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THE AFRICA RESEARCH IN SUSTAINABLE INTENSIFICATION FOR THE NEXT GENERATION (AFRICA RISING)

in the Ethiopian Highlands
Scaling Scan Report 2021

ILRI
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

CGIAR RESEARCH PROGRAM ON Livestock

ETHIOPIA

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BETTER LIVES THROUGH LIVESTOCK

Table of Contents

Acknowledgement 5

Figures 6

Acronyms & Abbreviations 7

Executive Summary 8

Scaling Ingredients Analysis 10

ILRI's I@S scaling framework 13

Approach: Virtual Scaling Scan workshop series 15

Overview of the Africa RISING project 17

Scaling Scan 19

Constructing the scaling ambition 23

Scaling Ingredients scoring 25

Conclusions 29

Recommendations 30

By 2025, Africa RISING and partner organisations want to stimulate the adoption of sustainable intensification (SI) practices in over 700,000 directly engaged households of the four main highland regions of Ethiopia to provide pathways out of hunger and poverty for smallholder families through sustainably intensified farming systems that sufficiently improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base

This ambition was developed via a consultative process with the project team, government stakeholders, private partners, farmers, and their corporate communities.

Photo credits: Eveline Massam/IITA

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Figures

Figure 1: Scaling Ingredients 10

Figure 2: ILRI Impact at Scale Framework 14

Figure 3:I@S hybrid workshop series 15

Figure 4: Vision of Success 19

Figure 5: Whose success? 20

Figure 6: Key actors and their roles 20

Figure 7: Scaling Ingredients 25

Figure 8: Scaling ingredients results 26

Figure 9: Scaling sub-ingredients results 26

Acronyms & Abbreviations

ARC	Awassa Research Centre
AR	Africa RISING
ASAT	Agricultural Scalability Assessment Tool
CGIAR	Consultative Group on International Agricultural Research
CIMMYT	International Maize and Wheat Improvement Center
COVID-19	2019 novel coronavirus disease
CRP	CGIAR Research Program on Livestock
I@S	Impact at Scale
ILRI	International Livestock Research Institute
NARI	The National Agricultural Research Institutes
NGO	Non-Governmental Organization
NRM	Natural Resource Management
PPP	Public-private partnerships
SI	Sustainable intensification
SNNPR	Southern Nations, Nationalities, and Peoples' Region
SR	Small ruminants
SRVC	Small ruminants value chain
USAID	United States Agency for International Development

Executive Summary

The International Livestock Research Institute (ILRI) works to improve food and nutritional security and reduce poverty in developing countries through research for efficient, safe, and sustainable livestock use. However, translating research outputs into products that can be adopted at scale has been a significant challenge for researchers in ILRI and CGIAR centres. To address this, ILRI through the Impact at Scale (I@S) program has curated and adapted a set of scaling tools and approaches to help researchers address this enduring challenge in their work. ILRI's evolving I@S approach, initially summarised in the 'scaling better, together' scaling framework. It follows a modular approach with three 'tracks': light, standard, and an extended track. The light track is an adapted version of the Scaling Scan tool by the Public-Private Partnerships (PPP) Lab and the International Maize and Wheat Improvement Center (CIMMYT)[1], and the Agricultural Scalability Assessment Tool (ASAT) by the United States Agency for International Development (USAID). The light track leads to the: 1) development of a scaling ambition from a stakeholder consultative process, 2) identification of potential opportunities and threats to reaching the stated scaling ambition using the Scaling Ingredients; and 3) developing relevant action pathways to be undertaken.

This Scaling Scan of the Africa RISING (AR) program in the Ethiopian Highlands is a product of the light track module of the ILRI I@S framework.

The Africa RISING program's overarching purpose is *"to provide pathways out of hunger and poverty for smallholder families through sustainably intensified farming systems that sufficiently improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base."*

These Sustainable Intensification (SI) innovations include different technologies on feed and forages, field and high-value crops, land and water management, systems intensification, and enabling environments; all these contribute to sustaining the livelihoods of rural households in the Ethiopian Highlands as identified from the AR phase I exploratory and action research activities[2] The current phase II of AR is an effort for adopting a systematic approach on using the evidence of positive outcomes generated during phase I to engage more development partners towards impact at scale; it is, therefore, considered a scaling phase.

In this second phase, Africa RISING focuses its research on facilitating development efforts and providing capacity support on the implementation of SI technologies by the partners.

The AR program in Ethiopia operated in four woredas (districts) of the four main highland regions: Basona Worena in the Amhara region; Endamehonei in Tigray, Lemo in the Southern Nations, Nationalities, and People's Region (SNNPR), and Sinana in Oromia. In each woreda, the program worked in two kebeles (villages). This Scaling Scan report examines AR using the Scaling Scan approach and tools to assess and monitor the scalability of its objective of scaling the SI technologies in the project sites and beyond. In addition, it highlights the Scaling Scan process and its outcomes of helping the project team and stakeholders:

- Appreciate the multiple dimensions of scaling
- Identify threats for scaling and find recommendations to mitigate them
- Develop a realistic scaling ambition to monitor the project continuously
- Develop a scaling mindset
- Understand the role non-technical factors play in scaling through their interaction with the Scaling Ingredients

1. Jacobs, F., Ubels, J., Woltering, L., 2018. The Scaling Scan – A practical tool to determine the strengths and weaknesses of your scaling ambition. Published by the PPPlab and CIMMYT.
2. ILRI. Africa Research in Sustainable Intensification for the Next Generation. Ethiopian Highlands Regional Project: Proposal for a second phase, 2016 – 2021 to the USAID. August 2016.
3. ILRI's Scaling Scan Approach and Tools were designed based on the Original Scaling Scan Approach developed by PPP Lab and CGIAR CIMMYT. They include tools and practices that enable the implementation of Scaling Scan remotely and increase the user friendliness of Scaling Scan.

PROCESS AND METHODOLOGY

This Scaling Scan followed a facilitated participatory process involving key AR project partners and stakeholders[4]. These included the core project team and critical public partners from the government of Ethiopia. The participants were engaged in developing a realistic scaling ambition for the project's innovations, scoring the 40 questions in the Scaling Ingredients survey, and setting action points for opportunities and threats identified. These respondents varied by gender, age, seniority, locality, roles and responsibilities.

