



Policy Brief

Revitalizing the extension system in Tanzania

Policy recommendations for enhancing the role of communication and information

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At a glance

- The provision of timely and actionable information to end-users is paramount to promote sustainable development in the agricultural sector. The use of targeted communication channels and-or approaches can play a key role in addressing current gaps in delivery of information and favouring a smooth delivery of extension services to farmers.
- Farmers' priorities and farmers' information needs should be considered in order to provide targeted extension services.
- Adequate ICT infrastructures should be provided and the National Information and Communication Technology policy reviewed to accommodate recent technology developments.
- Private public partnerships, together with public leadership and investment in coordinating players is pivotal in promoting business innovation platforms for learning and sharing.
- A stream of investments in people, research and infrastructures is needed to ensure a functional development of the extension system.

Introduction

The success of farmers in agricultural endeavours relies on a series of elements, included, among others, functioning of inputs and outputs markets, as well as availability and access to accurate, reliable and targeted information (Ali & Kumar 2011; Naomi et al., 2016, Khoshnodifar et al., 2016).

Therefore, communication for dissemination of agricultural technologies to end-users is paramount to promote sustainable development in the agricultural sector. However, providing timely and actionable information to a large number of farmers, might be hampered by many factors. Understanding how farmers receive information, how they share it within the household and existing communication barriers along the value chain is key to the promotion of a functional, inclusive advisory service.

Between 2016 and 2019 the Gender and Legume Alliance project (GALA), in collaboration with the Africa Soil Health Consortium (ASHC), the Scaling-up Improved Legume Technologies (SILT) project and the Upscaling Technologies in Agriculture through Knowledge Extension (UPTAKE) project, ran several multimedia campaigns to promote improved agronomic legume practices and technologies. The projects also looked into farmers' sources of information, communication barriers along the value chain and barriers to adoption.

We observed that farmers rely primarily on own experience and knowledge of agricultural practices to manage their farming activities. Extension agents, neighbors and radio were other important sources of information for farmers. Newspapers, mobile SMS and leaflets were represented in very small proportions as farmers' sources of information. Radio, demonstration and leaflets were represented in larger proportions as information sources for men compared to women. On the other hand, own experience, other household members and village-based advisors (VBAs) were represented in large proportions as information sources for women compared to men. Women mainly learn by doing or accessing information mainly from other household's members.

Our experience has shown that exposure to multiple media results in larger gains in terms of knowledge and adoption of legume practices, than exposure to any single channel. In addition, the choice of media format is equally important as the media itself. For example, radio campaigns were more effective when they integrated participatory approaches such as farmer interviews and phone-ins. In addition, the choice of the delivery mechanism will also depend on a number of variables including the level of complexity of the innovation to be transferred, the desired reach (the number of farmers), the target audience (men, women, youth, old) and off course the available resources (staff, budget, etc.).

Sharing of information was frequent for more improved practices largely finance by household labour (like weed management, row planting, use of improved seeds) whilst farmers did not feel confident to share information about topics related with inputs usage, such as use of lime, soil testing, use of inoculant, applying P-fertilizer on legumes and PICs storage. The limited use of these inputs was mainly motivated by factors such as lack of awareness, limited access and high cost.

To better understand how to link country priorities with project findings, and revitalize the extension system by targeting communication channels in Tanzania, we held a stakeholders' workshop with practitioners, representatives of farmers, government officers and academics. The discussion was aimed at helping to drive future investment opportunities and potentially the development of new national policies focused on strategies to deliver agricultural technologies to farmers.

The results of the discussion together with the recommendations that emerged are presented below.

Areas where the extension system could be revitalized through communication and information

Understand different farmers' priorities and farmers' information needs. The extension system is currently failing to target information or communication messages according to different categories and needs of smallholder farmers. This means that information is currently failing to consider agro-ecological zones, socio-economic characteristics such as gender, financial ability and farm size, and communication behavior.

Recommendations

- Communication and extension strategies need to recognise the diversity of small-scale farmers: i) importance should be given to have a clear understanding that choices about channels, and formats, could have a significant impact on the access – as one delegate said 'all information channels come with challenges about access and gender'; ii) needs of subsistence farmers should be identified vs needs of small to medium scale commercial farmers; iii) the variation between regions (in terms of both agro-ecological zones and cultural and social context) has to be considered; iv) cultural and social context, including gender and age have to be taken into account when selecting formats for media or interpersonal approaches (e.g. gender aspects linked with control and ownership of mobile phones and radio, timing of the day for training, etc.); v) any reform needs to put farmer's needs at the heart of the research agenda – for example focusing on stepwise investment strategies (understanding the financial constraints that farmers face) that help farmers build towards optimizing GAPs; researching neglected crops; validating farmer's innovations and indigenous practices (especially those with low environmental impact) and; moving away from blanket recommendations.

