

Resilient Agriculture for Inclusive and Sustainable Ethiopian food systems - RAISE-FS

Resilient, inclusive and sustainable food systems in Ethiopia

Annual report 2024

WAGENINGEN
UNIVERSITY & RESEARCH

RAISE-FS
Resilient Agriculture for Inclusive and Sustainable Ethiopian Food Systems

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Summary Sheet

Programme title	Resilient Agriculture for Inclusive and Sustainable Ethiopian food systems (RAISE-FS).
Vision	The vision of RAISE-FS is more resilient, inclusive and sustainable food systems in Ethiopia.
Impact	The overall impact of RAISE-FS is increased productivity, enhanced value chain performance and improved human nutrition for improved food security while minimizing the impact on the environment and ensuring social inclusion.
Goal	Creating evidence for practices that contribute to transformation of the food system by addressing leverage points in relation to productivity, enhanced value chain performance and improved human nutrition for improved food security while minimizing the impact on the environment and ensuring social inclusion.
Country	Ethiopia
Programme duration	4 years (September 2021–December 2025)
Contract holder	Stichting Wageningen Research, Wageningen University & Research P.O. Box 88, 6700 AB Wageningen, The Netherlands
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Budget	Total budget: € 12,000,000

Executive summary

Key achievements

The key achievements in 2024 were in the area of (i) generation of evidence of innovations that contribute to addressing key systemic bottlenecks, (ii) demonstration of innovations for scaling and (iii) capacity building for mainstreaming of evidence for sustainability across the five outcome areas. In addressing systemic bottlenecks: i) The project provided technical support to the Ministry of Agriculture (MoA) in the development of agriculture and rural development policy, the national postharvest management strategy, and supported the preparation of the agricultural cluster training manual, Research-Extension and Higher Learning Institute Linkage Guideline; preparation and validation of the national poultry biosecurity guidelines; ii) support to the establishment of platforms and taskforces: involved in the coffee platform establishment committee with specific attention to the EU deforestation regulation (EUDR) ; facilitated and coordinated the establishment of a national food safety technical working group and regional food safety technical working group in Amhara; iii) for strengthening bottom up planning, *woreda* profiles were translated into the local languages (Amharic & Oromifa) and handed over to the *woreda*s; iv) The youth challenge fund rolled out in 2024 and resulted in the identification of a highly vibrant concepts addressing agricultural challenges; v) to promote a safe and respectful work environment, the core principles of Protection from Sexual Exploitation and Abuse (PSEA) have been integrated into Wageningen Research Ethiopia's HR manual, reinforcing the organization's commitment to ethical conduct.

Achievements related to the demonstration of innovations for scaling include: i) small-scale agribusiness models (on sheep/goat fattening, seed supply, vermicomposting and poultry) to enable women and youth to expand their income-generating activities, and strengthen their financial independence; scaling of innovations on sustainable agricultural practices (on faba bean, lentil, common bean, soya bean, potato, oats, teff, and intercropping of cereals with pulses). The ABCD framework was tested for the assessment of food system resilience. A social and behavioural change communication (SBCC) manual for the Ethiopian food-based dietary guidelines (EFBDG) was developed and translated into Tigrigna, Amharic, and Oromifa, which will support the efforts of partner institutions to improve the promotion of healthy diets.

Capacity-building interventions were undertaken to strengthen partner institutions. Training has been provided on food systems concepts and approaches to various organizations and stakeholders in collaboration with the MoA and other partners. The training approach in the RAISE-FS integrated Gender-Sensitive Approaches, where the training programs now combine technical agricultural knowledge with gender-awareness components, ensuring holistic capacity building. Social Analysis and Action (SAA) was adapted for this purpose as a gender transformative approach to be integrated into research and extension to promote gender equality. Experts from the implementing partners were trained on the scaling readiness approach, and the training was cascaded to all implementing team members. A Training of Trainers (ToT) on SBCC approach, facilitation skill and EFBDG sessions for implementing partners and local experts was delivered at the *woreda* and *kebele* levels across the Oromia, Tigray, Amhara, and Southern regions. Farmer capacity was enhanced through the host-follower extension approach.

Lessons learned

Providing more intensive backstopping and follow-up support to implementing partner institutions, particularly in technical assistance in business management, follow-up of businesses, and identifying potential partners outside of the agricultural bureau, is crucial for the successful execution of project activities. Functional linkage among project outcomes has proven to better reflect the food systems approach, to create a bundle of innovations, and to effectively address scaling bottlenecks. For instance, the *Woreda* Food Systems Profiles are a valuable tool for understanding the specific context and challenges of each *woreda*, and they facilitate the tailoring of development interventions to address the unique needs and opportunities of each *woreda*. This contextualized approach increases the relevance and effectiveness of interventions, ensuring that they are aligned with local priorities and resources. The combined use of *Woreda* Food Systems profiles and Innovation Recommendation Mapping (IRM) helps to effectively support *woreda* planning for the scaling of validated innovations as well as to improve stakeholders' decision-making in the planning.

There were lessons learned in 2024 in terms of making project implementation effective and laying the groundwork for the uptake and institutionalization of approaches and practices of the project. Regular monitoring and interactive review sessions strengthen the successful implementation of planned activities. Early indications suggest that the integration of Social Analysis and Action (SAA) and Social and Behaviour

Change Communication (SBCC) is effective in shifting social norms and behaviours related to gender roles, dietary diversity, and food taboos. The use of the scaling readiness approach[1], which includes the identification of core and complementary innovations, and scaling bottlenecks, helped in designing scaling strategies for addressing the bottlenecks. For instance, the scaling interventions aimed at improving to seed of crops that are not sufficiently supported in the formal seed system demonstrated that decentralized seed access can be significantly enhanced. The revolving seed initiatives in seed insecure areas resulted in increased availability of seed. The scaling readiness approach also attracted the interest of both implementing and scaling partners, who requested the project for capacity building of their experts on scaling readiness. Joint planning and implementation by the implementing and scaling partners, together with the project staff paved the ways for creating ownership, better uptake and institutionalization.

Providing technical support to MoA and other organizations presents a valuable opportunity to institutionalize the evidence generated. By working closely with these organizations, findings can be effectively integrated into their policies, programs, and practices. Enhanced documentation of demonstrated evidence and due consideration for their timely communications using diverse approaches, and ensuring a proactive, adaptive planning and management for proper consideration of the unpredictable instability situations in some project implementation areas. Strategic documents produced to explore sector development opportunities, such as for cocoa, created interest by both the public and private sector. Support to regulations and standards, such as the EUDR and the food safety task force, address crucial bottlenecks.

Despite security challenges and some movement restrictions, the overall implementation of activities in all *woreda*s was encouraging, also in Amhara. Through adaptive planning and management, the partnership established with various stakeholders in particular with *woreda* and *kebele* level experts, contributed a lot to the successful implementation of activities (see Annex 1 for adaptive management measures taken in 2024).

Main steering implications for the next reporting period

Finalize planned activities, mainstreaming and institutionalization will receive top priority. Most scaling activities conducted in 2024 were successful in terms of reaching the planned number of targets. However, to capacitate partners to properly follow the scaling readiness approach, scaling activities will be conducted in 2025. Additional capacity building has already been done for implementing and scaling partners so that scaling in 2025 should take place properly.

We will focus on the completion of grassroots level interventions, documenting evidence and producing relevant reports. A mechanism will be devised with relevant stakeholders on how to sustainably use the revolving/ guarantee fund to support women and youth in generating income. A food system-based best practice manual will be prepared for key commodities with sufficient evidence and handed over. Attention will be paid to discuss and share our experiences with relevant stakeholders to facilitate the community's access to vegetable seeds and irrigation so that the community benefits from the validated home gardening approach.

Various workshops and other modalities will be organized to disseminate the available evidence on a range of topics to a wider audience.

[1] Adapted from the CGIAR scaling readiness approach, see https://www.scalingreadiness.org

1 Introduction

a. Description of programme and intervention strategy

The vision of the Resilient Agriculture for Inclusive and Sustainable Ethiopian food systems (RAISE-FS) project is more resilient, inclusive and sustainable food systems in Ethiopia.

- Resilient to biophysical and economic shocks
- Inclusive of women, youth, smallholders, low-income communities and marginalized groups
- Sustainable environmentally, socially and economically

The overall impact of RAISE-FS is increased productivity, enhanced value chain performance and improved human nutrition for improved food security while minimizing the impact on the environment and ensuring social inclusion. An additional impact and a spin-off of the implementation modality is that the research capacity in food system transformation at Universities and ARIs will be strengthened.

The goal of RAISE-FS is creating evidence for practices that contribute to transformation of the food system by addressing leverage points in relation to productivity, enhanced value chain performance and improved human nutrition for improved food security while minimizing the impact on the environment and ensuring social inclusion.

Five outcomes contribute to the above:

i. Social and economic empowerment of women and youth in food systems

ii. Efficient and environmentally sustainable production

iii. Sector performance and value chains

iv. Availability of safe and nutritious foods

v. Enabling environment for systems change

It will do this by generating evidence for scaling up through research for food system transformation (R4FST).

b. Review of follow-up measures taken since the last reporting period (2023)

Building on the key achievements in the previous reporting periods and as an attempt to address the challenges faced in the implementation of the project activities along with the concerns raised by EKN, the main follow-up measures taken in 2024 were the scaling up of demonstrated evidence in parallel with the planned activities to demonstrate additional evidence of innovation and expanding the reach through addition coverage of targeting new scaling *woreda*s. This has improved the performance of the FNS indicators and met the set targets (see section on monitoring, evaluation & learning).

c. Relevant contextual changes and their potential impact

The following issues are major contextual changes expected to affect the project:

- The prevailing security problems in Amhara have been managed through adaptive planning and extensive collaboration with implementing and scaling partners (see Annex 1). At the time of writing, the security situation in Tigray is also deteriorating again;
- Regional policy makers regularly change, as such the institutionalization of demonstrated evidence at the regional level will still demand stronger engagement and embedding;
- The closure of diverse programs and projects in early 2025, supported by different development partners (mainly USAID funded) that closely collaborated at the national and regional levels, mainly mainstreaming and institutionalization of some of the RAISE-FS project evidence, will require closer follow-up.

2 Progress towards outcomes

a. Progress towards our outcomes

Five outcome areas are being addressed: (i) social and economic empowerment of women and youth, (ii) efficient and sustainable agricultural production, (iii) sector performance and value chains, (iv) safe and nutritious food and (v) enabling environment for system change. Activities for each of the outcomes take place both at the national level as well as by the partners in the regions.

Social and economic empowerment of women and youth in food systems

This outcome consists of two intermediate outcomes: i) Increased women's and youth's decision-making in agriculture and ii) increased income for women and youth in the food system. The overall progress in 2024 is summarized in Table 1.