This Scaling Scan Report is part of a series of similar analyses conducted in 2021 across ILRI and the CGIAR Research Program on Livestock (Livestock CRP) portfolio. The report is organised into several sections, starting with highlighting the scaling approach adopted for the analysis. The second section gives an overview of the project under study. It is followed by the Scaling Scan process section, which provides details about the methods and approaches adopted, including the results of the various sub-sections: scaling ambition, Scaling Ingredients Survey, critical analysis of the Scaling Ingredients, opportunities, and potential threats—finalising, the report with a summary of the conclusions and providing recommendations.

SCALING AMBITION

The project team created the following scaling ambition for the AR program scaling phase using the scaling ambition framework; the ambition was validated by multiple stakeholders and partners.

By 2025, Africa RISING and partner organisations want to stimulate the adoption of sustainable intensification (SI practices in over 700,000 directly engaged households of the four main highland regions of Ethiopia to provide pathways out of hunger and poverty for smallholder families through sustainably intensified farming systems that sufficiently improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base.

The AR innovations are validated crop, livestock, and natural resource management (NRM) technologies. The primary targets are smallholder farmers and farmer organisations, district and zonal level extension service providers, private actors, NGOs, public research, and academic institutions. The AR project team is the main driver of this scaling phase working with various development partners key to SI technologies adoption. The target regions and the number of households for scaling are Amhara (215,552), Tigray (154,074), Oromia (189,825) and SNNP (169,609). The projected timeline to achieve these numbers is 2025, and the focus to increase adoption of SI technologies will be:

Sharing knowledge generated by the project with local partners

Capacity building of AR approaches to enable local partners to continue the initiatives

Provide linkages with other initiatives that may have the resource to invest in AR championed activities

AR technologies positively impact the current agricultural system with no observed negative impact attributed to the innovations on the environment.

4. The workshops took place between March 22, 2021 and April 20, 2021 and much has changed in Ethiopia between then and now.

Scaling Ingredients Analysis

Figure 1: Scaling Ingredients[5]

The survey results revealed several opportunities and one potential threat ingredient in reaching the scaling ambition.

5. Ibid., 8

Photo credits: Eveline Massam/IITA

POTENTIAL OPPORTUNITIES

The SI technologies are relevant to the target group as observed through previous diagnostic surveys where the priorities of the target group are well documented, their geographical locations well defined and the innovations designed to meet their demands.

The technologies have a comparative advantage over existing farming systems in use in such parameters as observable yield advantage and preference by farmers. The technologies are user friendly and easy to adopt.

Currently, within AR and partners, there is a clear and capable leadership and management structure, including a site coordinator who backstops implementation at the Woreda levels. Partners involved in the AR project are actively engaged in decisions to cultivate ownership and accountability.

Through its relevant structure in the Woredas, the government is involved in the project at the regional and national levels; With the goal of SI technologies' adoption within the government's extension system.

POTENTIAL THREATS

The value chain struggles to guarantee the quality of products. There is demand for high-quality products, but the supply is not guaranteed. This is due to the absence of a certification system on the market that leads to little or no incentives to produce high-quality products.

The second barrier to technology expansion is the ability of farmers to fund the adoption of some of those technologies. Although funding exists, access for the farmers is limited and not guaranteed, leading to slow adoption rates. Existing financing solutions are too expensive for the farmers to adopt widely.

The lack of documented business case models is a third threat to the adaptation of SI technologies. Not much effort was devoted to developing strong business models around technologies to support large-scale adoption.

CONCLUSION

To reach the scaling ambition, the project needs to work on the threats identified in the scaling ingredients survey. AR needs to work towards addressing the quality assurance problem where farmers lack incentives to produce quality products due to a lack of market differentiation.

AR needs to explore contextual solutions to the issue of farmers' access to financing to adopt technologies. This is linked to the lack of documented business cases around SI technologies that can help reduce the current high-risk classification from financial institutions.

RECOMMENDATIONS

- Bridge the gap between demand and supply of quality products
- Strengthen relations between the actors of the value chain
- Financing SI at farm level

LIMITATIONS OF THIS SCALING SCAN

- The approach is driven primarily by experts' opinions.
- The Scaling Ingredients survey noted by all stakeholders assumes a similar level of awareness on all the innovation components by all participants.
- This report only covers the light track of ILRI's I@S Scaling Framework

Photo credits: Eveline Massam/IITA

ILRI's I@S scaling framework

Scaling in projects is when an innovation (technology, product, process, or structure) reaches more people, creates greater efficiency per person, and achieves system change and sustainability.

ILRI'S I@S FRAMEWORK DIFFERENTIATES THREE MAIN TYPES OF INTERDEPENDENT SCALING:

Scaling out

Focuses on more significant numbers, such as replicating or rolling out a successful solution or model to new clients, beneficiaries, or geographies. But again, the objective is to increase the number of people benefiting significantly.

Scaling up

Refers to transforming institutional conditions. Significant scale can frequently only be achieved by addressing the enabling environment on the institutional level. This includes changing how the organisations and institutions function and involves policies, regulations, laws, and resource allocation to enable innovation's performance, expansion, and sustainability.

Scaling deep

Is changing cultural norms, changing the 'hearts and minds' of people within an organisation, system or community in terms of narrative, values or beliefs to implement the successful solution.

