



SCALING UP INNOVATIVE EXTENSION APPROACHES IN EAST AFRICA: ACTIONS FOR EFFECTIVE YOUTH AND PRIVATE SECTOR ENGAGEMENT

Policy Brief



Event organizers



Introduction

Agricultural extension is an important enabler for agricultural productivity, food security and income for millions. Effective extension enables farmers to make better choices that can increase productivity and returns, leading to better agricultural performance. The important role of extension in transforming rural economies has been recognized in the African Union's **Agenda 2063**, **STISA 2024**, and the **Sustainable Development Goals**. However, the effectiveness of agricultural extension in transforming East African agriculture has been curtailed due to the high extension staff: farmer ratio that exceeds the recommended 1:800, inadequate access and high cost of information and communication technologies (ICTs) and low digital literacy. Furthermore, extension systems in East Africa have not fully utilized the considerable capacity of private sector firms and youth engaging in agribusiness. Extension service providers have been operating in absence of effective coordination and regulatory frameworks. Weakness in extension services presents major vulnerability to the agriculture sector in the region. There is therefore need to mobilize diverse institutions and stakeholders, in particular engaging the youth and private sector as service providers and clients/ benefactors to support effective upscaling of innovative extension approaches. These policy recommendations draw from the key messages and lessons from a series of online events organized in Aug-Sept 2020 by the Feed the Future Developing Local Extension Capacity (**DLEC**) project, African Forum for Agricultural Advisory Services (AFAAS), E. Africa Field Schools Support Hub (**EAFSS**) and Forum for Agricultural Advisory Services – Kenya (KeFAAS) on the theme 'Engaging youth and the private sector in extension and agricultural advisory services'.

Summary of key messages

- A large number of organizations with different motivations and interests are active in extension service delivery in different value chains, but there is currently no mechanism for effective coordination and regulation of extension services and providers.
- Capacity and quality of extension service delivery can be increased by enabling the participation of additional, diverse organizations including expanded roles for producer associations, private sector, civil society, and researchers, among others.
- Private sector firms are playing significant roles in innovating and delivering extension and advisory services to farmers. These firms have significant additional capacity that should be tapped in development and upscaling of innovative extension approaches.
- Demand-driven extension service delivery model is preferred, being more effective and sustainable. However, governments should retain key facilitative, regulatory and coordinating roles, in addition to ensure public funding for extension support to under-served regions and to poor farmers lacking the means to pay for services.
- Field Schools are a promising approach in upscaling innovative extension approaches, and the East Africa Field Schools Support Hub can be a suitable regional platform for improving quality control, accrediting and validating trainers, and improving monitoring and evaluation.
- ICTs are key in availing and upscaling innovations for extension service delivery; however, measures are needed to mitigate the risk of a digital divide further entrenching disparities in access to extension services, especially in rural areas.
- Youth are a major resource and have significant potential to contribute to the development and scaling up of extension innovations. However, youth need to be facilitated with friendly financing mechanisms, mentorship, business skills development, ICT infrastructure and stronger linkages within value chains.

Issues Highlighted For Policy Attention

Improving the regulatory environment for agricultural extension and advisory services

Currently, there is a large diversity of organizations in public, private sectors, research and non-government agencies providing extension services. While some countries have documented extension guidelines and regulations (e.g. Kenya, Uganda, Rwanda), these are largely treated as recommended good practices, and lack enforcement mechanisms. Establishing mechanisms for certification, registration and coordination of extension providers (firms and individuals) and standards for service and goods is necessary to address supply chain integrity issues and assure quality of messaging and approaches. Regulations are needed to professionalize extension services and improve coordination of actors.

Regulatory mechanisms should ideally link to existing national and regional initiatives, e.g. the East African Field Schools' Support Hub initiative on quality control for extension knowledge management, linking to accreditation and validation of trainers, and integrating monitoring and evaluation of implementation. For particular value chains, harmonizing the extension materials can improve quality and consistency of information communicated, minimize duplication of effort and reduce costs. Service delivery standards with explicit indicators for use in monitoring service delivery are needed. Poor quality service that does not fulfill client expectations is counterproductive and reduces extension demand. Where regulatory roles are built into current policy there is need for enforcement mechanisms.