Table 1 Progress Social and economic empowerment of women and youth

Outcome 1	Social and economic empowerment of women and youth increased
Intermediary outcome 1.1	Increased women's and youth's decision-making in agriculture
Results	• Community Action and Learning Platforms: Eight community action and learning platforms were established in the regions. The platforms engaged over 152 community participants and core group members in over 20 SAA dialogue sessions on gender and social issues. The platforms were led by trained facilitators and supported by RAISE-FS staff. The sessions use participatory methods, with reports informing ongoing interventions. • Core Group Engagement: Four learning and action platforms were created for community gatekeepers, involving local leaders and stakeholders. These platforms have fostered commitments to promoting support for the project's gender transformative efforts. • Staff-Level Action and Learning Platforms: Sixteen action and learning platforms were established at the staff level, engaging over 110 RAISE-FS staff in reflection sessions focused on gender equality and social inclusion. These regular sessions have contributed to notable improvements in staff knowledge, attitudes, and practices related to gender equity and social inclusion, fostering a more inclusive and gender-responsive work. • Virtual training sessions were organized to introduce the gender balance tree tool to all regional RAISE-FS experts. More than 90 participants from the regions attended the training. The gender balance tree tool is proving valuable both for gender sensitization and as a data collection method. • A mid-pilot community monitoring visit was conducted to assess the progress of the Gender Transformative Approach (GTA) pilot in the regions. The visit included discussions with GTA participants, core group members, community facilitators, *woreda*-level public office experts, and home visits with participants. The monitoring process revealed notable changes in gender and power dynamics at the individual, family, and social levels, including increased women's confidence and decision-making power, shifts in household role division, and improvements in nutrition practices. • A special study on GTA in research for food systems transformation is underway. The study documents the adaptation of the Social Analysis and Action (SAA) approach within RAISE-FS and captures evidence of gender transformation from pilot communities. • The SAA manual from CARE Ethiopia has been customized for the RAISE-FS context and adapted into a Community Facilitators' Guide, now available in three local languages. This was followed up by regional trainings for community facilitators, equipping them with the skills and tools needed to lead community reflection dialogues. Participants included development agents, health extension workers, and relevant *woreda* public office representatives. The training successfully sparked interest and engagement among facilitators and public sector partners. • Couples-focused training is integrated across all project interventions, strengthening women's participation in agricultural, marketing, and income-related decision-making. • Gender sensitization training is now a strategic component of all scaling activities, contributing to improved household role division and decision-making dynamics. Regular data collection is ongoing to track household decision-making patterns and role divisions, providing insights into gender dynamics within participating communities.
Intermediary outcome 1.2	Increased income for women and youth in the food system
Results	• Inclusive targeting has significantly increased women and youth participation in RAISE-FS interventions, including technology adoption, innovation uptake, field days, and business model pilots. • Women- and youth-focused business models are driving economic empowerment across regions, enabling greater financial independence and livelihood improvements. For instance,

year-round vegetable production has consistently enhanced women's economic independence and control over income across all regions.

- Women and youth are actively engaging in various agribusiness models, including vegetable seed production, poultry commercialization, vermiculture enterprises, and sheep and goat fattening. These activities are enhancing income generation and economic of women and youth empowerment in food systems.
- The Youth Challenge Fund competition engaged 167 young agri-preneurs from four partner universities. Of these, 47 received training and coaching on business plan development, socially inclusive business models, and proposal writing. Among 29 finalists who pitched their ideas, 12 winners were awarded, fostering youth-led innovation in Ethiopia's food systems.

Efficient and environmentally sustainable production

There are three intermediate outcomes under this outcome: i) efficient and sustainable production system enhanced, ii) improved input supply chain systems, and iii) strategic planning for agricultural development improved. The 2024 progress is summarized in Table 2.

Table 2 Progress Efficient and environmentally sustainable production

Outcome 2	Efficient and environmentally sustainable production increased
Intermediary outcome 2.1	Efficient and sustainable production system enhanced
Results	• The scaling interventions were implemented using the scaling readiness approach. All the focal persons from implementing research centres and universities received training, which in turn was cascaded to all implementing teams across centres. Capacity was built on how to: identify the core and complementary innovations, scaling bottlenecks, design scaling strategies, facilitate multistakeholder engagement, and generate evidence. • A total of 25 sustainable agricultural practices /innovations have been demonstrated or scaled in 2024, reaching over 24,000 small-scale food producers and resulting in an increase in productivity and income. The increased reach is a result of applying the host farmer and follower farmer strategy. • The ABCD framework integrating the resilience capacities: (A) Agency, (B) Buffering, (C) Connectivity, and (D) Diversity) for assessment of food system resilience was tested in Welmera *woreda* with a focus on potato. • Field-level scaling of Innovation Recommendation Mapping (IRM) guided maize-haricot bean intercropping in Silte *woreda*. Promising reflection was obtained from *woreda* stakeholders on how IRM helped them to change areas for government funded scaling of maize, haricot bean and maize-haricot ban intercropping • An Integrated Validation Protocol for assessing innovation from a food system perspective was drafted and will be piloted in the regions.
Intermediary outcome 2.2	Improved input supply chain systems
Results	• A total of 13 mechanisms supported to improve input supply (seed production, market linkage for inputs, finance linkage for inputs). This includes onion seed business, seed potato production through organized groups, farmers' managed mini-tuber production,) faba bean seed production business, improved shallot seed production, improved carrot seed production, Revolving fund for seed, linkage of potato seed producers with tissue culture companies, linkage of all scaling commodities with the sustainable sources for quality seed, the use of integrated soil fertility management (ISFM) as sustainable source of input particularly for small plots among others. • A proof of decentralize seed production from clean sources: a total of 70,000 mini tubers were distributed in Yilmana Densa for the generation of G 3 seed potato. • IRM is modified to make the calculation of the seed, fertiliser and inoculants required for scaling of a particular innovation. • In collaboration with the Ethiopia Seed Partnership (ESP), facilitated the involvement of private and public seed producers in a multistakeholder platform established as a strategic activity for scaling, with the role to facilitate the improvement of seed access. • Two Seed alerts were published: one for Amhara and one for Tigray.
Intermediary outcome 2.3	Strategic planning for agricultural development improved
	• The IRM model was simplified with some new functionalities. The new script was made about 40% of the length of the previous model – while adding new functionality. This is a good milestone towards improving the scalability of the tool. • Recommendation maps based on bio-physical parameters, socio-economic parameters and combination of the two were produced. Facilitated the use of IRM products in combination with *woreda* profile (bottom-up planning approach) for planning the scaling of faba bean and sweet potato for Welmera and Kersa *woredas*, respectively, where both IRM maps and *woreda* profiles have been produced. The use of IRM for scaling of soya bean and maize haricot bean intercropping have also been demonstrated die Hawassa Zuria and Silte *woredas*, respectively. All IRM-supported *woreda* planning was done in a multistakeholder workshop involving *woreda* stakeholders, zonal & regional experts, and experts from MoA.

	• The originally Excel based Analytical Hierarchical Process (AHP) tool that is used to represent farmers' priorities and relative weights of bio physical and socio economic factors, was automated and achieved two key improvements: (i) enables to collect the required information using android devices and send directly to the data base, and (ii) enables the participation of as much number of farmers as possible unlike the previous tool that allowed only a maximum of 20 participants to respond.

Sector performance and value chains

Sector performance and value chains outcome consists of four intermediate outcomes: i) improved sector competitiveness; ii) market linkages created; access to market information improved; iii) innovation and technology transfer in subsectors enhanced; and iv) access to finance enhanced (inclusive to youth and women). The progress made in 2024 is summarized in Table 3.

Table 3 Progress Sector performance and value chains

Outcome 3	Sector performance and value chains enhanced
Intermediary outcome 3.1	Improved sector competitiveness
• Results	• A stakeholder discussion was coordinated on the issue of the European Union Deforestation Regulation (EUDR) to create awareness of actors in the soya and coffee sector as well as to check the preparedness of regulatory bodies towards ensuring compliance. It was concluded with the agreement that all activities would be coordinated by the Ethiopian Coffee & Tea Association (ECTA) and depending on the responsibilities to be taken up by other public stakeholders, if deemed necessary, a task force would be set up. Currently, a steering committee has been established by ECTA to coordinate all efforts on compliance to the EUDR. • An assessment was done on the potential impact of EUDR on smallholder farmers in Ethiopia, and recommendations for the actors involved were proposed as a way forward into compliance. • Two stakeholder meetings were conducted on the poultry sector to discuss feed cost increase and alternative feed option consideration, where regulations to add VAT on feed were challenged and an assignment was given to MoA to request the removal of the tax as it discourages the livestock sector. Breed availability, disease outbreak management and market issues were also discussed, and preliminary ideas are documented for follow up. • The innovation fund supported the following: o Commercial farming of clean potato seed, diffuse light storage (DLS), a service provision to smallholders producing seed and ware potato has been started in Welkite *woreda*, Central Ethiopia Region. The company took first-generation clean tubers from research centre and is multiplying G2 and G3 of the Belete variety. The company has also built a food-grade Diffuse Light Stores to store its own produce as well as the produce of farmers that buy seed from him and are interested to use the storage facility. o A food processing company in Addis Ababa is the production of high-energy biscuits from oats, peanut and soybean. The product will be processed with locally manufactured processing chain and is planned to be marketed for health-conscious community groups but also sold in retail shops in neighbourhoods. o In the Bahir Dar area, circular agriculture is piloted by a company operating its poultry farm by sourcing fish bone from the local fish farmers under contract and using it as part it the meal it provides the chickens. The poultry farm sells both live chicken and chicken meat, so the waste from the chicken slaughtering is collected and used as feed for the pig farm, also run by the company. o A co-financed company working in partnership with Debrezeit Research Centre concluded the pilot of providing incubation and multiplication services for Koekok breed of poultry and have manage to breed the parent stocks and supply day old chicks to smallholders and small businesses all over the country, including areas like Benishangule. The business shows a feasible operation record and hence would sustain the business line after the project is concluded. • A quick assessment on SMEs processing nutritious foods was conducted in Hawassa City, where businesses processing products from orange-fleshed sweet potato were assessed as a case study. These businesses have developed various baked goods from the product, which is sold in and around the city. The demand for the products is high and the companies lacked access to finance and technology to expand their scale. The main challenge for the businesses was finding a constant supply of the orange flesh sweet potato, for this, the project has designed an intervention to link smallholders producing the vegetable in Boloso Bombe *woreda* with the companies. It is ongoing. • Feasibility assessment of mung and common beans: its prospect (production, market, scalability) survey has been conducted in Amhara, the report will be finalized in 2025. • For the arrangement of a sustainable seed system, work has started in identifying viable seed varieties of soya and sesame. Koki primary seed producers, Mandela T. seed enterprise, and Mulualem seed enterprise were selected as they were initially engaged in seed production. However, following a request from the Gondar Inspection and Quarantine sector to formalize seed producer institutions, an intervention was carried out in collaboration with the Cooperative Agency. Activities were done to strengthen the seed producer institutions including, recruitment of professionals, implementing seed quality measurement standards, and field agronomic practices.

