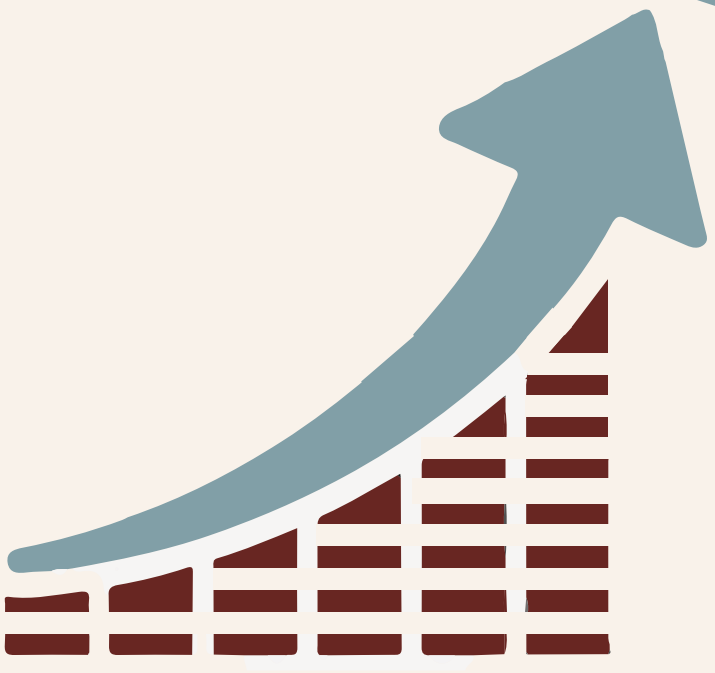
Scaling better together

The International Livestock Research Institute's framework for scaling



ILRI
INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

CGIAR

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The International Livestock Research Institute's framework for scaling

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International Livestock Research Institute

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Contents

Tables and figures

Tables

Figures

Abbreviations and acronyms

ASAM	agricultural scalability assessment matrix
ASAT	agricultural scalability assessment tool
ASDT	agriculture scaling decision tree
ASP	assessing scaling potential
BFS	USAID Bureau of Food Security
CIAT	International Center for Tropical Agriculture
CIP	International Potato Center
CRP	CGIAR research program
CIMMYT	International Maize and Wheat Improvement Center
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
IITA	International Institute of Tropical Agriculture
ILRI	International Livestock Research Institute
I@S	Impact at Scale program
MEL	monitoring, evaluation and learning
MSI	Management Systems International
R4D	results for development
RTB	CGIAR Research Program on Roots, Tubers and Bananas
SAP	scalability assessment and planning
SCI	Save the Children International
USAID	United States Agency for International Development
WHO	World Health Organization
WRI	World Resources Institute
WUR	Wageningen University and Research

Definitions

Core scaling group

The core scaling group comprises the scaling coordinator and scaling champion(s) from the research project team. They are the project's focal people and as such understand the technological innovation. The core scaling group also includes the scaling director who supervises the scaling project and coordination with the research team. The purpose of the core scaling group, which is specific for each scaling project, is to focus and coordinate scaling efforts from commencement to conclusion of the project.

Scaling coordinator

The scaling coordinator is assigned to the research project from ILRI's Impact at Scale Program and works closely with the research team to support the whole scaling process. The main tasks include:

- Collect firsthand data through interviews and surveys and secondhand data through literature review of existing reports and documents
- Support and organize scaling workshops with key scaling stakeholders as major facilitators
- Follow-up and validate data for the initial scaling report
- Conduct data analysis and draft reports for scaling workshops
- Support the use of other selected tools for detailed analysis
- Assist in drafting the final scaling plan
- Assist the implementation and monitoring, evaluation and learning (MEL) of the scaling plan if applicable

The scaling coordinator may perform this role simultaneously across a number of projects.

Scaling champion(s)

A scaling champion is a person within the research project, preferably with a senior role in the research team that has a broad knowledge base of the project and act as a direct conduit between the scaling coordinator and the project, linking with people or sources who can facilitate information and data flow. The scaling champion is also project specific.

Key scaling stakeholders

The key scaling stakeholders include a broad range of people—key development partners among the technology value chain, direct and indirect beneficiaries, sectoral representatives from both government and private sector, market experts who are familiar with the enabling environment and anyone else who is willing and able to add value to aspects of scaling in the project. The key scaling stakeholder group is specific for each research project or each industry with the national or regional context fitting into the scope of the scaling project.

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 use of livestock. ILRI's core business is to undertake livestock research for development. However, translating research outputs into outcomes, and ultimately to impact at scale, has been an enduring challenge for ILRI, other CGIAR centres and research institutions. To address this challenge, ILRI needs to adopt evidence-based development approaches and methods of achieving impact at scale, and maximize the probability of success by working in partnership with development partners such as the private sector, governments, NGOs, development banks, etc.

