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SCALE

Strengthening Capacity in Agriculture
Livelihoods and Environment



Resilience Design Mentorship Pilot: Approach, Findings, and Lessons Learned

September 2020

About SCALE

SCALE (Strengthening Capacity in Agriculture, Livelihoods, and Environment) is an initiative funded by USAID's Bureau for Humanitarian Assistance (BHA) and implemented by Mercy Corps in collaboration with Save the Children. SCALE aims to enhance the impact, sustainability and scalability of FFP-funded agriculture, natural resource management, and off-farm livelihood activities in emergency and development contexts. Find out more at www.fsnnetwork.org/scale.

Front Cover Photo:

Mentees using the A-frame and planning water harvesting structures in South Kivu, DRC.

Back Cover Photo:

The mentee group works with community members to build water harvesting swales during the December technical support visit.

Credits:

Front and back cover photos: Kristin Lambert, Mercy Corps

Water harvest icon on page 5: by Luis Prado from Noun Project

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Disclaimer:

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Introduction

From May 2019-March 2020, USAID’s Bureau for Humanitarian Assistance (BHA)-funded [Strengthening Capacity in Agriculture, Livelihoods and Environment \(SCALE\) Award](#) piloted an agriculture mentorship project in the Democratic Republic of the Congo (DRC) with a small group of agriculture technical staff from Food Security Program (FSP)-Enyanya, a USAID/BHA-funded Development Food Security Activity (DFSA). This report summarizes the pilot methodology, findings from baseline and endline surveys, and lessons learned from the process.

FSP-Enyanya is implementing the Resilience Design in Smallholder Farming Systems (RD) approach on 18 hillsides in South Kivu (referred to by FSP-Enyanya as “L’approche Colline” or the “Hill Approach”). By May 2019, the FSP-Enyanya team had completed two in-person RD trainings, one in July 2017 and one in November 2018. Given the technical complexity of the RD approach and its associated techniques, the trainings were an important foundation in transferring the technical knowledge and application to staff. However, the team acknowledged that further ongoing technical support was necessary for those staff who were responsible for training farmers on the approach. SCALE used this as an opportunity to pilot its remote mentorship/coaching approach in order to learn and adapt for future support to other BHA-funded activities.

The Hill Approach

The Hill Approach aims to reduce erosion through increasing water and soil management on hillside farms in South Kivu, DRC, with the ultimate aim of increasing arable land availability and production. The approach and technical strategies are modeled from the RD approach technical manual with added elements to support land access for smallholder farmers through longer term tenancy agreements. The technical strategies include:

1. Starting at the top of the hills to reforest degraded hilltops;
2. Adding large-scale and small-scale water harvesting structures (such as check dams, berms, and infiltration pits) to slow the spread and sink water into the soil; and
3. Working to improve soil quality through mulching and using local amendments such as manure and natural fertilizers.

Design of the Pilot

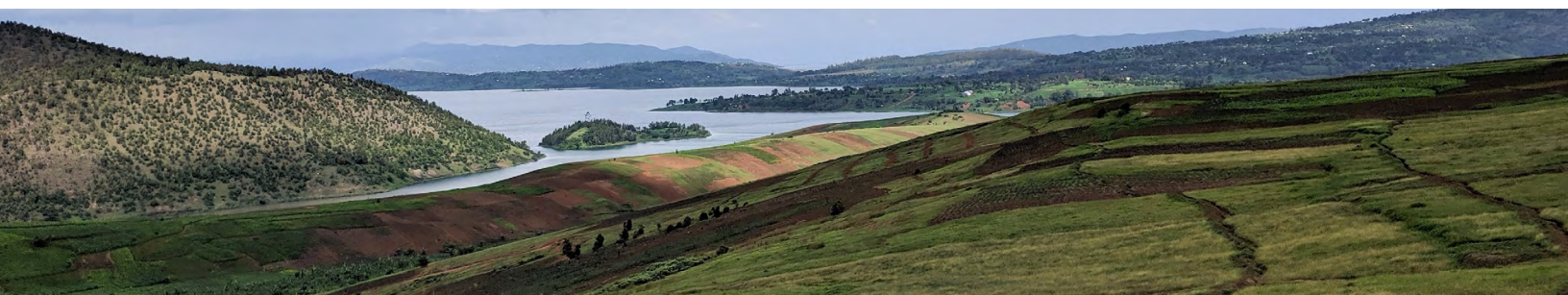
The mentorship pilot was co-designed by SCALE and the FSP-Enyanya agriculture team, which aimed to build the technical capacity of a cohort of FSP-Enyanya agriculture staff to assess, analyze, and adapt their Hill Approach implementation areas to better manage water and soil resources for improved soil health and crop production. It was also designed to test and refine SCALE’s mentorship approach to capacity strengthening that can be replicated with other BHA programs.