	• An assessment was done of the chickpea value chain in Raya Azebo of Tigray Region, which showed that the overall linkage among chickpea marketing participants, as well as with input suppliers, is notably fragile. The value chain is very long with as many as 13 actors between producers and consumers. enhancing seed quality, improving post-harvest handling practices, developing a comprehensive market information system and establishing market connections with dependable buyers, as well as the creation of multi-stakeholder platforms, are some of the strategies considered. • The training of trainers in entrepreneurship, business development, market administration, and financial management was taken up, and the modules designed were translated into Tigrigna to equip youths in their local language. 36 youth have received funding to engage in poultry and sheep fattening businesses, hence, will receive the above training along with technical trainings on farm management. • Six youth in the Sidama region were given practical training focusing on poultry husbandry, veterinary, and poultry business. Development agents and *woreda* experts were also included in the training. After the training, the groups ventured on their poultry business. • Demonstration of black soldier fly larvae as a poultry protein source alternative has been ongoing since last year and the results show promising results.
Intermediary outcome 3.2	Market linkages created; access to market information improved
Results	• A pilot has been initiated to digitally facilitate market linkages within the poultry sector in Amhara. Co-financed by the innovation fund, a company has set up a database for input suppliers, poultry farms, and retailers who would all install an application to use to promote their product and transact. The company managing the software on the side will also offer veterinary services as one actor in the platform. • The small-scale poultry business model piloted in Angot *woreda* was challenged with the rising feed price, making the business not feasible, therefore, it was agreed to shift the farmers into sheep fattening businesses. On the other hand, women in Ziquala are making good progress in their poultry farms, where the main difference between the two locations was the security issue, which enabled better technical support in Ziquala and less so in Angot. • Facilitation of market linkages and access for seed production, specifically targeting crops such as carrot, shallot, onion, potato, and faba bean, in collaboration with relevant *woreda*-level stakeholders. • Efforts were also made to establish market connections for the vermicompost and vermiworm production business model. However, the effectiveness of these linkages remains limited and requires further improvement.
Intermediary outcome 3.3	Innovation and technology transfer in subsectors enhanced
Results	• 180 concept notes were submitted for the second and third call for application, out of which 31 went through for proposal writing. Of these 15 were approved for co-financing and backstopping
Intermediary outcome 3.4	Access to finance enhanced
Results	• A pilot on fostering youth business idea generation was rolled out with a competition amongst four universities (Mekelle, Haramaya, Hawassa and Bahir Dar) for students below the age of 35. 163 applications for concept notes came in, from which 46 were screened out to the proposal stage. The students got training on business plan writeup, entrepreneurship and pitching as well as coaching during their proposal development. After final pitching, 12 finalists have been selected to be financed with seed money to implement their ideas. • An agreement to finance 50% of the revolving fund for sheep fattening businesses in Haramaya was reached with Burka Saving and credit association union. The union will finance and ensure the collection of loans for women who engage in goat fattening. The process was delayed as the union needed to renew its license after holding a general assembly. • Poultry production in Zequala and the sheep fattening business model in Angot have yielded positive results so far. The guarantee fund approach has proven to be a successful model, encouraging rural youth and women to engage in self-managed business activities when provided with access to credit services. This financial product not only benefits participants but also strengthens cooperatives by increasing membership and generating income. However, challenges remain, particularly regarding feed supply for poultry and bureaucratic hurdles in the credit system for sheep fattening activities.

Availability of safe and nutritious foods

Availability of safe and nutritious foods outcome consisted of three intermediate outcomes: i) increased availability of nutrient-dense food, ii) increased utilization of safe and nutrient-dense foods, and iii) the national food safety system is strengthened. The summary of progress made in 2024 is given in Table 4.

Table 4 Progress Availability of safe and nutritious foods

Outcome 4	Availability of safe and nutritious foods increased
Intermediary outcome 4.1	Increased availability of nutrient-dense food

Results	In order for people to consume nutritious food, it must be available either through their own production or locally in the market. To enhance the availability of nutrient-dense food different nutrition-sensitive agriculture mechanisms were piloted. • The pilots on year-round home gardening continued to improve the production and consumption of nutrient-dense vegetables, including Amaranth, carrots, Swiss chard, head cabbage, Ethiopian kale, beetroot, moringa, cauliflower, and lettuce. Most home gardens cultivate three to five varieties across both food-insecure and food-secure systems up to 2-3 production cycles. Seed and access to water remain a challenge. • An integrated home garden manual was developed covering production, nutrition, and gender perspectives to provide a systematic approach for practitioners within the food system. • Explored solutions to improve access to home gardening seeds, specifically for carrots and kale • Intercropping practices to enhance nutrient-dense crop production by intercropping cereals with legumes, such as pearl millet with mung bean and haricot bean, maize with common bean, and sorghum with mung bean and common bean were introduced. • The production and consumption of biofortified crops like orange-fleshed sweet potato (OFSP) was promoted to address nutritional deficiencies. • Expanded beyond intercropping to introduce sole production of nutrient-rich pulses and legumes, including soya bean, common bean, faba bean, lentil, mung bean, and chickpea. • Demonstrated selective, short-harvest-period fruits such as banana and papaya to enhance farmer access to fruit. • Recognizing the challenges of affordability and availability, implemented business models and asset-building interventions for poultry and small ruminant fattening to improve access to animal source foods. • Strengthened access to whole grain foods such as oats, barley, pearl millet, and sorghum, as well as oilseeds like sunflower and sesame.
Intermediary outcome 4.2	Increased utilization of safe and nutrient-dense foods
Results	While many agricultural interventions were successful in their ability to increase food production, this does not necessarily lead to improved nutrition, with nutritious crops often sold and used to purchase less nutritious foods. Activities focus on enhancing a diversified diet. • Conducted formative research on the determinants of the current behaviour and the constraints for fruit and vegetables. This study serves as formative research, contributing to the design of a social and behavioural change communication (SBCC) strategy focused on increasing fruit and vegetable consumption in Boloso Bombe *woreda*. The report is almost complete as an experience paper. • A scoping review of existing SBCC materials was also undertaken to evaluate the existing SBCC materials, and delivery approaches found in documents endorsed by the various ministries of the Ethiopian government in terms of their alignment with the Ethiopian food based dietary guideline (EFBDG) and SBCC principles. • At the national level, formative research was conducted alongside a literature review to develop an implementation plan for rolling out the most relevant EFBDG across different regions, seven posters and SBCC manual for EFBDG, translated into the local language. • Implementation research has been initiated to evaluate the impact of a dietary guideline developed using EFBDGs across each region in five *woreda*s using home gardening and poultry asset building as leverage point. • Delivered Training of Trainers (ToT) on SBCC approach, facilitation skill and EFBDG sessions for implementing partners and local experts at the *woreda* and *kebele* levels across the regions • Carried out field monitoring and offered supportive supervision for *woreda* and *kebele* level experts and host farmers in SBCC piloting regions except Amhara. As result of promotion of year-round home garden production, farmers have increasingly incorporated a variety of vegetables into their diets while selling excess produce to purchase other essential food items such as eggs, poultry, meat, faba beans, and teff, enhancing their dietary diversity and utilized for social need. • Community mobilization sessions were organized for cooking demonstrations for food handlers (i.e., women and their spouses) and local key actors, focusing on improving cooking techniques and promoting new recipes (soya bean, common bean, mung bean, OFSP, and vegetable-based recipes). Moreover, vegetable cooking techniques and consumption of beetroot, Amaranthus, and OFSP leafy vegetables were enhanced. • Awareness creation training was provided on nutrition, vegetable preparation, sustainable home gardening, preservation and WASH for enhancing farmers' knowledge and safe handling of food.
Intermediary outcome 4.3	The national food safety system is strengthened
Results	The project has played a key role in strengthening and establishment of the Food Safety Technical Working Group platform at both national and regional levels/Amhara • At the national level, the food safety task force developed a standardized guideline based on GAP, GHP and GMP, to ensure quality and safety throughout the value chain. For poultry, red pepper and sesame, these have been finalized and are now awaiting validation. • Collaboration with MoA led to the validation of the poultry biosecurity guideline with the participation of national and regional stakeholders. Additionally, the directives were further refined and enriched during the validation workshop. • Regional food safety control system assessments have been completed in Oromia, Amhara, Sidama, and Tigray and validated with input from regional food safety stakeholders. • In partnership with Bahir Dar University, a mycotoxin assessment was conducted for red pepper, sesame and soya bean. In red pepper the maximum levels of aflatoxin and ochratoxin exceeded the maximum levels in nearly all samples. • Following the mycotoxin assessment, low-cost solar drying technology and a moisture tester are being tested and validated for their effectiveness in reducing mycotoxins.

	• A consultative meeting was held in collaboration with the Ethiopian Agricultural Authority (EAA) to discuss national food safety control challenges and potential solutions.

Enabling environment for systems change

There are three intermediate outcomes under the enabling environment for systems change outcome. These are: i) Bottlenecks in policy and its implementation addressed, ii) Organizational and institutional capacities strengthened, and iii) Collaboration and alignment among stakeholders enhanced. The progress made in 2024 is summarized in Table 5.