ILRI's scaling work has adopted a working definition where scaling includes increasing the following:

number of individual users of an innovation (novel products, services, technologies)

the organisations the user is working for

the disciplines the users belong to

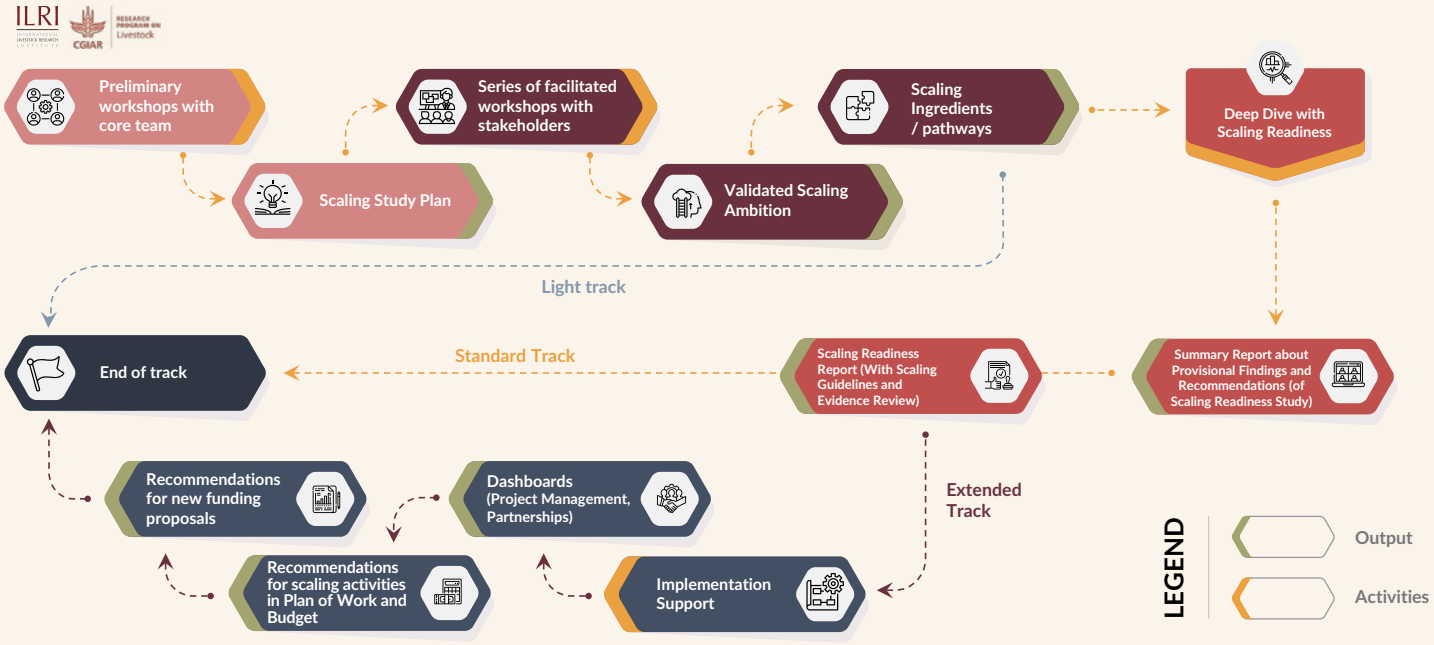
the changes the innovation contributes to

the locations where the innovations are used and

any other areas or fields where innovations are used

To make scaling concepts and tools more accessible to ILRI researchers and their partners, ILRI's I@S program reviewed the landscape of scaling to summarise relevant approaches and tools that livestock projects can benefit from. The objective is to provide those projects with a detailed process on how they can scale more effectively. The resulting ILRI framework offers an overview of the steps and short summaries and assessments of nine tools related to the scalability assessment. Figure 2 below shows the various scaling tracks (light, standard, extended) available to a project depending on the different project circumstances and preferences.

Figure 2: ILRI I@S framework



The light track is the focus of this report. The light track is an adapted application of the Scaling Scan tool by the PPPLab, and the CIMMYT7, and the Agricultural Scalability Assessment Tool (ASAT) by USAID. It is a three-part process that (1) begins with developing a scaling ambition, (2) scoring a ten scaling ingredients survey of 40 questions, and (3) working on Points of Attention focused on emerging opportunities and threats. All three parts involve external project stakeholders and partners. The outputs from this track are a Scaling Scan plan, a realistic project scaling ambition, and a Scaling Scan report.

Photo credits: Eveline Massam/IITA

Approach: Virtual Scaling Scan workshop series

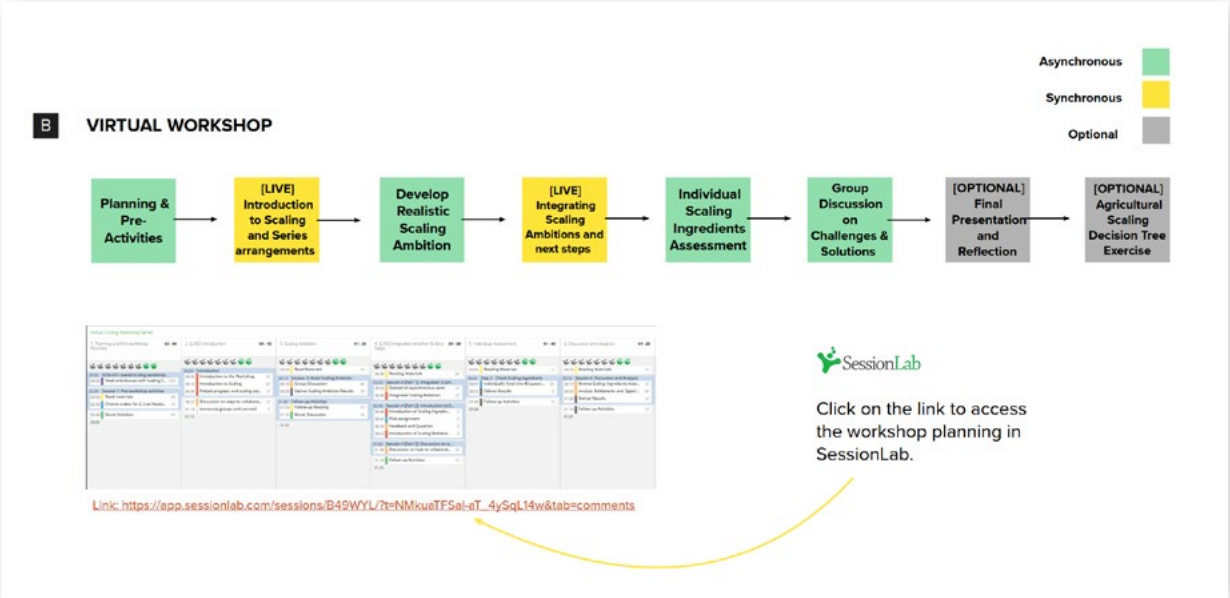
WORKPLACE CHANGES, FORCING US TO IMPLEMENT CHANGE