Enabling partnerships and coordination of diverse actors in extension service delivery

The effectiveness of public extension systems has been curtailed by top-down organizational structure, inadequate financial and human resource, low ICT capacity and weak extension- research and farmers' linkages. While agricultural extension strategy usually recognizes the complementarity of different actors, extension service providers currently operate largely independently, coordination has been lacking, and opportunities to create synergy have been missed. A mechanism is needed for purposive coordination of diverse service providers to develop and harmonize extension agendas, set priorities and collaborate in service delivery. In these arrangements, public extension systems should play a more facilitative role, enabling inter-organizational collaboration and fostering shared learning and coordination. Multi-actor platforms and extension approaches can increase availability of human and financial resources and strengthen leadership and effectiveness of planning and implementation of extension services.

Sustainably financing development and upscaling of extension services

Effective extension services require adequate and sustainable financing. While shifting to demand-driven service delivery models, it is important to note farmers may not always be willing to pay market rates for extension services or share in the costs (where subsidized) to compensate for the decrease in public funding. Policy measures should enable identification and support for promising business models, for example DigiCow App (Box 1) or the "pay-per-view" model implemented by Performer for dairy training lessons.

In particular, financing mechanisms for agribusinesses and innovations in extension services should address risks associated with agribusiness. The informality of linkages in agricultural value chains is noted to present a significant risk that hinders private sector involvement. Conversely, where relationships in value chains are more formal and better structured there is perceived to be less risk. Mechanisms are therefore needed to reduce informality and/or increase formality in value chain linkages, alongside other business risk mitigation measures. Addressing financial insecurity among value chain actors is therefore a necessity for successful upscaling of innovative extension approaches.

Box 1: DigiCow application transforming extension in dairy sector

1

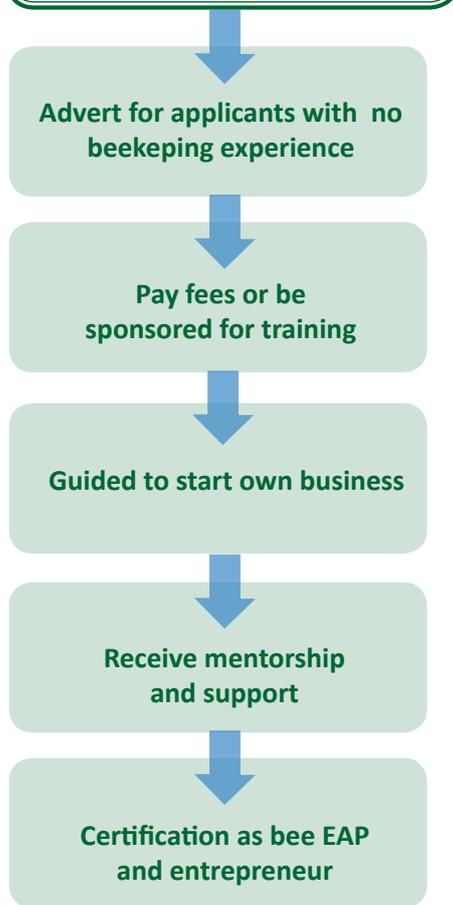
DigiCow is an application for dairy farmers to improve production through better use of data in herd management, better tracking of herd health and eliminating delays in making critical business decisions. The app enhances access to reliable information on animal husbandry, veterinary services provided by professionals accredited with the Kenya Veterinary Board and artificial insemination services matching a farmer's need to the nearest service provider, and enabling farmers to track breeding records. Through the app farmers can access digital trainings and online experts consultation in chatrooms, or use Tegea®, a telephone system that provides voice trainings in their local dialect and supported by the Kenya Agricultural and Livestock Research Organization. DigiCow is identified as a new (digital) business model that is transforming delivery of extension services, enabling engagement with clients and stakeholders through new (digital) channels. The business was established by a youth and the app is available on google play at

<https://play.google.com/store/apps/details?id=info.digicow.com&hl=en>

Providing training and skills development for extension service personnel

Effective extension service delivery is constrained by inadequate human resources with the right skills, knowledge and experience. The modern-day extension professional needs skills to facilitate flow of knowledge and ideas, and in particular to help farmers choose from a range of options, each associated with different types of probable risks. Skills in critical thinking and problem solving are necessary, and may not be adequately covered in current training curricula. Professionals in extension and advisory services should be able to promptly respond to changing policy environment and clients' needs. Policy should therefore ensure training institutions regularly update curriculum.