The cohort who participated in the pilot (termed “mentees” throughout this report) consisted of ten agricultural technical staff. Program management nominated staff who had a passion for innovation and resilient agriculture, attended at least one RD training, and directly worked with and provided technical support to field staff, agriculture village agents, or farmers on RD implementation.

Resilience Design in
Smallholder Farming Systems
*A Practical Approach to Strengthening
Farmer Resilience to Shocks and Stresses*



The [Resilience Design in Smallholder Farming Systems Approach](#) is described in detail in this document produced by the TOPS Program.



The hillsides of South Kivu, DRC.

Photo credit: Kristin Lambert / Mercy Corps

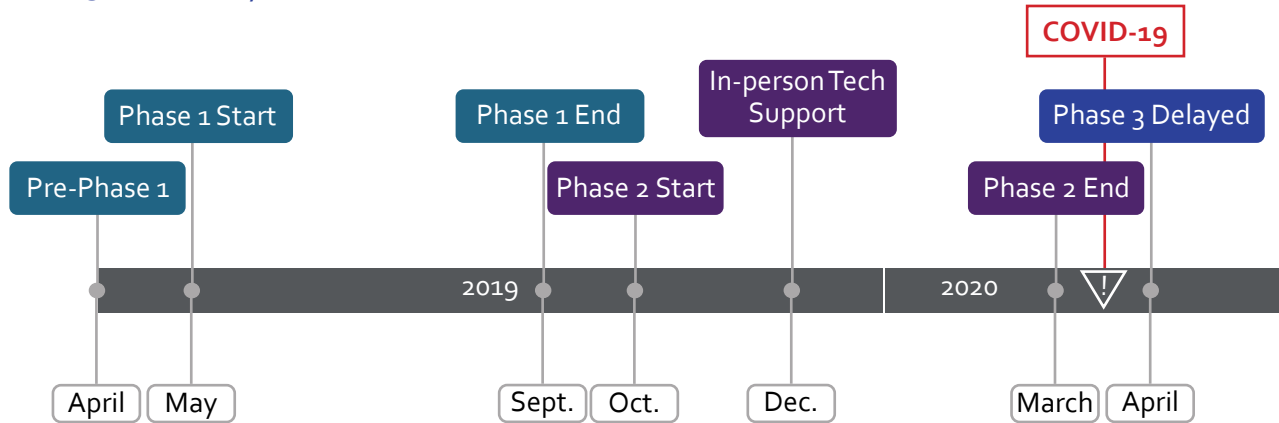
Process

The mentorship pilot had three phases:

Phase 1: Mentor Analysis of Photos

Phase 2: Staff Analysis of Photos with Mentor Support

Phase 3: Staff Analysis of Other's Photos



Pre-Phase 1 | April 2019

Before starting the technical mentorship, SCALE asked mentees to complete a baseline questionnaire and assessment to understand participants' expectations and measure analysis skills and confidence levels. Following completion of the assessments, a kick-off phone call was held to discuss the mentorship pilot, expectations, and outline next steps.

Phase 1: Mentor Analysis of Photos | May - September 2019

Phase 1 was designed to provide mentees with the opportunity for specific feedback from the mentor on technical challenges. During Phase 1, mentees took photos of areas on the hillsides that were causing them technical challenges (e.g., areas of heavy erosion) and provided supplemental information about the site to the mentor (see [Annex 1](#) for the initial supplemental information worksheet¹). Mentees used [Dioptra](#) to take the photos, which embeds critical data on the photo including GPS coordinates, elevation, cardinal directions, and time/date stamp. These helped improve the mentor's understanding and analysis of the site.