Table 5 Progress Enabling environment for system change

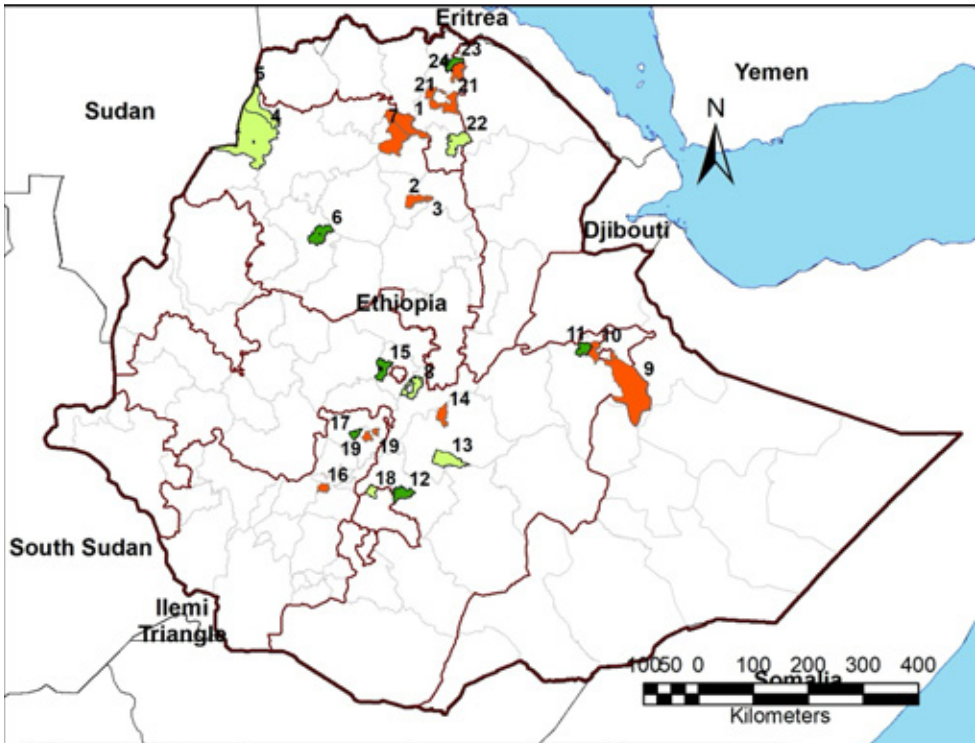
Outcome 5	Enabling environment for system change enhanced
Intermediary outcome 5.1	Bottlenecks in policy and its implementation addressed
Results	• The content of agricultural messages in mainstream media in Ethiopia has been assessed. The assessment highlighted several critical challenges in agricultural communication which include a lack of media specifically dedicated to agriculture, a limited demand-driven and participatory approach to developing agricultural content, weak coordination among media outlets, research institutions, and extension services, insufficient agricultural science communication, a disconnect between agricultural messages and the actual conditions faced by farmers, inadequate feedback mechanisms, and limited capacity development in the field of agricultural journalism. A working paper and policy brief have been prepared. • The status of seed systems in Tigray and Amhara has been assessed, revealing that Tigray relies on the national agricultural research system for early generation seeds. However, conflict and droughts have disrupted this sector. In Amhara, only nine percent of seed coverage comes from formal sources due to challenges such as land shortages, lack of credit, contract enforcement issues, and high transaction costs. In the short term, it is essential to raise awareness among officials, allocate land for seed production, and improve access to credit. • An inventory of Integrated Pest Management (IPM) has been undertaken. Based on the assessment, IPM manuals for potato, faba bean, and Ethiopian kale have been prepared. • A virtual kick-off workshop was organized to identify, validate, and scale an efficient postharvest monitoring tool for major commodities. During the workshop, participants discussed and established definitions of postharvest loss in selected commodities, measurement methods, and success criteria. • Provided technical support to MoA in i) i the preparation of the national postharvest strategy which was approved in 2024; ii) in the development of the agriculture and rural development (ARD) policy, which was officially approved in 2024; iii) preparing the Pluralistic Extension Proclamation, of which a draft has been completed and sent to the Prime Minister's office.
Intermediary outcome 5.2	Organizational and institutional capacities strengthened
Results	• The Food Systems Oriented Lentil Best Practice Manual has been prepared and addresses various aspects of lentil innovation, such as integrated planning, crop management, post-harvest practices, farmer preferences, marketing, nutrition, gender equality, and social inclusion, while highlighting the contributions of lentil innovations to food systems transformation. • Training on the food systems approach has been delivered in collaboration with MoA and GAIN to various organizations to enhance stakeholder capacity. In addition, Agricultural Technical Vocational Education and Training (ATVET) lecturers received training on food systems and value chain analysis, in partnership with the Ministry of Labour and Skills. • A training session was organized for the implementing partners on the concepts of living income benchmarking. The training aimed to institutionalize the concept of living income within the Ethiopian agricultural system. • Provided technical support to the MoA in preparing a food systems transformation training manual and facilitator guidelines. The manual covers various aspects of food systems, including drivers, supply chains, food environments, consumer behaviour, diets, and outcomes. • Provided support to the MoA in developing a Monitoring and Evaluation (M&E) framework and indicators for the Ethiopian Food Systems Transformation Pathway. SWR Ethiopia, ILRI, and GAIN are collaborating with other stakeholders to develop these indicators. Indicators for game changers and clusters have been drafted. • RAISE-FS assisted MoA in developing a training manual for the Agricultural Commercialization Clusters (ACC). The primary goal of this training manual is to create awareness about the ACC and facilitate its scaling to other regions. A ToT session was arranged for development agents across all regions. • Supported the MoA in the preparation of Research-Extension-Higher learning institute linkage guideline. The aim of this guideline is to provide direction on how these three entities can create synergy in planning, implementation, and monitoring & evaluation. • We have implemented a host-follower approach as an extension strategy aimed at reaching a greater number of farmers. This approach is employed through validation, demonstration, scaling, field days, exchange visits, and experience-sharing activities. By utilizing this approach, we foster peer learning and facilitate the uptake of agricultural technologies.

	• Team member of the multi-sector taskforce for food system transformation, as well as the technical committees for policy and governance and extension and capacity building taskforce
Intermediary outcome 5.3	Collaboration and alignment among stakeholders enhanced
Results	• Food system profiles have been developed for Enderta, Atsebi, and Azebo *woredas* in the Tigray region. These documents aim to assist *woreda*-level stakeholders in implementing evidence-based and integrated bottom-up planning, grounded in the current realities of each *woreda*. The profiles present insights obtained from a baseline survey and rapid food system appraisals, offering a comprehensive overview of the existing food system dynamics within each *woreda*. • Six *woreda* profiles have been translated into local languages (Amharic and Oromifa) and handed over to their respective *woreda*s: Hawasa Zuria, Boloso Bombe, Gummer, Babile, Adaa, and Welmera. During the handover workshops, participants included the *woreda* administrator, heads and experts of various offices (agriculture, planning, health, cooperative, women's affairs, trade, development agents, *kebele* administrators, farmers, and implementing partners from research institutions and universities. Participants provided their reflections on the *woreda* food systems profile, noting that the profiles represent their *woreda*s. They emphasized that planning from the bottom up, with active participation from local actors, is highly valuable and can lead to better outcomes. They expressed that the profile is a crucial document for their *woreda*s and intend to use it as a guideline for their future planning activities.

Monitoring, Evaluation, Learning & Communication

2024 was a year with seven regions (Amhara, Oromia, Sidama, Central Ethiopia, Southern Ethiopia, and Tigray) implementing planned activities at full capacity (see Figure 1 for an overview of the intervention *woredas* in 2024). The ME&L activities mainly focused on harmonizing the projects' ME&L system; operationalizing the theory of change (ToC) at the regional level, one of the recommendations from the mid-term review, designing and implementing data collection tools and protocols for monitoring the implementation of pilot innovations; documenting change stories for the result of planned activities and capacity development on the implementation of the framework to monitor progress towards achieving the RAISE-FS intended outcomes.

RAISE-FS is a research for food system transformation (R4FST) project, which followed planning of activities together with its implementing partners on a needs-based and flexible approach. Consequently, the indicators and their reach set at the onset of the project, which were based on multiple assumptions and difficult to achieve, were revised based on the recommendation of the mid-term review. The revised indicator's definition, content, reach number and estimation methods were updated and shared. Following the recommendation of the mid-term review, the regional ToC has been updated and operationalized at regional level.



ID	Woreda	FoodSystem	Domain	Region
1	Abergele (AM)	Food insecure	Scaling	Amhara
2	Angot	Food insecure	Testing/validation/Scaling	Amhara
3	Gazo	Food insecure	Scaling	Amhara
4	Metema	Commercial	Scaling	Amhara
5	Mirab Armacho	Commercial	Testing/validation/Scaling	Amhara
6	Yilmana Densa	High potential	Testing/validation/Scaling	Amhara
7	Zequala	Food insecure	Testing/validation/Scaling	Amhara
8	Ada'a	Commercial	Testing/validation/Scaling	Oromia
9	Babile	Food insecure	Testing/validation/Scaling	Oromia
10	Haro Maya	Food insecure	Testing/validation/Scaling	Oromia
11	Kersa	High potential	Testing/validation/Scaling	Oromia
12	Kofele	High potential	Scaling	Oromia
13	Shirka	Commercial	Scaling	Oromia
14	Sire	Food insecure	Testing/validation/Scaling	Oromia
15	Welmera	High potential	Testing/validation/Scaling	Oromia
16	Boloso Bombe	Food insecure	Testing/validation/Scaling	South Ethiopia
17	Gumer	High potential	Testing/validation/Scaling	Central Ethiopia
18	Hawassa Zuria	Commercial	Testing/validation/Scaling	Sidama
19	Silti	Food insecure	Testing/validation/Scaling	Central Ethiopia
21	Enderta	Food insecure	Testing/validation	Tigray
22	Raya Azebo	Commercial	Testing/validation	Tigray
23	Tsaeda Emba	High potential	Testing/validation	Tigray

Figure 1 Overview of the intervention *woreda*s in 2024

Living income benchmarking: Living income is a sufficient income to afford a decent standard of living that includes a nutritious diet, clean water, decent housing, education, health care and other essential needs for all household members. Learning that living income is a good indicator of project achievement and that there is little information on the living income gap assessment in our intervention *woreda*s, the project commissioned and undertook living income studies. A special study at household level was carried out within five regional states of Ethiopia in different time periods. This special study was designed having the specific objectives of obtaining insights into the annual real income and their main sources of income of smallholder farmers of the three *woreda*s (six *kebele*s), one *woreda* each in Sidama, Central Ethiopia and South Ethiopia regions in 2023. The *woreda*s represented three food system typologies (food insecure, high potential and commercial).

With experiences obtained in previous year, further study was conducted in 12 *kebele*s, six *woreda*s (three each in Oromia & Tigray) representing the three food system typologies. Interviewees were selected from the 1,038 farm households who were interviewed for baseline data collection. Of these 30% are engaged in project activities. The result of the study was analysed and shared after the presentation during the annual workshop for validation. The methodology of this study follows a modification of the Anker methodology. A detailed training, including data analysis, was given to experts from universities and research institutes to institutionalize the methodology.

Regional ToC: The project's conceptual framework is a roadmap that outlines the logical connections between inputs, activities, outputs, and outcomes. The RAISE-FS ToC emanates from the five interrelated outcome areas

that can ensure demonstrated evidence to promote, resilient, inclusive and sustainable food systems in Ethiopia. To operationalise this ToC at the regional level, a two-day training on regional theory of change (RToC) and capturing most significant change stories (see next section) documentation skills had given to regional team leaders and experts from implementing partners. The RToC was revised for the 2024 work plan, elaborating the interrelations between the innovations in the different outcome areas, identifying underlying assumptions, synergies, trade-offs, risks and bottlenecks for sustainability; theory of change for the innovation portfolios at the regional level was co-created. A national theory of change was also revised.

The Most Significant Change (MSC): the MSC method is a form of participatory monitoring and evaluation that involves the collection and selection of stories of change, developed by project implementers and stakeholders. A one-day training for regional coordinators and experts was given to capacitate implementers to document how the change occurred from RAISE-FS activities and which outcomes were achieved at the regional level and to create a basis for more effective and unified communication regarding project outcomes and how impact will happen. Prior to video, audio, and photo documentation, a domain of change was selected by regional liaison office at each region and participant farmers from innovation, business holders, implementers, and stakeholders at different levels were selected to be interviewed about the change that happened since they participated in the activities. More than 15 change stories were captured with videos and photos by the national and regional teams. The story domains covered all outcome areas like home garden production and consumption, intercropping of food security crops, ISFM with organic fertilizer, business outcomes and gender and social inclusion outcome, and enabling environment by capacity building.

Follow up on the efficiency and progress of planned activities: Field level visits of the project activities have been made by both national and regional staff together with implementing partners in some RAISE-FS implementation *woreda*s to assess and ensure whether the implementation of project's field-based activities is on track with the planned timeline and deliverables. The field visit reports at different times were prepared and helped us to have good insights of what is going on at the field site after the approval of the proposal under each activity. The report also identified areas where adaptive planning was needed and measures to be taken.

Backstopping has been done quarterly for the regional experts to discuss and evaluate the progress of activities. Based on the highlighted comments from the backstopping, regional liaison offices had made discussions with relevant partners including the head of the BoA and ARIs to raise earlier awareness on institutionalizing of project activities and approaches. In addition, Mekelle liaison office scheduled a monthly meeting with implementing partners where their teams of experts discuss the status of implemented activities. During these meetings, they share lessons learned, prioritize urgent follow-ups, and address data collection.