In 2017, ILRI created the Impact at Scale Program (I@S) to ensure the organization has the requisite expertise to manage projects that are rooted in development, effectively partner with other organizations to deliver at scale and ensure it can demonstrate the impact of its livestock research for development. One of the key product lines of I@S is designed to provide the institute and its key partners with a framework for scaling proven technologies and solutions. This includes coming up with a systematic and pragmatic approach to scaling by scanning ILRI's research portfolio to identify readiness for scaling different solutions. This is meant to provide a clear and objective picture of current and long-term trends with regards to the scaling potential of different priority commodities, geographies, themes in ILRI programs, the institute overall and the wider livestock sector.

Lack of appropriate systems to apply existing scaling tools can be a challenge for ILRI and CGIAR when trying to design and execute research projects with the end in mind. To make scaling concepts and tools more accessible to ILRI and CGIAR researchers and their partners, I@S has reviewed the landscape of scaling in the context of agricultural research for development with the aim of summarizing relevant approaches and tools that livestock projects can embed along with a detailed process on how they can be supported and implemented systematically.

This document provides an overview of the steps in a scaling process as envisaged for ILRI and provides short summaries of nine tools related to scalability assessment developed by research institutes, development agencies, nonprofit organizations and private companies. The document also provides a summary of our assessment of these tools. By applying these tools and principles, we hope research projects will achieve a better "scaling mindset" from the early stages of project design.

The outlined process hinges on the close involvement and expertise of project teams across ILRI and CGIAR to ensure ownership and a shared understanding of scaling objectives. It also depends on the commitment of scaling coordinators who help facilitate smooth implementation of scaling assessments and subsequent tracking and implementation of scaling plans. By design, the approach is iterative and agile and focuses on practical steps and facilitating skills and approaches that allow projects to identify and adapt to changes quickly.

When reviewing the tools, our aim was to curate a process that would be "fit for purpose" for the ILRI/CGIAR operational environment. Therefore, we focused on a set of evaluation criteria that we felt were most relevant to this goal. A summary table is provided below, and a more detailed description of the methodology used and the rationale for our selection can be found in Table 2, Part II: Synthesis on scaling tools and guides.

Table 1. Assessment of scaling tools

Tool	Author organization	Applicability/fitness			Functionality			Operational feasibility	
		Sector background	Organization context	Target unit	Identify scaling pathway	Evaluate scaling environment	Portfolio management	Time and resource requirements	Technology requirements
Scaling readiness	IITA and WUR as part of CRP RTB	Agriculture	✓	Technology/ innovation (package)	✓	✓	✓	High	High
Scaling scan	CIMMYT and PPP Lab	Agriculture and water	✓	Technology/ innovation	✗	✓	✗	Moderate	Moderate
Agricultural scalability assessment tool (ASAT)	E3 Analytics led by MSI for USAID	Agriculture	✓	Technology/ innovation	✓	✓	✗	High	Low
Operational framework for scaling up results	IFAD	Agriculture Finance	✗	Project	✓	✓	✗	High	Low
Nine steps for developing a scaling up strategy	ExpandNet and WHO	Health	✗	Technology/ innovation	✗	✓	✗	High	Low
Assessing scaling potential tool	WRI		✗	Project	✓	✓	✗	Low	Low
Scalability assessment and planning toolkit	Save the children International	Not specified	✗	Project/ initiative	✓	✓	✗	Moderate	Moderate
Scaling up: from vision to large-scale change	MSI	Education	✓	Technology/ innovation	✓	✓	✗	Moderate	Low
Scaling assessment map	Thought works	Social	✗	Technology/ innovation	✗	✓	✗	Low	Low

Based on our evaluation, three tools were prioritized and recommended for ILRI. These are the scaling scan, scaling readiness and the agricultural scalability assessment tool (ASAT). Based on our analysis, the three tools were found appropriate for ILRI/CGIAR's context because they focus on assessing agricultural innovations, are conceptually relatively developed with supporting documentation and tools, and have feasible workload and resource demands.

Part I. Overview of ILRI's approach to scaling

Introduction

Based on a review of existing tools deemed most relevant for ILRI and CGIAR contexts (see Part II for short summaries of the tools), the recommended scaling process involves the combined use of three tools—the scaling scan, scaling readiness and the agricultural scalability assessment tool. This section presents the process that should be integrated into ILRI's scaling framework, the principles of adopting the tools, the operational steps to follow in practice, the main outputs, communications and knowledge management, and timeline of the process.

