

A REPORT

ON

THE REVIEW OF SCALING CONSERVATION AGRICULTURE-BASED SUSTAINABLE INTENSIFICATION (SCASI) IN ETHIOPIA



SUBMITTED TO: THE DEVELOPMENT FUND (DF)

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ACRONYMS AND ABBREVIATIONS

BoA	Bureau of Agriculture
CASI	Conservation Agriculture-based Sustainable Intensification (CAS)I
CBOs	Community-Based Organizations
CFGB	Canadian Foodgrains Bank
CCs	Cover Crops
CIMMYT	International Maize and Wheat Improvement Centre
DFN	Development Fund of Norway
GBV	Gender-Based Violence
FH	Food for Hunger
FGD	Focused Group Discussion
FGM	Female Genital Mutilation
IDI	In-depth Interview
IPs	Implementing Partners
ISFM	Integrated Soil Fertility Management
KII	Key Informant Interview
MCCE	Mennonite Central Committee Ethiopia
MEL	Monitoring, Evaluation, and Learning
MoA	Ministry of Agriculture
MAHFP	Months of Adequate Household Food Provisioning [
MSCFSO	Migbare Senay Children and Family Support Organization
PWDs	Persons with Disabilities
OECD-	Organization for Economic Cooperation and Development-Development Assistance
DAC	Committee)
SDGs	Sustainable Development Goals
SHFs	Smallholder Farmers
SHG	Self Help Groups
SLM	Sustainable Land Management
SNNPR	Southern Nations Nationalities and People's Region
TDA	Terepeza Development Association

EXECUTIVE SUMMARY

Introduction: The Development Fund of Norway, through its implementing partners, initiated a project called "Scaling Conservation Agriculture-Based Sustainable Intensification in Ethiopia (SCASI) in four regions (*hereafter SCASI project*" to realise sustainable food security. The project targeted smallholder farmers in 8 woredas (40 Kebeles) in Amhara, Benshangul-Gumuz, Oromia, and SNNP Regions of Ethiopia. It focused on women and youth engagement. Funded by The Development Fund of Norway (DF), it is a three-year initiative implemented between January 2022 and December 2024 by CIMMYT, CFGB, and its network (members and their partners (FH Ethiopia, TDA, and MSCFSO) in collaboration with MoA and local communities. The project aimed at improving soil health and sustainably increasing the productivity of major crops through widespread adoption of proven CASI practices and technologies, hence increasing the income of Ethiopia's smallholder farmers and their resilience to climate change and variability. To this end, this report reviews and evaluates the Relevance, Effectiveness, Efficiency, and Quality of the SCASI project and the *Impact* and *Sustainability* of prioritized areas. This evaluation is executed by DAB-DRT in close coordination with DF and implementing partners between November 2024 and January 2025.

Methodology: The report is based on a mixed approach. It collected primary data from qualitative techniques, including Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), In-depth Interviews (IDI), case stories, and field observations. The quantitative data were extracted from a desk review of project documents. The data were collected from targeted eight woredas of Amhara, Benishangul Gumuz, Oromia, and Southern Ethiopian Regions on the relevance, coherence quality, effectiveness, efficiency, impact, sustainability, replicability, innovativeness, and other crosscutting issues such as gender, nutrition, environment, and persons with disabilities. Using purposive sampling techniques, data collection covered 24 men, women, and youth (including PWD), KIIs with IPs and government partners, eight IDIs, four case stories with model farmers and community leaders, and spot observations. Checklists and guides were prepared and implemented to manage the process. The data collected from the field were checked for quality, cross-checked, established themes, summarised contents, and carried out thematic analysis. Quantitative data were used to triangulate qualitative data and presented as tables, charts, and radar diagrams.

Findings:

The results of the evaluation are summarized as follows.

	Relevance				
-	The project targeted areas with severe land degradation and soil erosion due to high rainfall and continuous monoculture/monocropping.				
-	The project was correctly aligned to the national priorities- policies and strategies. It also brought on board experience partners from research that built existing knowledge, experiences, and lessons from the past.				
-	The selection of households and targets was transparent and clear. It was based on the beneficiaries' willingness, interest, priorities, and needs.				
-	The project targeted women, men, youth, and people with disabilities (PWDs). It empowered women and PWDs and supported local institutions, including Self Help Groups (SHGs) and Farmers Field School (FFS). They found it relevant and valuable to their contexts and problems.				
-	The project addresses soil health, food security, and sustainable livelihoods in highly and repeatedly cultivated areas through identifying, planning, and implementing solutions to the specific problems of the smallholder farmers.				
-	The study found no irrelevant activities of CASI practices so far implemented. However, in some areas, fodder seeds such as Pigeon Pea were less preferred, which might be due to poor extension at the local level, such as lack of detailed training or being misunderstood by the farmers and practiced in a wrong way in Sibu Sire and Bure Zuria Woredas. Some activities, such as minimum tillage, soil cover (dry				
-	mulch/live mulch), intercropping/relay cropping, crop rotation, etc., are the most relevant. The respondents rated the project's relevance as "Very High" in terms of quality, quantity, timing, goals/outputs/ and results to the needs and priorities of the community members, the problem at hand, and the country's priorities and policies. The most probable reason is that the project adequately				

Coherence

considered the prevailing issues and built on previous experiences.

- The project aligns with the country's general policies, strategies, and programs and Ethiopia's Rural Development Policies and Strategies (RDPS), which serve as the guiding framework for implementing Ethiopia's agriculture and food security programs. It coincides with the recently adopted Ethiopian Ten Years Perspective Development Plan (2021-2030), which prioritizes climate-resilient agricultural development as one of the key focus areas.
- The coordination with various stakeholders (from region to kebele level) was impressive. As such, the project created synergies and interlinkages between its interventions and other interventions carried out by others/governments in the woredas.
- The SCASI project demonstrated consistency, harmony, coordination, and complementarity to the government strategies, such as Climate Smart Agriculture (CSA), Sustainable Land Management (SLM), the Resilient Landscapes and Livelihoods Program (RLLP) through Client ResilientResielent RGE strategy, the National Adaptation Plan (NAP) interventions, practices, priorities, and felt needs of the local community in rehabilitating degraded landscapes and making them productive and resilient, protect soil health, increase productivity and income.

- Thus, the respondents rated the coherence of the SCASI project to other interventions and priorities as 'very high".

Effectiveness

- The different categories of FGD respondents reported that this project effectively saved energy, reduced the need for draught power and human labour requirements, and cut production costs. Participants reported that the practices cut labour requirements by half. The cash used to purchase chemical fertilizer and hire draught power and human labour was saved and used for consumption smoothening.
- The farmers reported that CASI practices and technologies have positively impacted crop yields compared to conventional practices. Substantial yield increases in the major crops were recorded using CASI practices. Besides, capacity-building schemes boosted their knowledge, attitude, and skills.
- The 2023 /04 annual cropping season survey finding indicated that about 87.5% of the promoted CASI practices were being implemented, of which about 17% of the farms implemented fewer than six practices, while the majority (82%) implemented between six and fourteen practices.
- The 2024 project annual report indicated that 17,067 smallholder farmers have been trained in Conservation Agriculture with Sustainable Intensification (CASI), including 6,290 women. Currently, 12,455 farmers are implementing CASI on 2,929 hectares, with 4,968 of them being female. Most activities introduced by this project were well accepted and widely practiced by the farmers, and hence, the target achieved
- FGDs and KIIs in all regions evidenced that pigeon peas are one of the CASI practices that enhanced livestock productivity, soil health, and climate resilience across the project intervention areas due to its very high and particularly vital in drought-prone and degraded areas, offering a sustainable solution to feed shortages and economic vulnerability.
- Respondents rated the effectiveness of SCASI project as 'very high" which indicates it realised the outputs and outcomes and the cost-effectiveness of the activities in increasing productivity, income, soil health livelihoods, and food security.

nealth livelinoods, and food security.
Quality
- One of the project's qualities is the careful and thoughtful selection of partners and stakeholders.
 KII and FGD participants indicated the project's adaptability to emerging challenges, such as security conditions in the area, budget constraints, and inflationary trend of expenses- adapting to circumstances.
 Some KII respondents pointed out that integrating action research in project design, documentation, and dissemination lessons through policy briefs and guidelines help ensure project implementation quality.
 The project employed various methodologies, such as demonstrations at FTC and farmers' fields, organizing farmers' groups, experience sharing, field visits, and training, which helped overcome the attitude-related challenges.
 The results obtained through the different data collection tools showed that the SCASI project prioritized local ownership among government stakeholders and the community from the outset. It emphasised participatory approaches by empowering women and engaging PWDs, youth, and men while enhancing collaboration with government institutions.

- KIIs rated the project as 'high' quality in terms of anticipated standard and quality, applied methodologies, engagement of local actors, and intervention logic.

Efficiency
- Both KIIs and FGDs reported that training provided by the SCASI project was highly adequate within the
time allocated, with appropriate topics and content delivered through practical demonstrations and
training manuals.
- The FGDs and KIIs also revealed that farmers successfully implemented the various CASI practices,
reducing agricultural input costs, increasing soil quality and health, and increasing productivity.
- The project substantially benefitted resource-poor smallholder farmers as it reduced labour
requirements by as much as 50% and was cost-effective in engaging farmers in extensive farming.
- Respondents rated the efficiency of the project as quite efficient in meeting project outcomes.
Impact
- As reported by the FGD participants, applying CASI practices increased the productivity of major crops
by approximately 30-50 %.
- The report by the farmers indicated that the CASI activities have created multiple sources of income,
including fodder, fattening animals, surplus yield, vermicompost, etc. Using organic fertilizers reduced
their chemical fertilizer costs by 50%.
- Most farmers reported that CASI practices at least increased their income by 25-100%.
- The report by the FGD and KII participants revealed that soil health improved tremendously as the
project introduced lime, vermicomposting, leguminous species like lupine, haricot bean, soya bean,
Intercropping and crop rotation, mulching, green manure, and crop residues—which improved soil
refained moisture in the soil and protected the soil from excessive temperature or torrential
Formers also norseived that seil erganic matter is boosted, seil structures are improved, and misro
organisms are higher in the soil indicating soil health
- The project grouned youth and women to engage in income-generating activities and organized self-
help groups. Some Self-Help Groups (SHGs) have saved about 33,000 FTB
- Promoted a community savings fund to address financial challenges, which was successful in instigating
a sense of solidarity and cooperation.
- A report by the project participants showed that the introduction and promotion of animal fodder
alleviated the animal feeding shortage, which was a source of income for some farmers. Farmers grew
various grasses on their plots, at the edges of farms, and in their backyards, collecting and storing them
for livestock during prolonged droughts. They fed their livestock in the yard and controlled free grazing,
potentially causing overgrazing and soil erosion.
- As per the project third quarter 2023 report, the project increased Months of Adequate Household Food
Provisioning [MAHFP] from baseline 7.8 to 9.5. The farmers also iterated that their food security
situation has improved over time from 2023 to 2024 due to the CASI practices.
- The study showed that most farmers stopped buying from the market and used their production, and
growing diverse crops minimised the cost of dietary diversity.
- Farmers through the FGD reported that their attitude towards the CASI practices had changed gradually
as the project taught them new knowledge, skills, and practice, followed by demonstration and
experiential learning.
- Overall, based on respondents' ratings, the early impacts of the project are quite high.
Sustainability
- Sustainability elements, such as ownership and ease of uptake, are inherently embodied in the
implementation process and are also clearly articulated in the SCACI sustainability strategy.
- The project has already institutionalized and strengthened the local government and the community's
capacity, positively impacting the beneficiaries' attitudes, knowledge, and skills and enabling them to
The project has fectored strong linkages between community groups and relevant stakeholders
- The project has lostered strong linkages between community groups and relevant stakeholders,
its design with the Agricultural Transformation Agency (ATA) and Regional Agricultural Pesearch as an
instrument to advance and ensure the continuation of CASI activities
- In sum the stakeholders also rate sustainability high: yet, canacity building of more DAs and community
committee members may be required.
Added values
- About 87.1% of the households reported increased land allocated for practicing CASI technology: 84%
of respondents believe it can be replicable in similar contexts and needs to be scaled up to other places.

- One of this project's innovations is using action research activities to provide consultation, guidance, and problem-solving. This tremendously supported the project's efforts to identify and capitalise on successful activities while addressing and improving areas that needed strengthening.
- The project targeted at least 30% of women and gave adequate emphasis during interventions. This has shifted gender roles among female farmers after the project from usual domestic chores to control field-based production who used to lease or rent their land to men farmers as ploughing is labour intensive. It was observed that some women in the CASI field performed better in terms of productivity and adopted CASI practices than their fellow men. As a result, some of them were even selected as model farmers.
- The project demonstrates gender sensitivity by disaggregating data by gender. Moreover, it is indicated in the project document that it will engage 30% of women so as to benefit women alike in CASI practices. The project's consideration of Persons with Disabilities (PWDs) was novel in addressing and engaging their needs. It initiated voluntarily supported PWDs by the community to benefit from CASI practices, but it is inadequate.
- The project has no direct nutrition-related activities, but with the introduction of varieties of crops, pulses, and vegetables, household food availability and consumption have increased in quantity or quality, resulting in more dietary diversity and nutritious food.
- The SCASI project was environmentally aware that it overlaps and complements other endeavours to protect and rehabilitate soil and increase productivity. At the household level, CASI activities were successfully harmonised with previous efforts and built on existing experiences.
- All CASI practices are environmentally friendly, and they improved soil quality, reduced soil degradation and deforestation, increased soil organic matter, improved soil structure/fertility, soil moisture retention, biodiversity, and resilience to seasonality such as drought and flood as well as disease/pest infestations.

Challenges

- Inflation and budget constraints;
- Security challenges;
- Challenges related to vermicomposting management;
- Youth beneficiaries' expansion to fragile lands;
- Disease, rust, and termites are challenges for crop production in some areas with CASI practices;
- Climate change-related challenges such as (excessive rainfall and drought) affect early maturing crops.

Lesson Learned

- SCASI is one of the most remarkable intervention models;
- The more CASI technologies and practices, the better the performance;
- A short timeline of three years is not adequate to scale up the practices;
- The need for show-and-amend strategy for long-term impact;
- The attitude of the farmers towards CASI practices was initially negative and improved through training, demonstrations, and exposure visits; their interest and attitudes changed
- Various farmers have adopted a range of CASI practices and gained various experiences related to CASI practices; and
- The use of multiple methodologies enhanced and positively contributed to the better implementation of CASI practices, as it brought various experiences and knowledge into the project and promoted joint learning.

Conclusions

- The project and its activities were highly relevant to the contexts, priorities, and needs of farmers who want to increase yields, income, and soil fertility and contribute to food security. It transformed agricultural practices, i.e., from mono-culturing to CASI practices such as crop rotation/ intercropping.
- The project is coherent with the government's policies and strategies and the DF's priority objectives.
- The project positively impacted beneficiaries' livelihoods through increased productivity of major crops, increased income, improved soil fertility through reducing erosion and enhanced soil organic matter

content and soil moisture retention, induced saving culture, increased fodder availability, and change in attitude towards CASI practices, and reduced months of food gaps.

- The project was inclusive because it allowed men, women, youth, and people with disabilities to benefit from the activities; it was also gender sensitive, with a clear gender strategy in the project document.
- The project contributed to environmental sustainability through climate-related and non-climaterelated benefits. Climate-related factors include soil fertility improvement, soil erosion protection, moisture retention, diverse farming practices, resilience to disease and pests, and the use of high-value crops such as soya beans, haricot beans, vegetables, and fruits. Non-climate-related factors include increased yield, increased milk output, increased income, and allowing farmers to grow and consume nutritious foods.
- Animal fodders, legumes (Pigeon pea, Lupin, Sesbania) and grasses (Rhodes grasses, Desho grass (Pennisetum pedicellate), and Elephant grasses), have had multiple benefits. They have positively impacted fodder availability, even during drought, and livestock productivity, generating income and reducing overgrazing.

Recommendations

- The project initially focused on a select number of woredas and kebeles. However, there is a significant and growing demand for CASI practices. This emerging interest suggests the necessity for scaling up the SCASI initiatives beyond the currently targeted kebeles within each woreda.
- The project design established a joint monitoring, evaluation, accountability, and learning (MEAL) with local government partners. However, we found that a KII from the Woredas in the Southern Region and a DA from a kebele in Oromia complained that they were not involved adequately in the entire process of MEAL. This may limit the scope of learning and accountability. Thus, it is essential to strengthen the local government bodies as an integral part of the joint MEAL activities. Moreover, preparing experience-sharing visits for DAs to other areas could motivate and facilitate learning from each other.
- Supplying adequate lime is necessary to heal acidic soil and increase productivity.
- To address supply limitations for enhanced crop and forage seeds, the project must foster publicprivate partnerships through strategic collaborations with private seed multipliers and cooperatives.
- The project ended without observing project outcome maturity and leaving room for scaling up. Thus, the project could have been a phase-based five-year cycle. This would have helped to pilot and refine the CASI practices through action research and scale up the best practices for sustainable and longterm outcomes.
- The benefits of the CASI initiative are observed over an extended period due to its long-term nature. Thus, after some time, the DF may need to carry out the ex-post impact of the SCASI project investment on crop yield, income, food security, and livelihood improvement.

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1. INTRODUCTION

1.1. Background

The Development Fund of Norway, through its implementing partners initiated a project called "Scaling Conservation Agriculture-Based Sustainable Intensification in Ethiopia (SCASI) in four regions (*hereafter SCASI project*" to realise sustainable food security. The project targeted smallholder farmers in 8 woredas (40 Kebeles) in Amhara, Benshangul-Gumuz, Oromia, and SNNP Regions of Ethiopia. It focused on women and youth engagement. The SCASI project is a three-year initiative implemented between January 2022 and December 2024 by the International Maize and Wheat Improvement Centre (CIMMYT)-Ethiopia and Canadian Foodgrains Bank (CFGB) and its network (members and their partners: Food Hunger (FH)-Ethiopia, Terepeza Development Association (TDA), and Migbare Senay Children and Family Support Organization (MSCFSOMSFCSOMSCFSO) with support from The Development Fund of Norway (DF).

The project's aim is to improve soil health and sustainably increase the productivity of major crops through widespread adoption of proven Conservation Agriculture-Based Sustainable Intensification (CASI) practices and technologies, hence increasing the income of Ethiopia's smallholder farmers and their resilience to climate change and variability.¹ The specific objectives of the project are to:

- enhance CASI awareness through a multi-stakeholder (participatory) scaling platform in each regional state where scaling domains, farmers, technologies, and inputs are identified, mobilized, and piloted;
- build the capacity of farmers, development agents, agricultural experts, and other actors in the value chain using a standardized training manual explicitly designed for each stakeholder;
- facilitate widespread adoption of CASI through an on-farm demonstration approach using strategically selected Farmer Training Centres (FTCs) and individual farmers' fields, exposure visits and farmer-to-farmer exchange visits;
- identify and resolve technological, biophysical, institutional, social, and financial constraints for CASI scaling through action research; and
- develop a clear CASI learning approach and scaling strategy².

The direct beneficiaries in the project are smallholder farmers (SHFs) who are actively engaged in crop and fodder production. The project involved various agricultural experts. The experts are benefited from multiple awareness creation, experience sharing, skill and knowledge enhancement endeavours in the agricultural production system, and actors in the production value chain. It specifically targeted women based on criteria applicable to local conditions. The direct project beneficiaries of total 75,000 people (15,000 households), of which at least 30 percent are expected to be female participants across the eight targeted woredas. ³

¹ DF/CIMMYT/CFGB/TDA) (2023), Scaling Conservation Agriculture-based Sustainable Intensification in Ethiopia (SCASI). Joint Monitoring Field Visit Report, Addis Ababa, Ethiopia.

² The Development Fund of Norway (2021). A proposal on Scaling Conservation Agriculture-Based Sustainable Intensification in Ethiopia (SCASI), Addis Ababa, Ethiopia.

1.2. Objectives of the Evaluation

There evaluation has two broad objectives, and several sub-objectives as outlined below ⁴.

Objective 1: Evaluate Relevance, Effectiveness, Efficiency, and Quality of the SCASI project

It is to assess

- the relevance, effectiveness, coherence, and efficiency of the project's design in addressing the needs and priorities of the target beneficiaries, attaining its intended objectives, and appropriate usage or the cost-effectiveness of the project resources;
- the extent to which project activities have been done in line with the anticipated standard and quality;
- to what extent the project interventions have linkage and integration with other interventions carried out by the implementing partners;
- to what extent are the applied methodologies adequate or allow for verification of results, verification of the quality of results, and randomized controls;
- to what extent does quality of the project design contribute to in ensuring genuine local participation and ownership;
- the concrete recommendations for the program cycle and future programs; and
- to what extent the quality of project designs and its intervention logic relevant.

Objective 2: Evaluate the Impact and Sustainability of prioritized areas

It is to

- review the impact and sustainability of the SCASI project implementation in terms of its contribution to changing or improving the livelihoods of the target communities; and
- the extent to which the achieved impacts and outcomes are sustainable.

In achieving the two major objectives above, the outcome of the evaluation is used for both learning and accountability purposes and seeks to:

- identify key achievements in the course of SCASI project cycle management that are the strengths so far; and
- identify problems the project faces and formulate appropriate recommendations for future actions.

This evaluation is executed by DAB Development Research & Training PLC (hereafter DAB-DRT), an Ethiopia-based development research institution, in close coordination with DF and implementing partners between November 2024 and January 2025.

1.3. Scope of the Evaluation

The evaluation assessed the relevance, effectiveness, efficiency, quality, coherence, impact, and sustainability of the SCASI project implementation regarding its contribution to changing or improving the livelihoods of the target communities. Moreover, it examined the extent to which the achieved

⁴ The objectives are drawn from the assignments Term of Reference (ToR)

impacts and outcomes are sustainable. Geographically, DAB-DRT evaluated 8 woredas, i.e., Burie Zuria and Bibugn (Amhara), Assossa and Homosha (Benishangul Gumuz), Leka Dulecha and Sibu Sire (Oromia), and Boloso Sore and Boloso Bombe Woredas (Southern Ethiopia). In each woreda, one implementation Kebele was selected, which totalled eight. Methodologically, it collected mixed data from primary and secondary sources of quantitative and qualitative approaches to optimize the result of findings.

The evaluation involves three phases, from inception to synthesis/reporting, as depicted in **Figure 1**.