Box 2: Informal training process for beekeepers by TUNADO-Uganda.



Actions are needed that enable innovative learning channels and acquisition of certifiable and recognized skills under formal and informal settings. Examples of these informal trainings include the Academy of Dairy Managers by Performer (Kenya) and The Uganda National Apiary Development Organization (TUNADO) (Box 2). Short non-formal training should be considered where personnel are already in place and can be trained to support the extension function at minimal cost. For example, in Uganda and Rwanda, village agents based in rural farming communities and supporting the trading operations of private companies have been identified as a suitable cadre for training to additionally provide extension services (Box 3).

Input suppliers and stockists are other types of actors that are strategically located along the value chain, interacting with growers routinely. These cadres can be trained to improve their capacity as frontline extension service providers, equivalent to paraprofessionals (having completed a short course to conduct professional duties but without a formal qualification in that field from a training institution). In providing training, market needs should determine extension services delivered, for example see SHEP (Box 4).

To enhance community ownership and sustainability of extension service delivery, the Farmer Field School (FFS) model (Box 5) trains facilitators, who typically include NGO and extension workers, farmer organization's staff and local farmers.

Box 3: The village agent (VA) model

3

VAs work in the farming communities on behalf of larger private firms. Their duties vary considerably and include informing farmers through their organizations and groups about the company products, taking orders and delivering inputs to farmers, managing demonstration plots, purchasing and coordinating the bulking of produce. VAs also conduct “farm profiling” activity using mobile apps to obtain information on area under cultivation, inputs use, estimating yields, assessing credit needs and marketing requirements. VAs also link farmers to other services, e.g. extension, soil testing, financial services, insurance, machinery hire services and storage services. Aside from their wages, VAs gain skills and experience, establish networks and linkages with farming communities and diverse service providers (they can expand agency to other companies). Some eventually start their own agribusinesses or set up demonstration sites that generate income. VAs can contribute significantly to delivering extension services but require additional training.

Box 4: The SHEP approach of demand driven extension service delivery

The Smallholder Horticulture Empowerment and Promotion project (SHEP) is an initiative developed in Kenya through collaboration of Japan International Cooperation Agency and Kenya Government. SHEP emphasizes empowering farmers (organized in groups) to first conduct a market survey, identify available opportunities and use the information to decide what to grow. Training and extension support is requested by farmers depending on the skills and knowledge they need, and this varies with the commodities they have chosen to grow. Therefore, market forces are the main determinants of extension services provided.

Tackling the digital divide to enable development and upscaling of innovative extension approaches

The application of digital technologies is playing a significant role in extension and advisory services delivery. Numerous technologies are available that can enable farmers and agri-preneurs to drastically increase productivity, efficiency and competitiveness, e.g. mobile apps, portable smart sensors, drones and imaging software, weather forecasting, pest warning systems, among others. Additional rapid technological advances will likely come from application of artificial intelligence, Internet of Things, blockchain technology, big data analytics, and biotechnologies. Hello Tractor (Box 5) is an example of a business using digital solutions to improve access to tractors for small scale farmers.

However, lack of ICT infrastructure, high costs, unreliable internet access and low capacity, low levels of e-literacy and digital skills are major barriers to effective use of digital technologies. Digital divides in extension service delivery can arise when the potential benefits are not equally distributed between regions, gender or youth population depending on the digital ecosystem. While ownership of mobile phones in east Africa is reasonably high (Figure 1), most of these are not internet-capable smartphones, thus internet access lags far below phone ownership.

Policy measures should therefore aim to address constraints to technology access and use (availability, connectivity, affordability, skills), alongside enabling factors such as entrepreneurial skills development, fostering innovation culture, and providing incubation services for start-ups. Incentives should be considered including reduction of taxes, subsidies for procurement of equipment, airtime and data costs reduction, and support with technical expertise. An example of successful policy measure is Rwanda where airtime costs is lower for rural-based businesses.