With the COVID-19 pandemic spread across the globe, business as usual was no longer feasible. Organisations around the world were implementing stay safe and home orders. For the I@S program at ILRI, the main question was not whether but how would we adapt our two and half-day in-person workshop to this 'new way of working'. How could we utilise existing digital tools and solutions to keep people safe and minimise the impact on planned and future scaling work? Unfortunately, this problem was being experienced by most teams which meant solutions out there were often trial and error. Nevertheless, we were hoping to achieve superior results. Through this process, ILRI adopted a blended approach of engaging scaling teams in a virtual workshops series that included synchronous and asynchronous engagements in a Scaling Scan workshop series to deliver the scaling assessment work.

TIME AND LOGISTICS OF THE SCALING GROUP

The scaling group comprises the scaling coordinator, core scaling project team, scaling champion and the partners and stakeholders. The scaling coordinator is the overall scaling facilitator assigned to the group from ILRI'S I@S program. The core scaling project team comprises the critical project staff who shall participate in the Scaling Scan and are led by their project leader, who, in this process, is the scaling champion. Finally, the group is completed by project partners, and stakeholders relevant to the work and whose inputs and participation are critical to scaling the project's target innovation or technology.

Figure 3: I@S hybrid workshop series



TIME DURATION: 5-6 weeks in absolute time dedicated to the Scaling Scan. However, the 5-6 weeks will usually be spread over time depending on the scaling group's availability for the synchronous and asynchronous tasks. In this case, the work began in 23 December 2020 and concluded in April 2021. This spread resulted in the work being caught up in a queue of similar studies and delayed work on the report until after about 5-6 months.

- **(Session 0)** - One week workshop - Planning
- **(Session 1-3)** - 3 weeks - Implementation + 1 week (optional sessions, flexible)
- **(Sessions 4–5)** - 2-weeks - Summary and reporting period

TOTAL TIME INVESTMENTS:
- Workshop participants: 7-9 hours in total from the beginning of the Scaling Scan process to the end
- The core project team and the scaling champion: 15-20 hours

MAIN CHANNEL: MS Teams and Zoom

DIGITAL TOOLS: Smartsheet for project management and Session Lab for workflow planning

The Scaling Scan workshop series covered key steps and produced a set of outputs under each step. The three steps of the series were as below, and are covered in detail later in this report.

Step 1: Constructing the scaling ambition

Step 2: Scaling Ingredients Survey

Step 3: Points of attention towards a scaling pathway

Overview of the Africa RISING project

The Africa RISING project seeks to drive the adoption of innovation from research on Sustainable Intensification of smallholder agricultural production systems that allow rural households to increase production from the same or fewer resources without negatively impacting future generations' needs. This increase in production leads to a different livelihood outcome through improved incomes, better household nutrition and increased human capacity. This is derived from the program's goal of providing pathways out of hunger and poverty for smallholder farm families through sustainable intensification farming systems that sufficiently improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base. Currently, the program is in its second phase (2016-2021) and operates in three African regions. The focus of this Scaling Scan is the implementation in Ethiopia in four Woredas – Sinana in Oromia, Lemo in Southern Nations, Nationalities, and People's Region (SNNPR), Endamehonei in Tigray, and Basona in Amhara. The first phase provided evidence of several innovations from which the second phase is championing development options. Beyond the project's direct actions of scaling agricultural intensification practices, the project is interested in observing positive impacts on human health and nutrition, improved gender outcomes in farm roles, and women's access to and control over production, incomes, and assets.

Photo credits: Eveline Massam/IITA

The current phase two of the Africa RISING project shifted emphasis towards partnerships for scaling and resulted in the changes reflected in the table below.

Operational Objective	Phase I	Phase II
The scale of the area covered	Limited to few woredas and Extending to more woredas and kebeles.	Kebeles with coordination at zonal/ regional level.
Research approach	Generic research, technology identification, testing and validation.	Primarily research to backstop scaling initiatives with development partners.
Partnership	Primarily with disciplinary	Moving towards stronger experts and farmers. Development partnerships.
Scaling	Ad hoc dissemination and scaling arising from technology generation and demonstration activities.	Systematic horizontal and vertical scaling of phase I innovations with development partners.
Targets	Direct beneficiaries engaged in technology development and numbering thousands (inflated cost per beneficiary).	Direct beneficiaries engaged via development partners and numbering hundreds of thousands (< $50 per household).
Innovation platforms	Implemented at kebele and woreda level.	Participating in or seeding IPs at regional and national levels.
Capacity development	Focused more on student attachments to support the action research interventions	Students will be attached to support the research in development innovations
Site coordination teams	Based in woredas with specific responsibilities for the research conducted in that woreda.	Broader role in supporting the backstopping research and managing development partnerships at zonal level and beyond.
Monitoring and evaluation	Ad hoc monitoring via field visits and innovation platform meetings. Large case study based and opportunistic.	Greater quantitative emphasis. Formal beneficiary tracking system to capture formal/ informal technology dissemination. Implement SI indicator framework.

Scaling Scan

After preliminary meetings, the first step in the scaling scan is a visioning exercise with the project team to help converge their visions before developing their scaling ambition. The exercise involved the group briefly describing what success for the project would look like in five years, its success, which actors were critical to this success, and which roles they would be expected to play.

At the beginning of the current phase II, the project had a different visioning exercise emphasising implementation.

Region	Directly engaged households	Potential beneficiaries in ZoI
Amhara	208,218	1,557,939
Oromia	183,738	983,735
SNNPR	161,744	986,959
Tigray	146,666	1,096,353
Total	**700,366**	**4,624,986**

The difference was in the particular focus on expanding the target group, without other considerations that are now covered in this scaling scan and seen in the section below.