FIGURE 1: THE THREE PHASES OF EVALUATION

1.4. Organization of the Inception Report

This report presents the SCASI project evaluation report based on fieldworks, detailed review of project documents and a desk review basing the above objectives. The report is organized into Five sections. Section One (Introduction) provides the context for the SCASI project and a brief description of the objectives and scope of the assignment. Section Two (Methodology and Evaluation Design) the evaluation approach and methodologies employed (both quantitative- extract from project report and monitoring, Kebele level data, and qualitative from KIIs, FGDs, IDs, spot check, and case studies), as well as describes methods of data collection, the data analysis plan, including coding, transcribing, and data analysis for the impact evaluation. Moreover, it describes the limitations, confidentiality and privacy of data. Section Three presents the findings from the assessments. It discusses relevance, effectiveness, efficiency, quality, coherence, replicability, innovativeness, and crosscutting issues. Section Four provides the challenges faced and lessons learned from the project. The final Section concludes and provides recommendations for action.

2. EVALUATION DESIGN

The purpose of the evaluation is to assess the performance of the SCASI project. It considers the extent to which the outputs and outcomes have been achieved, determining coherence, efficiency, and effectiveness. The result will impact SCASI's programming, inform the project, and provide DF and IPs with evidence to improve its programming. The evaluation documented the success factors and constraints, captured context-based lessons learned, and documented new knowledge and important topics for further inquiry, action, lobbying, and/or influence. Furthermore, the evaluation will document the knowledge built, skills gained, and behavioural changes (attitudinal, practice).

To this end, DAB-DRT followed a participatory approach to hear the voices, opinions, and views of the targeted **communities** and individuals about the project. As such, engaging people in the conversation during data collection using various participatory tools ensures the quality, validity, utility, and mutual ownership of the research findings and recommendations. In the evaluation process, all pertinent stakeholders who participated in the project, including local government staff and actors in the targeted districts and zonal offices were consulted. In addition, various segments of the community, men, women, vulnerable youths, people with disabilities (PWDs), and model farmers were engaged to capture the perspectives of key stakeholders and/or target groups.

The SCASI project was designed to improve soil health and sustainably increase the productivity of significant crops through widespread adoption of proven CASI practices and technologies, thereby increasing smallholder farmers' income and their resilience to climate change and variability. Figure 2 describes the project logic, illustrating how the four outcomes of the activity contribute to achieving the project impact. The core components of the project are field-based demonstration, capacity building at different levels, action research, project management, monitoring, evaluation, and learning (MEL). SCASI also provided scaling up proven practices, building multi-stakeholders' capacity, promoting wider adoption, and enhancing learning. Support farmers with planting material and agricultural training. DF coordinated with Implementing Partners (IPs), the Ministry of Agriculture (MoA), the Bureau of Agriculture (BoAs), and the District Agricultural Office to execute the activities.

The project also included several activities, outputs, and outcomes to improve the food security and resilience of smallholder farmers in Ethiopia, as summarised in **Figure 2**.

SCASI Project Logic



FIGURE 2: PROJECT LOGIC OF SCASI ETHIOPIA⁵

⁵ Colour of the boxes does not represent any particular identification or depiction. The project logic was developed using project documents.

2.1. Evaluation Framework

The evaluation adopted DAC-OECD⁶ (Organization for Economic Cooperation and Development-Development Assistance Committee) Project evaluation criteria to measure whether the project has achieved the initially envisaged objectives as stated in the project proposal and set of indicators. The research questions were developed based on the evaluation's ToR. Moreover, the evaluation team discussed project outcomes, components, the theory of change, and their expected impacts to answer the research questions below.

The evaluation team has identified vital baseline project indicators based on the results framework to measure if and to what extent the expected effects of the project materialised in practice, which interventions work best, and explored which factors explain the findings. Specifically, the report addresses the above objectives as illustrated in key evaluation questions and collected through multiple data sources and data collection methods (see Annex 1).

2.2. Evaluation Methodology

The methodological approach adopted to undertake the project evaluation is mixed research approaches. Specifically, concurrent mixed methods procedures in which the researcher merges quantitative and qualitative data to comprehensively analyse the research questions was adopted. Thus, data collected from both methods were triangulated to evaluate the project's achievements. Both primary and secondary data were collected from relevant data sources. This research design is important to take advantage of the benefits of a combined method, including triangulation of findings from various sources.

The primary data were collected face-to-face despite some security challenges in Amhara and Oromia. However, the data collection period was delayed by about 15 days because of travel and accessibility of the respondents physically to their convenience. Face-to-face interviews and spot-checking were conducted in all regions. This was possible due to the tremendous support of the IPs and their kind staff at the field level.

2.1.1. Sampling methods

Focus Group Discussions (Total 24 FGDs): 24 FGDs were conducted, and the saturation principle was satisfied, which enhances the required information's credibility and completeness. Each FGD comprised 10 farmers. Each FGD took 60-90 minutes long. To recruit participants for our FGDs, we employed purposive sampling techniques that combined convenience and snowball sampling. This approach gathers collective perspectives and experiences by ensuring representation among men, youth, women, PWDs, CASI practices, and the four regions. The evaluation team consulted with IPs (FH-Ethiopia, MSFCSO, TDA) at the woreda level and DA at the Kebele level to decide on the discussants – ensuring diversity among participants regarding gender, disability, youth, and CASI practices. Accordingly, during sampling, DAB-DRT field team closely worked with the agricultural experts, development agents (DAs), and IPs involved in the program's implementation to contact the farmers. Attempts were made to ensure that women, men, youth, and PWD are represented.

When recruiting respondents for this study, the study team first consulted IPs and woredas experts on the above selection criteria: participation in the SCASI program or knowledge of the project, being adult men, women, PWDs, and youth; the respondents' closeness to the kebele center, accessibility of the kebele in terms of road, security problems, and the high number of CASI practices.

Accordingly, eight men only, eight women only, and eight youth but mixed male and female groups. In each FGDs, PWDs were included. Accordingly, 19 PWDs, including the visually impaired,

⁶ OECD (2019), Better Criteria for Better Evaluation: Revised Evaluation Criteria Definitions and Principles for Use, DAC Network on Development Evaluation, OECD Publishing, Paris,

handicapped, and people suffering from chronic diseases, were engaged. The detailed FGD protocol was prepared to guide the discussion (Annex-2).

Key Informant Interviews (KIIs) (Total 27 KII): Each KII was 45-60 minutes long. To recruit key informants for interviews, DAB-DRT researchers collaborated with IPs and Woreda (district) Experts to identify the targeted beneficiaries who received the training, capacity building, and technical support for farmers/DAs/SHGs. These include IPs, Zonal and Woreda Agriculture Experts, and DAs who were involved in implementing the programs. We also interviewed representatives of FH Ethiopia, MSFCSO, DF, TDA, CFGB, CIMMYT, because they are key project implementing bodies. A detailed checklist was prepared and used to manage the interview (**Annex – 3**).

The evaluation team has built-in required debriefs after every FGD and KII with the data collection team to a) capture any emerging themes that need to be probed more specifically; and b) monitor saturation. When saturated questions are reached, we de-emphasised that topic and raised another theme that has less discussion.

In-depth Personal Interviews (IDIs): In-depth interviews were conducted with individuals at grassroot level living within the community. The purpose was mainly to explore their perspectives on the project processes and performance. In close collaboration with IPs representatives at the woreda and local levels, we have selected and interviewed model farmers)/ community leader/FFS leader/SHGs leader who was directly involved in CASI practices and benefited from various awareness creation, experience sharing, and skill and knowledge enhancement. Eight In-depth Interviews (IDIs) (1 per kebele) were conducted. A checklist was developed for this purpose (Annex-4).

Participants	Oromia region		Amhara Region		Benishangul Region		Southern region		Total
	Sibu sire	Leka Dulecha	Bibugn	Bure Zuria	Homosha	Ural	Boloso Bombe	Boloso Sores	
Women-FGD	1	1	1	1	1	1	1	1	8
Men FGD	1	1	1	1	1	1	1	1	8
Youth Mixed FGD	1	1	1	1	1	1	1	1	8
Total			24						
KIIs									
FH Ethiopia	1*	-	2	-	1	1	-	-	3
MSFCSO	-	-	1	-	-	-	-	-	1
DF	1*	-	-	-	-	-	-	-	1
TDA	-	-	-	-	-	-	1		1
CFGB	1*	-	-	-	-	-	-	-	1
CIMMYT	1*	-	-	-	-	-	-	-	1
DAs	1	1	1	1	1	1	1	1	8
Woreda Agri. Expert	1	1	1	1	1	1	1	1	8
Zone Agri. Expert		1	:	1	1		1		4
Total									27
IDI ()	1	1	1	1	1	1	1	1	8
Case Study		1		1	1		1		4
Spot-checking	1	1	1	1	1	1	1	1	8

TABLE 1: DESCRIPTION OF THE NUMBER AND TYPES OF DATA COLLECTION TOOLS

*KIIs conducted at national/Federal level

Spot checking or direct observations: The team generated data through direct observations of biological and structural CASI practices and various social and economic infrastructures implemented through project interventions. The team spot checks some CASI interventions to see the biophysical setup of the study kebeles. Pictures of observed features were also taken to evidence it. A template was prepared to manage the spot-checking (**Annex-4**). During the field visits, the team observed the on-farm demonstration plots, model farmers, fodder and crop residues, and individual farmers' fields, etc.

Case stories: The purpose of the case story is to capture the success and the impacts observed due to the SCASI project. It was generated from conversations with model farmers, IPs, and KIIs with DAs and

agricultural experts. First, one crucial impact/benefit will be identified. The story was narrated and comprises the context, process, effect, and replicability for further promotion and dissemination, as shown in the template **(Annex-5)**. Moreover, the story was accompanied by pictures from the field. One case story was documented across the intervention regions.

The tools were pretested at the field level before the actual interview to see whether they worked in a real field situation. After the pretest, some of the tools' contents were adjusted accordingly. The analysis did not include the respondents and the data collected during the pretest.

2.1.2. Quantitative Design

The study is mainly qualitative, yet whenever data is available, the quantitative analysis attempts to address questions regarding the project's impact. The SCASI's interventions targeted the woreda, kebele, community, and household scales. The project reports were reviewed and supplemented by the CIMMYT data for monitoring and action research. The secondary data extraction sheet/checklist (Annex 6) was prepared to collate data from project reports or IPs responsible for managing data at the household level and reports on soil health. This evaluation has not systematically verified results reported in project reports.

2.1.3. Qualitative Design

This evaluation's qualitative analysis component addressed specific questions around the implementation of the SCASI interventions and provided additional contextual information that helps explain the quantitative impact evaluation. This analysis explored how the program's design and conditions in the implementation areas affected the expected outcomes through a combination of desk review and detailed qualitative studies.

2.1.4. Data Source and Methods of Data Collection

The primary data were collected through FGDs, KIIs, observation, and case stories. Moreover, the secondary data extraction and desk review of various project documents and other pertinent documents were used to collect secondary data. The sources provided available evidence on the overall status of productivity of significant crops [the widespread adoption of proven CASI practices and technologies], incomes, nutrition, food security and eco-friendly and sustainable agricultural practices of the SHFs as well as the institutions received capacity building on CASI practices. Cognizant of this, **Annex 8** summarizes methods against indicators and data sources.

2.1.5. Methods of Data Analysis and Reporting

Before commencing the analysis, all data collected from secondary sources were cleaned, checked, and validated to identify and immediately address any issues during data collection. The intensive cleaning process was conducted after collection, including coding and decoding, consistency checks, and validating contents. Then, an analysis was carried out using quantitative data analysis. In each component of the evaluation, a descriptive method of analysis was conducted and assisted by XLSTAT, interchangeably. The findings were presented with quantitative data in valid percentages, tables, charts, and radar diagrams.

The qualitative collected data were checked successively for quality and consistency by reviewing the KIIs, FGDs, case studies and field notes, and English transcripts by participant type and group. Firstly, as part of the general quality assurance mechanism, the field team primarily checked the quality of data collected at the field level. Finally, at the office level, all the data were cross-checked with different sources, and only refined and reliable information was used for the analysis. Then, the qualitative information was analysed, summarised, and presented qualitatively using the inductive

approach. In doing so, the study followed the idea of Bazeley (2009)⁷ that involves thematic analysis. Themes and sub-themes were generated based on the evaluation's objectives (relevance, effectiveness, efficiency, quality, coherence, replicability, sustainability, impact, and other crosscutting issues) and guided the study and presentation of information.

In addition, we employed three key strategies, including description of the data, classification of data, and seeing how concepts are interconnected. First, the data were reduced into manageable portions for analysis (data reduction). Then, the data regularities and patterns were arranged through coding, categorisation, and abstraction, making comparisons and finding dimensions. In this stage, triangulation and crosschecking of various tools were employed. Finally, a draft of the evaluation report was developed, with a light touch of the DAC Criteria for project evaluation and an analysis disaggregated by region, sex, and thematic areas.

2.3. Data Quality Control

DAB-DRT has established and ensured comprehensive and multi-level data quality assurance throughout the planning, data collection, and cleaning so that the client would receive the best data and comprehensive report. The project coordinator and team leader have debriefed with the field teams daily to monitor progress. This mechanism enables the enumerators to receive corrections and provide continual feedback to improve their performance. Group communication channels/platforms were created for this purpose, including email, telephone, and a telegram group. We were also in touch with the DF focal person for the evaluation to clarify and update progress on the fieldwork.

2.4. Study Ethics, Confidentiality and Privacy

First, we tried to obtain a support letter from the relevant authorities for the study. Second, in each checklist and interview guide, verbal consent was prepared and read to the respondents whether they were voluntary. We strictly obtained the willingness of the respondents. Yet, they were informed that they could refuse or withdraw from the interview at any time and may not have to answer any questions they did not wish to. The interviewers were oriented to stick to and assure each respondent's respect, dignity, and freedom. The confidentiality of respondents is safeguarded to ensure both respondents' safety and data quality. Names of respondents or their organisational affiliations do not appear in write-ups or reports to maintain the anonymity of the participants. Third, all raw data and audio tapes are always kept secure for 24 months after the completion of the evaluation. They may be destroyed thereafter, with only assessment staff accessing them. DAB -DRT complies with global and DF Data Protection Policies (GDPR). Full verbal consent was obtained for pictures used in this report.

2.5. Limitations

The following three limitations can be cited in this study:

- 1) By the time the data were collected, the 2024 fourth-quarter report was not ready. Moreover, a seasonal survey for the 2024/2025 production season cannot compare productivity, income, and other indicators. Thus, these were not included in this evaluation.
- 2) The impact assessment only focused on the treatment group; the control group was not involved. Moreover, there is a high probability of spillover effects in the neighbouring kebeles and woredas because farmers share information, and CASI practices and technologies have been broadcast through radio. In this study, spillover effects are not controlled.

 ⁷ Bazeley, P.2009. Analyzing qualitative data: More than identifying themes. Malaysian Journal of Qualitative Research. 2, 6 <u>http://www.researchsupport.com.au/bazeley_mjqr_2009.pdf</u>

3. FINDINGS

The evaluations' findings are presented according to the objectives set using the DAC-OECD evaluation criteria.

3.1. Relevance

Land degradation remains a significant environmental hazard, diminishing soil fertility, compromising soil health, and hence reducing crop productivity in the targeted woredas. This, in turn, affects food security conditions and people's livelihoods due to overarching challenges such as population pressure, soil erosion, and improved input scarcity. Hence, the SCASI project has made an excellent effort in tackling the effects of land degradation and improving food security.

SCASI project is aligned with the Ethiopian Ministry of Agriculture's priorities and initiatives, such as the Ethiopian Strategic Investment Framework for Sustainable Land Management (ESIF-SLM) (2008-2023); Climate Resilient Green Economy (CRGE) (since 2012), Green Legacy, Climate Change Mitigation and Adaptation⁸, Climate Smart Agricultural Practices, etc.

The program's design was built based on existing knowledge, experiences, and lessons from the past. CIMMYT has been implementing similar projects, and other IPs have been impacting at grassroots levels. On top of this, the design emphasises the engagement of various relevant stakeholders, including governments at regional and district levels, development partners, local communities, etc. SCASI recognised the need for active participation of the beneficiaries in the action research and implementation, going beyond 'consultation' to facilitate ownership and decision-making. Previous experiences show that all externally induced CASI practices were ruined due to a lack of public participation. It is now well recognised that decentralisation and the involvement of local people for CASI across the targeted woredas were keys to ensuring sustainability.

The targeting criteria of the project was based on interest and willingness, being a model farmer in the area to demonstrate CASI practices, their previous experience, the acceptance of farmers in taking advice from experts, willing to receive comprehensive training, particularly on utilizing crop residues for cultivation of crops, reducing the number of ploughing, possessed suitable land for implementing the project's technologies, such as land covering, willingness to adopt and effectively utilize the CASI technologies, and a commitment to sharing their experiences and knowledge with other community members. All FGDs confirmed that the targeting of beneficiaries was transparent, with no bias, and based on their interest.

The SCASI project has tailored information that addresses the specific production challenges at the ground level. Key informants and FGDs believe the project addresses soil health, food security, and sustainable livelihoods in highly and repeatedly cultivated areas. Moreover, the partners and model farmers underlined that they have identified, planned, and implemented solutions to the specific problems in the regions.

The project was designed in such a way that it attempted to address soil erosion, nutrient depletion, and land degradation that threatened the sustainability of the current multiple tillage-based crop production system in Ethiopia. Evidence from men, women, and youth FGDs, KIIs, and IDIs affirmed that the project improved soil fertility, yield, income, and food security. They also confirmed that the intervention was relevant to the area's problems because the farmers struggled to produce from their infertile land. For example, the Sibu Sire Women and Men FGDs highlighted the relevance of CASI practices and technologies in addressing the local agricultural problems. After getting involved in the project as beneficiaries, the farmers were cultivating different types of fruits, vegetables, crops, forage, and fattening livestock, and producing chicken. Furthermore, they benefited from applying various CASI practices, including vermicompost, mulching, intercropping, and planting in rows. These

⁸Launched in 2011, the Climate Resilient Green Economy (CRGE) strategy aims to make Ethiopia a middle-income country resilient to climate change impacts by 2025. Agriculture and forestry have been developed as part of the CRGE strategy due to their potential effect on economic growth.

helped them to obtain high production from their small land using reduced labour and cost. The interviewed KIIs and FGDs stated they were provided theoretical training, practical training, and demonstrations. The training includes 16 CASI technologies 9 on crop production, soil fertility management, and environmental conservation. This was followed by demonstration and technical support by DAs and agricultural experts. The farmers believe that the contents are relevant to their production problems.

Moreover, through the training provided by IPs (FH Ethiopia), the farmers learned ways to increase productivity by practicing conservation agriculture techniques (reducing tillage, utilizing crop residues for soil covering, and practicing inter-cropping). Some participants (Homosha, Sibusire, Bure Zuria, and Bibugn Woredas) indicated that these practices save labour and reduce draught power. For example, in Sibu Sire, it was mentioned that resource-poor farmers and women have benefited from the project as they work on their farms with hand tools such as hoes and own labour without oxen. It reduced costs and increased productivity from a plot. Resource-poor farmers (with small plots) can diversify up to three crops that reduce loss risks and improve soil fertility.

Initially, farmers were reluctant to adopt CASI practices. They wondered how they would sow seed without ploughing three to four times. The project strategically organized and trained the farmers on practicing CASI technologies. Then, the CASI practices were demonstrated as traditional and CASI practices. Once the farmers observed the significant yield differences, they were convinced to adopt CASI technologies. As illustrated in **Figure 3**, nearly half of the studied households in the 2023/24 cropping season survey have been using mulching since the project was introduced.



FIGURE 3: MULCH USERS AND NON-USERS FOR SOIL COVER BY WOREDAS (BASED ON CIMMYT DATA, 2024)

All FGDs at the community level and KIIs at the studied woredas and kebeles stated that the project's activities were their top priorities. They firmly believe that the project is suitable for the problem at hand. As such, they are motivated and committed to participating in the program. Many farmers were enthusiastic about contributing more resources (land, labour, time) as they developed an interest in the program.

Irrespective of gender, age group, and disabilities, all FGDs concurred that the intervention was needbased and beneficial. They, however, emphasised benefits rather than needs. A men's FGDs at Ura Woreda of Benishangul Gumuz Woreda underlined that the CASI practices were based on their interests in resolving their problems. They reported that *"the project gave us the necessary means to conserve our soil. Before, we knew that frequent tilling, floods, and wind were degrading our soil, but*

⁹ The CASI technologies promoted by SCASI project are:1) Minimum Tillage, 2) Soil Cover (Dry Mulch/Live Mulch=GM/CC), 3)Intercropping/Relay Cropping, 4)Crop Rotation, 5)Organic Fertilizers (Compost, Vermicompost, Biofertilizer, 6) Inorganic Fertilizers, 7)Agroforestry (Integration of CASI with Trees 8)Improved Seeds/Locally Adapted Seeds, 9)Fodder/Forage Production, 10).CASI Mechanization, 11)Crop Protection (IPM, Weeding, etc.), 12) In-field Natural Resource Conservation Measures, 13)Post-Harvest Handling and Management, 14)Seed Security/Seed Multiplication, 15) Controlled Grazing, and 16)Liming.

now we can cover it with grass and protect it from degradation. Mulching can increase the fertility of the soil, and when the soil is fertile, it can increase crop productivity."

Similarly, a respondent from Boloso Sore, Ajora Kebele from youth FGD, said that CASI practices are problem-centred and have changed the way of production.

We are beneficial after the CASI project came to us. Previously, our fathers tilled the land several times before sowing seeds. However, after the CASI project came and provided us with capacity enhancement training, we started minimum tillage and land covering practices to grow crops. We got high yields from the crops we grew on the land covered with compostable plants and minimum tillage. Hence, we harvested sweet potatoes, common beans, taro, and other crops in greater quantity and quality than what we had in our traditional agricultural practice.

Similarly, Youth FGD in Leka Dulecha and Sibu Sire reported that before the project, they ploughed their farmland six to seven times without employing technology. These days, they have gained skills and knowledge and employ CASI practices with minimum tillage, building terraces to prevent soil erosion and sometimes planting fodder on terraces. The FGDs also confirmed that mulching enabled them to grow chemical-free crops using crop residues, minimum tillage, pit compost, and vermicompost. The farmers observed that yield using vermicompost is more productive compared to chemical fertilizers.

The project was also relevant to the context of the PWDs. A person with a disability from Boloso Bombe of Woliata narrated the relevance of the project activities to his situation as follows:

I shared experiences with another person who benefited from the project. He taught me about the project activities that help increase productivity using minimum inputs and costs. After he shared with me the benefits in terms of crop productivity. I wondered why I should not be like them, so I divided my plot into two. I started conservation agriculture practice in one plot and traditional agriculture in another. I choose to practice both the customary and the new techniques [CA] simultaneously on separate plots to compare the productivity. I got a higher yield on the plot where I practiced the new method of agriculture than on the plot where I practiced the old one. So, I shifted to new techniques in all my plots after seeing better productivity using conservation agriculture.