The total reach for 2024 (Table 6, Annex 2) shows an overachievement for many indicators as many of the interventions are going to the scaling stage. The state of emergency in Amhara limited activities, and the number of farmers was not reached as planned in the region. To reach a larger number of small-scale food producers and other participants, further promotion through the scaling partners that started in 2024 and will continue in 2025.

Table 6 Key Performance Indicators 2024

Impact	Increased productivity; enhanced value chain performance; and improved human nutrition for improved food security While minimizing the impact on the environment and ensuring social inclusion and Research capacity in food systems at universities and ARIs strengthened				
Outcome	Outcome.1.1: Social and economic empowerment of women and youth	Outcome.1.2: Efficient and environmentally sustainable production increased		Outcome.1.3: Sector performance and value chains enhanced	
Outcome indicators	# of female and young (<36) small scale food entrepreneurs directly reached with activities to increase income 2024: 15,029 2023: 5,020 2022: 477	# Of small-scale food producers directly reached with activities to increase productivity/income 2024: 244,61 2023: 8,351 2022: 1,162	# of sustainable agricultural practices innovations validated/demonstrated 2024: 25 2023: 4 2022: 1	# of platform meeting dialogues 2024: 3 2023: 1 2022: 3	# key issues sector identified and discussed, acted on 2024: 5 2023: 4 2022: 2
	# and type of learning and action platforms aimed at increasing women's and youth's decision making established 2024: 28 2023: 2 2022: 1	# of input supply systems strengthened 2024: 13 2023: 6 2022: 2	# MoUs between research, extension and knowledge institutes 2024: 5 2023: 8 2022: 6	# of mechanisms improving access to finance 2024: 3 2023: 2 2022: 1	# of direct beneficiaries with improved access to finance 2024: 5,806 2023: 48 2022: 0
Outcome	Outcome.1.4: Availability of safe and nutritious foods increased		Outcome 1.5: Enabling environment for system change enhanced		
Outcome indicators	# of mechanisms adapted for increased availability of nutrient dense foods 2024: 8 2023: 3 2022: 2	# of government officers, university staff and researchers trained in food safety 2024: 185 2023:20 2022: 20	# of policy and policy implementation bottlenecks addressed in relation to outcome areas 2024: 4 2023: 2 2022: 2	# of mechanisms adapted for increased collaboration in food systems 2024: 2 2023: 3 2022: 1	
	# farmers/food handlers trained on food safety and nutrition 2024: 1,678 2023: 612	# of food safety mechanisms developed and/or strengthened 2024: 7 2023: 2	# scaling partners supported 2024: 33	# Publication (policy brief, issue brief, working paper, experience brief) 2024: 10 2023: 26	

RAISE-FS Communication

Effective communication is vital to the project's success, ensuring stakeholders remained informed and engaged. To ensure effective communication, outputs were carefully curated with input from national team members and regional offices to maintain relevance and salience. Information was shared through a website, quarterly newsletters, social media, and other written materials, distributed in both print and digital formats for broad accessibility.

RAISE-FS Newsletter and other written communication outputs: Four RAISE-FS quarterly newsletters (7th, 8th, 9th and 10th issue) have been published and shared with more than 1,250 recipients in our MailChimp register. Soft copies were posted on our website and social media, and 100 copies of each issue were printed and distributed at events.

Other communication outputs

- Eight photo stories were published on an A3 poster.
- Ginger suitability map poster prepared and printed 200 copies and distributed to regions.
- Posters showing a healthy diet were prepared for each region. Adapted to the local preferences, language, and distributed.
- Other print media items like brochures, leaflets, banners, roll-ups, and stickers were prepared.

RAISE-FS website and social media: News stories of major activities and documents have been shared via the RAISE-FS website, on Facebook, Twitter and LinkedIn accounts. Stakeholders have been informed that electronic copies of all communication materials and project documents are available at the RAISE-FS website. RAISE-FS LinkedIn page has been actively engaging with its followers, resulting in over 5,000 followers. In 2024, RAISE-FS has posted more than 60 publications, newsletters, images, videos, and other content about RAISE-FS and partner activities, which have received over 170,000 impressions. RAISE-FS recognizes the importance of social media in today's digital age and will continue to utilize these platforms to keep its followers informed about the latest developments in the industry.

Training of staff on photo and video editing for change stories collection: A two-day training has been organizing for RAISE-FS staff and partner organizations. The training emphasized on change story collection, basic skill of video shooting and editing, and preparing photo stories. After the training teams prepared action plan on the domain of the change story, when to do field level footage collection and sharing of the raw footage. Following the training team members collected footage of more than 15 change stories.

Four filmed change stories were produced by the RAISE-FS national team, which were shown during planning workshops and uploaded to the RAISE-FS website. The remainder of the change stories collected by regions will be edited by a hired consultant.

Publications: Publications play a crucial role in disseminating knowledge, promoting evidence-based ideas, and informing the public. For organizations like RAISE-FS, publications are even more critical as they serve as the primary means of sharing project outcomes and influencing policy decisions.

As of 2024, the RAISE-FS project has successfully published a total of ten publications. These include three working papers and seven issue briefs, all of which have been disseminated to a wider audience through various channels. Through these publications, the RAISE-FS project aims to contribute to the ongoing discourse for food system transformation.

The working paper publications are:

- Benchmarking the living income gap of smallholder farmers in southern Ethiopia
- Living income gap of smallholder farmers in southern Ethiopia
- An investigation of how the Ethiopian food-based dietary guidelines are in line with people's beliefs of a healthy diet and their current consumption

The topics of the issue briefs are:

- Food safety of spices in Ethiopia
- Impact of Liquidity Challenges on the Implementation of Guarantee Fund Scheme: Implication on access to finance for SMEs and farmer organizations
- EU Deforestation Regulation: Implications for Ethiopian agricultural export sector and the need for timely preparedness
- The Seed System in Amhara Region: Assessing the Current Status and Charting Strategic Future
- Potentials of Cocoa (Theobroma cacao L) Production Expansion in Ethiopia: National Suitability Map
- Current Status of Seed System and Actions for Its Revitalization and Transformation in Tigray
- Unravelling Challenges in Vegetable Seed System in Amhara Region

Website and social media analytics

The RAISE-FS website has witnessed a notable increase in activity, with Google analytics reporting 7,095 visitors and 16,083 visits across 45 posts. These visitors originate from diverse regions worldwide, including countries such as Ethiopia, the United States, the Netherlands, Germany, Kenya, among others, reflecting the website's appeal to an international audience. Users have accessed and downloaded various documents, including 'The Ethiopian National Food Control System: Status, Challenges, and Recommendations', the RAISE-FS innovation manual, the RAISE-FS brief, and newsletters.

Similarly, the RAISE-FS LinkedIn page has been attracting considerable attention, growth over 5,000 followers to date. In 2024 alone, more than 70 pieces of content have been shared on the platform, which include publications, newsletters, images, videos, and updates on RAISE-FS and its partner progresses. These posts have collectively generated over 170,000 impressions, demonstrating a high level of audience engagement.

b. Unintended positive and negative effects of the intervention

Unintended Positive Effects

- In multiple instance the innovations are already promoted locally, at times without project staff being aware of this, and at times, ownership is being claimed:
    - A field day was organized to showcase the scaling of lentil innovation as a successful experience by *woreda* people without even informing the RAISE-FS team.
    - Potato innovation in Kofele *woreda* was documented by a regional TV programme as a successful practice while the TV crew was passing by.
    - Orange fleshed sweet potato was demonstrated and scaled up as a food security crop, but now people who process food are looking for more production, which in the future could be a pull factor for the production of OFSP.
    - The biosecurity guideline for poultry is now in the hands of the MoA and FAO.
    - The social analysis and action approach is expanding beyond pilot locations and is increasingly used as a gender sensitization tool.
    - The family visioning board, displayed in participating households, is sparking conversations among peers, creating opportunities to share gender transformative approach lessons beyond the direct participants.
- Based on the experience of the national food safety task force, the government has established a multi-sectoral steering and technical committee on food safety.
- The ever-increasing recognition of the evidence of innovation demonstrated along with the associated backstopping and capacity development created expectations from the project even in those areas where the project is not engaged.

Unintended Negative Effects

- Some innovations considered as a part and parcel of the food system approach are costly and difficult to make them sustainable (e.g. potato mini-tuber production is part of clean seed system but costly and needs an infrastructure beyond the scope of the project).
- While cheaper alternative sources of poultry feed such as using black soldier fly larvae is being pursued, there is a fear that the consumer dislikes the innovation because of food taboo, not to eat meat from chicken feeding on worms.

c. Programme visibility

The key measures that improved the project visibility were (i) the proactive presentation of the results of the project at various forums and continuing communications using different media, (ii) strengthening the collaboration with implementing and scaling partners including NGOs, (iii) the organization of high-level field days and inviting higher officials, (iv) the diverse organized workshops to present and handover proven innovations especially those related with target *woreda* profiles, the food safety manuals and guidelines for target commodities, (v) participation in panels such as RED&FS.

3 What have we learned

- The joint piloting of social analysis and action and social and behaviour change communication is reducing women's burdens in food-related tasks, as men are becoming more involved in food preparation and decision-making. In addition, more families are opening joint savings accounts as a result of the action and learning platforms.
- Decentralized production of vegetable, potato and faba bean seed can be realized, but seed quality issues should not be forgotten. The utilization of defined outcome pathways and harmonized data collection tools by implementing partners require further support as at times the quality of data is not according to scientific standards.
- One key lesson learned from our nutrition activities is the importance of tailoring interventions to the specific needs and preferences of the target population. Supporting farmers and local facilitators with visual aids e.g. posters, easily accepting and understanding the key messages.
- The national economic situation in terms of liquidity issues of financial institutions meant that they were not willing or able to pilot co-financing mechanisms. This has delayed activities in some areas, like Oromia.
- Revolving seed instead of facilitating financial loans has served as a very useful alternative to ensure farmers access to input and can their ability to repay.
- There is a growing interest among farmers and partners around the approaches and innovations of RAISE-FS, and this can be used as an opportunity for institutionalization. However, scaling should be done taking in to account all aspects of the scaling readiness approach.
- The youth challenge fund was started with a communication to the universities that at least three students from each university would be part of the grantees which made it difficult to retract later when more promising ideas came from some universities then others. Regular monitoring is required for youth that have accessed finance from institutions, as the use of funds may be diverted to other purposes.
- While the implementing partners have accepted the research for food system approach, the utilization of defined outcome pathways and harmonized data collection tools by implementing partners require further support as often data sets are not complete
- Providing more intensive backstopping and follow-up support to implementing partner institutions, particularly in technical assistance in business management, follow-up of businesses, and identifying potential partners outside of the agricultural bureau, is crucial for the successful execution of project activities.
- While there are multiple publications such as working papers, briefs etc. the messages they convey for policy makers and other stakeholders need follow-up action such as meetings and workshops. This to avoid that publications remain on the shelf.