Ensuring quality of the information. Quality of the information refers to the source of the information that should be trusted, credible, reliable, up-to-date and timely. Quality of the information also means that the information is appropriate in terms of scale and language, is clear, the message delivered is consistently across pluralistic information providers, the message is tailored to the needs of different farmers' groups, and for different commodities and is delivered at a time that fits into the agricultural timetable.

Curricula are currently largely focusing on agronomic practices, when farmers have gaps in knowledge on post-harvest issues, such as marketing for example. Farmers' competitiveness in the market could be improved if they had better knowledge of basic economics and access to markets. Better nutritional outcomes could be achieved through nutrition sensitive agriculture (Shetty, 2018).

Furthermore, the farmer-extension-training-research linkages are weak, and information that could help farmers is frequently not disseminated.

In addition, private sector is not adequately engaged either in the communication activity or in ensuring supply of inputs required for innovations to be adopted.

Recommendations

- Training of extension personnel: i) curricula to go beyond agronomic practices, and include

access to credit and finance, farm management (planning and budgeting), nutrition sensitive agriculture, market information and entrepreneurship; ii) to include re-fresh trainings; iii) to capitalize on Farmers Training Centres (FTCs) for delivery of communication material; iv) guidelines for different areas of practice developed by the extension service to be used as the starting point of the curriculum review for the agronomic areas they cover.

- The revitalization of the Farmer's Education Unit, by enriching the spectrum of partners in an open and inclusive way, could enable the country to become independent from sourcing content from third party providers.
- Delivering quality information goes hand in hand with a sufficient number of extension officers in place with the resources to be effective. Having one extension worker per village could help reaching out to more farmers (currently the ratio is about 1 or 2 extension officers per ward). Pooling teams at ward level could result in a better service level delivery, and may help them to respond to the growing agenda and allowing for some local specialization.
- Extension delivered by cooperatives also requires a review of the quality and content of the information provided to their members, an update of the cooperatives reform and modernization document could help to support this process. Furthermore, material and processes to update government extension should be open to cooperatives.

Integrate ICTs support to information dissemination. ICT has the ability to allow extension to access up-to-date information and be alerted to dynamic situations – pests and disease risks, weather issues and price movements in addition to supportive materials on agronomy and marketing. ICT infrastructures are able to increase reach and coverage for mobile and internet-based platforms.

Despite the emphasis on the role of ICT for supporting dissemination of agricultural information (MoWT and MOC, 2016), including market prices, currently the country lacks adequate ICT facilities at zonal, district and local (field) levels. Investments in artificial intelligence, that can make a significant impact on the call handling of requests for information by farmers.

Recommendations

- Policies design and review process need to acknowledge recent technology development e.g. the use of ICT based tools to reach more people in a cost-effective way.
- Equip extension and other change agents with extension knowledge and skills pertaining to effective use of ICT and other media.
- Consider the cost of delivering extension services through use of technology -make it affordable to various users

Build/strengthen partnerships with private sector. Coordination and institutionalization need to be boosted. There is lack of effective coordination among the different players revolving around extension. The different players need to be much more closely aligned to share knowledge, maximise resources and better serve farmers.

The continuum of research to extension does not serve farmers well. This may require a new forum to allow for better collaboration; a formal MoU between universities, the Tanzania Agricultural Research Institute (TARI) and the Ministry of Agriculture, accompanied by quarterly meetings could be beneficial. However, progress can only be achieved through an adequate understanding of the role that the private

sector could play, especially in rolling out new technologies. Multi-stakeholder alliances or platforms are also an increasingly popular approach to enhance collaboration and innovation within the agricultural research for development (AR4D) sector (Dror et al., 2016), the pigeon pea platform established in Tanzania, is an example.

There are opportunities for innovation that comes from embracing the role of private sector¹; this requires support for a multi-agency approach (pluralistic) to better support farmers, and to develop a financial strategy with the involvement of the private sector. There are private extension models within Tanzania – especially within out-grower schemes and value chains associated with high value cash crops where a lot of inputs are utilized – these tend to offer highly specialised expertise in specific crops (or cropping systems) as opposed to the government extension which requires ‘magnificent generalists’. Considering the current challenges about commercialization, access to input and sustainable access could be ensured through better engagement of the private sector. In fact, in some cases, agro-dealers are bundling information with input services – either within traditional extension or through the role of village-based agricultural advisors (VBAs). There are also fee paying extension service – often established as a project – but valued by the participating farmers that ensure that the services continue on a fee-paying basis.