Key informants from government partners (Zonal, Woreda), Agriculture Experts, DAs at the Kebele level, and project implementers were asked their perceptions about the relevance of the SCASI project based on OECD criteria using a Likert scale of five. They scored one as very low and five as very high. The scores were averaged and summarized per the research questions in **Table 1**.

Based on the research question set per DAC-OECD criteria, most informants perceived that the project was relevant and scored as "very High" to the community's needs. The most probable reason is that the project adequately considered the prevailing problems, and the previous experiences of the implementing partners in the area may contribute to targeting pertinent communities and their needs. Consequently, the adoption of CASI practices is too high.

Evaluation Questions	Perception score
Were the planned interventions relevant to the priority needs of the target beneficiaries?	5
To what extent are the objectives, planned activities, and planned outputs of the	4.8
project consistent with the intended outcomes and impacts to meet the needs of target beneficiaries?	
To what extent are the project activities, outputs /outcomes relevant to reducing land degradation?	4.8
To what extent did the project activity and outputs/ outcomes concern contribution	4.8
to food security?	
To what extent did the project activity and outputs/outcomes increase soil health and enhance the soil fertility of the local beneficiaries?	4.6
To what extent was the quality of project designs and its intervention logic relevant?	4.6
To what extent did the quality of the project design ensure genuine local participation and ownership?	4.6
To what extent were the capacity-building activities provided by the SCACI Project relevant?	5
Were the criteria for the selection of program beneficiaries adequate?	4.2
To what extent were gender aspects and the separate needs of women, men, and	4
youth considered in the implementation process?	
Average Score of Relevance	4.64

TABLE 2 : PERCEPTION OF THE RELEVANCE OF THE PROJECT (N=27 RESPONDENTS)¹⁰

Generally, the relevance score as project criteria is very high, with 4.64/5.00. This means that the project is highly relevant in terms of quality, quantity, timing, goals/outputs/ and results to the needs and priorities of the community members, the problem at hand, and the country's priorities and policies.

3.2. Coherence

The SCASI project highly demonstrated complementarities with the government strategies, others already going on conservation agriculture and Climate Smart Agriculture (CSA) interventions, and the communities' practices and felt needs. It is coherent and an integral part of the efforts of the Ethiopian government to increase productivity and incomes through various schemes, such as the Sustainable Land Management Programme (SLM), in rehabilitating degraded landscapes and making them productive and resilient through the Resilient Landscapes and Livelihoods Program (RLLP) through CRGE strategy and the National Adaptation Plan NAP)¹¹.

The project aligns with the policies, strategies, and programs of the country in general and Ethiopia's Rural Development Policies and Strategies (RDPS), which serve as the guiding framework for implementing Ethiopia's agriculture and food security programs. Furthermore, the SCASI project objective strongly coincides with the recently adopted Ethiopian Ten Years Perspective Development Plan (2021-2030), which prioritizes climate-resilient agricultural development as one of the key focus areas. Evidence from the FGD in all the project regions indicated the sound application of the CASI practices and technologies contributing to climate-resilient agricultural production. The project highly demonstrated complementarities with government strategies, others already conducting conventional interventions, and the communities' practices and felt needs.

¹⁰ The scale is measured in a Likert scale of 5 with 1 not relevant and 5 the most relevant.

¹¹ The Development Fund of Norway (2021). A proposal on Scaling conservation Agriculture-Based Sustainable Intensification in Ethiopia (SCASI), September 2021, Addis Ababa, Ethiopia

The coordination with various stakeholders (from region to kebele level) was impressive. As such, the project created synergies and interlinkages between the intervention and other interventions carried out by other /government in the woredas.

TABLE 3: PERCEPTION OF COHERENCE OF THE PROJECT	(N=27 RESPONDENTS)
	(

Evaluation Questions	Perception score ¹²
To what extent did the SCACI Project show complementarity interventions in the same	4.8
context?	
The extent to which the project interventions complemented, harmonized and	4.6
coordinated with other existing CASI activities while avoiding duplication of effort	
and/or adding value to other CASI activities?	
The synergies and inter-linkages between the intervention and other interventions	4.4
carried out by the same institution/government in the woreda	
The consistency of the project intervention with the relevant international priorities	4.6
and standards	
Has the communication/ collaboration between the implementing partners and DF	4.4
been adequate?	
Average Score of Coherence	4.56

The result of the assessment using the questions in Table 3 revealed that the score for the coherence of the SCASI project to other interventions and priority is 4.65/5.00 **(Table 3)**, which means the project is consistent, harmonized, coordinated, and complementary to the needs and priorities of the local community, national and international priorities, needs and interventions in the targeted woredas and regions.

3.3. Effectiveness

Across the regions, farmers agree that they benefited from the project activities. These include saved energy, reduced need for draught power, and lowered production costs. i.e., can't afford to buy chemical fertilizers. For example, Youth FDGs in Bure Zuria described that *"using vermi and regular compost has double benefits. First, it reduced the cash incurred for chemical fertilizers. Second, it increases productivity and can help us to achieve our food security and fill months of food gap"*. They further noted that *"the introduction of minimum tillage reduces the cost of labour and saves money to be invested ploughing."*

The cost-effectiveness of the CASI practices is observed in terms of reducing labour requirements and reduction in the cost of production. In most cases, FGD stated that CASI practices save labour. For example, men FGDs in Oromia and Benishangul Gumuz regions agreed that the practices reduced labour requirements by 50%. Moreover, draught power and money to hire labour were saved. FGDs and KIIs in Amhara region explained that household expenses are reduced; which could be used to purchase chemical fertilizers; they can generate cash from new activities such as the sale of lupine (green manure), multiplying worms, etc.

The farmers repeatedly mentioned that the crops and crop residues grown through minimum tillage excel the produce and residue of traditional multiple cultivation in terms of quantity and quality. Similarly, the use of crop residues and row planting has a positive impact on crop yields compared to conventional practices. The farmers understood the purpose of using crop residues and mulching- it is essential to retain moisture in the soil. They widely leave crop residue on their farmland though the extent varies. This finding also in line with previous survey by the project (**Figure 4**).

The farmers from Ura Woreda evidenced that "We did both [conventional and CASI] and observed the difference. The CASI practices by far have better productivity. When have you seen these changes, we start using it." Similarly, the Leka Dulecha men FGD confirmed that "...first, the project people gave us

¹² The scale is measured in a Likert scale of 5 with 1 not coherent and 5 the highly coherent.

a small amount of common bean seeds and advised us to sow on a 20m x 30m farm plot, one with crop residue and the other without crop residue. We easily observed the difference between the two. We have seen soil acidity reduced".

Another farmer added, "I planted maize on 20mx30m plots of land by separating into two plots, one with a combination of compost and chemical fertilizers, and the other with only compost. The plot with compost yielded four quintals, while the one with the mixed fertilizers produced only one quintal. The reason is that I kept cattle urine for five weeks and applied it to the maize crops. As a result, no worms or insects were attacking the crops."



FIGURE 4: PERCENTAGE OF CROP RESIDUE RETAINED IN SCASI PLOTS

Some KIIs also reported that it was effective because it boosted their knowledge and skills in innovative agricultural practices. For example, an expert from the Southern Ethiopian Region stated:

Before the project, I was unfamiliar with preparing vermin compost in a wooden box. However, the training provided at the Areka Agriculture Research Institution equipped me with this valuable knowledge. Similarly, I was unaware of intercropping, specifically growing soya beans between rows of maize planted at 40 cm intervals. These two practices, learned through the project, are noteworthy and beneficial.

Most FGD communities appreciated the minimum tillage because it is better than traditional ploughing. The latter damages soil structure and exposes it to erosion and crop failure. Men FGD from Sibu Sire articulated that:

Our cultivation method is changed to the simplest, enabling beneficiaries to save time, cost, and labour. Additionally, the project activities protect our soil from erosion and improve our soil health. The soil, which was previously unable to produce, started to give us more production than the land we were using due to project activities, and our production improved. Our soil is not shallow, and the crop is protected from wind and flood.

We observed widespread diversification of crops. We also noted that most farmers practice more than two CASI technologies. In Oromia and Benishangul Gumuz Woredas, minimizing tillage, leaving crop residues, intercropping, and vermicomposting were practiced in order of importance and community acceptance. Farmers in Southern Ethiopia also adopted land covering, minimum tillage, intercropping, fodder production, and sowed soya beans, ginger, peas, sweet potatoes, taro, and potatoes. The farmers are strongly interested in using the practices they adopted from the project for crop production. This result concurs with the 2023/24 seasonal survey conducted by CIMMYT (2024) (**Figure 5**).



FIGURE 5: FARMERS RESPONSE ON OVERALL PERFORMANCE OF CASI PLOTS COMPARED TO CONVENTIONAL PLOTS (%AGE)

The finding is consistent with 2023 /04 annual cropping season survey¹³. The findings showed that 87.5% of the CASI practices promoted were being implemented by the studied farmers at various intensity levels. Accordingly, about 17% of the farms implemented fewer than six practices, while the majority of sample farms (82%) reported implementing between six and fourteen practices.

According to the Annual Progress Report (2024), the project achieved a significant crop yield increase and demonstrated the effectiveness of CASI practices in enhancing agricultural productivity. In the period, the number of smallholder farmers trained in CASI reached 17,067 (6,290 female), and the number of farmers practicing CASI reached 12,455 (4,968 female) on 2,929 hectares of land. Furthermore, efforts to enhance institutional capacity through training, policy briefs, and a digital database have facilitated the scaling up of CASI practices in Ethiopia.

The area of crop covered by a minimum of three CASI practices (minimum tillage, mulching, and crop associations) in the project Woredas reached 2,929 hectares, 50% more than the target of 1,952 hectares set for 2023. This is attributed to the established integration of Farmer Field Schools (FFSs) with Self-Help Groups (SHGs). Besides, promoting soil cover with residue, mulch, green manure contributed to broader CASI technologies and practices. Both the yield and crop diversity have increased. The analysis revealed substantial yield increases in the major crops, with CASI practices consistently outperforming conventional farmer practices.

Thus, most activities introduced by this project were well accepted and widely practiced. It was because the practices were highly beneficial for improving soil fertility. Yet, we noted a few cases where FGD participants faced resource scarcity when applying CASI technologies to their farms despite knowing their benefits. E.g. vermicomposting practices has a challenge due to ants affecting the worms and capacity to make purchase of boxes and sheltering. Especially for the poor and female-headed households, it is good to consider resources availability such as exploring natural detergents or alternative methods of protection. It is also good to avail means of subsidizing or availing means of financial access to the poor for helping to afford the boxes and sheltering material purchases. This could enable vermicomposting more feasible and applicable technology.

Some CASI technologies performed well in some woredas but didn't work uniformly in others. For example, row planting, crop residues, terracing, mulching, regular compost, vermicompost, and green manuring have improved soil health in most woredas. Yet, these technologies were not uniformly

¹³ This is based on the 2023/04 seasonal cropping survey produced jointly by CIMMYT/DF/CFGB

performing in others. A Youth FGD in Bure Zuria mentioned regular compost and green manuring (specifically lupine production) worked well, but mulching and vermi compost performed less. This was due to a scarcity of mulching materials and insects attacking the worms. As a result, they did not apply.

Moreover, the integration of CASI practices has significantly demonstrated and enhanced soil health and crop productivity. The key achievements¹⁴ include the following:

S/N	Key activities	Unit Annu	Annual	Achieve	ement		
			Target	Male	Female	Total	
1	CASI technologies and practices were promoted by type across the intervention areas	#CASI technologies	15	NA	NA	16	
2	Promote technology packages	#technologies	43	NA	NA	47	
3	Types of inputs supplies	#Types	39	NA	NA	36	
4	Prototypes fabricated	#Protoypes	9	NA	NA	9	
5	types of fodder & cover crops (CCs) expected to be promoted	#Types	32	NA	NA	12	
6	Organize and release radio episodes	# Radio episodes	302	NA	NA	217	
7	Integrated soil fertility management	#practices	19	NA	NA	19	
8	Farmers practiced CASI for two consecutive seasons (It is only annual report of 2023)	#Farmers	11500	NA	NA	3129	
9	On-farm functional demonstration plots practicing CASI activities	#of plots practicing	15,000	NA	NA	12,455	
10	people received CASI extension services	#people	15,000	NA	NA	16,393	
11	The number of established functional demonstration centres serving farmers	#of Functional centres	40	NA	NA	108	
12	Reports on adoption problems	#Reports	8	NA	NA	4	
13	The number of references on-farm CASI plots established	#Reports	15	NA	NA	204	
14	Farmer training on various Climate Smart Agriculture (CSA) techniques	#Farmer trained	15000	10777	6290	17,067	
15	The number of Development Agents (DAs) involved in CASI training of farmers	#DAs	210	514	140	654	
16	The number of agricultural managers and policymakers who support CASI	#agricultural managers	30			58	
17	Functional community platforms across CASI intervention areas established and maintained	#functional platforms	120			356	
18	FFSs/SHGs farmers established for CASI scaling in groups	#CASI scaling group	280			200	
19	Training and strengthening the capacity of policymakers across different sectors and levels to increase their awareness and support the scaling of CAS	#policy makers	60	52	6	58	
20	Best CASI practices and technologies identified through action research	# of best CASI practices and technologies	15			10	
21	Institutions engaged in CSA capacity building	# of Institutions	12			8	

TABLE 4: SUMMARY OF SCASI PROJECT ACHIEVEMENTS

¹⁴The achievements are based on the available data. The final year of the project (2024, quarter Four) is not available. It can be updated once availed.

22	Develop policy briefs	#policy briefs	4			3
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Moreover, twelve experts (12 females) attended, 25% less than the annual target of 150. This shortfall was due to the limited mobility of experts to different training centers because of security threats in two regions (Amhara and Oromia) of the project areas. The high achievements in some indicators beyond project plans may be due to the strong interest of the local government and farmers in establishing demonstration plots in the project areas.

Various project reviews further showed that farmers observed improved soil properties, confirmed through increased productivity attributed to applying minimum tillage, mulching, inter-cropping, organic amendments, inorganic fertilizers, and improved varieties.

There were widespread successes in the application and the effectiveness of vermicompost in increasing crop yield and enhancing soil health. The preparation of vermi compost has expanded, and many farmers are producing in the Southern Ethiopian Region. They described that vermicompost reduces the cost of fertilisers, mainly when used with other methods, such as land-covering techniques, and thus improves soil fertility and productivity. Yet, a few farmers reported that ants, birds, and termites attacked the worm in Amhara (Bure Zuria Woreda) and Oromia (Sibu Sire Woreda). As such, those farmers need to improve vermicompost handling and management.

 TABLE 5: PERCEPTION OF THE EFFECTIVENESS OF THE PROJECT (N=27RESPONDENTS)

Evaluation Questions	Perception score ¹⁵
To what extent have the targeted beneficiaries reduced their food gap months using the income they get?	4.0
What was the extent to which the SCASI project was cost-effective in achieving the project objective? (How was the project budget spent to accomplish the project goal?)	4.6
Have the beneficiaries increased their income using the various CASI technologies and improved their livelihood?	4.6
The extent to which project activities have been done in line with the anticipated standard and quality	5
Whether planned benefits have been delivered and received?	4.6
What positive outcome was gained in building <i>self-confidence among the beneficiaries in the project area</i> ?	4.8
What is the extent to which CASI technologies are found most effective in terms of increasing soil health?	4.8
What is the extent to which CASI technologies are found most effective in terms of <i>improving crop productivity</i> ?	4.6
What is the extent to which CASI technologies are found most effective in terms of <i>increasing the annual income</i> of the farmers?	4.2
Average Score of Effectiveness	4.58

The assessment carried out using KIIs regarding the realisation of outputs and outcomes and the costeffectiveness of the activities in increasing productivity, income, soil health livelihoods, and food security activities showed that it is highly effective. The score obtained for these aspects was 4.58/5.00. It suggested that the program was effective from the view of the stakeholders (**Table 5**).

3.4. Quality

One of the project's qualities is the careful and thoughtful selection of partners and stakeholders. For example, the engagement of CMMYT, a well-known research organization, experienced NGOs, and local actors added value to the project, from conducting rapid need assessment and identifying interventions to solve farmers' practical problems to swift implementations.

¹⁵ The scale is measured in a Likert scale of 5 with 1 not effective and 5 the highly effective.

The project's flexibility to emerging challenges, such as security conditions in the area, budget constraints, and inflationary trend of expenses, should be counted as a key quality as it adapted to circumstances and achieved the project goal.

The other quality of the project rests in its design to inculcate action research. It produced policy briefs and Standardized CASI Practices, and lessons learned from implementation processes were published and disseminated, broadening learning.

Moreover, the project employed various methodologies, such as the demonstrations at FTC and farmers' fields, organizing farmers in groups, experience sharing, field visits, and training, which have helped to overcome the attitude-related challenges. It allowed group and peer learning through an experiential learning approach, which can be cited as the quality of this program.

A female model farmer from Boloso Sore mentioned that the training quality of the SCASI project is very high. It has all the training required. It has theory, practical, demonstration, and follow-up. She added, "At the project's initial phase, I received training on land covering, minimum tillage, intercropping, crop rotation, two to three times *crop production per year, and vermin compost preparation and application. In addition, land preparation and management to grow crops. After, I practiced all the lessons I learned from the training. The project officers visited my plots, where I implemented all the SCASI activities."*

 TABLE 6: PERCEPTION OF QUALITY OF THE PROJECT N=27 RESPONDENTS)

Evaluation Questions	Perception score ¹⁶
To what extent project activities have been done in line with the anticipated standard	4.2
and quality?	
To what extent were the applied methodologies adequate?	4.4
To what extent do the applied methodologies allow for verification of results,	4.4
verification of the quality of results, and randomized controls? [treatment, control]	
To what extent does the quality of the project design ensure genuine local participation	4.6
and ownership?	
To what extent is the quality of project designs and their intervention logic relevant?	4.6
Average Score of Quality	4.44

Overall, the SCASI project established ownership at the local government and community level from the early onset, as it was participatory from the beginning. It was implemented in close partnership with and empowered the local community (women, PWDs, youth, men) and government institutions.

Based on the evaluation criteria outlined in Table 5, the respondents rated the quality of the project 4.4/5.0, which implies 'high' quality in terms of anticipated standard and quality, applied methodologies, engagement of local actors, and intervention logic.

3.5. Efficiency

About 27 KIIs reported that the various trainings were highly adequate within the time allocated, delivery of appropriate topics and content, practical demonstrations, and the training manuals. The KIIs score the highest, 4.8 out of the 5.0 scale (**Table 7**). Alike, field evidence reported from various FGDs revealed that farmers successfully implemented the various CASI practices, as demonstrated by the project. This could be justified by the fact that farmers can apply the various CASI practices, as evidenced by the different FGD reports. For example, during the discussion both at Sibu Sire and Bibugn Woredas with the Women FGD, it was reported that the farmers could apply mulching, vermicomposting, minimum tillage, crop residue, row planting, green manure, crop rotation, planting of forests, fruit seedlings and use of lime with minimum effort and low level of complications. As a result, they reduced agricultural input costs, increased soil quality, increased soil health, and increased productivity.

¹⁶ The scale is measured in a Likert scale of 5 with 1 not quality and 5 very high quality.

In some cases, the project was expedient for resource-poor smallholder farmers without oxen or engaging in extensive farming. These farmers can produce crops without chemical fertilizer and without worrying about draught power from their small farmland. They can produce more yields with improved technologies. In some cases, it was evidenced that the use of vermicompost benefited farmers as it doubled the yield from the same plot.

Evaluation Questions	Perception score ¹⁷
To what extent have the planned activities of the CASI project been <i>delivered</i> ? Were	4.2
there any <i>delays</i> in activity implementation?	
To what extent the various trainings including on the Climate Smart Agriculture (CSA)	4.8
techniques were adequate in the time allocated, appropriateness of topics/contents,	
practical demonstrations provided, training manual provided, etc?	
To what extent does the project implementation use the new CASI technologies and	4.6
contribute to increasing household income?	
To what extent did the established demonstration plots and FTCs help to facilitate the	4.4
flow of information to farmers in a timely, efficient, and effective manner?	
Average Score of Efficiency	4.5

TABLE 7: PERCEPTION OF EFFICIENCY OF THE PROJECT (N=27 RESPONDENTS)

The assessment confirmed that the score for efficiency criteria is 4.5/5.00 without weighting for each evaluation point included in the question. This shows that the project is quite efficient (**Table 7**) regarding the above evaluation criteria.

3.6. Impact

3.6.1. Impact on Productivity

Multiple respondents described receiving inputs, training, and technical support from the project. As a result, they changed farming practices from four to three tillage to zero and minimum tillage, from chemical fertilizer to vermicompost and regular compost, and from broadcasting seed to row planting. Consequently, crop productivity increased from a given plot. All categories of FGDs and KIIs unanimously agreed that implementing CASI technologies has increased the productivity of major crops.

Men FGDs from Leqa Dulecha Woreda reported that their productivity increased from three to six quintals on the same plots of land. Some farmers cited increased productivity from a plot from two to five quintals. They further said that with faba beans and maize, farmers used to harvest only two or three quintals but can now harvest five to six quintals from the same. The FGD participants reported that CASI practices increased yield by approximately 30-50 %. In addition, they stopped broadcasting and used row planting, which saves seeds and increases productivity. As reported by men FGD from Subu Sire Woreda, "...before the interventions, sowing of one qunnaa¹⁸ of faba beans on 0.25 hectares of land under good conditions used to yield three to four qunnaa. However, using the new approach, sowing one cup of faba beans with vermicompost yielded four qunnaa."

The youth FGD from Sibu Sire of Oromia mentioned that *"compost increased the productivity of maize from merely two to six quintals from the same plot."* Similarly, a farmer (Men FGD, Boloso Bombe) witnessed, "*I covered my maize plot with crop residues. Then, I harvested 150 kg from plots covered with crop residues compared to 75 kg I used to harvest from the same plots."*

¹⁷ The scale is measured in a Likert scale of 5 with 1 not efficient and 5 the highly efficient.

¹⁸ It is the local unit to measure grain quantity. However, the exact quantity in the standard units such as kg varies based on the size of qunna itself.