Figure 4: Vision of success

YOUR VISION OF SUCCESS

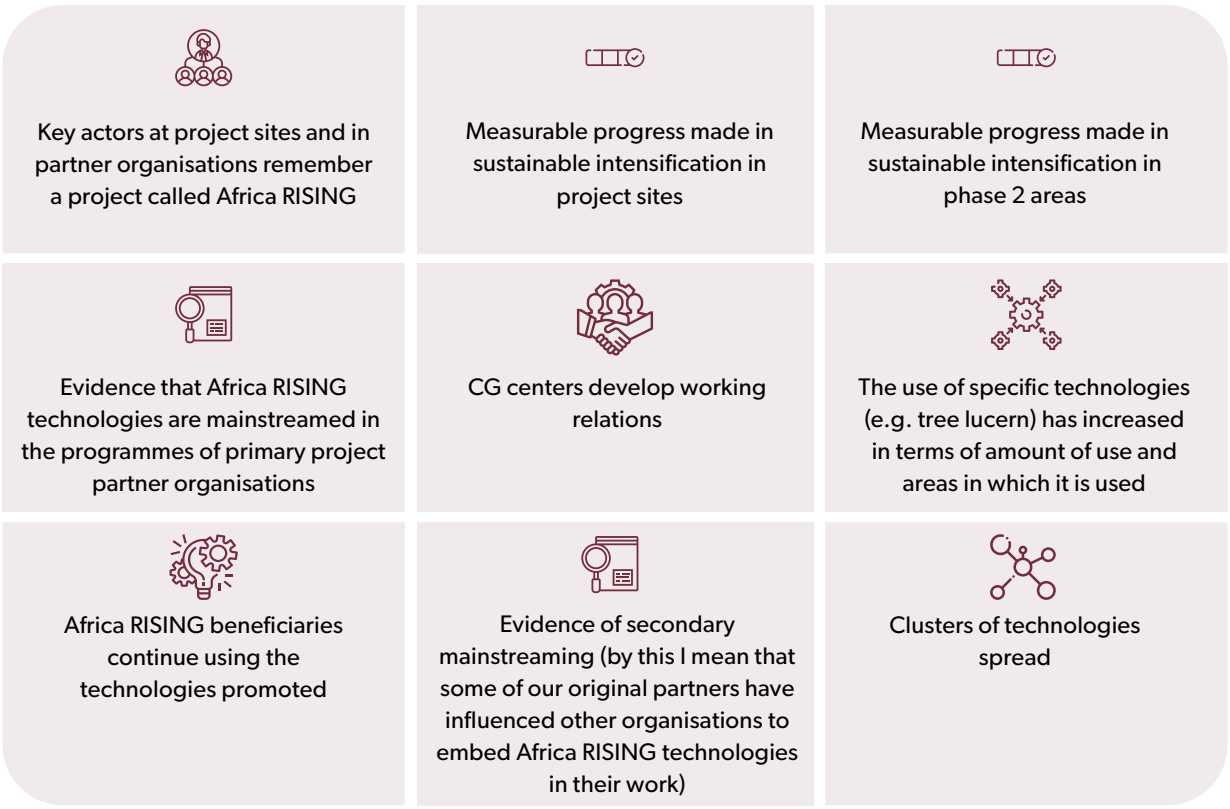


Figure 5: Whose success is it, and what does it look like?

WHOSE SUCCESS IS IT, AND WHAT DOES IT LOOK LIKE?

- Farmers: wider range of options for livelihood enhancement
- Farmers: Access to AR technologies, improved technical knowledge
- Farmers - increased incomes, increased knowledge, and opportunities, improved natural resources
- Future generation: opportunities to continue to generate livelihoods from agriculture
- NARS & extension - more knowledge, more knowledge exchange, more capacity to develop and disseminate SI technologies
- Local extension: Access to technologies that works in their local area and could advise farmers with confidence. Also their technical capacity enchanced through trainings
- Community organisations - financially sustainable and improved capacity
- Development partners: agricultural innovation to promote with evidence base around SI
- ILRI: kudos with an important donor

Figure 6: Key actors and their roles

WHO WILL BE THE KEY ACTORS THAT WILL NEED TO PLAY A ROLE FOR US TO SUCCEED?

- Farmers: Continue using technologies, are willing to invest on the technologies
- Media. We could do better in using them to market our success
- Donors directly through further funding but also to highlight what they see as our successes though their networks
- Local extension: Continue following up with farmers in use of AR technologies; Find innovative mechanism to finance; Continue with linkage and network through AR
- Top management viewing project success as organisational successes and using them to position ILRI
- In order to get technologies used on farms: Farmers must use technologies. Extension - must train farmers. Ag Input value chains - must supply materials. Finance and business models - must be viable
- Farmer organizations: Mobilize their members to continue using AR technologies
- The global SI community regarding Africa RISING as an example of best practice
- In order to enable technology use: knowledge exchange between farmers, betwen extensions, NARS & NGO type groups. For Scaling: knowledge exchange, policy push?
- In order to monitor if success is occuring - appropriate metrics, and M&E plan
- Researchers: Focus on building capacities for scaling

VISION OF SUCCESS

The team listed the following as some of the visions they have for the project:

- See Africa RISING leave a legacy
- Achieve measurable progress in SI in project sites
- Africa RISING technologies are mainstreamed in implementation programs by partners and the government
- Africa RISING beneficiaries continue using the technologies
- See secondary mainstreaming of Africa RISING technologies in the form of partners influencing other partners to adopt the technologies
- Citation of Africa RISING approaches in the literature
- Continued knowledge exchange amongst stakeholders
- Africa RISING infrastructure informing some future programming and funding
- The national research system takes up the innovations and multistakeholder engagement approaches

WHOSE SUCCESS, AND HOW DOES IT LOOK LIKE?

- For the site coordinator, success is continuing to build sustainable networks
- Success is to see the future generations continue generating livelihoods from agriculture
- Farmers continue accessing AR technologies, improved technical know-how, increased incomes, opportunities for livelihood, improved natural resources
- NARS, extension continues to receive more knowledge exchange, capacity to develop, and capacity to disseminate SI
- Development partners receive technology innovation on SI that is evidence-based that they could use in their programming
- The local extension has access to technologies that improve their technical knowledge, work in their contexts, and inspire confidence
- Research for development community stays information on validated approaches on SI
- CG centres continue to build on work done
- Donors receive best practices and success stories

KEY ACTORS, AND THEIR ROLE?