4 Sustainability

a. Measures to enhance programme sustainability

The proactive planned activities to enhance the sustainability issues have played a crucial role. These activities that target sustainability of the impact are (i) documentation of evidence and ensuring their access using diverse media including social media in combination with targeted follow-up activities for handing over, (ii) close collaboration with implementing and scaling partners, (iii) targeted capacity building of partner institutions, and (iv) targeting of addressing systemic issues through collaborative design of policies like the draft pluralistic extension proclamation, the diverse seed related draft directives, manuals and guidelines.

b. Description of exit strategy

The exist strategy is highly linked with the pathways of influence that SWR Ethiopia in general and RAISE-FS project in particular follows, which is identification of key leverage points that address systemic issues in the areas of policy, improved practices and institutions and co-create evidence together with implementing partners (knowledge institutes) and mainstream together with scaling partners. Even though the project is still being implemented, the exit strategy is a continuous process covering:

- Finalizing the design and approval of policies, directives, regulations, manuals and guidelines for those issues we have demonstrated evidence;
- Engaging with implementing and scaling partners to ensure that the different approaches applied are mainstreamed in their respective annual planning

5 Institutional/Organizational development and human resources

The project is implemented through an organizational structure that covers the national team, regional liaison offices and implementing partners (universities and agricultural research institutes and their centres) teams. This was followed by legalization of the SWR Ethiopia as an iNGO and the signing of collaboration agreements between SWR Ethiopia, the relevant ARI and the University in each region as implementing partners:

- The national team is composed of the project manager and deputy manager, and five outcome advisors, as well as a MEL and a communication advisor.
- The regional liaison office teams are currently in Tigray, Amhara, Oromia and South; in each region, the team is composed of a regional liaison office team leader, an assistant team leader and a finance officer.
- The implementing partner teams are two in each region, a team with a university and another team with a regional research institute. In each partner organization, the team is composed of a focal person and a number of team members, depending on the required expertise.

To promote a safe and respectful work environment, the core principles of Protection from Sexual Exploitation and Abuse (PSEA) have been integrated into Wageningen Research Ethiopia's HR manual, reinforcing the organization's commitment to ethical conduct. To further enhance awareness and accessibility, posters outlining these principles were distributed to project partners' staff, ensuring that key messages reach a broader audience. These posters were made available in English, Amharic, Afan Oromo, and Tigrigna, enabling partner staff from diverse linguistic backgrounds to understand and uphold PSEA standards in their workplaces.

6 Finance

Presented in a separate document.

Annex 1 Adaptive management

Adaptive management used in implementing the 2024 work plan

SWR Ethiopia has made a close monitoring of the situation on the ground, gathering information from the regions and those in the specific localities where the RAISE-FS project operates. This assisted in taking measures to safely implement the plan. In 2024, the project planned to undertake various interventions with implementing and scaling partners in 29 *woredas*. The implementation was, however, undertaken in the 23 *woredas,* dropping six *woredas* because of the continued instability in those specific *woredas* in Amhara and Oromia, and the inconvenience in implementation because of restructuring of the SNNPR region. Measures taken as part of adaptive management are given below.

Region	*Woreda*	Measures taken
Amhara	Mecha, Quarit	Both *woredas* were dropped because the security situation remained volatile.
	Yilmana Densa	Planned activities were undertaken through the support of experts of scaling partners who reside in the implementation villages/ *kebeles*, with frequent communication and support by the experts of the implementing partner (Adet ARC of ARARI) and project liaison office.
	Angot, Gazo	The project team of experts from Sirinka ARC were travelling to the implementation sites using public transportation and also by capacitating development agents residing in the village on the procedure of implementation and data collection.
	Mierab Armachiho, Metema	The project team of experts from Gondar ARC were travelling to the implementation sites using public transportation and also by capacitating development agents and private farm owners on the procedure of implementation and data collection.
	Ziquala, Abergele	There was no security problem, and the activities were undertaken as planned without problem.
Oromia	Dodota	Dropped because of a security problem
	Adama	Dropped because validated innovation ready for scaling was limited.
	Shirka	The security problem was unpredictable. However, the planned activities were fully undertaken through the support of experts of scaling partners who reside in the implementation villages/ *kebeles* with frequent communication and support by the experts of the implementing partner (Kulumsa ARC of EIAR) and project liaison office of the region.
	Babile, Haramaya Zuria, Kersa, Sire, Wolmera and Ada'a	There was no security problem, and the activities were undertaken as planned.
Central Ethiopia	Kachabira	As a result of region restructuring, the research centre, responsible for the implementation of interventions, is far away from the *woreda*.
	Gumer, Silti	There was no security problem, and the activities were undertaken as planned.
South Ethiopia	Bule	As a result of region restructuring, the research centre, responsible for the implementation of interventions, is far away from the *woreda*.
	Boloso Bombe	There was no security problem, and the activities were undertaken as planned.
Sidama	Hawassa Zuria	There was no security problem, and the activities were undertaken as planned.
Tigray	Enderta, Atsbi, Tsaeda Emba and Raya Azabo	There was no security problem, and the activities were undertaken as planned.

Annex 2 Indicators and targets

#	Indicator description	Reach	Reach	Target	Reach	Cumulative Reach	Updated Target -LOP
		2022	2023	2024	2024	2024	2025
	*FNS indicators***						
1	# of small-scale food producers directly reached with activities to increase productivity/income	1,162	7,189	23,500	24,461	32,812	60,000
	of which women	338	2,487	8,100	10,287	13,112	18,000
	of which youth (<35 years of age)	422	3,521	9,400	9,610	13,553	24,000
2	# of small-scale food producers that adopted new knowledge and/or technologies	872	5,695	17,600	18,925	25,492	45,000
	of which women	254	1,927	5,300	7,900	10,081	13,500
	of which youth (<35 years of age)	317	2,700	7,000	7,457	10,474	18,000
3	# of FNS- relevant knowledge institutions that perform better	6	14	16	16	16	16
Social and economic empowerment of women and youth in food systems							
4	# and type of learning and action platforms aimed at increasing women's and youth's decision making established	1	2	28	28	28	28
5	# of female and youth (<36) small scale food entrepreneurs directly reached with activities to increase income	477	4,543	4,500	15,029	20,049	15,000
	of which women	281	2,389	3,000	9,646	12,316	9,000
	of which youth (<35 years of age)	287	3,412	3,200	10,379	14,078	10,800
Efficient and environmentally sustainable production							
6	Types of sustainable agricultural practices/ innovations validated	1	7	7	7	15	7
6a	# of sustainable agricultural practices/ innovations validated		28	29	25	53	29
7	# of input supply systems strengthened	2	11	13	13	13	13
8	# MoUs between research, extension and knowledge institutes (national, regional, zonal level)	6	2	8	5	13	8
9	# of *woreda*'s which are supported in scenario planning through recommendation mapping		5	5	24	29	29
Sector performance and value chains							
10	# of platform meeting dialogues	3	1	3	3	7	3 per sector/year
11	# key issues sector identified and discussed, acted on	2	4	3	5	11	2 per sector
12	# of market linkages materialized		6	20	10	16	40
13	# market opportunity report updates developed;	2	2		2	6	8
14	# of innovations for improved productivity & quality supported by innovation fund	3	1		6	10	3 per sector
15	# innovation proposals approved and implemented;		1		5	6	15
16	# of mechanisms improving access to finance		1		3	4	8
17	# of direct beneficiaries with improved access to finance		48		5,806	5,854	500

	of which women		32		3,213	3,245	250
	of which youth (<35 years of age)		34		4,228	4,262	250
25	# of people trained on business development		50		116	166	175
	of which women		12		56	68	52
	of which youth (<35 years of age)		23		96	119	70
Availability of safe and nutritious foods							
18	# of mechanisms adapted for increased availability of nutrient dense foods	2	7	1	8	17	7
19	# of trainings for food handlers piloted		6	5	20	26	29
20	# of government officers, university staff and researchers trained in food safety and nutrition	20	11	10	185	216	150
20A	# farmers/food handlers trained on food safety and nutrition		612		1,678	2,290	2,500
	of which women		318		783	1,101	750
	of which youth (<35 years of age)		247		617	864	1,000
21	# of food safety mechanisms developed and/or strengthened		2	2	7	9	5
Enabling environment for systems change							
22	# of policy and policy implementation bottlenecks addressed in relation to women's and youth empowerment, sustainable production, sector and value chain performance and safe and nutritious food	2	10	1	4	10	13
23	# of sustainable mechanism for collaboration and alignment among stakeholders established	1	6	1	8	15	8
24	# of mechanisms adapted for increased collaboration in food systems	1	4	1	2	4	4
26	# scaling partners				33	33	35
27	# Publications (policy brief, issue brief, working paper, *woreda* profile, Experience brief)		26		10	36	50

Annex 3 Risk & Mitigation Strategies

Assumption	Risk	Probability	Impact	Motivation	Mitigation (*)	Adjustment 2024/2025
Security						
A stable political climate will prevail	Political disturbances will affect the programme to be able to execute the activities according to plan	medium	high	The political climate in Ethiopia has been relatively unstable over the last decade. It is expected to remain so for the foreseeable future	Outside the scope of the project	The situation in the country is still quite volatile, however the peace process has Tigray opened up opportunities to start engagement there. ATI is also heavily engaged in activities in Tigray, and alignment will be ensured. In Amhara, the regional government is still in place, as long as this is the case, we will operate safely and securely through closely monitoring the situation on the ground. Safety of staff, both SWRE and partners, is a priority. In Oromia, some *woredas* are not deemed secure enough to implement activities, and several have been dropped.
The security situation in the country will be stable	Unrest and violence will affect the programme's ability to execute the activities according to plan	high	high	Multiple regions are experiencing active conflict	Established information sharing system and adaptive measures	New 2025, previously merged with political instability
RAISE-FS will be able to operate in a stable environment	Emerging shocks such as the COVID-19 pandemic severely disrupt execution of the programme	medium	medium	COVID-19 has made us all realise that as a global community, we are not prepared for major shocks. Currently, it is not possible to foresee what the next shock will be, but experience shows that it can be a major disruptor	Agile planning and establishing strong partnerships, so e.g. when travel is restricted, local activities can still proceed (EKN to provide timely and up-to-date information in case of emerging shocks)	Recent shocks have been outbreaks of desert locust, when such events, control options are explored together with the authorities
The activities will be able to involve both women and youth in a sustainable way	Women and youth do not benefit from the programme	low	high	Truly involving women and youth is beyond counting their attendance. It will need concerted effort to engage them	Go beyond counting numbers; setting concrete outcome targets for women and youth; involve women and youth	The issue of youth employment is at such a scale that it is beyond the scope of RAISE-FS. A youth challenge fund approach has been put in place.