FIGURE 6: CASI AND CONVENTIONAL FARMING PRACTICES (OROMIA, SIBU SIRE WOREDA)

Another farmer from the Southern Ethiopia region, Boloso Sore Woreda who planted ginger, reported that

I prepared a 20m-by-20m land for my first time with the project. At first, I was not convinced that it would be possible to get more yield without working hard on the land. They promised to cover all the costs if I failed to harvest a better yield from the crop I grew in the covered land. Yet, I gave a try on my 20mX 20 m of land and sown only one quintal of ginger seeds. After a year, I harvested 10 quintals of gingers. It surprised me. Then, I expanded land-covering practices to the rest of my plots as I watched the yield difference between the harvest using the seeds sown in the covered and uncovered land.

A participant in a Men FGD Boloso Bombe and Ajora Kebele witnessed multiple cropping and productivity in his farmland. He said,

... I sowed maize seeds in the land I covered with compostable plant leaves. It gave me three quintals of maize. After I harvested the maize crops, I sowed teff seeds. Then, I harvested two quintals of teff. Thirdly, I planted Desho and Sassbian plants for animal fodder. This way, I could feed my cattle from my harvested animal crop. Hence, I secured my household's food demand and generated income from selling the surplus.

Similarly, a participant in a man with FGD from Homosha Woreda described:

I sow ½ hectare with CASI and 1 hectare with conventional farming. Then I got 25 sacks of maize from ½ hectare I sow with CA and 20 sacks from 1 hectare I sow with conventional agriculture. When I look at the difference, it is very huge. If I make it 1 hectare with CASI, I will get 50 sacks. In addition, I am inter-cropping haricot beans in both farmlands (1/2-hectare CASI and 1-hectare conventional). I have 11 sacks of haricot beans covered by CASI but nothing from the conventional one. Regarding the crop amount, it is almost double. If we can get 10 sacks from ½ hectare with conventional farming, we can get 20 sacks from CA practice. We can afford annual consumption of just ½ hectare with CASI practices, which we couldn't realize with a harvest from 1 hectare with conventional farming. Now we have good produce and supply for the market. Some people are even changing huts into modern houses.

A review of data 2023/24 End of Season Monitoring Survey Report from the project survey also confirms the above claims. The difference in yield between CASI technologies and conventional farming (**Figures 7** and **8**) implies that SCACI interventions increased productivity.



FIGURE 7: YIELD DIFFERENCE COMPARISON FIRST AND SECOND YEAR OF CASI PRACTICES Source: Based on project 2023/24 Season Survey (2024)¹⁹



FIGURE 8: YIELD INCREASE (%)

Extracted from 2023/24 End of Season Monitoring Survey Report

3.6.2. Impact on Income

Most CASI practices were equivocally recognized for increasing soil fertility, yield, and income. In effect, the respondents noted that the practices contributed to achieving food security in intervention areas. Notably, it changed the focus of farmers to earn livelihoods. For example, some farmers used to sell firewood to generate income. They shifted their livelihood source to planting forage grass. The practice of monoculture was changed. They use organic fertilizers, grow avocados, and try new

¹⁹ DF/CFGB/CIMMYT, 2023/24 End of Season Monitoring Survey Report, September 2024, Addis Ababa, Ethiopia

varieties of crops, and the yield and quality of crops grown using compost are better than chemical fertilisers. Their income increased to afford health care, which avoided selling the assets.

The CASI activities have created multiple sources of income; for example, some benefited from planting Desho grasses in three ways. First, it effectively controls flooding in the steppe sloppy areas. Second, it provides valuable fodder for livestock. Third, properly cultivating Desho grasses can generate income as they can be sold. Such multidimensional benefits enhance the livelihoods of beneficiaries. For example, a farmer from Southern Ethiopia witnessed that he planted improved forage grass, fattened an ox, and earned 45,000 ETB in December 2024.

Most farmers reported that CASI practices increased their income by 25-100%. In Boloso Bombe, Southern Ethiopia, Koreka Kebele, a male FGD participant, said, "*After using the CASI practices, my yields doubled compared to conventional practices...*" Some youth farmers, such as Bure Zuria woreda of the Amhara Region and Sibu Sire in Oromia, are producing surplus yields and generating income from the sale of worms to make vermicompost, in addition to cutting the expenses incurred for purchasing chemical fertilizers. This is also true in Sibu Sire Women FGD, which underlined that farmers produce and sell vermicompost to generate income. This concurs with CFGB SCASI project's 3rd Quarter Report for 2024^{20,} which reported that using organic fertilizers such as vermicompost and regular compost reduced their chemical fertilizer costs by 50%. Besides, farmers produced forage both their livestock and sold surplus to income.

The project has provided inputs that increase income. For example, the farmers were trained and capacitated (provided with worms and wooden boxes to produce worms). Subsequently, the project purchased the earthworm at about 500 ETB per kilogram and distributed it to other Kebeles within the community. Another farmer from men FGD from Boloso Bombe said, "*The project has significantly improved our household income. For example, I recently sold maize I had cultivated for 4,500 ETB, demonstrating the substantial increase in our agricultural productivity. Before the project, I was unsure about my tax obligations. However, through the knowledge and skills gained from the project, I successfully met my tax obligations by selling a portion of my corn harvest."*

An FGD participant from men FGD Boloso Bombe witnessed that he generated additional income from selling compost. He reported, "I also sold eight quintals each for one thousand Birr. Hence, I sold eight quintals of compost for eight thousand Birr last year." Another farmer said, "I have been producing vermicompost since last year and sold some in the market, each for 1000 ETB."

The project played a pivotal role in increasing households' income directly and indirectly. Case Story 1 clearly illustrates the project's impact on the income of the female household head in Benishangul Gumuz Regional State, Ura Woreda.

²⁰ SCASI Project Progress Report, FY 2024, Quarter III Version 10 - 31 - 2024

CASE STUDY 1: CASI PRACTICE IMPACT ON THE FEMALE HOUSEHOLD HEAD IN BENISHANGUL GUMUZ REGIONAL STATE, URA WOREDA.



I am Rawda Sayid Ali, 60 years old. Three years ago, I went to an animal health post as my only ox got sick. While there, I saw people from my vicinity around. I asked them what they were doing there. They told me that they are coming for training on conservation agriculture. Then, I decided to join them and asked the trainer. He was kind and permitted me to participate in the training. Based on the training, I started the implementation of conservation agriculture with a 10mx10m area. It was so productive. Then, I went to Addis Ababa to train with an agriculture expert. When I returned from Addis Ababa, I expanded my CA practice and made it half a hectare. I produced and sold many of the products to buy items essential for households, and I continued working hard with them. After that, I was motivated to grow different crops and fruits in my backyard. From ¼ hectare of land, I got 35 sacks of maize and sold out the whole. In addition, I harvested haricot beans, and I made 8500 ETB from them. This is in addition

to the maize produced through inter-cropping. With the money earned from selling maize, I bought a motorbike with 80,000 ETB. In addition, I gave 15,000 ETB to my second son to start trading oxen. He worked hard, and now he has four oxen. The motor operates transportation from Assosa to remote areas and generates much cash. Within the past three years, I grew my household income from nowhere to somewhere.

3.6.3. Soil Health

Soil health was also tremendously improved as the project brought lime (oxide and hydroxide of Ca and Mg), vermicomposting, and crop residues. The project also introduced leguminous species like lupine, haricot bean, soya bean, etc., for intercropping and crop rotation, which improve soil fertility.

When farmers use mulching, green manure, and crop residues, the soil moisture is preserved, and soil fertility is improved as it is protected from excessive temperature or torrential rains. As evidenced by most KIIs (DAs) and FGDs, it is confirmed that soil structures are improved, and micro-organisms are higher, indicating improved soil health. The respondents attributed to CASI practices. They uttered that these changes have significantly contributed to soil health. All categories of respondents underscored the role of CASI practices on soil health. For example, Bure Zuria Youth FGD articulated that green manuring has enhanced soil health, *increased soil microorganisms, and reduced soil degradation from covering the area with crops. It is also reported that the soil water retention/holding capacity has increased through mulching, and the cumulative effect has developed wetlands (the major sources of water that keep the balance of the ecosystem) as a whole.*

We also observed that farmers prefer green manure and practice using lupine. Green manure is key in maintaining soil health and fertility in some areas. It also takes a short time and less manpower to enhance soil fertility for a long time. It is also reported that introducing fodder trees has a dual impact: animal feed and protection against soil erosion. According to the Sibu Sire Woreda Women FGD, the project promoted forage plantation for two primary purposes: feeding livestock and preventing soil erosion. The beneficiaries also appreciated the terracing and tree planting along farmland borders. These measures helped protect the soil and maintain its health.

However, crops grown using organic fertilizers such as compost and vermicomposting have caused problems in some areas. Insects infect them during the flowering stage. The reason is not apparent, and action research may be needed. This is the case of Lekadulecha, as reported by Men FGD.

3.6.4. Impact on Saving

The project revitalized and strengthened the culture of saving, i.e., increased the income of the female farmers. SHGs [Women FGDs at Boloso Sore, Ajora Kebele of Southern Ethiopia, and Youth FGD of Ura in Benishangul Gumuz Region] reported that the project organized women and youth, engaged them in income-generating activities, and saved their earnings. Furthermore, the IDIs with Benishangul Gumuz stated that CASI practices have multiple advantages.

The project also impacted the beneficiaries' saving culture. The youth and women engaged in various activities to generate cash and save in groups. Some SHGs have saved about 33,000 ETB. The income can be used to educate students and meet household needs. For example, FGDs in Southern and Benishangul Regions described that *"the project encouraged us to establish a community savings fund to address financial challenges. This initiative has proven successful, enabling us to collectively purchase livestock for income generation. The cattle were entrusted to a designated individual for breeding and management, generating shared profits among the group members. These profits have provided a sustainable source of income for the community."*

The respondents mentioned that the importance of saving is multifaceted. For example, participants in *Men FGD at* Boloso Sore, Koreka Kebele illustrated how community-based savings are valuable as follows:

One of the most significant aspects of this project is establishing a community-based support system. In times of crisis, such as sudden illnesses, we can readily access financial assistance through our community savings group. By obtaining a loan from our secretary or treasurer, we can seek necessary medical treatment without resorting to desperate measures like selling our livestock or coffee.... We collectively contributed 3,000 Birr towards their wedding expenses, demonstrating the strength of our collective support system.

This experience has reinforced the importance of community solidarity and mutual support. We have learned the value of collective action, not only in saving and lending within our group but also in supporting each other during times of need, such as during harvest season.... Through this project, we have grown as a community, strengthening our bonds and enhancing our collective resilience. We have also learned the importance of responsible financial management and adhering to established rules and regulations. For example, when faced with a vacancy in our group due to the passing of the treasurer, we ensured that the replacement member met the established criteria for membership.

3.6.5. Impact on Animal Fodder Availability

One of the project's crucial contributions was introducing and promoting animal fodder. The project alleviated the animal feeding shortage by introducing various grass seeds, such as Desho, elephant, cow bean, and Sasbanian trees. Hence, farmers started growing grass on their plots, at the edges of farms, and in their backyards. Many farmers grow Pigeon pea, Desho and elephant grass varieties in large plots as source of animal fodder and to generate income.

Many farmers reported growing animal fodder and collecting and storing it for livestock during prolonged droughts. They feed their livestock in the yard or controlled grazing rather than free grazing, which causes overgrazing and soil erosion. Men FGD from Sibu Sire, Oromia, illustrated the importance of growing animal fodder as "...beyond livestock feed, the project increased income and changed our livelihood in many ways. We obtained additional income-generating activity by producing cultivated forage and selling it to the market...some of us enrolled in cultivated forage, fatten an ox and sold at a good price. This my livelihoods and fellow farmers.

"We summarize the importance of the impact of the SCASI project on animal feed with the statement by a female model farmer from Boloso Sore Koreka kebele: "*We practice cattle rearing. We grow Desho and elephant grass, cow beans, and Sasbanian trees to feed our animals. Apart from producing* milk and milk products, I practice animal fattening. Hence, after six months of fattening, I bought one young ox for 20,000 and sold it for 45,000 Birr."



FIGURE 9: FODDER PRODUCTION IN OROMIA (WOLLEGA) (RIGHT) AND SOUTHERN REGION (LEFT)

CASE STUDY 2: THE CONTRIBUTION OF PIGEON PEA (CAJANUS CAJAN) AS LIVESTOCK FODDER IN SCASI REGIONS

Pigeon pea, a drought-tolerant legume, is a significant component of CASI practice to fill the livestock feed gaps and reduce overgrazing in SCASI-targeted regions of the Amhara, Oromia, SNNPR, and Benishangul-Gumuz.

It is intercropped with cereals like maize, sorghum, and enset (*Ensete ventricosum*), providing fodder without competing for land and providing high-protein fodder (leaves, pods, and stems) during dry seasons when natural pastures are scarce. It has high nutritional benefits. Its leaves contain 18–25% crude protein, enhancing milk production in dairy cattle and weight gain in small ruminants.²¹It improved soil fertility through nitrogen fixation, supporting fodder availability in degraded highland areas. Moreover, some farmers integrate pigeon peas into agroforestry systems, using their biomass as fodder for cattle, which mitigates overgrazing. It is drought resistant, plays an immense role in Southern Ethiopia, and ensures year-round fodder supply. Farmers who planned the pigeon pea benefitted economically from selling surplus pigeon pea fodder in local markets, supplementing household incomes. The findings further depicted that it is a climate-resilient fodder. For example, Wolaita, pigeon pea fodder sustained livestock during drought/erratic rains. The other benefit of pigeon peas is their disease resistance and hardiness, which reduce reliance on chemical inputs and promote organic livestock production.²²

Thus, the SCASI project widely promoted pigeon peas as one of the CASI practices that enhanced livestock productivity, soil health, and climate resilience across the project intervention areas. According to FGDs and KIIs in all regions, its adoption was very high and particularly vital in drought-prone and degraded areas, offering a sustainable solution to feed shortages and economic vulnerability.

As indicated in the third quarter of the 2024 narrative report and confirmed from respondents, the project introduced and promoted Pigeon Pea, Lupin, Elephant grass, Desho grass and Rhodes as a green cover crops and fodders for animal feed. These green cover crops and forage crops played a significant role in improving the soil's physical and chemical properties and reduced the competition

²¹ EIAR (Ethiopian Institute of Agricultural Research). (2020). *Pigeon Pea for Soil and Livestock Improvement*. Technical Bulletin No. 45.

²² MoA (Ministry of Agriculture). (2022). Sustainable Livestock Feeding Strategies. Government of Ethiopia.
for mulching materials, thereby increasing the adoption of CASI practices and improving crop production and productivity.

The performance of the cover and forage crops is good, and farmers responded that these were useful in keeping the soil moisture for extended periods, increasing the soil fertility and feeding their livestock. To cite an example, in Boloso Bombe Woreda of Waliata, intercropping of pigeon peas and maize resulted in a better yield. This has helped farmers to produce more food and able to sell the surplus. An in-depth interview from Boloso Sore Woreda also indicated that pigeon peas enhanced soil fertility and were used both as food and covering land.

The third quarter report of 2024 by CYMMIT indicated that various forages such as alfalfa, desmodium, lablab, pigeon pea, Rhodes grass, and vetch were selected for their suitability across SCASI implementing Woredas. These forages offer multiple benefits, such as livestock feed, climate resilience, and soil mulching material. However, at Leka Dulecha Woreda, some farmers reported less adaptability of the pigeon pea.

3.6.6. Impact on Food Security

The project contributed to household food security, which can be achieved through the production and/or purchase of adequate food. The 2021/22 baseline study in Sibusire revealed that 73.79% of households were food insecure. However, implementing the CASI practices helped diversify livelihoods and improve food security. According to the women's focus group discussion (FGD) from the Woreda, this reduced the number of months of food insecurity throughout the year. The project increased Months of Adequate Household Food Provisioning [MAHFP] from baseline 7.8 to 9.5.²³

Men Boloso Bombe FGD explained that

Since we embarked on this initiative[project], the quantity and quality of our food production have significantly improved. Yam yields have increased steadily each year, becoming a staple crop in our community. We often neglected bean crop cultivation due to a lack of knowledge and a perceived lack of utility. However, we now recognize its value as a vital food source through training and support. Previously, we relied on importing seeds from other regions during the seed season. Now, thanks to the organization's provision of quality seeds and valuable training, farmers are utilizing five kilograms or more per planting season, eliminating the need for external purchases. We are incredibly grateful to be self-sufficient in food, seeds, and other essential resources. Farmers are now able to meet their needs through their productive fields. This remarkable progress is a testament to the power of community support and the inspiration we draw from each other's success.

The staple food is often grown using the conventional approach, which could not fulfill farmers' food demand. It was inadequate to fill the food gaps because "the high temperature caused poor yield." The same crops grown through mulching and covering with green manure, such as sweet potato and haricot beans, are more productive and significant food sources until the end of March. Sometimes, months of food gaps can be filled with a single crop, such as sweet potato.

Farmers who used to purchase food from the market are now using their production. Some farmers said that previously, they had to buy grains from the market, but now they depend on their output, which reduces their expenses. Besides, the diversification of crops minimizes the cost of food purchases. This is tantamount to achieving household food security and filling months of the food gap.

3.6.7. Behavioural Change

The attitudinal change that the project brought regarding the practice of CASI technologies is one of the added values of the project. The project taught them new knowledge, skills, and practice on minimizing cultivation, mulching, cultivating forage, and experiential learning. The knowledge and skills gained from the project include preparing vermicompost and using it to produce crops,

²³DF/CFGB/CIMMYT, 2023/24 End of Season Monitoring Survey Report, September 2024, Addis Ababa, Ethiopia

vegetables, and fruits, row planting of seed and fertiliser application, etc. Moreover, the attitude towards zero/ minimum tillage, regular compost, green manuring, intercropping, and crop rotation has changed. Most FGDs concurred that they stopped using crop residue for animal feed after training and used it for mulching. Still, some farmers who did not attend the training released livestock into farmland, trespassing communal rules. *"When we received the training on mulching and other project activities, we did not believe it came true. However, we were eager to apply when we observed the project's benefit and outcome."* [Women FDG participants Boloso Sore]

At the beginning of the project implementation, some challenges were present in the communities, such as accepting land covering and sowing seeds with minimum or zero tillage to grow crops. There was misinformation about the project that was related to religion. Most people said the CASI technologies had a demonic way of doing. They reasoned how possible to produce crops 'without tilling the land'. For example, in Southern Ethiopia, some people felt that sowing seeds without ploughing must be a superstition. A model farmer from Southern Ethiopia, Boloso Sore, explained the outlook of the local community towards SCASI prices and how the attitude of the community changed over time as follows:

During the first year of my practice with SCASI technologies, many people scorned the activities in which I worked with the project staff. They bullied me when I collected compostable materials, including animal dug to prepare vermin compost, and when I sowed the seeds in a hole without tilling the land. They thought I could not be productive with these simple methods. I showed them how I became productive by applying the SCASI technologies to my plots. Seeing that, they again labelled the project as '666'. Then, they called me the collaborator of the Satanic' 666' after they saw my change in terms of crop productivity and production of three crops in a year. Seeing a project staff from the federal and local levels come in different cars at different times, most people disseminated false rumours about me in the communities. They defamed my personality as I was all the aid brought to the community. Yet, through time, everyone understood my righteous deed and keenness to share my experience. Now, all members of the communities have started practicing land covering, minimum tillage, no hill-ups of the growing crop, and removing weeds using their hands. Many others begin intercropping practice by growing peas or beans in maize crops. In addition, some start preparing vermicompost on their own.

In addition, farmers were worried about getting animal feed if they used crop residuals to cover the land. The project selected model farmers and demonstrated alternative CASI technologies for fodder production. It also solved the challenges related to attitude as the crop yield increased, and forage production was very beneficial. In the same way, some farmers reported that their perception of vermicompost preparation was initially negative. After they understood the benefits, they started producing it. Now, other farmers are learning from them how to prepare vermicompost.

Some farmers also started appreciating small farms and changing their attitude towards them. They focused on small plots with CASI practices rather than large farms with conventional practices. They prefer diverse farming methods using regular compost and vermicomposting, green manure, and vermicomposting, employ minimum tillage techniques, and raise cattle and goats for fattening instead of less productive and arduous traditional practices. As such, the project changed the mindset of the farmers on multiple sowing and monoculture. A farmer from Men FGD, Boloso Sore, is a case in point,

When the field visit was organized, I refused to attend it. I would have gone with the team. Later on, I was invited along with other farmers. I have observed the difference. I abandoned my old cropgrowing method and adopted a new one, which the SCASI project introduced. Since then, I have been practicing conservation agriculture in all my plots since I saw the difference in yield. I am growing maize, taro, potatoes, sweet potatoes, and other cereals. I covered all my plots with residuals and legumes, such as common beans. I also practice growing mixed crops, such as maize and beans. The materials that cover the plot are found locally and cheaply.

The project's overall impact is to increase the resilience of smallholder farmers in Ethiopia. As such, multiple KIIs with experts from implementing partners and government partners in the project have positively impacted the income, soil health, food security, attitudes, livelihoods, productivity, etc, of the targeted community. These changes were reflected across the studied regions and woredas.

The improvement in soil health increased the productivity of major crops, and the introduction of vegetables and fruits in the home garden not only boosted the income of men, women, and youth and saved culture but also increased their level of food security and dietary diversities in the household. To this end, the assessment of the early impacts of the project revealed that high impacts are demonstrated in this regard. The overall criteria on the perception of project impact showed 4.22/5.00, which exhibited quite a high early implications (**Table 8**).

Evaluation Questions	Perception score ²⁴
Early signs of bringing impact(s) on the food security	4.4
Impacts on productivity	4.4
Impact on the attitude and livelihoods of the local beneficiary communities and local	4.4
government	
Added value to local people and community practices	4.2
The extent to which the overall goal of the project has impacted on soil health	4.4
The extent to which the overall goal of the project has impacted on the food security	4
The extent to which the overall goal of the project has impacted on the poverty	4.2
reduction	
Added value on bi-lateral cooperation development	4.2
Added value on institutional improvement and capacity building	3.8
Average Score of Impact	4.22

 TABLE 8: PERCEPTION OF IMPACTS OF THE PROJECT (N=27 RESPONDENTS)

The score is lower than other DAC-OECD criteria assessed in this case. It may be because the project closes before some activities mature and bear fruit. Moreover, the 2024/25 harvest season is not included in this evaluation as harvest and winnowing have not been concluded.