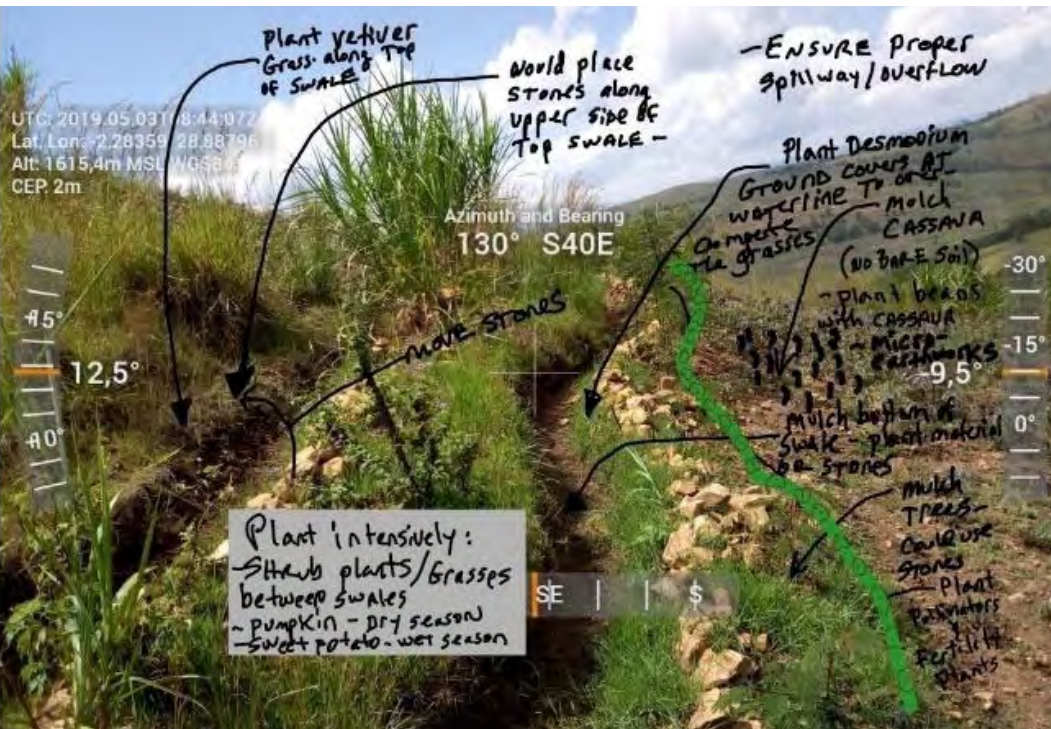
Next, the mentor analyzed the photos, sketched suggestions for improvement on the photos, and emailed the mentees a written description of suggestions and potential next steps. For example, many challenges were related to the construction of water harvesting structures, such as berms, that experienced breakages leading to erosion downhill. The mentor gave recommendations, such as reinforcing weak points with stones, using A-frame levels to ensure structures are on-contour, and building overflow routes for the water to travel to another structure once one is full. After mentees had a chance to review the feedback, SCALE organized a Skype call to discuss the recommendations and allow time for mentees to ask any additional technical questions.

"When we saw recommendations by [the mentor], it helped us improve our reflexes. When we applied recommendations from [the mentor], it worked. Then, when I meet that issue again, I can apply the recommendation again."

-Mentee, December 2019

This process (the mentees sending photos, the mentor annotating them and sending supplemental technical information, and the follow up Skype calls to discuss the feedback) was repeated three times during the five-month period.

¹ Over time, the supplemental worksheet that went with the photos became obsolete. Mentees ended up using [Kami](#), a Google Chrome extension that allowed them to write comments directly on the photo. This made it easier to specifically ask questions and point out challenges.



Example analysis from mentor during Phase 1.