Assumption	Risk	Probability	Impact	Motivation	Mitigation (*)	Adjustment 2024/2025
					in the design of activities, target systemic issues and mainstreaming	A gender transformative approach has been promoted in the interventions
Both the public and private sectors are willing to invest in safe food and environmentally sound production systems	Unsafe food enters the market, and the environment is negatively affected by the (intensified) production methods	medium	high	Food security receives more attention than food safety as most governments deem this to be a top priority, and without a functional food safety control system, the private sector will find it difficult to comply	Provide support to project partners; awareness on the issues of sustainable production; Support GAP programmes; strengthen both public and private institutes	The formation of the food safety technical working group facilitated by RAISE-FS is a step in the right direction. This however, needs to be echoed by high-level policy makers. An attempt to establish a national platform is underway
A stable economic climate will prevail	Economic disturbances will affect the programme's ability to execute the activities according to plan	high	medium	The devaluation of the ETB and inflation trends	Opening of a Euro account and exchange into ETB on needs-based only	New 2025
The agriculture sector is not affected by fraud and corruption	Corruption and fraud will reduce the willingness of stakeholders to collaborate	low	medium	Even though fraud and corruption is present in Ethiopia, it is not rampant. When it does occur, it will affect the effectiveness of the programme	Strict procedures and checks on financial reports. (EKN to alert the programme on any suspicion and vice versa)	Close monitoring of financial reports by SWR Ethiopia controllers, as well as annual audit procedures, are in place.
Increase production, marketing and income will lead to an improved and diversified diet	The project activities do not lead to a diversified diet	low	medium	There is ample evidence that diversification at the farm level does not result in a more diverse diet. This needs to be accompanied by nutrition education and campaigns	Awareness raising amongst the programme partners on the importance of nutrition. Engagement with the appropriate stakeholders in the field of nutrition-sensitive agriculture, focus on systemic issues and mainstreaming	There is a close collaboration with the nutrition departments of both the MoA as well as the MoH. The Ethiopian Food-Based Dietary Guideline has been mainstreamed in collaboration with the nutrition department of MoA
Partnership						
Information & data will be made available by all project partners for monitoring, evaluation and reporting	Incomplete overview of programme achievement and outputs	low	medium	Experience from the BENEFIT programme has shown that collection of information for MEL purposes can be arduous at times. While it occurs rarely, a lack of relevant information will affect the programme outcomes	Increase collaboration and contact moments with partners. Awareness creation about the importance of data collection, provide easy-to-use to use tools and templates (in case required EKN to provide official letter)	Data sharing system has been put in place
Stakeholders are willing to collaborate and share information	The innovation system will not function optimally	low	medium	Experience from the BENEFIT programme has shown that it is of utmost importance to have a good data management system. While most partners are willing to share data at times scientists keep back data to be	Joint planning and sharing sessions with relevant stakeholders both at federal as well as regional levels (attendance of EKN at events)	This has been outstanding, especially in the regions, where stakeholders have been very active in engaging with the project

Assumption	Risk	Probability	Impact	Motivation	Mitigation (*)	Adjustment 2024/2025
				able to publish – a requirement for promotions, especially at universities		
Staff are protected from sexual exploitation and abuse	An unsafe working environment affects staff both at a personal level as well as professionally	low	high	EKN has highlighted the need for procedures to protect staff from sexual exploitation and abuse, as such SWR Ethiopia has taken measures.	New	A one-pager (in various languages) on one pager on the PSEA (Protection from Sexual Exploitation and Abuse Core Principles has been developed and incorporated in the HR manual. In addition, staff have been sensitized, and a whistleblower procedure is in place.
A strong team at implementing organizations and stability of officials at respective public organization ensure effective implementation of planned activities and their mainstreaming	Frequent turnover of staff and officials/policy makers reduces the efficient implementation and mainstreaming of evidence	medium	high	This has been a continuous issue during BENEFIT, staff get promoted or functions in other areas or organisations which requires new staff to become familiar with the programme	Build on our experiences in team building, not only at the partner level but also at regional and national levels; diversifying engaged policy makers and officials at regional and national levels	The team is a good combination of experienced and younger staff. All are extremely dedicated. In the regions, the teams are supported by a good mix of expertise to reflect the food system outcomes and activities.
Access to the innovation fund will enhance and expand investments in the sector	Business opportunity funds will be underutilized	medium	medium	The current uncertain climate (political stability, the pandemic etc.) might be a hurdle for companies to invest in businesses related to agro-food systems	Awareness creation about the fund; coaching of potential grantees during the development of a proposal; and development of a scaling strategy	As the quality of the proposal, especially the economic viability, is poor, additional support has been provided on developing viable business plans. Close collaboration with micro-finance institutions has been initiated
Institutionalization						
The reputation and trust generated by BENEFIT and its predecessors as a neutral facilitator are maintained and will reinforce the role of RAISE-FS	Rebuilding the network will slow down project results	low	low	With the no-cost extension of BENEFIT bridging the period between end of one programme and the start of the next we are able to maintain good relations with the major partner at federal, however not at regional level	Continuous engagement with relevant stakeholders engaging them in workshops, learning and planning sessions (EKN as an ambassador of the4programme)	RAISE-FS has built its own reputation and has good working relationships with partners and the various government institutions
The relevant ministries and ministerial departments engage with the programme and incorporate outcomes in their policies	Relevant departments and/or individuals do not engage with the programme and its outcomes	low	high	The experience in BENEFIT has shown that the ministries have trust in what BENEFIT has generated. However, a political change of personnel can potentially change this. If the various ministries do not take up the programme outcomes scaling will not be done	Regular engagement with high level public stakeholders. Engagement of the Steering cie. and regional advisors (EKN to support the efforts of the programme in its engagements with high level stakeholders)	Regular engagement has been improved, most departments are looking favourably at the RAISE-FS interventions. When deemed appropriate EKN will be asked to moderate.

Assumption	Risk	Probability	Impact	Motivation	Mitigation (*)	Adjustment 2024/2025
Information is available that can drive transformation	Transformation in the food systems will not take place	low	high	In Ethiopia, there is plenty information available, however the step from 'knowledge on the shelf' to 'knowledge in action' requires effort by all involved stakeholders	Promote innovative research as well as investments; make knowledge about innovations available to the stakeholders, use effective communication methods	By the end of 2024, RAISE-FS has published 36 papers and ten newsletters which have been widely shared in the network and follow-up discussions made. *Woreda* profiles have been shared with the respective *woreda* officials
A demand driven R4FST agenda will result in a competitive and innovative sector	Generated evidence are not taken up by the sector	low	high	In Ethiopia there is plenty knowledge available, however the step from 'knowledge on the shelf' to 'knowledge in action' requires effort by all involved stakeholders	Design a process for joint agenda setting, implementing agile and flexible approach, organisation of learning events, seconded staff to MoA for timely capturing of emerging opportunities	Staff of RAISE-FS participate in the technical working group of the Ethiopian Food System Roadmap as well as different relevant platforms such as the gender and nutrition fora

Annex 4 Stories from the field

Innovations changing Sada Umare's farming practice and household dynamics *(outcome 1)*



Sada Umare, a mother of eight from Oromia region Maya city in Haro Adi Kebele, has experienced a significant change through the support she received from Haramaya University through the RAISE-FS project. Once dependent on traditional farming methods, Sada's family transitioned to good farming practices, cultivating vegetables such as carrots, shallots, cabbages, tomatoes, and Swiss chards in a sustainable way to diversify her family's diet and generate income. The project provided support in accessing seed of improved varieties, training, and technical guidance, enabling the family to achieve improved yields.

By adopting sustainable techniques like using organic fertilizer (farmyard manure), integrated pest management and other cropping management practices, Sada produced high amount and quality produce. She cultivated shallot mainly for income generation where she produced both seeds and bulbs. Her shallot sales alone generated 40,000 ETB initially and reached 130,000 ETB in the second round. *"The income generated from these sales brought a positive change to our lives."* said Sada. She added *"Notably, we saved enough money to purchase a Bajaj vehicle worth 350,000 ETB."* These earnings allowed the family to attain significant milestone in their financial independence. *"The training provided by Haramaya University RAISE-FS has been instrumental in our success. Through visual presentations and hands-on technical guidance, we learned to identify and manage our field effectively, ensuring higher productivity."* said Sada

Beyond agriculture, the support fostered changes in household dynamics. *"My husband and I now share responsibilities in both farming and household activities. We make joint decisions regarding production, marketing, seed selection, and income management"* said Sada. Sherif Adem, Sada's husband reaffirmed that they support each other in the household activities and field activities. "My wife now assists with weeding carrots and shallots, and our neighbour has also learned from our practices. *I also support my wife with household activities, like cleaning the rooms and arranging clothes. While she cleans the outside, I gather fuelwood, and she provides us with meals and travels to the field for work."* said Sherif.

Sada's story exemplifies resilience and the power of collaboration, serving as an inspiration for her community. Her journey underscores how good farming practices can cultivate not just crops but also lasting prosperity and unity.

Leading the way in disease-free potato seed production *(outcome 2)*

One of the supports that RAISE-FS provides for farmers in the high potential area of Yilmana Densa *woreda* is improving the production of disease-free potato seed. Mr. Endalamaw Taddle, a 49-year-old who lives in Dabale *kebele*, Gebriel got, is one of the farmers who engaged in this activity together with his fellow farmers in his *kebele*.

Previously, Endalamaw used to produce potato using traditional farming methods, and the benefits were not as promising. However, in the past three years, his approach has changed a lot. *"I got disease-free tubers, as I became a cooperative member and embarked on a new journey of potato seed production. The following*

year, researchers provided me with 6,000 tubers and I also purchased an additional 4 quintals from the cooperative. This paid off as I reaped about 50 quintals of potato."



Mr. Endalamaw is grateful for the support he gets from Adet ARC and the RAISE-FS project for constructing a mini-screen house for disease-free generation-3 tuber seed production. *"I am glad to share that I also got support to produce disease-free potato seeds in a mini-screen house. Using this support, I successfully planted more than 200 clean seeds in plastic pots, a price worth 8 ETB per one. I applied compost and watered it regularly., I was able to produce healthy, disease-free seeds."* He added, *"Though I was informed that I could produce four times per year, the situation prevented me from achieving this frequency."*

In 2022, armed with the knowledge and skills gained from the training's advice, and recommendations on chemicals from researchers and extensionists, Mr. Endamalaw successfully harvested 50 quintals of clean potato seed from 0.25 hectares of rented land, which cost him 20,000 ETB. From this small plot, he earned an impressive 200,000 ETB.

Taking lessons from his experience, he decided to expand his land by renting plots near the roads. He rented near the road so that it would be easier for him to transport from the mini-screen house to the field and from the field to the other areas. *"I rented land for 43,000 ETB and planted potato again, but the returns were not as high as I had expected. However, it does not mean that I am not benefited. My initial expectation was to triple my income, which unfortunately did not happen due to the conflict."*

He continued, *"My wife and my kids are supporting in the labour work. I also employed daily labourers when needed, in particular for cultivation, digging and packing potatoes. The income we get is used for all the family."*

All the benefit I get is due to the support I got from Adet ARC. Had they not provided me the seed, the corrugated iron and the technical support, I would not have harvested that amount of potato and sold it at a good price.

Today, Endalamaw's life has improved significantly, and he remains optimistic about the future. *"The income I get now has changed my life,"* he concluded. *"I will continue to grow and reach even greater heights because of the clean seed production work."*

Outcome 2

Vermicompost-Promising innovation for integrated soil fertility management *(outcome 2)*

Kedir Dibaba is a young 31 year old innovator living in Kuku village of Gumer *woreda*, Central Ethiopia region where soil acidity is a major problem. He has four children, and his livelihood depends on limited cereal and potato production. Barley, faba bean, field pea and potato are crops produced in his area. Kedir and his family have been facing problems of land shortage, declining soil fertility and acidity, declining productivity and lack of alternative job opportunity. Recently chemical fertilizer has become expensive, and Kedir also cannot get it in time for his crop production. Worabe Agricultural Research Centre (ARC)in collaboration with RAISE-FS invited Kedir Dibaba as one of the innovators in his *kebele*.