3.7. Sustainability outlook of the project

Sustainability is an overarching issue in any project. The exit strategy of the document clearly revealed that the mechanism to ensure sustainability, key stakeholders and their willingness to take over, means of strengthening the hand over processes as well as responsible actors who will take the lead after the project. The exit strategy outlined that technical, institutional, and financial supports are required to ensure the sustainability of the activities. Moreover, various pertinent stakeholders such a seed enterprise, Coops/Unions, Research Centers, various levels of agricultural offices, small and medium enterprises, seed inspection, private sectors, Community based Organizations (CBOs), Rural land Administration office, ATVET, local media agency, universities, Education Office, among others. These actors can have various roles in capacity building, provision of materials and inputs, networking, advocacy and lobbying, promotion and scaling up, develop bylaws to govern CASI practices, and provide technical supports. The project has prepared sustainability strategy and initiated handover processes through strengthening the stakeholders to better integrate CASI activities to their normal activities (see **Annex 9**). Thus, it is observed that the exit strategy of the project is adequate and inherently embodied in the implementation process.

This has contributed to the ownership of the activities and ease of uptake. The project has already strengthened the capacity of the local government and the community so that the beneficiaries' attitudes, knowledge, and skills were positively impacted, and they could keep practicing CASI technologies independently without external support. A report from a model farmer from Benishangul Gumuz, Homoasha Woreda, Shulla Kebele, is an illustration. He reported, "After FH Ethiopia came here, 80 % of community members were trained at FTC in addition to community mobilization

²⁴ The scale is measured in a Likert scale of 5 with 1 no impact and 5 the very high impact.

programs; more than 50% of them are practicing CASI. Currently, people are applying it with no assistance from agricultural experts. "

The project also attempted to institutionalize the CASI practices at the local level. All FGDs in Southern and Benishangul Gumuz reported that at the Kebele level, a five-member committee oversees all civic associations, including savings groups. All savings groups within the Kebele contribute a portion of their savings to a central Kebele-level savings fund managed by this committee. This centralized fund provides a safety net and facilitates access to larger loans for community development projects.

Moreover, the project has fostered strong linkages between community groups and relevant stakeholders, including government authorities and religious leaders. This network enables various groups to access assistance and guidance, including financial requests. The already established linkages and the well-functioning Kebele-level savings mechanism would ensure the sustainability of community-driven initiatives. This robust foundation will empower the community to address local needs and drive further development.

Still, in the design of the partnership, the knowledge institutions such as universities and research centers in the area could have been involved as research, development, and extension would be synergized and contribute to the program's sustainability. For example, nearly 87% of wheat varieties are passing through CIMMYT. Likewise, creating a partnership with the Agricultural Transformation Agency (ATA), Regional Agricultural Bureaus, and Federal and Regional Agricultural Research Institutes; in Assosa, there is the Assosa Agricultural Research Centre; in Gojam, there is the Debre Markos Agricultural Research Centre. In Wollega, Bako Research Center has been instrumental in advancing and ensuring CASI activities continuation.

One of the institutionalization processes was establishing strong community groups. To this end, all men and youth FGDs and KIIs concurrently reported the practices will continue even without the project. They illustrated that the activities are institutionalized. The Woreda and Kebele Agricultural Offices have strong interests as well. The farmers are organized in groups. Moreover, the project created strong community leadership. For example, a KII from Boloso Sore Woreda noted that three cabinet members have been overseeing the activities from Woreda to Kebele level. These cabinets are comprised of respected community members with demonstrated leadership qualities. So that they guide and support community members, resolve conflicts and address challenges effectively, and foster a sense of community and collective action.

They noted the benefits of the technologies and emphasised their desire to continue with support from the local development agents. The beneficiaries are confident that the positive impacts will be sustained, as they saw the benefits and are spreading these practices to a broader area of their farm. Likewise, all women FGDs exhibited confidence in continuing the CASI practices and technologies as they have gained the necessary skills, experience, and capacity. A farmer from Leka Dulecha men FGD confirmed that "we will keep working on it; we will work with the DAs and follow their guidance. We have gained knowledge, skills, and experience from the project, but the DAs can support us more." This shows the commitment of the farmers to sustain the practices.

The stakeholders and beneficiaries interviewed perceived the project was highly sustainable, with a score of 4.16/5.00 (**Table 9**). Yet, capacity building of more DAs and members of the community committee may be required.

Evaluation Questions	Perception score ²⁵
The extent to which the program put in place proper <i>exit strategies</i> and documented good lessons and experiences	4.4
Adequate resources (equipment, materials, funds) to continue SCACI activities	3.8
The intervention within the knowledge, skills, and capacity of organizational set up	4.2
The extent of the project results (outputs and outcomes) sustainability (socially, economically, environmentally)	4.2
Integration of SCACI Project activities/outputs are integrated into the design an exit strategy and sustainability plan?	4.2
Average Score of Sustainability	4.16

Overall, FGDs and KIIs' perception of the SCASI project and its activities is positive and high based on OECD criteria. In all measured criteria, very high to high scores were recorded. The interventions are need-based, implemented with quality standards, efficient in terms of time and energy, cost-effective, and timely. It is consistent with the country's plan, policies, and other programs. It was also underscored that the project has impacted productivity, income, soil health, saving culture, food security, and animal feeds. Above and beyond, it changed the behaviour of the beneficiaries towards farming practices.

In assessing the DAC-OECD criteria, the informants participated in gross activities altogether. i.e., it is not activity by activity that we have no clues on which activities are top performing and which are the least. Moreover, all criteria and activities are based on equal weight. Yet sustainability was the least scored compared to others. **Figure 10** below depicts the perceptions regarding the project's performance based on the six OECD criteria.



FIGURE 10: SUMMARY OF EVALUATION USING SPIDER DIAGRAMS BASED ON OECD CRITERIA

3.8. Added value

3.8.1. Replicability of the project

The KIIs assessed the project's replicability, whether it could be replicated in similar contexts and possibly scaled up to reach more beneficiaries or have a more significant impact on currently reached

²⁵ The scale is measured in a Likert scale of 5 with 1 not sustainable and 5 the highly sustainable.

beneficiaries in terms of quality and quantity. Accordingly, 84% of respondents believe it can be replicable in similar contexts and needs to be scaled up to other places.

The proportion of land allocated to the CASI practices has increased significantly. Based on data from September (2024), about 87.1% of the studied reported increased land allocated for practicing CASI technology, 8.1% decreased, and 4.8% remained the same.

3.8.2. Innovativeness

The key innovation of this project is its instilling of action research activities and collaboration with local research institutions. From the design perspective, the project collaborated with strategic partners such as CIMMYT on board, who have rich experience in the area. The partners provide consultation, guidance, and solving problems through action research. This tremendously supported the project's efforts to identify and capitalise on successful activities while addressing and improving areas that needed strengthening.

The project promoted/introduced many new interventions [innovations] in the area, including using green manure, reducing continuous farming/promoting minimum tillage, and vermicomposting and mulching. At the same time, the CASI activities promoted by this project include maize farming, fodder (e.g., Desho grass), faba bean farming, vermicomposting, beans, crop residues, animal feed, pigeon peas, green manure, and soil and water conservation are added to what they previously practices.

Moreover, local implementers were directly involved in day-to-day activities. This is the uniqueness of its implementing partners, as a network of NGOs brought exceptional value to the project, making it more effective than others. It means that having grassroots-level operating actors significantly minimises the gap in the follow-up and execution of activities. Thus, the presence of NGOs in the SCASI project has been instrumental in bridging follow-up and strengthening government-led activities. For example, the project has dramatically supported and enhanced the Bureau of Agriculture's participation in capacity-building efforts, leading to tangible and fruitful outcomes.

The KIIs' perceptions of the project's level of innovation were assessed and presented in **Table 9**. The respondents, on average, scored 4.45 out of 5.0. This depicts the project's level of innovation is too high. It fulfilled its innovativeness and created an area to improve the livelihoods of all the people targeted in the project.

Evaluation Questions	Perception score ²⁶
To what extent have the innovative aspects of the project been fulfilled?	4.4
What features of the practice/project could be considered "creative" or "original"?	4.2
What are key innovative ways [focusing on utilizing indigenous knowledge and being	4.6
environmentally friendly] the project has been introduced?	
The best practices and innovative features in improving the livelihood of women,	4.6
youths, and marginalized people like people with a disability?	
Average Score of Innovativeness	4.45

TABLE 10: PERCEPTION OF RESPONDENTS ON THE INNOVATIVE NATURE OF THE PARTICIPANTS (N=27)

3.8.3. Gender

The project targeted both men and women equally. However, due to the unequal status quo in the community, women in female-headed households were given priority during the CASI project's beneficiary targeting. For some interventions, such as vegetable gardening, only women were targeted. In addition to working on the main plots, they worked with their spouses, who were part of the same family.

The respondents uttered that there was a shift in gender roles after the project from usual domestic chores such as cooking, children caring, cleaning, and feeding animals to agricultural/field-based

²⁶ The scale is measured in a Likert scale of 5 with 1 not innovative and 5 the highly innovative.

production engagements such as land covering, zero/minimum tillage, seed sowing, and vermicompost preparation, which break the cultural barriers. The shift in gender roles was mainly due to the introduction of the SCASI project in the area. It recognized the burden on women and aimed at reducing gender disparities. To this end, the project devised awareness-raising initiatives and capacity-building programs. As a result, women's participation in CASI activities has significantly improved. Women's plots have performed very well in some cases, such as Leka Duecha, Sibu Sire, Boloso Sore, Boloso Bombe, Homosha, and Ura Woredas; in some cases, their fields were proudly used as showcases. As such, some women who excelled in adopting and implementing the CASI practices were recognized as model farmers **(Case 1).** A KII from Bibugn Woreda in the Amhara region reported, *"This project did not discriminate. It involved men, women, youth, the landless, and people with disabilities. Women engaged in SHGs, generating income from vermicomposting, which requires no land."*

However, a remark from a woman FGD from Homosha Woreda of Benishangul Gumuz is worth attention, indicating further work on empowering women as farmers. They alertly urge the project to exert additional efforts to empower women because women are under pressure due to harmful traditions like Female Genital Mutilation (FGM), and other Sexual and Gender-Based Violations (SGBVs). It demands careful selection of conscious women from the community and capacitates them to train the whole community. Women are suffering from harmful traditions. They put, *"When we are engaged in farming, we can improve our livelihood. Women have to have stages to discuss their issues."*

CASE STUDY 3: BENISHANGUL GUMUZ REGION, HOMOSHA WOREDA, SHORKOLE KEBELE



I am Rawda Hamad, a mother of 8 children, living in Shorkole kebele of Homosha woreda in Benishangul Zone. Before the FH project (SCASI), I tilled farmland yearly to sow maize. It was not productive, and I often faced food problems. FH gave me awareness and training on conservation agriculture. First, I tried a 10mx10m plot in my backyard, observing my neighbours. It has a few weeds, saves energy, and is more productive. I received more training during the next cropping season, saw maize intercropping with haricot beans on 30mx30m, and harvested 3 quintals. I sold two quintals for 4500 Birr and hired labour to cut grasses for the next mulching. DAs were providing support and following up on my progress. I accept all advice from experts, which improves my productivity. Then, with my neighbours, we were organized into a group of five to apply to mulch. Then, I covered the land with grass, reduced weeds, and saved time for another

task.

I have seen a big difference between products from CA and traditional practices. First, the seeds of maize and haricot beans are bigger and higher quality than seeds grown under traditional practices. Second, when milled, its flour is very high because it is dense. Third, when we make it Enjera, it gives more Enjera compared to the one we know previously. I now cover my entire farm, both the backyard and a quarter of a hectare in another area. The reason is that CA practices increase productivity from a plot. The productivity of CA-based production from a quarter of a hectare is comparable to that of traditional farming practices. I used to get 10 quintals from a quarter of a hectare previously. With CA practices, I harvested 25 quintals from the same plot of land. You see, the difference is 15 quintals. I sold 10 quintals to cover other household expenses, five quintals to buy mulching materials, and 10 quintals for home consumption.

I couldn't cover home expenses before the project. I needed our husband to give us money to buy salt, oil, or other inputs. Even I couldn't take my kids to the clinic when they got sick. After the project, I may not wait for

my husband. I can work and make money. If I do have money, what do I expect from him? When we want to do something, I can consult my husband and do what I want to do. There is equal decision-making between me and my husband. My livelihoods gradually changed. I lived in a small house (36 corrugated iron sheets). Now I have a bigger house (89 corrugated iron sheets). I changed my TV from 14 to 32 inches. I bought a refrigerator to sell ice. I realised that CA practices impacted my life and family but required working hard and willingness to apply them.

Beyond my farm, I was asked to share my experience with other farmers. They followed me and did what I had been doing. Then, I started talking about conservation agriculture (CA) in everyday life during social gatherings such as coffee ceremonies, social engagements, funeral ceremonies, etc. We established an Equb saving group among the network. It empowers women to generate their income sources. I advise women to apply CA practice and organise in groups. We can save money from Equb and buy inputs like improved seeds and fertilisers. The group also supports each other in CA activities.

The SCASI project aimed to allocate 30% of the women's involvement to ensure women's empowerment, but men remained the dominant participants in its project activities. The possible reason is that men have better agricultural experiences, including tilling the land, sowing seeds, hilling crops, weeding, and harvesting. Women's role remains a contributor in male-headed households. The virtue is that CASI technologies reduce the burden on women as they require minimal effort. This was illustrated by some women FGDs who commented that using crop residues on farmland eliminated weeds, saving women's labour who are often responsible for weeding.

Even though the project is gender aware—it disaggregates reports by gender—it needs a gender strategy. In addition to addressing basic gender needs, it should emphasize strategic needs rather than basics only. Indirectly, male-dominant households may target women. This is also the indicator for lower gender scores compared to the other parameters when we see the perception score regarding the practical inclusion and integration of gender issues in the project.

3.8.4. People With Disabilities (PWDs)

People with Disability (PWDs) require special attention in agricultural activities because agriculture is a labor-demanding task. A disability may prevent someone from expanding conservation agriculture [CA] to practice his/her plots. To this end, we have talked to about 19 PWDs (visually impaired, handicapped, and people suffering from chronic disease) in all studied woredas. They confirmed that the project has attempted to consider their needs and engage them, but not adequate. For example, a framer from Boloso Bombe men FGD describes:

Due to my physical disability, I was given priority to be a beneficiary of the project. After I enrolled in the project, I was not alone. Fifteen other disabled persons also joined the project. We formed a supportive community within the CASI project. We all grow crops using the methods we learned from the project, such as covering the plot with residual and other live crops, inter-cropping, and crop rotation.

The project was initiated to voluntarily support PWDs in the community and benefit from CASI practices. A FGD from Homosha said, "*The project entertained PWDs. They identified elderly people, illnesses, and various forms of disabilities. Then, the project organized us and allowed us to cut grass and cover their farmland as a group. Women and men do the same.*"

3.8.5. Nutrition

Most intervention woredas are affected by land degradation, soil erosion, and soil acidity, which require proper treatment to enhance productivity. As a result, many farmers struggle with unproductive land, making improving nutrition outcomes across the region challenging. With the



introduction of the SCASI project, farmers produced varieties of crops and vegetables on farmland. This changed the food availability and consumption in the household in terms of quantity or quality. Farmers can grow and use various crops and vegetables from their farmland. More productivity, increased income, food security, and the livelihood of the beneficiaries improved, resulting in more nutritious food. For example, Men FGD at Boloso Bome agreed that the quantity (portion), quality, and frequency of food consumption have increased.

FIGURE 11: VARIETIES OF CROPS GROWN USING CASI PRACTICES

The quantity of food has increased. Now we have beans, peas, lentils, sweet potatoes, and yams. All this has happened to us since this organization came. We have different types of grains in our homes and barns. We don't eat only yams, teff, or one kind of food. We eat various types of food, so we mix them. And I would say that the variety has increased. Moreover, food frequency has increased. In the morning, we have coffee with breakfast; around six o'clock, we have potatoes or rice with bread, and sometimes we have a snack. In the evening, we have dinner again. For dinner, we buy a bunch of cabbage from the market, add some vegetables, and have a good dinner. Similarly, when we plant different vegetables under the coffee tree, it gives good fruit.

The project has no direct nutrition-related activities but has provided awareness and training on balanced diet and nutrition in all regions. The project emphasized how the farmers can grow healthy food from healthy soil. Besides, improved varieties of crops, vegetables, and forage seeds are introduced to provide livestock feed and increased variety of food availability and milk output, contributing to children's nutrition. It also created awareness of the importance of dietary diversity. The model farmers and DAs at the kebele level were also noted to be the same.



FIGURE 12: FRUIT AND VEGETABLE PRODUCTION IN THE SOUTHERN REGION

A report from Leka Dulecha of Oromia region can be quoted to illustrate it:

The project addresses the nutrition issue by supplying the beneficiaries with different crops and fruits, such as avocados and bananas, creating awareness of cultivating fruits and vegetables using vermicompost for household consumption and selling them in the market. It provided us with understanding and training on the importance of eating nutritious food and how to produce it. If the soil is healthy, the production from the healthy soil is nutritious. When the community minimized using chemical fertilizers and increased using organic fertilizers such as vermicompost, the soil's acidity decreased, and the quality, composition, and quantity of production increased on those implemented project activities farmland.

In other words, the project allowed them to diversify crops with vegetables (cabbage, beetroot, and carrot, improved maize, taro, soya beans, and sweet potato) and pluses (haricot beans). For example, in Benishangule Gumuz, Southern Ethiopia, and Oromia Woredas, farmers consume a mix of maize and other vegetables, which are more nutritious than maize alone. Thus, the project contributed to food availability and increased household dietary diversity—it changed the quantity and quality of food consumption habits.

3.8.6. Environmental Issues

The SCASI project was environmentally aware. It was launched and considered to overlap and complement other endeavours to protect and rehabilitate soil and increase productivity. It has no compromises with various initiatives, including the Ethiopian Strategic Investment Framework for Sustainable Land Management (ESIF-SLM) (2008-2023); Climate Resilient Green Economy (CRGE) (since 2012), Green Legacy, Climate Change Mitigation and Adaptation, Climate, Smart Agricultural Practices, and other Conservation Agriculture initiatives. Accordingly, the project has been integrated with SLM woredas and aligned with the RLLP programs. The only exception was Boloso Sore Woreda in the Wolaita zone, where a similar intervention had already been predefined to address production constraints. At the household level, CASI activities were successfully harmonised with previous efforts from the onset and ensured effective targeting and implementing systems.

The targeted woredas were characterised by concerns such as loss of soil erosion and deforestation resulting in land degradation. Repeated ploughing degraded the soil health and increased its acidity. To this end, the project introduced and promoted technologies such as minimising tillage, recycling crop residues, planting varieties of fruit and forage trees, terraces, green manuring, etc., which positively affect soil quality.

Another key contribution of CASI practices to climate change adaptation is the promotion of planting various types of trees to prevent drought and using composts instead of chemical fertilizer. For example, farmers explained that 'We were killing and destroying organic matter and important warms in the soil. Since we started applying the project activities to our farm, organic matter in the soil increased. We obtained an awareness of the importance of leaves to cover our farmland and to protect trees." Moreover, crops with CASI resist wind and pests better than those grown in conventional farming because they get adequate nutrients from the soil.

An in-depth interview with model farmers in Southern Ethiopia illustrates the impact of CASI practices on overcoming climate change variants such as floods and droughts.

Rainfall deficit and flood were common phenomena in our area. Both are the result of climate change. After the SCASI project, we grew grass, cow beans, Rhodes, and Sesbania trees in the middle and the side of our plot to prevent soil erosion caused by floods, apart from animal feed. In addition, land covering trapped heat will create moisture. Hence, the moisture helps the crops grow well even if rain is missed for a long time. When we plant crops by tilling and hilling them up, they fall during heavy rain or wind.

The discussion with various groups, IDIs, and KIIs also agreed that the CASI technologies contribute to bringing a positive impact on the environment (e.g., soil quality, reducing soil degradation and deforestation, increasing soil organic matter, improving soil structure/fertility, soil moisture, biodiversity, and climate change resilience). All FGDs witnessed that the CASI practices were environmentally friendly and have contributed to improving soil health. For example, farmers from Bebugn Women FGD indicated that using CASI technologies has improved soil quality, reduced soil degradation, increased biodiversity, better moisture retention, and enhanced crop resilience to drought. Nevertheless, FGDs in Bure Zuria and Leka Dulecha noted that climate change affected their

crops due to diseases such as rust, soil-borne pests, termites, etc. Crops mainly affected are maize, faba bean, teff and barley. Moreover, pigeon peas could not adapt to their climatic conditions.

Climate change significantly changes temperature, humidity, and precipitation patterns. It increases the frequency of extreme weather events, creating favourable conditions for plant disease outbreaks. Thus, climate change affects the prevalence and severity of plant diseases and influences the effectiveness of disease management strategies, necessitating adaptive approaches in agricultural practices.²⁷

Thus, with SCASI technologies, farmers no longer fear the impacts of climate change and develop resilience to seasonality such as drought and disease/pest infestations. They also minimised the risks of soil erosion and maintained soil moisture. The farmers are confident that they can protect their soil from wind and erosion, leading to reduced soil loss and improved soil fertility. The most significant and primary change in the project intervention was the change in soil fertility, as farmland is protected from erosion during the rainy season and is less affected by drought in the dry season, mitigating pest and disease infestation.

4. CHALLENGES AND LESSONS LEARNED

4.1. Challenges

The project in general has successfully delivered its intended objectives and positively impacted on soil health, yield, income, and food security. However, some challenges were encountered in the implementation span. The challenges are outlined below:

- Inflation and budget constraints: One of the challenges of the project was the inflationary trend of inputs, materials, and logistic caused budget constraints. It made operation more challenging as the cost of materials has tripled. A KIIs reported the duration of the project was 5 years with intension of a three-step phases 1st and 2nd years for demonstration, 2nd and 3rd years for widespread promotion and dissemination, 5th year stabilizing phase. However, due to the budget limitations the project was limited to three years. Particularly, in the phaseout stage, the budget scarcity has become more pronounced and severely restricted the ability to conduct regular site visits, timely capacity building, and observe farmers' implementation of CASI technologies on their plots and provide guidance and support to farmers. Yet, the project was dynamic in adapting to budget constraints through identify and focusing critical gaps and rearrange resources to ensure maximum benefit.
- Security challenges: Moreover, mobility restrictions have significantly impacted on the implementation of activities. The SCASI project was challenged by conflict and civil unrest in the Oromia Region of the East Wollega Zone and the Amhara Region of the East Gojjam Zone. This hindered field activities, as physical presence was essential to set up and monitor field trials, provide training, and track adoption rates.
- Youth beneficiaries' expansion to fragile lands: In some Woredas, some youth beneficiary groups tilled fragile areas such as river sides, hinterland forests, hillsides, etc., due to land scarcity. This could go against the very intention of the project as it degrades the local environment. The project could address this issue by creating protective boundaries and areas of farming to preserve the environment and maintain soil fertility. This requires further awareness raising and technical support.
- Disease, rust, and termites are challenges for crop production in some areas with CASI practices. According to the Leka Dulecha men FGD, maize and teff are affected by rust. In Sibu

²⁷ Lahlali, R., et al (2024). Effects of climate change on plant pathogens and host-pathogen interactions, Crop and Environment, 3(3), pp. 159-170, <u>https://doi.org/10.1016/j.crope.2024.05.003</u>.