Towards the top, there are recommendations for reinforcing the water harvesting swale by placing stones and planting vetiver grass to reinforce the structure, and ensuring a spillway/overflow for the water once this structure fills. The mentor initially hand-wrote the recommendations on the photo. After Round 1 of Phase 1, we adapted to putting numbers on the photo with an accompanying Word document where recommendations were typed. This allowed for:

- 1) easier reading, interpretation and translation of the recommendation, and
- 2) the mentor to add more details about the recommendation.

Phase 2: Mentee Analysis of Photos with Mentor Support | October 2019 - March 2020

Phase 2 was designed to strengthen mentees' analysis skills. During Phase 2, the FSP team analyzed each other's challenges and successes first before the mentor. Mentees were grouped into small groups of 2-3 based on which hills they supported. The pairs took 1-2 "success" photos of something going really well on their hill, and wrote a few sentences to explain the strategies they used to help make it a success. They also took 1-2 "challenge" photos of areas that were causing issues. Mentee pairs were matched with another peer pair to analyze each other's challenges and successes. The mentee pairs drew their analysis and recommendations on the photos and provided supplementary text to explain their recommendations (similar to the mentor's role in Phase 1).

After the peer review, the mentor reviewed each group's work, provided feedback on the analysis and added any additional recommendations or considerations. Finally, SCALE organized a Skype call after each round to discuss the recommendations and allow time for mentees to ask any additional technical questions. This process was repeated twice during Phase 2, with an in-person trip in the middle to further reinforce technical learning.

In-person technical support | December 2019

A technical, in-person field visit was conducted during Phase 2 with the mentor, mentees, and SCALE representative to provide further on-the-ground technical support. It gave the mentor the opportunity to view the field sites in person, check technical implementation, and further discuss and train on specific technical topics. It provided the mentees with the opportunity for more in-depth discussion and peer-to-peer learning onsite.



Example analysis from peer mentee during Phase 2. There are multiple recommendations to improve the site, such as reinforcing the berms with grasses. This feedback was expanded upon in a written document, and reviewed by the mentor, before sending back with the group that shared it.



Mentee group with mentor Warren Brush during the in-person technical trip. Demonstrating how to use the “net and pan” technique to plant trees on sloping landscapes.

Photo Credit: Kristin Lambert / Mercy Corps



Mentorship team working on connecting water harvesting structures during the in-person support in South Kivu in December 2019. Breakages in berms was a common challenge surfaced during the remote mentorship Phase 1-2, thus the team decided to focus on reinforcing berms and building overflow structures during the in-person support.

Photo Credit: Kristin Lambert / Mercy Corps

During the field visit, SCALE facilitated a reflection session with the mentees and mentor to discuss what had worked well and been most valuable, how to move forward, and ideas for scaling this within FSP and/or to other DFSAs.

Phase 3: On-hold

Phase 3 was designed for the mentees to assume the role of mentors through mentoring team members from partner organizations working on a different set of hills. However, with the onset of COVID-19 and related movement restrictions, the FSP-Enyanya team asked to put this phase of the mentorship program on hold due to movement restrictions and to enable them to concentrate on their increased workload.

Findings (Pre- and Post-Mentorship Questionnaire)

At the beginning of the pilot, SCALE conducted a baseline questionnaire with the mentees to understand what they wanted to learn in terms of technical skills and to measure confidence levels to assess and analyze sites. After Phase 2, an endline questionnaire was completed and the results compared to see if expectations were met and to measure any changes in confidence levels. All ten mentees completed the endline questionnaire.

Overall Aim of the Mentorship Pilot

The overall aim of the mentorship pilot was to “*build the technical capacity of a cohort of FSP-Enyanya agriculture staff to assess, analyze, and adapt their RD implementation areas to better manage water and soil resources for improved soil health and crop production.*” Of the ten mentees, **nine out of ten agreed or strongly agreed that the mentorship program met their expectations** and one responded “neither agree nor disagree.”

“This pilot project has contributed positively and improved the working climate in our FSP Team. The evolution in this direction is justified by the [presence of] interpersonal trust, closeness between team members, and a spirit of collaboration and knowledge exchange.”

