Impact brief: Lessons learnt
October 2024

Challenge 1: Improving access to safe and nutritious food

Ensuring food security is crucial for sustainable development and poverty reduction, especially in sub-Saharan Africa and Southeast Asia. Smallholder farmers, who produce most of the food in these regions, face challenges like post-harvest losses, limited market access, and food safety issues. These problems directly affect health, economic stability, and well-being, with women being particularly vulnerable due to social and economic factors. In response to these challenges, the AgriFoSe2030 programme has developed a portfolio of science translation projects to improve access to safe and nutritious food for consumers by reducing post-harvest losses, enhancing food safety, and connecting smallholder farmers to markets.

Key takeaways for future programmes

- Science-based evidence must integrate with agricultural practices and policy to improve access to safe, nutritious food.
- A thorough needs assessment ensures that project goals aligns with stakeholder and consumer needs.
- The Theory of Change (ToC) framework helps teams map and achieve desired outcomes, stay flexible, and focused on their goal.
- Building relationships, challenging norms, and investing in capacity are key to fostering trust and long-term success.
- Strategic and timely communication is vital to link science with policy and practical outcomes.
- Adaptive monitoring, evaluation, and learning (MEL) should be tailored to community needs for effectiveness.
- Researchers should embrace broader roles and ensure interventions are sustained through ongoing collaboration.

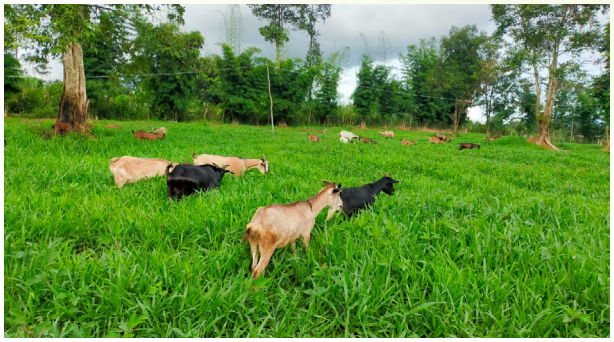
A common roadmap to change

To improve access to safe and nutritious food, science-based evidence needs to bridge with agricultural practices and policy development, which requires coordinated actions and long-term strategies involving multiple stakeholders. A portfolio of five science translation projects was developed in Challenge 1, each with a distinct focus but sharing the common goal of improving access to safe and nutritious food for consumers. The projects aimed to address at least one of the following overall objectives: reducing post-harvest losses, enhancing food safety, and connecting smallholder farmers to markets. Three of the projects were conducted in Africa: one focused on value addition among female smallholder milk producers in Uganda, the second on indigenous food production and marketing within pastoralist communities in Kenya, and a third on improving the edible insect value chain in Zimbabwe. The remaining two projects were based in Asia, with one targeting smallholder goat production in Laos and the other centered on black soldier fly production for aquaculture in Vietnam.

All project teams initiated the projects by developing a common impact pathway to achieve the desired change using an innovative methodology through the Theory of Change (ToC) approach. The approach guided the teams to reflect systematically on how change occurs and identify the necessary outcomes at each stage of the process to achieve the project's

goals. The adoption of the ToC approach in the projects offered flexibility, reflective learning, and effective follow-up. This approach ensured that the projects remained adaptable and responsive to changing circumstances. By creating impact pathways and regularly revising them, the ToC approach ensures continuous evaluation of project strategies while systematically mapping and reporting significant attributable changes.

Many of the project teams were unfamiliar with the ToC methodology, and some initially struggled to transition from a research-focused mindset to concentrating on the specific changes they wanted to achieve. Since the projects launched during the COVID-19 pandemic, the entire ToC process was conducted digitally, with a facilitator guiding the teams remotely. Despite the challenges, the teams invested significant time and effort into this process. In hindsight, this dedication proved valuable, as all the teams have since recognized the shared roadmap as a key factor in the success of their change projects.



Goats in the goat management project in Laos.
Photo: Dr. Daovy Kongmanila

Challenging norms and breaking barriers

Challenge 1 projects have concentrated on enhancing access to safe and nutritious food and strengthening smallholder value chains by developing new products and processes while engaging a diverse array of stakeholders. Adopting innovative approaches in both project development and stakeholder management required researchers to challenge existing academic norms and acquire new skills in collaboration, communication, and relationship management. As a result, project management expanded to include building and managing relationships within new stakeholder networks, addressing traditional hierarchies such as gender norms, fostering equal collaboration among diverse actors, and facilitating market-oriented activities and brokering between value chain participants.

Additionally, cross-team collaboration has grown over time, leading to more efficient problem-solving and enhanced project management capabilities through effective knowledge exchange. Researchers from different disciplines and country contexts have built mutual trust and openness, which has been crucial for sharing insights and learning collaboratively. Investing time in building these trustful relationships has been a key factor in the success of the projects at both project team and challenge levels. The main lesson is that projects should allow sufficient time for capacity building and relationship development to create a firm foundation for achieving their objectives effectively.