Sire Woreda, termites are reported as a challenge for maize production. Barely disease is also an issue at Bure Zuria men FGD. The beneficiaries suggested the varieties are not pest—and disease-resistant.

• Climate change-related challenges such as (excessive rainfall and drought) affect early maturing crops. For example, excessive amounts of rainfall in Southern Ethiopia and extended drought in Amhara regions affected the quality of early maturing crops and Regions, respectively. The men FGD from Bure Zuria and women from Bibugn Woreda reported that temperature fluctuation, variable rainfalls and other climatic effects were among the challenges affecting soil fertility and crop productivity.

4.2. Lesson Learned

The SCASI project has generated enormous lessons through innovative engagements across different regions. It has been learned that the application of CASI practices has contributed to reducing the challenges of land degradation, such as reduced soil fertility and low productivity. Due to its multifaced problem-solving activities, it has left many legacies at the farm household level. Some of the key lessons documented in this assessment are listed below:

- SCASI is one of the most remarkable intervention models. The CASI practices integrated into the
 project were carefully developed over 10 to 12 years. CASI is not a single solution; it represents a
 combination of practices refined through extensive research and field testing. Selecting and
 implementing these practices took time and careful evaluation, making the model particularly
 robust.
- The more CASI technologies and practices, the better the performance: No single CASI practice demonstrates success independently. Instead, combining multiple practices according to the farmers' needs brings sustainable outcomes. Thus, it was learned that a comprehensive package of practices, including improved seeds, proper feeding strategies, and integrated farming techniques, is essential.
- The need for a show-and-amend strategy for long-term impact: Findings showed that soil health requires long-term investments, as the results take several years to materialize. Agricultural improvements are not immediate; consistent learning and repeated reinforcement are needed before change becomes actionable. CASI practices require similar patience and continuity. CASI practices require repeated show-and-amend approaches to achieve sustainable outcomes.
- The attitude of the farmers towards CASI practices was initially negative and improved through training, demonstrations, and exposure visits, and their interests and attitudes have changed. Most farmers have had a new experience and are uncomfortable with such types of worms used for vermicompost because they were considered disgusting. Still, after the intervention, they understood their benefits. The majority of farmers pointed out that they used to plough three to four times. The project introduced CASI practices as traditional practices exposed their soil to water and wind erosion, meagre productivity, and high expenditures. CASI practice saved farmers from all these things and increased their incomes. Farmers also understood that burning crop residue has no benefit. Instead, using crop residues and applying reduced tillage techniques were essential for improving soil fertility and crop yield.
- Various farmers have adopted ranges of CASI practices and gained various experiences related to CASI practices: farmers observed that intercropping of maize and haricot beans is more effective; minimum tillage reduces erosion, saves labour and improves soil fertility and crop yield; vermicompost requires careful management; pigeon pea is not suitable in some woredas; pests, insects, and diseases affect field even in CASI field unless well-managed; mulching, green manuring and crop residue kept moisture in the soil for many days; crop rotation of wheat/teff and legumes increases soil fertility, to mention but a few. These can be considered when scaling up processes.

• The use of multiple methodologies enhanced and positively contributed to better the implementation of CASI practices as it brings various experiences and knowledge into the project and hence promotes joint learning: The mega demonstrations conducted at FTC and farmers' field levels as well as radio-based broadcasting about the project boosted and able to mobilize large community members beyond the project target of 15,000 smallholder farmers (reached 17,067 farmers (6,290 female). This is because the farmers accessed the right knowledge through theoretical training followed by skills through practical field-level demonstration and experience-sharing visits. Moreover, tailor-based action research. The provision of tools and inputs and extension supports are effective in contributing to the wider adoption of CASI practices. A DA from Leka Dulecha Woreda of Oromia witness as follows:

I obtained much knowledge from the project rather than what we learned in formal education and observing practically is quite different I learned those introduced activities in formal education but not implemented. This project shows us practically how to identify the acidity of the soil and use crop residue to minimize the acidity of the soil. In addition to this, the project shows us how to prepare and use vermicompost on farmland. In general, we were uncertain of its effectiveness but we observed that the activities are effective in increasing soil health and productivity.

- After the implementation of SCASI, it was learned that frequent ploughing of a plot is neither effective nor necessary to increase productivity. Excessive ploughing, is both costly and increase susceptibility of the soil to erosion. With SCASI it is released that frequent tilling, burning soil, complete removal of crop residues, are monocroping affect soil fertility and health. As people have observed the benefits, the demand for CASI practices is growing among adjacent woredas and kebeles. This entails scaling up the SCASI projects beyond targeted kebeles with a woreda.
- Seed and feed storage: In Bibugn Women and men FGD, participants reported that they able to overcome seed shortage challenges by collecting and storing crops for the following year. The Leka Dulecha men FGD also mentioned that they store crop residues to use as feed for their livestock. In the same Woreda, the mixed youth FGD reported that climate change was initially a concern. But, after the project support, the youth collected and stored the feeds/grasses for using it in the event of prolonged drought. Similarly, the KII with Sibusire Agricultural Extension further indicated that the farmers are using crop residues for various purposes including selling and feeding their livestock.
- Radio broadcasting: The CFGB CASI report of 2023 3r d quarter indicated that 13 episodes were broadcasted through the Woliata Sodo Radio program. During this period, a total of 4637 CASI farmers (2578 of whom were female), grouped into 200 Self-Help Groups (SHGs) and Farmer Field Schools (FFSc), were actively engaged in sharing their experiences and sharing seasonal messages. These messages included weeding, mulching, compost application, UREA application, intercropping, fodder utilization and plantation. Additionally, the farmers discussed on agronomic practices, success stories, challenges to adopt CASI technologies and practices. Some farmers also indicated that broadcasting helped for wider promotion of CASI practices.
- *Benefits of PWDs*: In Ura Woreda of Benishangul Gumuz, a person with disability (PWD), who is blind shared that he was actively benefiting from the project by engaging his children. He further stated that compared to before, he is now not buying and able to feed his family. He is additionally, engaging in production of hens and taking care of crops.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The following conclusions are drawn from qualitative fieldwork in eight woredas of four targeted regions and a desk review of project reports/documents.

Conclusion 1: Across the studied regions and woredas, it was observed that the project activities and CASI technologies are highly relevant to the context of farmers in increasing yields, income, soil fertility, and contributing to food security. The project interventions were highly relevant to addressing the priority and needs of the target beneficiaries, with a strong alignment among its objectives, activities, and intended outcomes. It was also observed that the CASI practices have improved farming and transformed agricultural practices, i.e., mono-culturing to crop rotation/ intercropping. Thus, the SCASI project focuses on the needs and priorities of communities while ensuring quantity and quality within a given time through active participation, instilling ownership, and capacity-building.

Conclusion 2: The project is coherent with the government's policies and strategies and the DF's priority objectives.

Conclusion 3: The project positively impacted on beneficiaries' livelihoods through increased productivity of major crops, increased income, improved soil fertility through reducing erosion and enhanced soil organic matter content and soil moisture retention, induced saving culture, increased fodder availability, and change in attitude towards CASI practices, and reduced months of food gaps. Nevertheless, the success was not uniform; for example, in Oromia Woredas, maize and teff were affected by rust and disease but performed well in others, which implies the need for locally specific, better, and resilient varieties. Vermicompost was not good in Sibu Sire of Oromia and Bure Zuria of Amhara due to ants, termites, birds, and insect attacks, but it was super in Southern Ethiopia. Thus, it is necessary to apply efficient pest control techniques to optimise the benefits.

Conclusion 4: The project was inclusive because it allowed men, women, youth, and PWDs to benefit from the activities. Women engaged well across the project interventions. In some activities, there was a 'women only' approach. Throughout the project's targeting, training, reporting, and action research, data was disaggregated by gender, mainly to address the basic needs of women. Thus, the project was gender aware. However, there is no indicated gender strategy in this project.

Conclusion 5: Notably, the project contributed highly to environmental sustainability by reducing land degradation and soil erosion, reducing the burning of crop residues, planting trees, and building the beneficiaries' resilience against climate change variants such as disease, pests, drought, and flood.

Conclusion 6: The SCASI project has introduced high-value crops such as soya beans, haricot beans, vegetables, and fruits, which increase income in the area and are likely to sustain it. It was observed that the farmers grow and consume varieties of these crops.

Conclusion 7: Animal fodders introduced and promoted as a CASI practice, such as legumes (Pigeon pea, Lupin, Sesbania) and grasses (Rhodes grasses, Desho grass (*Pennisetum pedicellatum*), Elephant grass), have had multiple benefits. It positively impacted fodder availability, even during drought, and livestock productivity. The beneficiaries have benefitted from the sale of surplus fodder. In most cases, it reduced overgrazing and land degradation and increased animal productivity. For example, milk output increased with the introduction of forage seeds, contributing to children's nutrition. Landless young people use fodder to engage in animal-fattening enterprises.

5.2. Recommendations

Recommendation 1: The project activities are fully acknowledged for their remarkable impact by addressing the targeted areas' pertinent production constraints. However, it was limited to two woredas per region and five kebeles in a woreda.

Recommendation 2: The voice from the field is that, despite a multistakeholder approach and collaborative planning between the project and the Agriculture Office and the project design established a joint monitoring, evaluation, accountability, and learning (MEAL) with local government partners, there are cases where a KIIs from the Woreda in Southern Region and DAs from Oromia complained they did not involve adequately in the entire process. This could limit the opportunities for collaborative learning and ensure effective project implementation. Thus, it is essential to include the local government bodies as an integral part of the joint monitoring and evaluation activities. Moreover, preparing experience-sharing visits for DAs to other areas could motivate and facilitate learning from each other.

Recommendation 3: To address the impact of inflation and budget issues, it is essential to explore alternative, cost-effective materials or inputs without compromising quality, focus on local resources, and regularly review and adjust the budget to reflect on inflationary changes.

Recommendation 4: Lime was scarce in some areas, with acidic soil requiring supply. Lime is one of the soil treatment methods to control acidity and increase productivity.

Recommendation 5: One of the challenges was the adequate supply of various crop and forage seeds to meet the growing demand. Thus, the project should bring private seed multipliers and cooperatives on board to engage in a business to satisfy emerging needs and fulfil promises made to beneficiaries. However, following national seed guidelines and regulations²⁸ is essential, and the IPs should control the quality. The engagement of such institutions contributes to the long-term sustainability of its outcomes. In other words, the SCASI project should carefully consider integrating private-public partnerships in its design to allow swift implementation of the activities and ensure long-term impact.

Recommendation 6: The CASI practices integrated into the project were carefully developed over several years, i.e., 10 to 12 years. They are a set of solutions that combine various proven practices refined through extensive research and field testing. Selecting and implementing these practices took time and careful evaluation, making the SCASI model particularly robust. Given the importance and nature of these practices, a three-year timeframe is inadequate. It ended without observing project outcome maturity and leaving room for scaling up. Thus, the project could have been a phase-based five-year cycle. This helps to pilot and rapid assessment, refine the CASI practices through action research, and scale up the best practices for durable and long-term outcomes.

Recommendation 7: In some areas, among a few farmers, challenges have been observed concerning vermicompost in Bure Zuria and Sibu sire Woredas, where mismanagement and handling exposed vermi worms to ants, termites, and birds. In the same token, the improved seeds in Leka Dulecha (Maize & Teff) and Bure Zuria (Barely) are reportedly not pest—and disease-resistant. Hence, it must find locally adaptable, disease-resistant, resilient varieties. Moreover, vermicompost demands careful management and handling of worms from damage, which requires refreshment training and technical support.

Recommendation 8: This evaluation has attempted to document the project's early and immediate impacts. However, due to its long gestation period, the CASI benefits are realized over a long period. Thus, the DF may carry out the ex-post impact of the SCASI project investment on crop yield, income, food security, and livelihood improvement after some time.

²⁸ The primary governing document for Ethiopian seed guidelines and regulations is the "Seed Proclamation No. 782/2013", which outlines the legal framework for seed production, distribution, and quality control within the country, including provisions for variety release, seed certification, and farmer rights related to seed usage; this law is implemented by the Ministry of Agriculture.

Recommendation 9: To address the challenges of security conditions, it is good to enhance community-based monitoring systems, empower local actors, and conduct periodic security assessments and risk mitigation plans so that the project can be implemented progressively in a limited field presence.

ANNEXES

ANNEX 1: CHECKLIST FOR MANAGING FGDs

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

FOCUSED GROUP DISCUSSION [MEN, WOMEN, YOUTH mixed with PWDs]

CONSENT STATEMENT

Hi. My name is_______. I am working for DAB-DART on behalf of (name of Partner _______). We are evaluating the *Scaling-Up Conservation Agriculture-Based Sustainable Intensification Project.* You are selected because the project targeted you. The evaluation result would be an input to improve future project interventions. The question will be about your experiences, perceptions of the project, and the relevance, effectiveness, and efficiency of agricultural practices, livelihoods, and sustainable intensification practices. Participating in the discussion is purely voluntary, and you do not have to participate if you wish to. If you choose to take part, you have the right to stop at any time, and there will not be any consequences.

Information collected from you will only be used for the study purpose, and you will not be identified at all stages of the study, including data archival, analysis, and reporting. You will not be exposed to any risks by participating in this study. There is no direct personal benefit to your participation, but your responses will help improve project intervention in the future. This interview will take approximately 60 minutes, and your answers will be confidential. If you have any concerns on the data you provide, you can always contact Mr. Edries Mohamed email: edries@developmentfund.no Tel: +251 966 335424.

I want to remind you again that if you are not interested, you can leave the interview. Are you all willing to participate in the interview? 1=Yes $0=No. \rightarrow if no ask the reason!$

GENERAL INFORMATION

Field	Answer
Facilitator name	
Note-taker name	
Date of FGD Facilitation	
Start time	
End time	
Regional state/Zone / Woreda / Kebele	
Specific meeting place	

#	Name of the Participant	Code	Age	Sex	Marital status	Phone number	Consent
1.							
2.							
3.							
4.							
5.							
6.							
7.							

8.				
9.				
10.				

- How did you get involved with the project? when? What was the target criteria? Do you agree on the selection of the area and target? Do you think the CASI interventions are relevant to the problem of the area?
- 2) How did you engage in the project? What kinds of activities were promoted in your area? Please allow them to list exhaustively!
- 3) What different ways of doing thing did the program brought to your soil health and productivity? Which CASI activities/ practices did the community member like most? Which were the least? Why?
- 4) In your view, which activities of the project were well performing in your community? Which aspects were the least performing? Why? Please support with example if possible!
- 5) Is there an increase in the amount of annual income from agricultural production since you become a beneficiary of the CASI project?Did the intervention contribute to your food security situation? Please explain how? Is there a change in filling the months of food gap in a year since you get involved in the project?
- 6) Has the project promoted the types of the food you grow (like: legumes, vegetables)? If so, how? Is there any change in the variety of food available to your household including the quantity or quality of the food your household consume?
- 7) What were the most agricultural intensification technologies you used with the support of this project?
- 8) When you used CASI practices, did you concern about climate change? Why?Which environmental issue do you think important?
- 9) Did the CASI technologies contribute to bring a positive impact on the environment (e.g. soil quality, reduce soil degradation, deforestation, increase soil organic matter, improve soil structure/fertility soil moisture, biodiversity, climate change resilience)?
- 10) Do you have any plan to continue these practices after the project ends? How? Please probe!
- 11) How did the SCASI project target men and women? Did men and women treated differently? How about youth and the landless?
- 12) Did the SCASI project contribute to climate change adaptation? If so, how?
- 13) What has changed as a result of the project intervention? (Intended and unintended as well as positive and negative impacts, gender equality (both men & women), poverty reduction, cross-sector impact, or other relevant cross-cutting issues such as environment, nutrition)?
- 14) How could the positive impacts or changes of the project are likely to continue?
- 15) Did beneficiaries applied what they learned from the project? What impacts these trainings have produced on their livelihoods, food security status, and income?
- 16) What new knowledge, skills and practices have you gained from the project intervention? Have you implemented in your farm?
- 17) What were the key challenges you have encountered in implementing the knowledge and skills you have gained from the project? How did you overcome them?
- 18) How do you plan to run the project after the departure of IPs?
- 19) Do you think that the project's interventions helped the target group and the society at large to become more motivated, initiated, and self-confident to face future obstacles on their own without assistance from others? How explain!

- 20) As beneficiaries directly participated in the implementation of the project, have you learned lessons? What are these lessons?
- 21) Is there anything that you think important and recommend in the future phase of the project. If any, or other similar projects intended to implement CASI in the similar settings?

Wrap-up

Based on your experience, what is your general opinion on SCASI's interventions?

Those are all the questions I had for you. Thank you again for your time. All the information you have given us will be very helpful. Do you have any questions for me?

Thank you for cooperation!

ANNEX 2: INTERVIEW GUIDE FOR KIIS

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

Key Informant Interview for	Development Agents (DAs)
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IDENTIFICATION

Interview date : November/...../2024

District	.Kebele	.Village
Region		
Implementing Partner (I	Р)	
Name of Enumerator		Mobile number
Sex:	Age	
Starting time	Ending	time

CONSENT STATEMENT

Hi. My name is _______. I am working for DAB-DART on behalf of (name of Partner ______). We are evaluating the *Scaling-Up Conservation Agriculture-Based Sustainable Intensification Project.* You are selected because the project targeted you. The evaluation result would be an input to improve future project interventions. The question will be about your experiences, perceptions of the project, and the relevance, effectiveness, and efficiency of agricultural practices, livelihoods, and sustainable intensification practices. Participating in an interview is purely voluntary, and you do not have to participate if you wish to. If you choose to take part, you have the right to stop at any time, and there will not be any consequences.

Information collected from you will only be used for the study purpose, and you will not be identified at all stages of the study, including data archival, analysis, and reporting. You will not be exposed to any risks by participating in this study. There is no direct personal benefit to your participation, but your responses will help improve project intervention in the future. This interview will take approximately 60 minutes, and your answers will be confidential. If you have any concerns on the data you provide, you can always contact Mr. Edries Mohamed email: edries@developmentfund.no Tel: +251 966 335424.

I want to remind you again that if you are not interested, you can leave the interview. Are you all willing to participate in the interview? 1=Yes $0=No. \rightarrow if no ask the reason!$

EVALUATION CRITERIA

1) Please rate the following evaluation points from Very Low [1] to Very High [5] based on your personal experiences with the project.

Criteria	Major evaluation points	Ver y low	Lo w	Moderat e	High	Very high
		1	2	3	4	5
	Were the planned interventions relevant to the priority needs of the target beneficiaries?					
Relevance	To what extent was the project activity to contribution to food security?					
	To what extent did the project <i>increased soil health</i> to enhance soil fertility of the local beneficiaries?					
	To what extent did the quality of the project design in <i>ensuring genuine local participation and</i> <i>ownership</i> ?					
	To what extent did the capacity building activities provide by SCACI Project were relevant to local community?					
	Were the <i>criteria for selection of program</i> beneficiaries adequate?					
	To what extent did the project activities have been done in line with the anticipated standard and quality					
Quality	How was the satisfaction of the beneficiaries and local government stakeholders in terms of the timely capacity building and quality of program inputs and quality of results?					
	to what extent did quality of the project design in ensuring genuine local participation and ownership?					
Effective- ness	To what extent did the intervention reduce beneficiaries' months of food gaps using the income they get?					
	Have the beneficiaries <i>increased their income</i> using the various CASI technologies and improved their livelihood?					
	The extent to which project activities have been done in line with the <i>anticipated standard and quality</i> ?					
	What positive outcome gained in building self- confidence among the beneficiaries in the project area?					
	The extent to which CASI technologies found most effective in terms of increasing soil health?					
	The extent to which CASI technologies found most effective in terms of <i>improving crop productivity</i> ?					
	The extent to which CASI technologies found most effective in terms of <i>increasing the annual income of the farmers</i> ?					

Efficiency	To what extent have the planned activities of the CASI project been delivered? Were there any delays in activity implementation?			
	To what extent the various trainings including on the Climate Smart Agriculture (CSA) techniques were adequate in the time allocated, appropriateness of topics/contents, practical demonstrations provided, training manual provided, etc?			
	To what extent, the project implementation use the new CASI technologies and contribute to increasing household income?			
	To what extent the established demonstration plots and FTCs helped to facilitate the flow of information timely, efficiently, and effectively to farmers?			
Impact	Early signs of bringing impact(s) on the food security			
	Impacts on <i>productivity</i>			
	To what extent the SCASI project had impacted on the <i>diversity and availability of nutritious foods</i> (e.g. vegetables, fruits, legumes)			
	Impact on the <i>attitude and livelihoods</i> of the local beneficiary communities and local government			
	Added value on local people and community's practices			
	The extent to which the project has impacted on <i>soil health</i>			
	The extent to which t the project has impacted on <i>the food security</i>			
	The extent to which the project has impacted on the poverty reduction			
	Added value on <i>institutional improvement and</i> capacity building			
	The intervention within the knowledge, skills, and capacity of the Kebele			
	The extent of the project results socially acceptable, economically viable, and environmentally friendly			
Sustainabili ty	Integration of SCACI Project activities/outputs are integrated into the kebele plan to continue practice			
	The extent to which the project leading towards more sustainable and nutritious diets for the households involved?			
	The extent to which the CASI technologies contribute to environmental sustainability?			
Coherence	To what extent did SCACI Project align to other programs e.g. SLM interventions in the area?			