Principles

Scaling is not about tools alone. It is important to note several principles that underpin ILRI's approach to scaling:

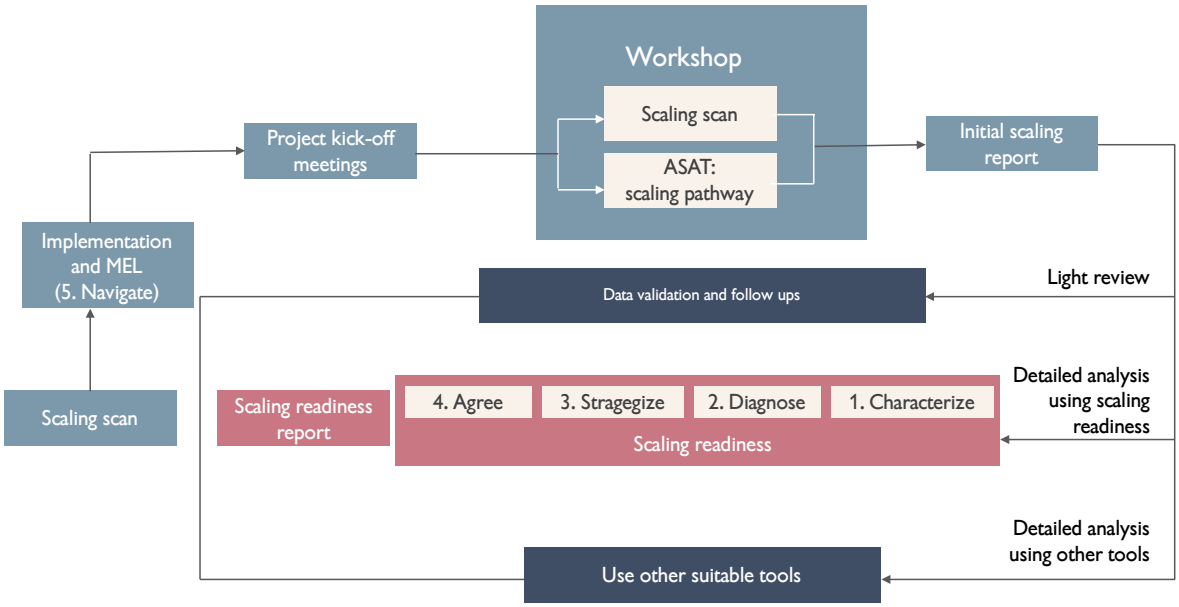
- The processes follow flexible approaches that use a combination of complimentary tools that have been carefully reviewed. By design, the process allows for other tools, such as the ones included in the synopsis document or proposed from other sources (including future tools), to be used alternatively depending on project/donor preferences and specific contexts. For example, while shortlisting some tools, our approach is open to other tools as needed as we believe there could be situations where this would make sense for some projects. We believe that it is the systematic application of the process, rather than a tool, that will yield most benefits to projects seeking to achieve impact at scale.
- Attention is given to practical, implementation-oriented needs. These needs are supported by scaling coordinators to ensure smooth implementation and communication, as well as collection of required data needed for reporting, M&E and decision support information.
- An agile approach that can be adapted and iterated quickly is followed.
- The approaches are designed to promote the close involvement of project teams across ILRI and CGIAR to ensure ownership and a shared understanding and commitment to scaling objectives.

The proposed scaling assessment process

Very few of ILRI's innovations have been systematically assessed with a scaling lens; fewer still have detailed scaling plans based on such assessments. The suggested model below looks to address this in a gradual and practical manner.

Considering projects at ILRI are at various stages of the research cycle, the process below provides the choice to conduct light or in-depth analysis for scaling, as well as a process to ensure required human and managerial support is met. The process is summarized in Figure 1 below.

Figure 1. An overview of the proposed ILRI scaling process



Establishing a core scaling group is one of the first things to do in a scaling project. This will define the core leadership with clear responsibilities and coordination from the outset and ensure successful implementation. Core scaling groups are specific for each project, with a scaling coordinator, scaling champion and other key informants indicated by the scaling champion, including key partners outside ILRI/CGIAR. See the Definitions section on page 2 for more information. After the establishment of the core scaling group, there are several project kick-off meetings to be arranged, including the first two steps to understand the context of the scaling project and existing knowledge on the technology or value chain to be scaled.

There are five steps listed below for developing a scaling strategy through an introductory workshop and analysis.

Step 1. Understand the context of the project/technology and operating environment

Before conducting an initial scaling workshop, it is important to identify the organizational strategy, existing partnerships and available resources to accurately determine the purpose and goal of the scaling project. This step helps to identify scaling priorities, select pilots for potential technological interventions and establish key individuals and organizations involved.

In the context of ILRI/CGIAR, there are two types of technological innovations identified as target for scaling assessments depending on the needs and expectations of projects: it can either be a specific technology, such as an improved feed cultivar, improved breed, etc.; or it can be a package or "basket" of innovations that consists of core and complementary technologies along a specific value chain and market system that involves different flagships (especially in the context of larger CRP initiatives).