Mentee, Endline Questionnaire

Technical Skill Improvement

From the baseline responses, mentees highlighted six technical areas that they wanted to learn about through the mentorship pilot. In the endline, participants were asked to agree/disagree with the statement that: “The pilot mentoring project has helped me improve my technical skills in << insert technical area >>.”

The six technical areas were:



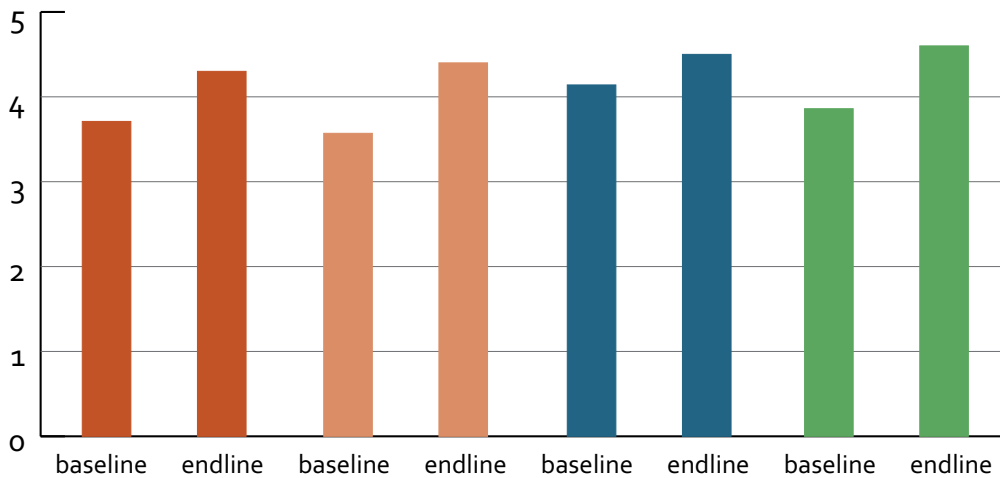
All ten mentees agreed or strongly agreed that the mentoring pilot improved their technical skills in areas 1-5 above. For area 6, “Connecting rainwater harvesting structures,” nine agreed or strongly agreed, and one responded “neither agree nor disagree.”





Confidence levels

On average, mentees’ confidence in their ability to assess and analyze soil health and water management, adapt the farm design, and train others increased between baseline (n=7) and endline (n=10) (see Figure below). The largest percentage change (23%) was in mentees’ “confidence in their ability to analyze a farm design,” which also scored lowest in the baseline. This result was expected given the mentorship focused strongly on how to analyze the landscape before beginning to design or make adaptations to it. The second largest percentage change (19%) was in mentees’ “confidence in their ability to train others in RD.” For all four questions, respondents selected 3 (neither confident nor not confident) or above in the baseline and 4 (somewhat confident) or above in the endline.

Average response for each confidence question

5=very confident; 1=not at all confident | baseline n=7 endline n=10



-  How confident are you in your ability to assess a farm design for soil health and water management?
-  How confident are you in your ability to analyze a farm design for soil health and water management?
-  How confident are you in your ability to work with a farmer and adapt the design for improved soil health and water management?
-  How confident are you in your ability to train other colleagues and/or farmers in resilience design?

Given more participants completed the baseline than the endline questionnaire, we analyzed these responses first for the seven participants who completed both, and then for all 10 endline respondents. There were no notable differences in trends. See [Annex 2](#) for full results.

Open-Ended Questions

Mentees responded that the mentorship pilot positively impacted their relationships with other colleagues, allowed the team to come to a common understanding of terminology, and taught them how to implement the approaches, learn from each other's photos and comments, and build collaboration. A few respondents specifically mentioned the paired exercise from Phase 2 as a way to build collaboration and share ideas. Lastly, mentees commented that the mentorship approach was creative and participatory, encouraged research and feedback, and that the mentor and SCALE team modeled good listening skills.