Multi-stakeholder engagement – a key to success

Working in new ways with new actors has necessitated the teams to challenge themselves and leave previous "comfort zones". This has opened for increased self-confidence and openness for new approaches in research, knowledge diffusion and transfer, and in collaborating with different types of people and actors. An essential part of the projects has been to involve multiple stakeholders, actors of relevance for the proliferation and implementation of ideas into practice. Although finding, engaging, and building trust among diverse stakeholders is challenging and time-consuming, the long-term effects are likely to be more sustainable, providing lasting benefits to local communities even after the projects have ended.

The examples on the success of multi-stakeholder engagement in Challenge 1 are numerous. Some examples are:
1) In Laos, the project team analysed stakeholders in the distribution and sales stages of the goat meat value chain and conducted multiple stakeholder meetings to assess market potential, identify quality standards and possibilities for sales and distribution coordination. This led to a better organised local market and improved marketing of goat meat, in turn leading to better food quality, increased food safety, a more stable market, increased producer revenues,

and decreased food losses along the chain. The new approach to stakeholder engagement, outside the normal boundaries of research has been a significant contributor to the project's societal impact.

2) In Zimbabwe, the project team made intense efforts to communicate the potential of edible insects to a broader consumer public, as well as (re-)introducing the possibilities for smallholders to diversify their incomes through insect collection. The novel approaches included involving chefs in creating appealing dishes, promoting these efforts on social media, publishing cookbooks, and producing filmed content. Additionally, a diverse group of stakeholders was engaged to spread knowledge to a broader audience through media, exhibitions, trade fairs, and conferences. The work also encompassed training insect collectors and farmers and upgrading the Chinhoyi Municipality insect market. By mapping insect harvest seasons, locations, and indigenous knowledge through engagements with local communities, the project provides context-relevant information for sustainable insect sourcing. Stepping outside the box of traditional scientific communication, the team has managed to achieve increased public knowledge and awareness of the potential with insects as nutritious food, and as viable source of income for smallholders.

3) In West Pokot, Kenya, efforts were made to involve multiple stakeholders in introducing innovative vegetable production methods and promoting the cultivation of indigenous crops. The previous approach to knowledge diffusion and advisory services had been a top-down, technocratic model driven by county government directives. By bringing stakeholders together, fostering dialogue, and improving interactions between county government and local farmers, a more inclusive decision-making process was achieved. This was facilitated through continuous, respectful consultation and joint activities, such as food demonstration events, local media engagement, visits to food processing facilities, and agricultural training. As a result, the rigid, hierarchical boundaries between farmers and local government officials began to dissolve, leading to a shift towards more open dialogue. There is now greater recognition of the importance of diverse local diets and the cultivation of local vegetable varieties that enhance food security, reducing reliance on unpredictable external food relief.

Dried insects at a market in Zimbabwe.
Photo: Anneli Sundin, SEI

In conclusion, the establishment of new networks and a shift towards dialogue-based knowledge exchange have strengthened local food systems and created a more secure food environment. These projects successfully brought stakeholders together to foster mutual understanding, respect, and collaboration. The extended duration of these projects has also allowed for the development of enduring relationships and practices that are likely to persist beyond the projects' timelines.

Building gender trust in patriarchal societies

In Challenge 1, addressing gender issues through integrating gender-sensitive and transformative models has been important to achieving intended outcomes. To provide targeted support, a gender expert was engaged to support the project teams through virtual meetings. One such project with a primary focus on gender, was the initiative on milk production in Uganda. Implementing the project in a culturally patriarchal society, where women cannot own resources like land or cattle, was initially challenging. The project team began by holding discussions with women, men, and local leaders to introduce the project's goals. Men were initially resistant, fearing that empowering women might threaten their marriages. To address these concerns, the team emphasized that the project's focus was on development and increasing household income, not disrupting homes.

Understanding the local context, the team regularly engaged with women, their spouses, and local leaders to raise awareness about the importance of gender roles in dairy farming. They held meetings and training sessions, inviting both women and their spouses to demonstrate the project's objective of empowering women for the benefit of the entire household. A key strategy was dividing participants into men's and women's groups during discussions, allowing for open dialogue. This approach facilitated the project team to gain deeper insights into the challenges women face in dairy production and marketing. Through these efforts, men eventually granted permission for the project to work with their wives, leading to greater acceptance and success.

Improving food security through developing markets models and local economies

Part of the Challenge 1 work has been to develop local markets, and to improve the economic condition for smallholders and other food system stakeholders. The projects comprised several types of actions that have contributed to local market development, and these pertain to action both on the distribution and supply chain and on the demand side. On the producer side there has been increased hands-on knowledge on product development (differentiation), implying that products are developed to meet a potential market demand that was previously unmatched. Examples are the development of insect-based food products in the Zimbabwean project, quality differentiation of goat meat in Laos, a long range of new dairy products (including yoghurt, cheese, butter, ghee) developed though women's capacity building in the dairy sector in Uganda, and the production and value addition of reintroduced indigenous vegetables in West-Pokot, Kenya.

