member equity

Policy-wise an AIP is difficult to apprehend because it is made of different stakeholders; with some having financial interests (e.g. farmers' cooperatives, banks, agro-dealers) while others don't (e.g. researchers and local authorities); some are permanent members, while others are temporary. At policy level, farmer cooperatives are at the core of AIPs-they grow and sell produce. Therefore, it is the cooperative that needs government support until it becomes self-sufficient. It is in this sense that the farmer cooperatives received a 40% price reduction on capital equipment through deliberate government policy instruments. The policy required them to attain and maintain gender equity. In return, cooperatives received transformational investments specifically targeted to social innovation, especially in agribusiness.

Institutionalization of the AIP innovation approach in national agriculture policy

Over time, successful AIPs generate spillover benefits that provide evidence for institutionalization, which ensures sustainability of the AIP concept and its benefits. The approach morphed from research-supported AIPs, by integrating CBO, self-help, and mostly cooperative principles. In 2016, the combined direct service (and infrastructure) network reach of two main AIPs was over 7500 non-member households. Institutionalization will help in avoiding the pitfalls of typical cooperatives by integrating AIP principles of wider partnerships, equitable benefit sharing, niche diversification and diverse membership. AIPs increased market access, mitigated transaction costs and leveraged better and stable (input and produce, products) prices for marginalized smallholders. The AIPs provided affordable and secure produce transport, facilitated equitable sharing of proceeds and aided responsible management of common pool natural resources including land, water and new germplasm.

Why act now?

Through the adoption of AIPs as a research in development model by RAB in its organizational and institutional framework, researchers will be able to contribute their multidisciplinary knowledge to solve problems that affect the agriculture sector in Rwanda. This will be reflected in efficient use of research outputs, effective integration of farmers into the markets and productive and profitable agriculture systems. If RAB does not adopt the AIP approach as an innovation model, it will continue to achieve isolated and costly success such as crop varieties but will miss the rapid and sustainable agriculture transformation.

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