- Farmers continue adopting and using SI technologies
- Farmer organisations mobilise members
- Extension workers continue disseminating, supporting the farmers on SI technologies
- Media by raising awareness of SI approach, technologies, and benefits
- Donors to fund innovation improvement, best practices dissemination
- Top managements to use success to position ILRI
- Researchers focus on building scaling approaches

FAMILIARITY WITH SCALING

Importance of scaling to Africa RISING

Scaling is one of the most critical aspects in Africa RISING since the phase II project was framed as a scaling phase meant to scale the potential practices from phase I. Therefore, the Africa RISING project had experience with the scaling subject and had a scaling plan for the current phase II.

That initial scaling plan was developed as a step-by-step process. The first step was to work with farmers at the research stage in the Kebeles to validate the SI innovation. From this step, the lessons would be extended outside the Kebeles but remain within the project's Woredas. The scaling would focus on partnerships with development partners and the government to disseminate the technologies resulting in scaling.

The step-by-step approach was designed in such a way that the involvement of the research team could be reduced with each step, reaching a point when development partners and the government could implement the technologies beyond Africa RISING Woredas and within extension systems in the regional and federal governments.

Familiarity with scaling

The Africa RISING project is well conversant with the scaling subject. As aforementioned, phase II was developed as a scaling phase, thus, the project developed a scaling plan. In this plan, the project appreciated the importance of other factors besides the technologies that affect the ability to scale, e.g., management, contexts, social and cultural factors, markets, and policies. In ILRI's scaling framework, these are referred to as Scaling Ingredients.

This scaling plan identified the need to contextualise the scaling approach to Africa RISING work as no blueprint fits all. For this reason, the project resulted in identifying valuable principles and practices that individually or combined enhance the chances of scaling the most promising innovations.

Africa RISING scaling framework

For the scaling plan that conformed to phase II implementation, Africa RISING adopted the following framework for scaling:

- Technologies being scaled up: It includes the technologies that are part of the SI and are specific to the different woredas, for example, community-based seed multiplication of wheat
- Scope of the technology: This defines the area and numbers being targeted. For example, within a specific woreda, scale-out to increase the number of farmers
- Partnership (actors involved): This lists the key partners necessary to achieve scaling, e.g., Woreda office of agriculture, Woreda office of cooperative and marketing, Awassa Research Center (ARC), Areka ARC, CGIAR
- When and what: This defines the timing of the implementation and the crop, e.g., wheat multiplication during the long rainy season
- Approach: This accounts for the various activities that shall be undertaken to scale the technology in question. For example, farmers involved in potato seed multiplication and willing to construct defused light stores would be targeted with training on seed multiplication techniques, marketing and assisted in forming local seed business cooperatives

Constructing the scaling ambition

Scaling ambition is a target statement by the project based on a technical framework. The I@S team works with the project team to develop a statement that defines what is being scaled, for whom, where, when, and why. In addition to this statement, some elements include performing a system and responsibility check to reflect on the impact of the innovation on the overall system and other social aspects like gender, age, inclusiveness, and the environment.

The scaling ambition construction followed the following process:

1. First, the project team developed a draft
2. Second, I@S reviewed and shared inputs
3. Third, the project team considered suggestions and iterated where necessary
4. Fourth, the scaling ambition was presented to stakeholders for input and validation
5. Finally, the project team published a consolidated scaling ambition

The technical innovations are validated crop, livestock and NRM technologies

Process/Organizational

Participatory action research for scaling of agricultural innovations: Comprised of problem diagnosis, validation technologies, facilitating scaling

Scaling through partnership building with public extension, research, NGO, and farmer organisations

Scaling through capacity building on technical innovations, as well as working under multiple stakeholders setting

Scaling through multistakeholder engagement approach through deliberate mechanisms for co-development of innovations and scaling mechanisms

Approaches to monitoring, evaluation, and analysis for SI of mixed farming systems

The primary targets are smallholder farmers and farmer organisations, district and zonal level extension service providers, private actors, NGOs, public research, and academic institutions.

Africa RISING is the primary driver of this scaling phase. Other important partners include various development partners - public extension, farmers organisations, NGOs, local research, and academic institutions. These partners have the required capacity, and AR provides programmatic support to absorb validated innovations and enhance their capacity.

This scaling phase targets the four operational regions of Ethiopia, Amhara, Tigray, Oromia and SNNP. Some of the innovations are scaling nationwide as they get into national policies and strategies. The scaling work is a combination of geographical expansion in terms of where the scaling work is being done and the number of people the project reaches in those geographies.

The scaling phase targets between 340,000 and 729,000 households as a realistic target considering the available resources. The maximum target figure is distributed as follows:

Amhara	215,552
Oromia	189,825
SNNPR	169,609
Tigray	154,074
Total	**729,060**

The project has set to achieve these scaling targets by 2025; Africa RISING will only lead the scaling until the year 2022 and in this period will focus on:

- Sharing knowledge generated by the project with local partners
- Capacity building of AR approaches to enable local partners to continue the initiatives
- Provide linkages with other initiatives that may have the resources to invest in AR championed activities

Africa RISING technical innovations are indeed contributing to positive system change. The AR research team using the Sustainable Intensification of Agriculture Framework (SIAF) has investigated the social impact of the innovation, and so far, the evidence shows no negative impacts; similarly, to impact on the environment, there is no evidence of adverse effect to the environment because of this innovation.