Women participants undergoing training for the milk production project. Photo Credit: James Tembo

Entrepreneurial capacities have also been developed. These include skills on business model development, implying that local businesses, e.g. smallholders and their cooperation organizations, have improved their way of conducting business through new value offerings (differentiation and diversification). Other changes include adoption of new processes, shifts in managerial practices and more inclusive and transparent ways of collaborating with suppliers, buyers and end-users including building new knowledge and skills in produce marketing and communication. There are also examples where the potential for circular business models has been utilized, e.g. to minimize food losses and food waste and repurposing side-streams for creating new types of products. For example, value addition through developing cosmetics in the Ugandan dairy project, or the production of black soldier fly larvae for animal feed using food waste, in the Vietnamese project.

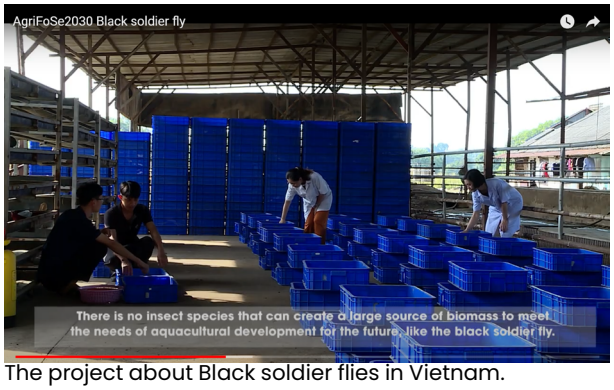
Transformation of pastoral livelihoods in Kenya.
Photo: David J Otiendo

In the stages between production and sales, several efforts have been made to facilitate functioning markets. Measures taken include new forms of collaboration with distribution and sales channel actors in all the change projects (as described in the stakeholder engagement section). This has for example improved knowledge among distribution and sales channel actors. Development of local quality standards to facilitate local trade and price-setting has been introduced (e.g. in the projects in Uganda, Kenya and Laos) and there have been contributions to develop physical marketplaces, for example outlets for marketing value addition products in Uganda, and upgrading of Chinhoyi Municipal insect market in

Zimbabwe. Through leveraging iterative adaptation models within the MEL framework, the sustainable goat management project extended its activities to include engagements with market actors, strengthening the link between local goat producers and commercial businesses including restaurants. Efforts have also been made to clarify regulations around food safety for instance through consultation requests on edible insects' management from the Standards Association of Zimbabwe.

In the end stage of the value chain, local demand has been assessed and through information and learning activities, market demand has successively changed towards healthier and more nutritious food choices and increased demand for local products. For example, in Kenya, women groups received demonstration training on indigenous food preparation, stakeholders were consulted on healthy and nutritious food habits, and manuals were developed on the use of indigenous food (for use of for example agricultural officers). In Zimbabwe, there has been extensive communication both towards insect-collectors and consumers on the (re-)introduction of insects on the plate. In addition to these more specific activities, smallholder farmers and their families in all cases have participated in activities that generally have increased their knowledge on both more sustainable production and consumption practices.

To conclude, the improvement of local markets, increased entrepreneurial activity, and in a longer perspective, changing food habits, likely contribute to improved food security, better health and a stronger local economy.



The project about Black soldier flies in Vietnam.
Photo: Project team

Engaging media and communication platform

The AgriFoSe2030 communications and engagement team was crucial in enhancing the effectiveness of Challenge 1 projects by providing innovative communication tools and media engagement support. Regular collaboration with the C&E team enabled project teams to fine-tune their messages for specific audiences, resulting in greater impact and broader reach. An example of a successful media outreach was the Edible Insect project in Zimbabwe launching livestreaming and branding their 2nd insect cookbook. The cookbook's success, recognized by a Gourmand Award in the Future Foods category, underscored the significance of sustainable and unconventional food choices.

AgriFoSe2030

Agriculture for Food Security 2030

Translating Science Into Policy & Practice

Agriculture for Food Security 2030 (AgriFoSe2030)

The AgriFose2030 programme is dedicated to overcoming the hurdles to achieving the sustainable development goals (SDGs), with a primary focus on promoting sustainable agriculture and ensuring food security via research translation. Its framework comprises four cross-disciplinary'challenges', each aimed at addressing different aspects of SDGs 1 (no poverty) and 2 (no hunger) and related goals. The challenges are:

Challenge 1 - Improving access to safe and nutritious food
Challenge 2 - Agricultural productivity and ecosystem functions
Challenge 3 - Science-based innovation and extension
Challenge 4 - Smallholder agriculture within transforming food systems

Poverty alleviation, gender equality, climate resilience, and biodiversity conservation are integrated as overarching priorities.

About Challenge 1: Improving access to safe and nutritious food

This challenge focused on how poor households can have better access to safe and nutritious food. This includes food loss in the various stages of production, aspects of food safety and how to connect smallholder farmers to markets.

Credits

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This brief highlights lessons on promoting research impact for funders, commissioners and managers of science translation and research for development initiatives.