Related to areas for improvement, mentees suggested increasing the length of the Skype calls to allow more time for discussion, increasing the number of field visits and visits to other projects, and having a local expert/scientist as a part of the mentoring team. There were additional comments related to technology such as using unmanned aerial vehicles (UAVs), having soil moisture meters for all participants, and incorporating geographic information systems (GIS).

Lessons Learned and Recommendations Going Forward

- **Invest in relationship building to facilitate trust and comfort levels within the group.** This includes the relationships between mentor and mentees and within the mentee group. It encourages open dialogue and helps people feel comfortable asking questions and sharing challenges, especially with remote mentorship. One opportunity to do this is to build the mentorship process into the training program from the start, thus establishing the mentorship group and relationships from the beginning. Another opportunity is to have an in-person kickoff workshop and field visit at the beginning of the mentorship program before moving to remote mentorship.
- **Simplify the process so there is not so much back and forth during each phase.** During the pilot, the process of taking and annotating photos, uploading to Google Drive, translating documents, etc. was cumbersome for all to use and time consuming for SCALE staff to manage. Additionally, with frequent internet challenges, relying on one Skype call each round for an interactive exchange was challenging and exclusive when the connection was not strong for everyone. Exploring platforms that allow for asynchronous posting, reviews/discussions, and more interactions/real-time translation is strongly advised for similar future mentorship iterations.
- **Ensure all mentees are equipped with the tools needed to fully participate.** Given participants were joining from different office locations, some had stronger internet, better printers, and different levels of comfort with e-tools such as Chrome extensions (e.g. Kami for annotating photos). This led to differences in ability to fully participate. It is important to take time at the beginning of the project to ensure all participants are fully equipped with the tools and know-how to use them and to check in regularly (especially if new tools have been introduced by some participants) to ensure no one is left behind.
- **Bolster peer mentoring element by making all work accessible to the entire team.** The pilot was designed to have a strong peer mentoring element where FSP team members were able to learn from each other's work. All of the photos, analyses, and recommendations were shared with the full group, which allowed the team to see what others had done and how they responded. An interactive platform (as described in the above recommendation) would further bolster this opportunity for exchange.
- **Positive intra-team and inter-team dynamics can be built with a mentorship program.** Within a single program team, the mentorship program can help to build skills and rapport, and ensure the technical team has a mutual understanding of the technical content. A mentorship program can also be an opportunity for staff from different programs and/or different partner organizations to learn from and share experiences with each other. If the group is a mixture of staff from different programs or implementation areas, having at least 2 people from the same project/organization supports team building allows everyone to have a partner for any paired activities.
- **Hire an interpreter with agricultural technical knowledge for clarity of messages and ease of conversation flow if the mentees and mentor do not speak the same language.** SCALE had a number of different interpreters

throughout the pilot, which caused the activity to lose valuable time on Skype calls with explanations and clarifications. Additionally, it made the in-person visit less effective than if the interpreter already knew the agricultural technical vocabulary. Preparing the interpreter ahead of calls is crucial as is working with one interpreter or company over time to build a strong technical vocabulary and rapport with the group.

- **Ensure any technical feedback or recommendations is clear for all participants, especially when working across multiple languages.** In both written feedback and during live calls, it is important to ensure the technical advice and recommendations are presented clearly (e.g., drawn neatly, if on a photo) and have accurately translated text descriptions to accompany them.
- **Timeline and process needs to remain flexible due to varying priorities that arise in the program.** SCALE had approximate timelines and commitments from both the mentor and mentees, but those had to be adapted due to more urgent priorities. Given the complexity of DFSA implementing environments, mentors and mentorship program facilitators must remain adaptable and responsive to the programs' needs.
- **Have regular calls to discuss the written recommendations and to allow time for questions and technical discussions.** Participants found the live exchange during Skype calls to be particularly valuable, and suggested having more frequent or longer calls to discuss more in-depth. Zoom is recommended over Skype for bandwidth considerations and more interactive options.



Photo of a net-n-pan tree planting demonstration in South Kivu, DRC. These small water harvesting structures help capture water to support tree growth and reduce erosion.