The Agricultural Sector Development Programme - Phase 1 (ASDP 1) was launched in 2006 with the aim to lead the transformation of agriculture in Tanzania. The overall goal was to reduce poverty and enhance economic development for the vast majority of Tanzanians who depend on agriculture for their livelihood. On the onset of 2015 the government embarked on the second phase of ASDP. The ASDP 2, that was launched in 2017 and had identified the following key priorities for: (i) the role of science and technology (research, extension, fertilizer use by small-scale commercial farmers); (ii) further priorities such as irrigation, finance, mechanization, agro-processing and access to markets; and also (iii) strong articulation with other sector initiatives such as, Big Results Now (BRN) and the Southern Agricultural Growth Corridor of Tanzania (SAGCOT). The push for ASPD-2 needs to be supported by a reform of the research institutions – which supports a food systems approach and is capable of supporting better communication of approaches to promote commercialization.

Recommendations

- Coordination of different players revolving around extension could be promoted by the establishment of a business innovation platform for learning and sharing. The platform, commodity oriented, would link governmental and non-governmental actors (e.g. following the example of the pigeon pea platform). Private public partnerships, together with public leadership and investment in coordinating players would be pivotal in promoting business innovation platforms for learning and sharing.
- A continuous quality assurance and monitoring process should be designed and implemented to monitor the overall progress and evolution of the extension system. Collection of feedback from farmers and the private sector can help improving the quality of the extension services.

¹ In the context of many developing countries, privatization of extension service may not necessarily imply complete transfer of roles and responsibilities from government to the private sector. Thus, the term private (privatization of) extension service refers, in its broader sense, to increasing private sector's participation in the delivery and/or financing of extension services, particularly in their areas of comparative advantage. Private sector might include smallholder farmers and cooperatives and larger commercial farms engaged in primary production, input and support service providers (they are mainly civil society and farmers' and youth organizations), financial institutions, universities, non-governmental organizations, traders, and exporters, and those engaged in processing and value addition beyond the farm gate.

- ASDP-2 could be boosted by a communication strategy targeting extension.

Increase funding for extension. Public extension funding is currently inadequate. There is the need for an exercise to properly map out costs required to have extension officers working effectively. The return on investment of the extension system should also be quantified, through cost benefit and cost effectiveness analysis. This could better communicate the value of the extension service and their potential to deliver change.

Ward Agricultural Resource Centres have been established to provide agricultural information to farmers, extension workers and the public. However, currently they suffer of ineffective utilization because they aren't adequately facilitated, resourced and equipped.

Recommendations

- Invest in equipment in order to: i) boost the Ward Agricultural Resource Centres; ii) improve delivery of audio-visual material; iii) support ICT for extension service delivery (e.g. fuel and phone credit).
- Invest in people in order to: i) enhance extension agents' skills in marketing and accessing finance; ii) grow specialists in communication for development and value chain development.
- Invest in research: i) conduct studies to document the performance of extension services and its contribution to development; ii) strengthen linkages and information sharing amongst Business Innovation Platforms; iii) capitalize on research outside of the government sponsored agricultural research system (e.g. from university) to be converted into useful/user friendly communication materials; iv) investments looking into communication behaviors of various categories of farmers and into different media approaches.

References

- Ali, J., Kumar, S., 2011. Information and communication technologies (ICTs) and farmers' decision-making across the agricultural supply chain. *International Journal of Information Management*, vo. 31(2): 149-159.
- Dror, I., Cadilhon, J.-J., Schut, M., Misiko, M. and Maheshwari, S. (2016). *Innovation Platforms for Agricultural Development. Evaluating the Mature Innovation Platforms Landscape*. London, UK: Routledge.
- Khoshnodifar Z., Ghonji M., Mazloumzadeh S.M. and Abdollahi V. 2016. Effect of communication channels on success rate of entrepreneurial SMEs in the agricultural sector: A case study. *Journal of the Saudi Society of Agricultural Sciences*, 15: 83-90 <http://dx.doi.org/10.1016/j.jssas.2014.04.001>
- Naomi Muriuki, Catherine Munyua and Dolphine Wanga. 2016. Communication Channels in Adoption of Technology with a Focus on the Use of Purdue Improved Crop Storage (PICS) among Small Scale Maize Farmers in Kenya. *Journal of Biology, Agriculture and Healthcare*, 6 (18): 8-12.
- Shetty, P. 2018. Nutrition sensitive agriculture to achieve better nutritional outcomes. *Eur J Clin Nutr* 72, 1296–1299, doi:10.1038/s41430-018-0208-9.

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