	The extent to what extent did the project interventions <i>avoiding duplication of effort and/or adding value</i> to other CASI activities?					
	The consistency of the project intervention with kebele <i>priorities and standards</i>					
	What features of the practice/project could be considered "creative" or "original" to your area?					
Innovative ness	The extent to which new innovative of CASI practices has been introduced?					
	The best practices and innovative features in improving the livelihood of women, youths, and marginalized people like people with a disability.					
	Can the project be replicated in similar contexts?					
Replicabilit	What plans are in place to scale up the project? (to					
У	reach more beneficiaries or to have more impact					
	on currently reached beneficiaries, in terms of					
	quality and quantity)					
Cross- cutting	How did the project impact women, youths, and marginalized people like people with a disability?					
issues	The extent to which the project better target and address the issue of women, youths, and marginalized people in the area?					
	The extent to which the project addressed the issues of nutrition?					
	To what extent the project promoted the production of more <i>types of or nutritious crops</i> ?					
	The extent to which the CASI technologies are environmental friendly or relevant for the environment (e.g.conserve/ save water, restoring and enhancing soil health)?					
	To what extent were the CASI technologies adapted to climate change/variability?					
2) Did mer How?	and women targeted differently? Why? Do you think the	ne proje	ect red	uce gender	disparitie	es?

3) Will you (the DA) continue to promote CASI in their communities, etc?

4) What do you think on the overall perception on the SCASI project/implementation modality?

5) How did the issue of nutrition address by the project? Do you think the SCASI project interventions contribute to nutritional practice of the community? How did you change your nutritional composition after the project compared to pre-intervention?

6) What weaknesses were observed in the implementation of the project or to be recommended for future project design, including increasing productivity of crops, improving soil health, and the various capacity buildings? What should have been done to improve it?

7) What major challenges were you faced during the implementation of the project?

8) What lessons can be learned from the project implementation?

Wrap-up

Based on your experience, what recommendations would you make for improving the design and implementation of future projects similar to SCASI's interventions?

Those are all the questions I had for you. Thank you again for your time. All the information you have given us will be very helpful. Do you have any questions for me?

Thank you for your cooperation!

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

Key Informant Interview for Woreda Agricultural Experts

IDENTIFICATION

Interview date : November/...../2024

DistrictVillage.....Village....

Region

Implementing Partner (IP)

Name of Enumerator

Sex:....Age.....

Starting time Ending time.....

CONSENT STATEMENT

Hi. My name is _______. I am working for DAB-DART on behalf of (name of Partner ______). We are evaluating the *Scaling-Up Conservation Agriculture-Based Sustainable Intensification Project.* You are selected because the project targeted you. The evaluation result would be an input to improve future project interventions. The question will be about your experiences, perceptions of the project, and the relevance, effectiveness, and efficiency of agricultural practices, livelihoods, and sustainable intensification practices. Participating in an interview is purely voluntary, and you do not have to participate if you wish to. If you choose to take part, you have the right to stop at any time, and there will not be any consequences.

Information collected from you will only be used for the study purpose, and you will not be identified at all stages of the study, including data archival, analysis, and reporting. You will not be exposed to any risks by participating in this study. There is no direct personal benefit to your participation, but your responses will help improve project intervention in the future. This interview will take approximately 60 minutes, and your answers will be confidential. If you have any concerns on the data you provide, you can always contact Mr. Edries Mohamed email: edries@developmentfund.no Tel: +251 966 335424.

I want to remind you again that if you are not interested, you can leave the interview. Are you all willing to participate in the interview? 1=Yes $0=No. \rightarrow if no ask the reason!$

EVALUATION CRITERIA

1) Please rate the following evaluation points from Very Low [1] to Very High [5] based on your personal experiences with the project.

Criteria	Major evaluation points	Very low	Low	Moderate	High	Very high
		1	2	3	4	5
	Were the planned interventions relevant to the priority needs of the target beneficiaries?					
Relevance	To what extent was the project activity contributing to food security?					
	To what extent did the project increase soil health to enhance the soil fertility of the local beneficiaries?					
	To what extent did the project design's quality ensure genuine local participation and ownership?					
	To what extent were the capacity-building activities provided by the SCACI Project relevant to the local community?					
	Were the <i>criteria for the selection of program</i> beneficiaries adequate?					
	To what extent did the project activities have been done in line with the anticipated standard and quality					
Quality	How was the satisfaction of the beneficiaries and local government stakeholders in terms of the timely capacity-building quality of program inputs and quality of results?					
	to what extent did quality of the project design in ensuring genuine local participation and ownership?					
Effectiveness	To what extent did the intervention reduce beneficiaries' months of food gaps using the income they get?					
	Have the beneficiaries <i>increased their income</i> using the various CASI technologies and improved their livelihood?					
	The extent to which project activities have been done in line with the <i>anticipated standard and quality</i> ?					
	What positive outcome gained in building self- confidence among the beneficiaries in the project area?					
	The extent to which CASI technologies found most effective in terms of increasing soil health?					

	The extent to which CASI technologies found most effective in terms of <i>improving crop</i> productivity?			
	The extent to which CASI technologies found most effective in terms of <i>increasing the annual</i> <i>income of the farmers</i> ?			
Efficiency	To what extent have the planned activities of the CASI project been delivered? Were there any delays in activity implementation?			
	To what extent the various trainings including on the Climate Smart Agriculture (CSA) techniques were adequate in the time allocated, appropriateness of topics/contents, practical demonstrations provided, training manual provided, etc?			
	To what extent, the project implementation use the new CASI technologies and contribute to increasing household income?			
	To what extent the established demonstration plots and FTCs helped to facilitate the flow of information timely, efficiently, and effectively to farmers?			
Impact	Early signs of bringing impact(s) on the food security			
	Impacts on productivity			
	To what extent the SCASI project had impacted on the <i>diversity and availability of nutritious</i> <i>foods</i> (e.g. vegetables, fruits, legumes)			
	Impact on the <i>attitude and livelihoods</i> of the local beneficiary communities and local government			
	Added value on local people and community's practices			
	The extent to which the project has impacted on soil <i>health</i>			
	The extent to which t the project has impacted on the food security			
	The extent to which the project has impacted on the poverty reduction			
	Added value on institutional improvement and capacity building			
	The intervention within the knowledge, skills, and capacity of the woreda			
Sustainability	The extent of the project results socially acceptable, economically viable, and environmentally friendly			

	Integration of SCACI Project activities/outputs are integrated into the woreda plan to continue practice			
	The extent to which the project leading towards more sustainable and nutritious diets for the households involved?			
	The extent to which the CASI technologies contribute to environmental sustainability?			
Coherence	To what extent did SCACI Project align to other programs e.g. SLM interventions in the area?			
	The extent to what extent did the project interventions <i>avoiding duplication of effort and/or adding value</i> to other CASI activities?			
	The consistency of the project intervention with Woreda priorities and standards			
	What features of the practice/project could be considered "creative" or "original" to your area?			
Innovativeness	The extent to which new innovative of CASI practices has been introduced?			
	The best practices and innovative features in improving the livelihood of women, youths, and marginalized people like people with a disability.			
	Can the project be replicated in similar contexts?			
Replicability	What plans are in place to scale up the project? (to			
	reach more beneficiaries or to have more impact			
	on currently reached beneficiaries, in terms of quality and quantity)			
Cross-cutting issues	How did the project impact women, youths, and marginalised people like people with a disability?			
	The extent to which the project better target and address the issue of women, youths, and PWDs in the area?			
	To what extent did the project address the issues of nutrition?			
	To what extent did the project promote the production of more types of <i>nutritious crops</i> ?			
	What is the extent to which the CASI technologies are environmentally friendly or relevant for the environment (e.g. conserving/saving water, restoring and enhancing soil health)?			

To what extent were the CASI technologies			
adapted to climate change/variability?			

- 2) Did men and women target differently? Why? Do you think the project reduced gender disparities? How?
- 3) Will you (the woreda experts) continue to promote CASI in their communities, etc?
- 4) What do you think about the overall perception of the SCASI project/implementation modality?
- 5) How did the project address the issue of nutrition? Do you think the SCASI project interventions contribute to the nutritional practice of the community? How did you change your nutritional composition after the project compared to pre-intervention?
- 6) What weaknesses were observed in the implementation of the project or to be recommended for future project design, including increasing productivity of crops, improving soil health, and the various capacity buildings? What should have been done to improve it?
- 7) What significant challenges were you faced during the implementation of the project?
- 8) What lessons can be learned from the project implementation?

Wrap-up

Based on your experience, what recommendations would you make for improving the design and implementation of future projects similar to SCASI's interventions?

Those are all the questions I had for you. Thank you again for your time. All the information you have given us will be beneficial. Do you have any questions for me?

Thank you for Cooperation!End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

Key Informant Interview Zonal Agricultural Experts

IDENTIFICATION

Interview date : November/	./2024
DistrictKebele	Village
Region	
Implementing Partner (IP)	
Name of Enumerator	Mobile number
Sex:Age	
Starting time	Ending time

CONSENT STATEMENT

Hi. My name is _______. I am working for DAB-DART on behalf of (name of Partner _______). We are evaluating the *Scaling-Up Conservation Agriculture-Based Sustainable Intensification Project*. You are selected because the project targeted you. The evaluation result would be an input to improve future project interventions. The question will be about your experiences, perceptions of the project, and the relevance, effectiveness, and efficiency of agricultural practices, livelihoods, and sustainable intensification practices. Participating in an interview is purely voluntary, and you do not have to participate if you wish to. If you choose to take part, you have the right to stop at any time, and there will not be any consequences.

Information collected from you will only be used for the study purpose, and you will not be identified at all stages of the study, including data archival, analysis, and reporting. You will not be exposed to any risks by participating in this study. There is no direct personal benefit to your participation, but your responses will help improve project intervention in the future. This interview will take approximately 60 minutes, and your answers will be confidential. If you have any concerns on the data you provide, you can always contact Mr. Edries Mohamed email: edries@developmentfund.no Tel: +251 966 335424.

I want to remind you again that if you are not interested, you can leave the interview. Are you all willing to participate in the interview? 1=Yes $0=No. \rightarrow if no ask the reason!$

EVALUATION CRITERIA

1) Please rate the following evaluation points from Very Low [1] to Very High [5] based on your personal experiences with the project.

Criteria	Major evaluation points	Very low	Low	Moderate	High	Very high
		1	2	3	4	5
	Were the planned interventions relevant to the					
	priority needs of the target beneficiaries?					
Relevance	To what extent was the project activity					
	contributing to food security?					
	To what extent did the project increase soil					
	health to enhance the soil fertility of the local					
	beneficiaries?					
	To what extent were the capacity-building					
	activities provided by the SCACI Project					
	relevant?					
	To what extent did the SCACI Project					
	interventions were relevant to the <i>strategies</i>					
	and policies of the Zonal government?					
	To what extent did the SCACI Project					
	interventions were relevant to zonal plans?					
	To what extent gender aspects and the separate					
	needs of women, men, youth, and PWD were					
	considered in the implementation process?					
	To what extent did the project activities have					
	been done in line with the anticipated standard					
Ouality	and quality					
20000	To what extent did the quality of the project					
	design ensure genuine local participation and					
	ownership?					
Effectiveness	To what extent did the intervention reduce					
	beneficiaries' months of food gap using the					
	income they get?					
	Have the beneficiaries increased their income					
	using the various CASI technologies and					
	improved their livelinood?					
	The extent to which project activities have been					
	done in line with the anticipated standard and					
	quality					
	whether planned benefits have been delivered					
	ana received					
	How was the satisfaction of the beneficiaries					
	ana local government stakeholders in terms of					
	the timely capacity building and quality of					
	program inputs and quality of results?					

	The extent to which CASI technologies found					
	most effective in terms of increasing soil health?					
	The extent to which CASI technologies found		<u> </u>			
	most effective in terms of <i>improving crop</i>					
	nroductivity?					
	The extent to which CASI technologies found					
	most effective in terms of increasing the annual					
	income of the farmers with use of improved cron					
	varieties?					
Efficiency	To what extent have the planned activities of					
Emelency	the CASI project been delivered? Were there					
	any delays in activity implementation?					
	To what extent the various trainings including					
	on the Climate Smart Agriculture (CSA)					
	techniques were adequate in the time allocated					
	appropriateness of topics/contents_practical					
	demonstrations provided training manual					
	provided etc?					
	To what extent the project implementation					
	uses the new CASI technologies and contribute					
	to increasing household income?					
Impact	Early signs of bringing impact(s) on the food					
impact	cocurity					
	Impacts on productivity					
	Impacts on the attitude and livelihoods of the	<u> </u>				
	Impact on the attitude and inventions of the					
	rocal beneficiary communicies and local					
	Added value on loost nearly and community					
	Added value on <i>local people and community</i> ,					
	The extent to which the project has impacted on					
	The extent to which t the project has impacted					
	on the food security					
	The extent to which the project has impacted on					
	the poverty reduction					
	Added value on bi-lateral cooperation					
	development					
	Added value on institutional improvement and					
	Adequate resources (materials, funds) to					
	The extent of the speciest second and the					
	ine extent of the project results socially					
	acceptable, economically viable, and					
	environmentally menaly					
	Integration of SCACI Project activities/outputs					
Sustainability	are integrated into the Zonal plan to continue					
	ine extent to which the project leading towards					
	more sustainable and nutritious diets for the					
	nousenoids involved?					
	The extent to which the CASI technologies					
	contribute to environmental sustainability?					
Coherence	To what extent did SCACI project align to other					
	programs e.g. SLM interventions in the area?					

	The extent to what extent did the project			
	interventions avoiding duplication of effort			
	and/or adding value to other CASI activities?			
	The synergies and inter-linkages between the			
	intervention and other interventions carried out			
	by the same institution/government in the Zone			
	The consistency of the project intervention with			
	the relevant Zonal priorities and standards			
	What features of the practice/project could be			
	considered "creative" or "original" to your area?			
	The extent to which new innovative of CASI			
Innovativeness	practices has been introduced?			
	The best practices and innovative features in			
	improving the livelihood of women, youths, and			
	marginalized people like people with a disability.			
	Can the project be replicated in similar			
	contexts?			
Replicability	What plans are in place to scale up the project?			
	(to reach more beneficiaries or to have more			
	impact on currently reached beneficiaries, in			
	terms of quality and quantity)			
Cross-cutting	How did the project impact women, youths, and			
issues	marginalised people like people with a			
	disability?			
	The extent to which the project better target			
	and address the issue of women, youths, and			
	marginalized people in the area?			
	The extent to which the project addressed the			
	issues of nutrition?			
	To what extent did the project promote the			
	production of more types of nutritious crops?			
	What is the extent to which the CASI			
	technologies are environmentally friendly or			
	relevant for the environment (e.g.			
	conserving/saving water, restoring and			
	enhancing soil health)?			
	To what extent were the CASI technologies			
	adapted to climate change/variability?			

Did men and women target differently? Why? Do you think the project reduce gender disparities? How?

- 2) Will you (the DA) continue to promote CASI in their communities, etc?
- 3) What do you think on the overall perception on the SCASI project/implementation modality?
- 4) How did the issue of nutrition address by the project? Do you think the SCASI project interventions contribute to nutritional practice of the community? How did the beneficiaries change their nutritional composition after the project compared to pre-intervention?
- 5) What weaknesses were observed in the implementation of the project or to be recommended for future project design, including increasing productivity of crops, improving soil health, and the various capacity buildings? What should have been done to improve it?
- 6) What major challenges were you faced during the implementation of the project?
- 7) What lessons can be learned from the project implementation?

Wrap-up

Based on your experience, what recommendations would you make for improving the design and implementation of future projects similar to SCASI's interventions?

Those are all the questions I had for you. Thank you again for your time. All the information you have given us will be very helpful. Do you have any questions for me?

Thank you for your cooperation!

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

Key Informant Interview Checklist

- 1) FH Ethiopia
- 2) MSFCSO
- 3) Terepeza Development Association
- 4) DF
- 5) CIMMYT
- 6) Canadian Foodgrains Bank (Sahlemariam, Frew, Theresa, possibly Sisay from MCCE)

IDENTIFICATION

Interview date: Nover	nber/	/2024
District	Kebele	Village
Region		
Implementing Partner	[.] (IP)	
Name of Enumerator		Mobile number
Sex:	Age	
Starting time	-	Ending time

CONSENT STATEMENT

Hi. My name is _______. I am working for DAB-DART on behalf of (name of Partner _______). We are evaluating the *Scaling-Up Conservation Agriculture-Based Sustainable Intensification Project*. You are selected because the project targeted you. The evaluation result would be an input to improve future project interventions. The question will be about your experiences, perceptions of the project, and the relevance, effectiveness, and efficiency of agricultural practices, livelihoods, and sustainable intensification practices. Participating in an interview is purely voluntary, and you do not have to participate if you wish to. If you choose to take part, you have the right to stop at any time, and there will not be any consequences.

Information collected from you will only be used for the study purpose, and you will not be identified at all stages of the study, including data archival, analysis, and reporting. You will not be exposed to any risks by participating in this study. There is no direct personal benefit to your participation, but your responses will help improve project intervention in the future. This interview will take approximately 60 minutes, and your answers will be confidential. If you have any concerns on the data you provide, you can always contact Mr. Edries Mohamed email: edries@developmentfund.no Tel: +251 966 335424.

I want to remind you again that if you are not interested, you can leave the interview. Are you all willing to participate in the interview? 1=Yes $0=No. \rightarrow if no ask the reason!$

Relevance

- How long did you involve in this program? Would you please tell me your role/components/ activities in the SCASI project? How did you target? What was the targeting criteria? Do you agree on the selection of the area and the target? Do you think the CASI interventions are relevant to the problem of the area? How CASI activities are pertinent to the existing multifaceted problem of diminishing crop productivity and land degradation in the area? (
- 2) Did you participate in the SCASI implementation processes, such as needs assessment, targeting, and how do you describe its relevance to the needs of the beneficiaries?
- 3) What do you think about the TOC/intervention logic of the program weakness/limitations on the pathways of change, inputs and results as well as assumptions and risks? Mention specific aspects if required!
- 4) What were the major concerns with the SCASI implementation processes, such as targeting? Prob: challenges in relation to coordination, capacity of the implementing partner, etc

Effectiveness

5) Did the project fund allocate to implement the activities adequate? Was there any gap in terms of planned and utilized budget? If no, what proportion and why? How did you meet the gaps? May this question for KII participants like project implementing partners?

Efficiency

- 6) In your observation, did the results delivered by the project met the expectations of all stakeholders, including that of DF?
- 7) Which external/internal factors influenced the project and how? Prob: budget utilization, inflation, political dynamics, etc.

Impact

- 8) What were the most impactful CASI practices? Could the impact sustain over time?
- 9) Is there anything you think important but I missed here? Please tell.
- 10) What strategies and approaches used by SCASI project to ensure sustainability?

Sustainability

11) Do you think that the project will sustain after exit of the DF support to SCASI? Do you think that the project prepared sufficient exit strategy for smooth phase out/ transition of the CASI activities to day-today activities of the community and government partners at the various levels? If yes, please mention them.

Replicability

- 12) Is there anything that you think important and recommend in the future phase of the project, if any, or other similar projects intended to implement CASI in the similar settings?
- 13) From a coordination standpoint, what are the key lessons learned from the project? What would you do differently?
- 14) What lessons learned from the overall project implementation?
- 15) What are your recommendations to upscale the project approach?

Cross cutting issues

- 16) Did SCASI project staff have gender focal person? What was the strategy to address gender issues in the program? How did men, women and youth were targeted? How did men and women farmers, youth, PWDs were targeted? Do you think that their representation adequate? What do you suggest improving it, if any?
- 17) How did the project being monitored ? What were the Monitoring, Evaluation, Accountability, and Learning (MEAL) system put in place? How lessons were documented? Did the MEAL inform the project progress? How?
- 18) Did the applied methodologies allow for verification of results, verification of the quality of results, and randomized controls

Wrap-up

In general, please explain your experience with SCASI's interventions?

Those are all the questions I had for you. Thank you again for your time. All the information you have given us will be very helpful. Do you have any questions for me?

Thank you for cooperation!

To be filled and returned by the partners. Please rate the following evaluation points from Very Low [1] to Very High [5] based on your engagement and experiences with the project.

Criteria	Major evaluates points	Very low	Low	Mode rate	High	Very high
		(1)	(2)	(3)	(4)	(5)
	Were the planned interventions relevant to the priority					
	needs of the target beneficiaries?					
Relevance	To what extent are the objectives, planned activities, and					
	planned outputs of the project consistent with the					
	intended outcomes and impacts to meet the needs of					
	target beneficiaries?					
	To what extent does the project activity, outputs					
	/outcomes relevant to reducing land degradation?					
	To what extent did the project activity, outputs/					
	outcomes with regard to <i>contribution to food security</i> ?					
	To what extent did the project activity,					
	outputs/outcomes increased soil health to enhance soil					
	fertility of the local beneficiaries?					
	To what extent was the <i>quality of project designs</i> and its					
	intervention logic relevant?					
	To what extent did quality of the project design in					
	ensuring genuine local participation and ownership?					
	To what extent did the capacity building activities					
	provide by SCACI Project relevant?					
	Were the criteria for selection of program beneficiaries					
	adequate?					
	To what extent gender aspects and the separate needs of					
	women, men and youth were considered in the					
	implementation process?					
	To what extent project activities have been done in line					
	with the anticipated standard and quality?					
	To what extent were the applied methodologies					
	adequate?					
	To what extent the applied methodologies allow for					
Quality	verification of results, verification of the quality of					
	results, and randomized controls?					
	To what extent does quality of the project design in					
	ensuring genuine local participation and ownership?					
	To what extent does the quality of project designs and its					
	intervention logic relevant?					
Effectiveness	To what extent have the targeted beneficiaries reduced					
	their months of food gap using the income they get?					
	The extent to which the SCASI project were cost-effective					
	to achieve the project objective?(How the project					
	budget spent to achieve the project goal?)					
	Have the beneficiaries increased their income using the					
	various CASI technologies and improved their livelihood?					
	The extent to which project activities have been done in					
	line with the anticipated standard and quality					
	Whether planned henefits have been delivered and		-	+		+
	received?					
	What positive outcome gained in building self-confidence			1		1
	among the beneficiaries in the project area?					
	The extent to which CASI technologies found most					1
	effective in terms of increasing soil health?					