The realistic scaling ambition of the Africa RISING is by 2025, Africa RISING and partner organisations want to stimulate the adoption of SI practices in over 700,000 directly engaged households of the four main highland regions of Ethiopia to provide pathways out of hunger and poverty for smallholder families through sustainably intensified farming systems that sufficiently improve food, nutrition, and income security, particularly for women and children, and conserve or enhance the natural resource base

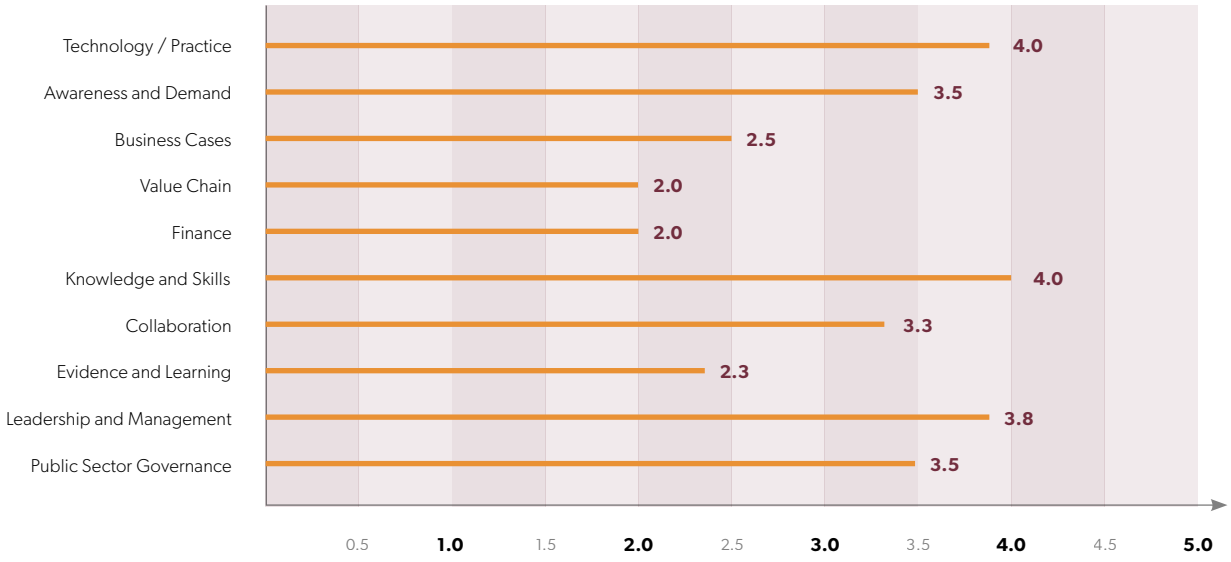
Photo credits: ILRI/ Apollo Habtamu

Scaling Ingredients scoring

Assessing the adequacy of the Scaling Scan approach

To assess the adequacy of the current project's approach to achieve the scaling ambition, the I@S team tasked the project with partners and stakeholders to score a ten-part survey, the Scaling Ingredients.

Figure 7: Scaling Ingredients



The Likert scale rankings used were:

***1* = No, this is very uncertain OR not enough information to answer**

***2* = Serious doubts**

***3* = Some doubts/unsure**

***4* = Quite confident**

***5*= Yes, definitely, this is not an issue for my scaling case OR not applicable**

Figure 8: Scaling Ingredients results

	Overall score
Technology / Practice	4.0
Awareness and Demand	3.5
Business Cases	2.5
Value Chain	2.0
Finance	2.0
Knowledge and Skills	4.0
Collaboration	3.3
Evidence and Learning	2.3
Leadership and Management	3.8
Public Sector Governance	3.5

Figure 9: Scaling sub-ingredients results

	Question 1	Question 2	Question 3	Question 4
Technology / Practice	5.0	3.0	3.0	5.0
Awareness and Demand	4.0	4.0	4.0	2.0
Business Cases	3.0	2.0	3.0	2.0
Value Chain	2.0	2.0	2.0	2.0
Finance	1.0	1.0	3.0	3.0
Knowledge and Skills	4.0	4.0	4.0	4.0
Collaboration	3.0	3.0	4.0	3.0
Evidence and Learning	2.0	2.0	2.0	3.0
Leadership and Management	4.0	4.0	3.0	4.0
Public Sector Governance	4.0	4.0	4.0	2.0

POTENTIAL OPPORTUNITIES

Technology

From the scaling ingredients scoring, the innovation is relevant to the target group. This is because the target group is well defined through diagnostic surveys and through looking at the priorities of the local target groups. From these surveys, the geographical locations are well defined, and the innovations are demand-driven.

The innovation was also favourably scored as it has a comparative advantage over existing alternatives in the form of new practices and or modified technologies like feeding trough, observable yield advantage over the existing practice, and technologies preferred by farmers and partner organisations.

The innovation is also easy to adopt since AR technologies are accessible for local farmers, although some technologies may not be affordable, such as the two-wheel tractors. When assessed for compatibility with local circumstances and preferences, the AR used participatory approaches and acknowledged local farmers' preferences when designing technologies, fulfilling these considerations.

Leadership and management

One strength of AR management is the presence of site coordinators, who provide day-to-day leadership of the scaling process. These coordinators are recognised and connected to the relevant actors in the sites.

Actors and stakeholders are involved in the AR processes and decision-making since AR follows a bottom-up approach in evaluation, feedback collection, meetings.

Another strength under leadership and management is that it is proactive about what works and appreciates what does not work, and is quick to make the necessary adjustments.

Public sector

On the role of the government in reaching the stated scaling ambition, the government is one of the critical partners in charge of disseminating the innovation through its extension system. The government of Ethiopia has several initiatives that support AR innovations which represent a conducive regulatory environment for scaling the technology.

Government agencies are supporting this scaling phase mainly through providing staff to underpin AR field activities. However, a few times, this has not been possible due to budget constraints.

One area that needs improving is the availability of relevant government financing mechanisms such as subsidies or tariffs that can benefit the scaling of this innovation. Existing ones are mainly for farm machinery and do not target other ingredients of the AR innovations.

Awareness and demand

Key stakeholders recognise that innovative technology is necessary and desirable since AR engaged stakeholders from Kebele to Zonal levels; however, little awareness exists at the regional and national levels.

AR has established multiple platforms and documents, including various informative reports, briefs, videos, etc., to communicate with stakeholders and ensure access to information regarding the innovation.