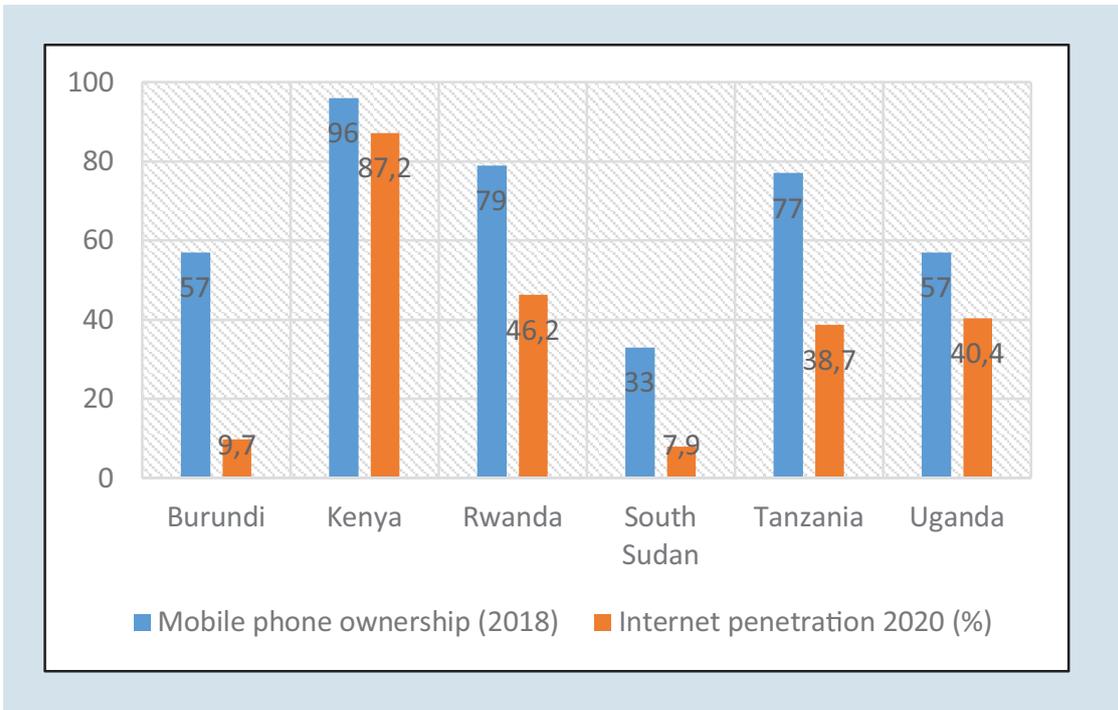


Figure 1: Mobile phone and internet penetration in East Africa (generated using internet access data from Internetworldstats, 2020 and Mobile cellular subscriptions data from WorldBank, 2020)

Box 5: Hello Tractor digital solutions increasing access to tractor services

5

Hello Tractor is a business established to address the low access and use of tractors by small-scale farmers in Africa. The business identifies existing tractor owners and uses digital technology to organize them, minimize fraud and increase profits. Hardware is installed on tractor to link to a cloud and unique software manages tractor operations and coordinates bookings and payments for services through community based agents. Tractor owners track and manage fleet remotely through mobile and web applications. Hello Tractor software provides detailed reporting that financial services providers can refer to, thereby de-risking asset based financing.

Engaging youth to intensify extension innovations development and foster rural agribusiness development

The youth play a key role in generation of innovations and as agripreneurs. In particular youth present a significant opportunity for the digitalization of the agricultural sector. Youth have creative energy and can bring unique insights to the innovation process and application of technologies to transform extension services delivery. Youth in particular bring along the advantage of digital literacy that can be tapped to accelerate the development and uptake of digital tools to transform agriculture in rural farming areas. The DLEC study on Youth Engagement in Private Sector Extension and Advisory Services: Lessons from Rwanda and Uganda identified numerous cases and models of successful youth engagement in agribusiness and extension service delivery. The Junior Farmer Field & Life Schools is an effective model for integrating youth and vulnerable populations into agribusiness (Box 6).

However, to achieve their potential, youth need access to friendly financing and mentorship to develop and test their innovations, launch start-ups and build competitive businesses. Particular attention should be paid to address the training needs of youth to provide mentorship and business development skills. In addition, the youth need support to build confidence to take risks and establish sustainable business relationships. Increasing youth involvement in agribusiness and extension service delivery contributes to the regional goals of tackling youth unemployment, especially in rural areas.