Worabe ARC provided training for Kedir and his wife, Hayat Teka, about the composting process; vermi-worms collection; composting shade and vermi-bin construction; organic materials collection; regular management of the vermi-bin (watering, cleaning, mixing of materials for continuous digestion by worms); collection of vermicompost (drying, sorting and storing); constructing two vermi-bins. Kedir and his wife were eager to apply the knowledge obtained from the training. Before he was selected as innovator, he did not have any knowhow about vermicomposting.

Kedir started by constructing two vermi-bins of *1m x 2.5m x 0.5m*. He produced four tons of vermicompost and used two tonnes for his home garden, *enset*, food oat and potato production. Kedir obtained a meaningful change, increased crop yield as well as income from the sale of compost. Kedir earned about 34,000 ETB additional income from the sale of two tons compost and vermi-worms in 2023 He also saved from the expenditure of chemical fertilizer. Kedir said," *I have learnt and understood the difference of food prepared from crops produced with compost and chemical fertilizer. I am feeding my family with healthy foods of potato produced with compost*".

Kedir is surprised with the change and still asks himself why he didn't start earlier instead of waiting BoA for inorganic fertilizer. Kedir said *"I am a demonstration site for the community. Different NGOs bring the people from other areas to my home. I am very happy when I see smallholder farmers coming here to share knowledge and experiences of vermicompost production''.* Kedir's wife, Hayat applied her knowledge to support her husband by feeding the vermi-worms specially during his absence.

Kedir informed the participants of the field day, since the technology is very important for change not only for improving soil fertility but also for saving the cost of inorganic fertilizers. Therefore, he has a plan of expanding the practice of vermi-worms and vermicompost production to generate more income by expanding to larger area and constructing more vermi-bins.

A journey of strength and change *(outcome 3)*

Tsehay Chekol's story, from Zequala *woreda*, which is a rural dryland area of the Amhara region is an exemplary tale of strength and change. Some months ago, Tsehay had to deal with the harsh reality of unemployment because she did not secure a job even if she got her degree from a university. Having the chance to get credit access and engagement in the poultry business model and her ardent interest in changing herself helped her to do something big for herself and her family.





Tsehay's poultry business activity began with a credit access which was initiated and facilitated by Sequota Dry Land Agricultural Research Centre and the RAISE-FS project. In collaboration with other stakeholders including the livestock agency in Zequala *woreda* and RuSACCOs facilitated the guarantee fund scheme which supported 20 women and youth farmers in Zequala *woreda*. The participating farmers started poultry business each with 50 egg layer pullets. The farmers received initial support for chicken, poultry feed, medicine and other essentials. Tsehaye and other farmers engaged in this activity received training which equipped them with the knowledge to handle poultry production, ensure water sanitation, administer medicines, and maintain health standards.

Tsehay's poultry business was highly profitable. Collecting 40-45 eggs daily, Tsehay not only managed to repay nearly half of her credit, amounting to 10,500 ETB, but also supported her younger brothers by providing eggs for their breakfast. Her efforts have paid off, and she is quite likely to repay her entire credit next year. Once Tsehay settles her loan fully, she will get even better profit from her small poultry business.

Her success has enabled her to become self-sufficient and be able to support her family, changing her from a job seeker to being self-employed. The credit system and continued technical support have helped Tsehay to be in a strong position to expand her small business and improve her life.

Tsehay's story demonstrates the power of hard work, determination, and the impact of supportive systems. At present, Tsehay is encouraging other young people and farmers to get into poultry production, emphasizing the importance of disease preventive measures, proper feeding ratios, and regular technical support. Her journey serves as an inspiring example of a good sense of how to overcome challenges and create positive change in their life and community.

Improving family's nutrition through healthy diets and diverse production *(outcome 4)*



Meymuna Abdela, 31 years old and seven family members lives in Rare village of Gale Mirga *kebele*, Kersa *woreda*, where the cultivation of vegetable home gardens is a relatively new practice for smallholder farmers. In 2022, Meymuna was selected by the project implementer, Haramaya University in collaboration with RAISE-FS project to be one of home garden producers in the village. Meymuna has a small piece of land with a total area of 0.625 hectare used for maize and sorghum production. The family's home is also on this piece of land.

Training sessions have been conducted for Meymuna and her husband focusing on various aspects such as production techniques, consumption patterns, and the development of food recipes. Meymuna said "*The training was very practical and the university started by showing me a photo of malnourished children and explained me why should these children and adults look like this. I understand that it is due to nutrition deficiency* "Seed of different vegetables like beetroot, head cabbage, carrot, and Swiss chard were provided by the Haramaya University. Meymuna started producing these crops with her family following the knowledge and skills obtained from the training.

Previously, Meymuna planted a sole cereal (maize) only once a year in her field during the summer and did not produce anything in winter. No one has made an effort to cultivate their plots in winter. Since she collaborates with the university, Meymuna understands the benefits of home garden and provides vegetable for her children to improve their diets. She selected nutrition dense vegetables to plant in the winter after the maize crop was harvested. Meymuna said: *"Previously, we ate two times of maize and wheat-based prepared meals; now we prepare food three times with minimum of three diversity of foods per meal which includes vegetables. We prepared a different dish after finishing one type of vegetable and started the other vegetables."*

RAISE-FS introduced traditional cooling mechanisms for vegetable using locally available materials. The project provided her with a local refrigerator called pot-in-pot for preservation to improve the shelf life of the vegetable products. Using this pot-in-pot method, during the rainy season Meyuma no longer has to go and harvest vegetables daily. She can consume vegetables stored in the local refrigerator. With the pot-in-pot, Meymuna can store and consume the vegetables for a minimum of one month without spoiling. Mymuna produced surplus vegetables in this year, which she took to a market for selling and earned additional income. She used the income to purchase onion, edible oil and hot pepper instead of buying some vegetables from the market.

Meymuna's story attracted many stakeholders, and her story was aired on a national television. This reaffirms how farm households can utilize available resources to improve their livelihoods. Her home garden story shows how people can increase the availability of safe and nutritious food in their homestead through year-round production of vegetables.

Food oat diversified crop production system during *belg* season *(outcome 4)*



Gumer *woreda* is characterized by a two season (*Meher and belg*) farming system due to its agroecology. Zirga Jigsa is 42 and has eight female and six male children. They live in Dengesza village, Bondena Denber *kebele*, Gumer *woreda*, Central Ethiopia Region. He produces mainly barley, wheat, field pea, faba bean in *mehe*r season but only potato is produced in *belg* season. He has free land not covered by crops in *belg* season.

Worabe Agricultural Research Centre introduced as part of the RAISE-FS activities, with food oats as a new crop for the *belg* season due to its high nutritional value. Mr. Zirga was one of the innovators selected by the research centre to implement this new innovation.

He was interested to implement this technology to diversify his potato dominated *belg* season and to fill food shortage gap in the season. He started by producing two varieties of food oats in 2023 but due to the late supply of seed and late sowing, all the spikes were damaged by excess *meher* rain. In this year, 2024, he planted the crop early belg season. Mr. Zirga and his wife Mrs. Yeroshita Alem participated on training of food oats harvesting and preparation of different food recipes.

Mr. Zirga planted Enat and Tena varieties on a 10m-by-10m area of land using a vermicompost prepared for the crop. Zirga said *"This food oat diversified my crop production system and better than barley for our local condition suitability"*. The yield obtained was surprizing and produced 38kg of Enat and 48 kg of Tena varieties on small area. Yeroshita Alem, a wife of Zirga said *"I prepared bread, porridge and kracked oats locally called kinche from food oat and my children likes very well. It was sweet and does not need condiments like salt or sugar. It also tolerated disease at production time. My husband and I produced this new crop to fill our food gap months until meher season crop will be harvested".*

"I used last year's food oats grain for local food like kinche, soup, and kita. It also tolerated disease at production time. I also produced this crop in the main season, and it performed well"

For future Zerga and his family planning to adjust planting date and to increase production by scaling to a larger land size and keeping the seed from this year harvest. His expansion strategy includes growing additionally during the *meher* season.

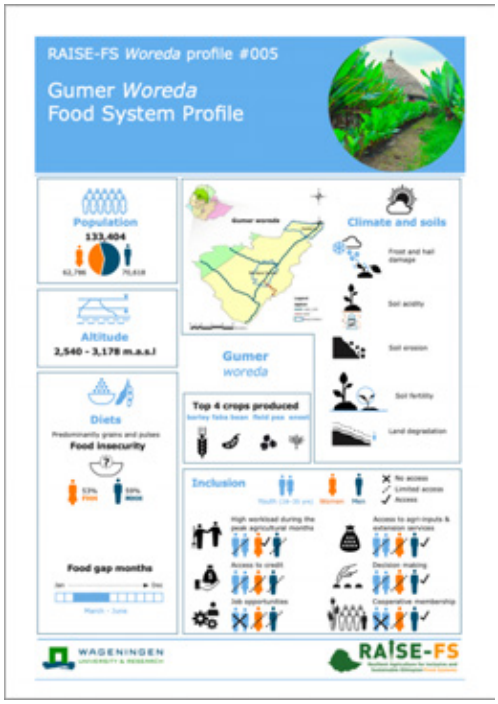
Enhancing communities' participation through Bottom-Up Planning for sustainable food systems transformation *(outcome 5)*



A Rapid Food System Appraisal (RFSA) was introduced as a participatory, bottom-up methodology to address the challenges of the local food system. Conducted in 12 *woredas* across Amhara, Oromia, Tigray, and the former South Region, the RFSA enables local stakeholders to analyse their food systems, identify challenges, and prioritize interventions. A key outcome is the *woreda* food system profile, summarizing the local food system's status and dynamics. So far, nine profiles have been produced, all handed over through workshops involving *woreda* administrators, office heads, development agents, and farmers.

Participants highlighted the value of the bottom-up planning process introduced and the profiles for fostering community-driven, evidence-based strategies while contrasting it with the limitations of top-down approaches. One participant from Boloso Bombe *woreda* said *"The current planning system is top-down, doesn't consider the real situation at the grassroot level. Due to this implementation is always a problem".* He added *"I was part of the RFSA team, I have participated in every process of data collection and planning. It helped me realize the way we are doing things could be improved."*

Institutionalizing this approach will require engagement from regional and national authorities, capacity building, and awareness creation. The profiles will serve as guidelines for future planning, integrating grassroots insights with top-level directives. Local leaders emphasized the importance of scaling this methodology to other *woredas* for sustainable development and effective implementation.



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Wageningen Research Ethiopia is an international NGO and part of Wageningen University & Research. The focus of research is on Research for Food System Transformation (R4FST), working closely with local universities and agricultural research institutes as implementing partners and the Ministry of Agriculture, regional Bureaus of Agriculture, NGOs and the private sector as scaling partners.