Furthermore, AR has evidence that the demand for the innovation is real and growing, as anticipated since the technologies are simple and tested in participatory ways. However, there are problems in accessing finance by local farmers to facilitate the adoption of some of the practices.

POTENTIAL THREATS

The following are the scored ingredients by the AR team, who indicated they had serious doubts about.

Value chain

The value chain was assessed to have significant difficulties in enabling the technologies with the right quality. Although local stakeholders and value chain actors are responsible for quality assurance, there is a vast gap between demand for quality and the supply of quality products.

AR is a service or production-oriented innovation and not so much a business-oriented one. The relations between the various actors in the value chain on business objectives are not well developed. AR supported farmers are primarily members of Cooperatives, Unions, and other forms of both formal and informal organisations.

Finance

Financing adoption of the innovation by farmers is one of the significant constraints to scaling. Financial mechanisms are available, but most are not accessible nor affordable for all value chain actors. Farmers and the other actors cannot adopt the technologies due to financial constraints, therefore lacking functioning mechanisms to support them. For example, microfinance institutions that provide financing are characterised by high-interest rates and, therefore, not affordable.

The actors, particularly the farmers, do not have the capacity for the current financial risks involved in securing financing for the technology adoption.

There is no specific funding solely to support the stated scaling ambition. However, AR activities were linked to government initiatives that do not stop with the AR project.

Evidence and learning

The project recalled the low scoring on evidence and learning after reconsidering the evidence. AR had compelling evidence from the first phase, which led to the second phase. The project has used modern data and tools to support, analyse, share, and promote innovation. Monitoring and evaluation of the AR is used to track progress and communicate with partners, including donors. However, the monitoring and evaluation component of the AR is not strong enough and, therefore, not potentially helpful in steering the scaling process to change course where needed.

To enable institutional learning, there are some efforts to document the scaling phase, such as regular project briefs, blog posts, and social media updates.

Business cases

AR developed viable business cases for some selected innovations, for example, avocado, potato with feeding trough, threshers, seed production, and service provision. However, AR primarily focused on the first level of the value chain with less involvement on the end levels.

AR, being more of a public-oriented service innovation than a business one, currently does not have enough information to sharpen existing business cases on the technology. The business environment does not support the business case for all players.

Conclusions

To make the overall performance of the value chain conducive to the scaling phase and beyond, these opportunities and threats need to be well understood, and actions should be taken.

AR has created a demand for cultivated forages in all existing sites. The supply of seeds and certification is therefore critical to sustaining this demand.

There have been efforts in the last three years on feeds and forage technology to establish local seeds systems in the communities that produce the right quality of seeds and there is a high demand. However, there is a significant problem with farmers ability or willingness to pay for quality products. This varies from technology to technology.

On the availability of evidence on the impact to understand the scaling process, the team reconsidered and agreed that this ingredient was underscored and did not reflect the actual case. AR had convincing evidence from the first phase, which led to the second phase.

There is a need to digitalise the monitoring data collected to avoid this false-negative assessment. There is robust monitoring and evaluation data used to monitor progress, and there has been qualitative data collection during annual reviews both at site and program levels. The major problem has been documenting these processes.

AR has documented the scaling experiences at different levels, with one publication out and two publications in the pipeline regarding AR's scaling experience. AR needs to develop a working framework based on the success and failures of the project to inform the scaling phases.

Photo credits: ILRI\Zerihun Sewunet

Recommendations

A PLAN TO TRANSFORM QUALITY

1 AR scaling phase will need to work with existing quality assurance systems to ensure that high quality is produced and marketed. Currently, there are no income incentives for farmers to produce higher quality. AR should work towards a certification system that can determine quality based on pricing for the technologies by working with organisations on quality assurance certifications.

2 AR being a member of the forage seed consortium at a national level, explore and support a plan to provide training on seed production and certification for seed producer associations and regulatory bodies.

3 Furthermore, AR should develop the relations amongst actors by strengthening the multistakeholder engagement platforms, as currently, most focus has been on overall value chain improvement. To make the target group and other value chain actors adequately organised, AR needs to revitalise the multistakeholder engagement platforms to facilitate more coordination.

4 One place to start is a landscape on the value chain studies undertaken 5-6 years ago.

CHANNEL PARTNER RELATIONS AMONGST VALUE CHAIN ACTORS

5 As for relationships between actors, the biggest constraint is the absence of formal contracts between actors.

6 AR should investigate improving the formality of how business is conducted amongst value chain actors to improve accountability and the relations between the various actors. Crops through corporative union multiplication and distribution are already formal and can be supported to meet seed companies to represent the farmers. The same can be adopted for forages where farmers and their organisations can be linked with forage seed companies to transact directly without the need for research organisations and NGOs as intermediaries. This needs to be localised as much as possible.

7 One way to initiate this would be, to develop a seeds road map planning to improve supply and demand for the seeds. This could be done by facilitating the current zones under AR on a 3–5-year strategy to secure improved seeds. For example, starting with early general seeds in small quantities so that in time the production increases to cover the whole zone from the early generation.

8 However, this is more promising for seeds than for forage. Also, link these efforts to the seed unions at a micro-level, lower than zone level.

FINANCING SI AT FARM LEVEL

9 AR needs to invest in marketing to partner with the existing financial institutions in the AR sites.

10 AR needs to commission a study that will look at the financial landscape in the current operational areas to understand better value chain actors' operational modalities, the risks they face and the possibilities of working together.

LIMITATIONS OF THIS LIGHT SCAN

To ensure representation beyond the project team, the Scaling Scan solicited participation from external stakeholders working in the value chain, ensuring that both public and private actors are part of the process and contribute to the key sessions of the process as experts. This approach, therefore, relies majorly on evidence from the opinions of experts, which ranks lowest on the hierarchy of evidence ratings.

The Scaling Ingredient survey is a lengthy survey of 40 questions structured into ten fields that the participant and group complete. The survey assumes the individual filling the survey is knowledgeable on the ten ingredients' areas, which is not always the case.

ILRI's scaling framework includes a light track, standard track, and extended track. This report is limited in that it only accounts for the light track. The project has also undertaken a Scaling Readiness Study – the extended track - where additional insights shall be highlighted

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