1	The systematics which CACI to share leaving forward most			
	affective in terms of improving and undustivity?			
	The subart to which CACI to she also found monthly?			
	The extent to which CASI technologies found most			
	effective in terms of increasing the annual income of the			
	farmers?			
Efficiency	To what extent have the planned activities of the CASI			
	project been <i>delivered</i> ? Were there any <i>delays</i> in activity			
	implementation?			
	To what extent the various <i>trainings</i> including on the			
	Climate Smart Agriculture (CSA) techniques were			
	adequate in the time allocated, appropriateness of			
	topics/contents, practical demonstrations provided,			
	training manual provided, etc?			
	To what extent, the project implementation use the new			
	CASI technologies and contribute to increasing			
	household income?			
	To what extent the established demonstration plots and			
	FTCs helped to facilitate the flow of information timely,			
	efficiently, and effectively to farmers?			
Impact	Early signs of bringing impact(s) on the food security			
	Impacts on productivity			
	Impact on the attitude and livelihoods of the local			
	beneficiary communities and local government			
	Added value on local people and community practices			
	The extent to which the overall goal of the project has			
	impacted on soil health			
	The extent to which the overall goal of the project has			
	impacted on the food security			
	The extent to which the overall goal of the project has			
	impacted on the poverty reduction			
	Added value on bi-lateral cooperation development			
	Added value on institutional improvement and capacity			
	building			
Sustainability	The extent to which the program put in place proper <i>exit</i>			
	strategies, and documented good lessons and			
	experiences			
	Adequate resources (equipment, materials, funds) to			
	continue SCACI activities			
	The intervention within the knowledge, skills, and			
	<i>capacity</i> of organizational set up			
	The extent of the project results (outputs and outcomes)			
	sustainability (socially, economically, environmentally)			
	Integration of SCACI Project activities/outputs are			
	integrated into the design an exit strategy and			
	sustainability plan?			
Coherence	To what extent did SCACI Project showed			
	complementarity interventions in the same context?			
	The extent to which the project interventions			
	complemented, harmonized and coordinated with other			
	existing CASI activities while avoiding duplication of			
	effort and/or adding value to other CASI activities?			

	The synergies and inter-linkages between the			
	intervention and other interventions carried out by the			
	same institution/government in the woreda			
	The consistency of the project intervention with the			
	relevant international priorities and standards			
	Has the communication/ collaboration between the			
	implementing partners and DF been adequate?			
	To what extent have the innovative aspects of the project			
	been fulfilled?			
	What features of the practice/project could be			
	considered "creative" or "original"?			
Innovativeness	What are key innovative ways [focusing on utilizing			
innovativeness	indigenous knowledge and being environmentally			
	friendly] the project has been introduced?			
	The best practices and innovative features in improving			
	the livelihood of women, youths, and marginalized			
	people like people with a disability?			
	Can the project be replicated in similar contexts?			
Replicability	What plans are in place to scale up the project? (to			
Replicability	reach more beneficiaries or to have more impact			
	on currently reached beneficiaries, in terms of			
	quality and quantity)			
Cross cutting	The extent to which the project targeted and addressed			
issues	the issue of women, youths, and PWDs in the area?			
	The extent to which the project addressed the issues of			
	nutrition?			
	To what extent the project promoted the production of			
	more types of or nutritious crops?			
	The extent to which the CASI technologies are			
	environmental friendly or relevant for the environment			
	(e.g.conserve/ save water, restoring and enhancing soil			
	health)?			
	To what extent were the CASI technologies adapted to			
	climate change/variability?			

Thank you for cooperation!

ANNEX 3: IDI DISCUSSION GUIDE

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

In-depth interview questions

1. How did you start being part of the Conservation Agriculture-Based Sustainable Intensification (CASI) practices on your farm? What were the CASI practices you are applying?

2. Were there any specific training or support that helped you adopt them?

3. What were the initial challenges you faced when you first implemented CASI practices, and how did you overcome them?

4. What changes have you observed in your soil health and crop productivity since adopting CASI practices?

5. Can you describe how CASI has affected the environmental sustainability of your farm, such as water conservation, soil erosion, and biodiversity?

6. How has adopting CASI practices impacted your income and overall livelihood?

7. What has been the most rewarding aspect of adopting CASI practices on your farm

8. Looking ahead, what additional improvements or technologies would you like to introduce to your farm?

9. What advice would you give to other farmers who are considering adopting CASI practices in their own farming systems?

ANNEX 4: FIELD OBSERVATION CHECKLIST

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project Field observation checklist

Instruction: the following points will be observed (Pictures should be captured with informed consent)

- 1. Observe the crop residues on the CASI plots.
- 2. Observe the management of the established functional demonstration centers serving farmer: how/who manages the Demo centers?
- 3. Visit crop management practices at on-farm demonstration plots; types of crops demonstrated;
- 4. Relevance to the community in terms of knowledge shared and its long-term benefits
- 5. Visit the surrounding model farmers trained at the FTC and working on own farms (see the structures)
- 6. Observe to what extent model farmers willing to continue to use and adopt CASI technologies
- 7. Observe whether the CASI technologies are easy to adopt, less costly and eco-friendly to benefit more to farmers
- 8. Services provided to farmers; benefits farmers getting from the demonstration sites
- 9. Observe any intended or unintended effects, positive or negative in relation with project support through model farmers and FTCs
- 10. Conduct discussion with model farmers and the yield progress
- 11. Visit fodder production areas and the types
- 12. Gender specific CASI technology adoption practices
- 13. Any other considered useful

ANNEX 5: CASE STORY TEMPLATE

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

Case Story -Most Significant Change (MSC)- Reporting formats (include photos the particular practices)

[one per Region]

In your view, in which CASI technologies did you benefit the most?

[In general, what are the impacts observed due to the SCASI project? Take one important impact/benefit and probe in detail to capture the following contents!]

Contents

The Context/Background

The Processes

The Effect/impact/significant change as compared to baseline

Possible ways for scale up/out
Note: The contents, which include the context, process, effect, and potentiality for scaling up/out, are just mentioned here in the Box to remind the data collector how he/she should narrate the story. So, the story will at least have these contents in a single paragraph or multiple paragraphs.

ANNEX 6: SECONDARY DATA EXTRACT CHECKLIST

End-line Evaluation of Scaling-Up Conservation Agriculture-Based Sustainable Intensification (SCASI) Project

Secondary data extraction format

Indicators	Definition of indicators	Value
Household food availability	Number of months increase in the availability of food supplied using the tool "Months of Adequate Household Food Provisioning [MAHFP]"	
Yield variability	Reduction in downside risk measured as percent of annual yield variability reduction expressed in coefficient of variation	
Maize		
Wheat		
Teff		
Sorghum		
Haricot bean		
Taro		
Crop land area coverage covered by CASI practices	Hectare of crop area covered by at least 3 CASI practices in the project districts	
Level of yield increase	% of increase in average yields of crops (kg/ha) considered for the study	
Maize		
Wheat		
Teff		
Sorghum		
Haricot bean		
Taro		
Crop diversity	Average increase in number of crop types/variety grown per household from baseline.	
Soil chemical property score	РН	
Soil biological property score	OC%	
Soil biological property score	OM%	
# of farmers practicing CASI	# of women and men farmers who have practiced CASI for two consecutive seasons	
# of on-farm functional demonstration plots practicing CA activities	# of on-farm demonstrations plots farmers practicing CA	
# of functional demonstration centers serving farmers	# of research and demonstration plots established to scale CASI	
# of reports on adoption problems identified through action research and communicated to farmers	# of reports on adoption problems	
# of DAs involved in CASI training of farmers	# of male and female DAs (agricultural experts) provided training for farmers on CASI principles and practices	

	# of male and female agricultural managers and	
# of agricultural managers and policy	policy makers who are involved in planning,	
makers who support CASI	resource allocation and mobilization and provide	
	direction on CASI	
	# of functional informal groups using CASI	
# of functional community platforms	promotion and learning (SHG, VSLA, farmers field	
promoting CASI	school, farmers led forum), watershed committees,	
	1-to-5 farmers groups	
# of reports on institutional	# of reports on institutional requirements for CASI	
requirements for CASI scaling	scaling identified through action research	
# of CASI prostings and tashpalagias	# of CASI practices and technologies practices per	
# OF CASE practices and technologies	kebele (CASI practices and technologies to be	
practiced	defined)	
# of women and men farmers	# of women and men farmers expected to 2 or more	
received various capacity building	CASL events (trainings meetings field visits etc)	
supports	CASI events (trainings, meetings, neid visits, etc)	
# of CASI technologies and practices	# of CASI technologies and practices promoted by	
promoted by type	type	
# of reference on-farm CASI plots		
established	# of CASI reference/model plots established	
# of women and men farmers trained		
in CASI	# of women and men farmers trained	
# of training participants trained on		
CASI	# of agricultural experts trained	
# of policy makers at different levels		
trained	# of policy makers trained	
# of policy briefs developed from	# of policy briefs published and communicated	
action research	······	
# of Institutions engaged in CSA	# of institutions received CASI capacity building	
capacity building		
# of best CASI practices and		
technologies identified through	# of best practices identified	
action research		
# of reports on CASI scaling	# of reports on CASI scaling framework at national	
framework at national level	level developed	

Note that the comparison here are against the baseline.

ANNEX 7: EVALUATION QUESTIONS

Evaluation Target	Questions	Criteria	Design Tool	Sources
Process	 To what extent is the project design, as evidenced by its original 'Result Framework' components (Impact, outcomes, outputs, analysis of assumptions/risks, and identification of problems and needs of the target population), strategy, and approach appropriate to address the problems and to the policy environment of the SCASI project areas? To what extent is the quality of project designs and their intervention logic relevant? To what extent does the quality of the project design ensure genuine local participation and ownership? 	Relevance	 Secondary data extraction Focus Group 	Agr, experts, HHs, CIMMYT, CFGB and IPs, Review of document review
	 To what extent did the project achieve its stated results, i.e., the intended outcomes and outputs? How effective was the intervention, or is it expected to achieve its objectives and results, including any differential results across groups/DAs/women/SHFs/youths? Whether planned benefits have been delivered and received? The extent to which project activities have been done in line with the anticipated standard and quality 	Effectiveness	 Project doc. data extraction Field observation FGDs KIIs 	HHs, CIMMYT, CFGB and IPs, Document Review, Project records, Agri. experts, DAs
Result	 To what extent were the objectives of the intervention achieved on time? Was the budget used appropriately, according to the original plans and narratives, and was it supplementary to ensure a financial control system is in place and the systems are put in place? To what extent have the farmers from other Kebele/Woreda who did not participate in the project practised CASI? How and why do they choose to practice? Which CASI technologies? 	Efficiency	 Project doc. data extraction FGDS KIIs 	Project records, Agri. experts, DAs
	 Assess the extent to which project activities have been done in line with the anticipated standard and quality, Assess to what extent the applied methodologies are adequate. Do the applied methodologies allow for verification of results, verification of the quality of results, and randomised controls? Assess to what extent the quality of the project design ensures genuine local participation and ownership. What are the concrete recommendations for the program cycle and future programs? To what extent is the quality of project designs and their intervention logic relevant? 	Quality	KIIs, FGDs	Agr, experts, HHs, CIMMYT, CFGB and IPs, Review of document review
	 To what extent are the implementation of project activities, the realization of outputs, and the achievement of objectives likely to contribute to achieving the stated goal produced by an intervention? Directly or indirectly, intended or unintended? Did the project increase crop and fodder productivity (such as the introduction and promotion of Pigeon Pea, Lupin, Elephant grass, Desho, and Rhodes grasses to the areas both as green cover crops and fodders for animal feed) on a sustainable basis? Did the project restore and enhance soil health? Did the project increase the awareness and capacity of SHF on sustainable production systems? Did the project increase the institutional capacity to support SHF to adopt CASI? 	Impact	 Project doc. data extraction Secondary data FGDs, KIIs Observation Case Stories 	Agr, experts, HHs, CIMMYT, CFGB and IPs, Review of document review,

Evaluation Target	Questions	Criteria	Design Tool	Sources
	 What is the added value of the integration of DF partners of the project (CFGB implementer and CIMMYT as a research organisation)? What was the impact of the project period due to the reduction from 5 years to 3 years? 			
	 To what extent will the project benefits likely continue after donor funding has been withdrawn and project activities officially cease? The extent of institutional sustainability achieved The extent of financial sustainability achieved How is the project sustainably contributing to food security, poverty reduction, and nutrition, and how are these activities appropriate for agriculture sustainability? 	Sustainability	 Interview Checklist Project document review 	Agr, experts, HHs, CIMMYT, CFGB and IPs, Review of document review, Project records
Others	 How is the project intervention logic designed to be closely consistent with the government policies and strategies for livelihood improvement? How does the implementation coordination address the synergy in coordinating and working with other activities of other agencies operating in the SCASI operating areas? How has the conflict in the Oromia and Amhara regions affected the project's implementation and the results? What would be the possible recommendation for continuing the project in such settings? 	Coherence	 Document review, data extraction Interview checklists 	Agr, experts, HHs, CIMMYT, CFGB and IPs, Review of document review
	 To what extent have the innovative aspects²⁹ of the project been fulfilled? What features of the practice/project could be considered "creative" or "original"? What are key innovative ways [focusing on utilising indigenous knowledge and being environmentally friendly] the project has been introduced? The best practices and innovative features in improving the livelihood of women, youths, and marginalised people like people with a disability? 	Innovative- ness	 Document review, Interview checklist Spot-checking checklist 	Project documents Targeted beneficiaries (FGD/KII/IDI) Field
	 Can the project be replicated in similar contexts? What plans are in place to scale up the project? (to reach more beneficiaries or to have more impact on currently reached beneficiaries, in terms of quality and quantity) Efforts done to scale out of the project-specific areas at kebele, woreda and zonal level Assess the impacts of radio broadcasting and lessons learned. 	Replicability and Scalability	 Document review, Interview checklists 	Woreda Agri. Experts Project records, kebele focal persons
Cross- cutting issues	 How did the project impact women, youths, and marginalised people like people with a disability? How did the project target and address the issue of women, youths, and marginalised people in the area? Did men and women targeted differently? Why? Do you think the project will reduce gender disparities? How? 	Gender environment, Nutrition, MEAL system	 Document review, Interview checklists 	Project records, Project Documents

²⁹ How new are the SCASI project ideas or new ways of doing/practising in the area, to the beneficiaries, and to solve their problems?

Evaluation Target	Questions	Criteria	Design Tool	Sources
	 How did the project address the issue of nutrition? Do you believe the SCASI project interventions contribute to the nutritional practice of the community? How did you change your nutritional composition after the project compared to pre-intervention? Were the CASI activities you practice environmentally friendly? Were the CASI practices environmentally friendly? (e.g. was the mulching used decomposable, conserve/ save water, reusable, etc? When you used CASI practices, were you concerned about climate change? Why? Which environmental issue do you think is essential? How do SCASI project interventions contribute to the environment (reduce soil degradation and deforestation, increase soil organic matter, improve soil structure/fertility)? How was the project being monitored? What was the MEAL system you put in place? How were lessons documented? Did the MEAL inform the project progress? How? 			

Methods	Source	Purpose	Indicator	Tool
Desk research and data extraction	IPs, project report, Woreda, Kebele/DA, other studies	Generate of quantitative-dominated data	 Household food availability Yield variability Cropland area coverage by CASI practices Level of yield increase Crop diversity 	 Secondary data extraction sheet and desk review format KII, FGD, Case stories Checklist
Key Informant Interviews	DAs, Agr.Expert, FH Ethiopia, MSFCSO, TDA, CFGB, CIMMY,DF	qualitative dominated data, which are essential to check the effectiveness, efficiency, and impact, sustainability issues, best practices, and gaps observed gaps	 knowledge, attitude, and practices on the project intervention, challenges lessons learned Overall perception of the SCASI project/implementation modality Gained knowledge, skills, and practices SCASI implementation processes 	 Semi-structured interview for KIIs, FGDs, case stories , observation
Focused Group Discussions (FGDs)	Men, women, youth group mixed with PWDs in each group	To obtain the perspectives on various targeted community members to check the effectiveness, efficiency, and impact, sustainability issues, best practices, and gaps observed gaps	 Perception of various CASI practices (strengthens and weaknesses) Community's knowledge, attitude, and practices on the project intervention lessons learned and challenges Views on the SCASI project Gained knowledge, skills, and practices SCASI implementation processes 	Semi-structured checklist
In-depth interview (IDIs)	Community leaders Farmer Field Schools (FFSs) Self-Help Groups (SHGs)	capture their point of view are essential to understanding the challenges faced and lessons learned	 Program fidelity Project implementation process Challenges faced lessons learned 	 Semi-structured interviews for IDIs, Case stories ,template Observation checklist
Observation /spot-checking	Selected crop production plot/area from different socioeconomic groups – male HHHs, female HHHs, youth, people with disabilities	Spot checks without implementing partners present to verify results reported by partners.	 on-farm demonstration plots, model farmers, fodder production areas, selected farmers training centre (FTCs) and individual farmers' fields, eco-friendly crop production systems, etc. 	Checklists for direct observation at CASI spots, KIIs, FGDs
Case story	Success on how vulnerable project beneficiaries (like people with disabilities) have benefited in terms of increased productivity, income and food security; it also covers what works best and why.	detailed information on best practices and to gain profound, concrete, and contextual evidence	 increased crop and fodder productivity, restored and enhanced soil health, Increased awareness and capacity of SHF and related thematic issues Enhanced livelihoods (income, food security situation.) of women, youth, disadvantaged groups 	 Semi-structured interviews for case studies, KII checklist

ANNEX 8: SUMMARY OF THE METHOD OF DATA COLLECTION SOURCES, PURPOSE, INDICATORS, AND TOOLS TO BE USED

Annex 9: Sustainability plan SCASI

Outcome	Output	Measures taken to ensure sustainability	Key stakeholders/ organizations who are expected to play a critical role in sustaining	Readiness of key stakeholders to assume responsibilities of sustaining results	Handover process/ plan to strengthen stakeholders	Responsible organization to take lead in sustaining results after the project phases out
1. Increased crop productivity on sustainable basis	1.1 Proven CASI practices and technologies practiced by smallholder farmers	 Technical Institutional Financial Creating improved planting materials (crops and fodders) access through revolving seeds, linking them with input suppliers Building capacities for local seed multiplications Organize & capacitate youths/ local enterprises for CASI small scale mechanization services 	the results Seed enterprises, Coops/Unions, Research centers, BoAs, SMEs, Seed Inspection, AMIO Eng., CBOs, Rural land Administration office	 Stakeholders' platforms established BoAs assigned focal persons per woreda & developed Joint action plans developed to scale & support ongoing activities AMIO fabricated the Maresha prototype & 	 Exposure visits, field days, joint monitoring, capacity building (trainings, input access linkages, etc.) Develop bylaws, MoUs, guidelines, manuals, Strengthen 	BoA (the regional, zonal and district level)
	1.2 Increased equitable access to knowledge of CASI systems amongst smallholder farmers	 Create access to locally available medias to capacity smallholder farmers Establish learning demo sites in government institutions (FTCs, Schools, ATVET, universities, research centers Advocate and lobby to incorporate CASI in 	BOA, Research centers, ATVET, Local media agency, universities, Education Office	 Started broadcasting the CASI learnings through local medias Existing agriculture programs learnings broadcasting Stakeholders' platforms established Available CA manuals, guidelines 	 Develop joint action plans on regular platform meeting Resource mapping Strengthen capacity of the stakeholders based on the identified gaps 	BoA

Outcome	Output	Measures taken to ensure sustainability	Key stakeholders/ organizations who are expected to play a critical role in sustaining the results	Readiness of key stakeholders to assume responsibilities of sustaining results	Handover process/ plan to strengthen stakeholders	Responsible organization to take lead in sustaining results after the project phases out
		government extension system				
2. Restored and enhanced soil health	2.1 CASI Principles and technologies promoted	 Build the capacity of the smallholder farmers on compost/vermi- compost preparation, control open grazing, mulching materials preparation Develop bylaws on free grazing and link with the local government authorities for enforcement 	BOA, Kebele administrations, Research centers, Rural land Administration office	 Developed bylaws on free grazing control Established stakeholders' platform Strong attention and government program on integrated soil fertility management 	 Joint planning and monitoring of the project Exposure visits, field days, Capacity buildings 	BOA
3.Increased awareness and Capacity of smallholder farmers on sustainable production systems	3.1 Reference demonstration plots for validation of CASI practices and technologies established at model farmers farmland	 Establish demonstration plot s in FTCs, schools, communal lands and farmers land Create inputs access to demo plots Support the fencing of FTCs 	BOA, Farmers group, inputs suppliers,	 The research centers in the project area involved significantly. Most of those reference demonstration plots are demonstrated on Farmers Training Centers 	 Exposure visits, field days, Capacity buildings 	Research centers in the implementation area
	3.2 Knowledge and practical skills of 15,000 smallholder farmers on CASI practices developed and increased adoption and implementation	 Developing/ revising and distributing CASI manuals and modules. Providing trainings to male & female farmers 	MoA and its line offices, SLMP,	 The farmers are well equipped with SCASI techniques both with basic and refresher training provided. 	 Farmer to farmers field visit. Exposure visits and 	 BoA (Regional, Zonal and district level)

Outcome	Output	Measures taken to ensure	Key stakeholders/	Readiness of key stakeholders	Handover process/	Responsible organization
		sustainability	organizations who are	to assume responsibilities of	plan to strengthen	to take lead in sustaining
			expected to play a	sustaining results	stakeholders	results after the project
			the results			phases out
4. Increased institutional Capacity to scale up CASI under smallholder farming systems	4.1 Capacity of DAs and Agricultural experts enhanced to improved CASI extension delivery.	 Facilitate awareness creation within the extension system. Ensure CASI Mainstreamed at all levels 	MoA & its line offices,	The capacity of DA has improved in SCASI concepts.	 Develop joint action plans on regular platform meeting. 	BoA- District level
	4.2 Increased awareness of policy makers on CASI benefits	 Arrange exposure visit for policy makers at different levels Engage the policy makers at key CASI events. 	MoA & its line offices	There was a meeting with Ministry of Agriculture Office and we confirmed that they included CA to be implemented in the 4 years plan.	Closing workshop will be organized accompanied with field visits and experience sharing	MoA
	4.3 Improved CASI implementation capacity at all levels	 Providing awareness and capacity building trainings Strengthen and build a strong CASI leadership and coordination capacity at the MoA and BoAs Establish evidence based CASI scaling using action research tools Establish and run stakeholders' platforms at different levels Providing technical support for CASI field 	MoA and its line offices, Addis Ababa University, SLPM/RLLP, SFID and other directorates, research centers,			

Outcome	Output	Measures taken to ensure sustainability	Key stakeholders/ organizations who are expected to play a critical role in sustaining the results	Readiness of key stakeholders to assume responsibilities of sustaining results	Handover process/ plan to strengthen stakeholders	Responsible organization to take lead in sustaining results after the project phases out
		 practitioners at all levels Establishing a digital CASI database system 				
	4.4 Best CASI practices and technologies identified, documented, and scaling up pathways developed	 Documenting best practices and success stories Developing a CASI knowledge hub 				

NB: 1Mention measures taken to ensure sustainability regarding institutional, financial/economical, and technical/technological sustainability as relevant