Photo Credit: Kristin Lambert / Mercy Corps

Resources Required

The following resources were required for implementing the mentorship program:

1. 1-2 days each month of mentor time for reviewing images, advising, answering emails, having Skype calls, etc.;
2. 1-2 days each month of SCALE staff time to coordinate, translate documents, organize calls, communicate with mentees and mentor, etc.;
3. FSP-Enyanya agriculture team time and resources to collect images, analyze, attend calls, etc.
4. Time and travel for one in-person visit for mentor, mentees & SCALE staff; and
5. Interpreter time for Skype calls and in-person visit.

Conclusions

The results show that the pre-mentorship, in-person RD training provided a level of technical skill and confidence in the RD approach. However, the mentorship program enhanced this knowledge and confidence further across all measures. It also had indirect effects of building relationships, common RD understanding and collaboration across the team, which could have longer lasting benefits for program implementation. These findings demonstrate that investing in post-training mentorship has significant value. There are, however, relational, process and technological considerations to keep in mind when implementing a mentorship program to ensure its success. As a result of this pilot, SCALE will continue to refine its the mentorship approach and offer this to BHA-funded activities as an alternative modality for capacity strengthening.

If your BHA-funded program is interested in discussing the possibility of a mentorship program related to resilient agriculture or alternative livelihoods activities, please email scale@mercycorps.org.

The SCALE Award, together with mentor Warren Brush, sincerely thanks the FSP-Enyanya team for actively participating in the mentorship pilot project. Their engagement and feedback was instrumental in making it a success.

The FSP-Enyanya mentorship group in South Kivu, December 2019.



Photo Credit: Abby Love / Mercy Corps

Annex 1: Draft Photo Worksheet

Photo-Related Questions: Please fill one out for each photo shared.

Question	Answer
1. Photo Number (each photo should be saved as a JPG or PDF and have a number in the file name, e.g., Photo1_HillSite_DateTaken)	
2. Where is the site? (e.g., name of village, farmer)	
3. At what point in the season was this photo taken (e.g., rains just started, half way, through, etc.) And what has the weather been like for the last few weeks (unusually dry, very wet, etc.)	
4. Amount of rainfall to-date in this season and when was the last rainfall? (approximation or estimate is okay).	
5. At what point in the planting season was this photo taken (e.g., just planted, half way through growing season, etc.)?	
6. What surrounds the site (i.e., is the site at mid-slope, at the top, etc.) Is there a river or road adjoining the site?	
7. What is the aim of the site (i.e., is it for reforestation, family consumption, crop for export, etc.)	
8. What was the goal of the design on this site (e.g., why was the swale placed here, trees planted there?)	
9. Who did the work, when did they do it and how were they trained?	
10. Do you have a specific question for the mentor related to the site/photo around a particular need or challenge?	

Other Questions

Along with the monthly photo email and worksheets, participants can send up to three other questions about any additional challenges they are facing or things they want to ask the mentor. These are open questions (i.e., they do not need to be related to the photos themselves but rather about any other inquiries they want to ask the mentor).

1.
2.
3.

Annex 2: Confidence Questions

Full table of the results from the confidence questions, analyzed for the seven participants who completed both the endline and baseline, and then for all 10 endline respondents.

5=very confident; 1=not at all confident.

	How confident are you in your ability to assess a farm design for soil health and water management (i.e., knowing what questions to ask and what to look for to know if there are opportunities for improvement)?		How confident are you in your ability to analyze a farm design for soil health and water management (i.e., taking all that information and knowing the opportunities for improvement)?		How confident are you in your ability to work with a farmer and adapt the design for improved soil health and water management (i.e., knowing how to use the analysis to change the design)?		How confident are you in your ability to train other colleagues and/or farmers in resilience design?	
	Baseline	Endline	Baseline	Endline	Baseline	Endline	Baseline	Endline
Average n=7 baseline & endline	3.71	4.29	3.57	4.43	4.14	4.43	3.86	4.71
% Change baseline to endline		15.4%		24%		6.9%		22.2%
Average n=7 baseline, n=10 endline	3.71	4.30	3.57	4.40	4.14	4.50	3.86	4.60
% Change baseline to endline		15.8%		23.2%		8.6%		19.3%



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