Engaging youth to intensify extension innovations development and foster rural agribusiness development

The youth play a key role in generation of innovations and as agripreneurs. In particular youth present a significant opportunity for the digitalization of the agricultural sector. Youth have creative energy and can bring unique insights to the innovation process and application of technologies to transform extension services delivery. Youth in particular bring along the advantage of digital literacy that can be tapped to accelerate the development and uptake of digital tools to transform agriculture in rural farming areas. The DLEC study on Youth Engagement in Private Sector Extension and Advisory Services: Lessons from Rwanda and Uganda identified numerous cases and models of successful youth engagement in agribusiness and extension service delivery. The Junior Farmer Field & Life Schools is an effective model for integrating youth and vulnerable populations into agribusiness (Box 6).

However, to achieve their potential, youth need access to friendly financing and mentorship to develop and test their innovations, launch start-ups and build competitive businesses. Particular attention should be paid to address the training needs of youth to provide mentorship and business development skills. In addition, the youth need support to build confidence to take risks and establish sustainable business relationships. Increasing youth involvement in agribusiness and extension service delivery contributes to the regional goals of tackling youth unemployment, especially in rural areas.

Box 6: The Field Schools model of extension service delivery

6

The Field Schools (FS) approach is a transformative discovery-based learning approach that emphasizes partnership with farmers to foster innovation and creativity. FS approach focuses on building farmer capacity through demand driven participatory approaches. The East Africa Field Schools Support Hub aims to address increasing demand for knowledge management and sharing, maintaining quality control of FS implementation while scaling up, and to implement effective monitoring and evaluation mechanisms. A key goal of the hub is to address inconsistency in training of facilitators through actions to accredit and validate trainers. The Junior Farmer Field & Life Schools support integration of vulnerable populations and youth in agricultural development. The hub is operational in 11 member countries: Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania and Uganda.

Reserving the role of government in upscaling innovative extension approaches

Most often, commercialization of agriculture increases demand for specialized client- and location-specific extension services that can be provided by private firms for a fee. While a demand-driven service delivery model is preferred, it cannot be effective where small-scale farmers with limited resources have no means to pay for extension services. Relying on private sector can also lead to exclusion of smallholder farmers who do not produce commodities of high commercial interest. Private firms can be selective in targeting extension services to their value chains of interest or to particular regions with higher potential for market growth. It is therefore important to ensure that financially-constrained producers in underserved areas continue to access extension services with public funding support. Some types of extension services will therefore continue to depend on public funding, but not necessarily public delivery.

Creating enabling ecosystems for utilization of extension messages, products and services

Effective extension increases awareness regarding technologies which triggers demand for inputs and their associated distribution systems. Since extension systems and input distribution systems are mutually reinforcing, it is important for extension service provision to be synchronized with other services, e.g. inputs supplies, machinery and equipment providers, credit and financial services, market linkages, processors and value addition, regulatory agencies, researchers, among others.

Policy recommendations

- 1.** Implement effective regulatory frameworks for extension and advisory services with mechanisms for certification and registration of service providers and standards for services. This will address supply chain integrity issues, enhance quality assurance, professionalize and improve coordination of actors, and harmonize approaches in extension service delivery.
 - 2.** Foster the development of pluralistic extension with participation of diverse actors in an inclusive, collaborative and coordinated manner, bringing together farmer organizations, private sector, youth, public extension service systems, NGOs, and civil society for harmonized extension agenda.
 - 3.** Address financial obstacles to development and successful upscaling of innovative extension approaches through innovative and sustainable financing that addresses the unique needs of agribusinesses, including youth friendly funding mechanism to support innovations for extension services delivery and growth of youth led agribusinesses.
 - 4.** Improve access to formal and informal training and skills development focused on extension service providers targeting innovators, youth in agribusiness, and value chain actors at the frontline including extension personnel, inputs suppliers and stockists, village agents, agribusiness owners, and farmer organizations.
 - 5.** Tackle the existing digital divide particularly in rural areas by increasing access to technologies, ICT infrastructure, cost reduction measures, increased internet bandwidth, improving digital literacy and access to expertise to support extension services provision, through tax incentives, subsidies and other mechanisms that accelerate digital transformation in agribusiness.
 - 6.** Increase involvement of youth in developing and implementing innovations to bolster extension services, with mechanisms to support their entry and success in agribusiness, including accessible financing, business skills development, mentorship, incubation, and linking them to other actors in value chains.
-