This process can be undertaken in-person or virtually with the scaling champion from the core scaling team. Before the scaling workshop, it is recommended to conduct a basic review of project documents

and past scaling experiences (if any). After the workshop, there should be a clear idea on the basic interventions most relevant to the project (or ongoing actions to identify these), and a rough process and timeline of actions that the project/program/institute believes are relevant and realistic.

Step 2. Preliminary data review

After identifying the target for scaling, the preliminary data review process aims to capture and document existing knowledge as much as possible in preparation for the scaling workshop This will also help the scaling coordinator to understand the context and previous scaling efforts. Depending on the process/tool used and type of technological innovations to be scaled, the review can also include a summary of the innovation (package) with introductions to relevant research/technologies, models and theory of change, and a list of proposed workshop participants and their experience with scaling.

Review methods can include desk research, literature review and online surveys conducted by the scaling coordinator. The scaling champion will collaborate with the scaling coordinator to collect reports and other evidence—technology or innovation summary, reports on research design, value chain mapping documents, project pilot data, monitoring and evaluation reports, etc.—for the research project. They will also select workshop participants and familiarize stakeholders with relevant materials ahead of the workshop.

Step 3. Initial scaling workshop: setting the scene

This workshop is at the core of the process. It's a light, in-person workshop that will take 2–3 days depending on the availability of project staff, previous exposure of participants to scaling work, project lifecycle and timelines, available budget and the scaling scope of the project. The initial scaling workshop with key scaling stakeholders usually takes two days to complete all steps of the scaling scan/ASAT with an extra day for the core scaling team to summarize and reflect on workshop findings, identify suitable scaling pathways and discuss further steps of data validation. A similar process may be facilitated online, though this requires more planning and a facilitator proficient with online tools, as well as stable good quality internet connectivity for all participants, which may be challenging in some project locations.

The workshop aims to bring key scaling stakeholders together to review the scaling ambition and key challenges for scaling efforts, agree on core components of the scaling strategy and seek directions for implementation. A clear scaling pathway based on the scaling goal can be one of the workshop outputs, which we recommend includes an evaluation of the sectoral willingness and capacity to implement the scaling pathway(s) using ASAT as an add-on module.

The major expected output from this workshop is an increased awareness of scaling principles and a change in how ILRI, CGIAR and key partners perceive dimensions of scaling in their work. A synthesised workshop report will also be prepared after the workshop and shared with all participants for documentation and reporting reasons.

Step 4. Post-workshop follow up: getting to a scaling plan

After the scaling workshop, it is important to follow up with workshop participants and newly identified stakeholders or partners to independently confirm assumptions and ensure the accuracy and validity of the information obtained in the workshop. This is a key step in reducing reporting bias that may emerge

in group workshops, which should be undertaken in any case (even for the light scan process) to ensure that pathways proposed in the workshop are feasible. The process can be conducted through calls and interviews by the scaling coordinator with the help of the scaling champion.

The core scaling group might need to meet again shortly after the workshop (some teams find it easier to add an extra day immediately following the workshop in step 3) to verify scaling ambitions within the target timeframe and the feasibility of proposed solutions from the workshop based on the resources and capacity of the research team. If the scope is too broad, it might need further revision and prioritization before developing the scaling strategy or any action plan.

For projects planning to complete the in-depth process, it might not be required to be as thorough as the process described above in the initial scaling assessment. However, the core innovation(s) should be identified before commencing the analysis using the scaling readiness tool. Scaling readiness provides integrated, science-based options for assessing and accelerating scaling of innovations. Through the five steps defined in the scaling readiness tool, the target innovation (package) will be characterized and diagnosed based on existing evidence for its readiness and current usage status. A large amount of information will be obtained through literature review, online survey and interviews with key informants. Based on the detailed analysis and validation, a scaling strategy will be formed and approved by stakeholders. As an iterative "deep drive" approach, scaling readiness provides a much more thorough examination of the known challenges to achieving desired impact. This will help draft a detailed plan to inform decisions towards scaling. It also provides guidelines for implementation with explicit feedback loops.

At this stage, the scaling team will have the needed information to prepare a detailed scaling plan that incorporates findings from overall analyses and assessments, clarifying a clear scaling pathway, areas of concern, as well as recommendations that can help enhance the scaling outcome. This is the main deliverable of the assessment process.

Step 5. Beyond a scaling plan: ongoing implementation and monitoring, evaluation and learning (MEL)

The detailed implementation process will be specific to each scaling plan and research project. It includes periodic reflection on scaling activities to check if all tasks are proceeding as planned. A set of monitoring and evaluation indicators will be designed to facilitate this process through standardized and traceable measurements for progress. This step will complement the normal ILRI/CGIAR MEL process (or in time could be merged into it).

We can foresee several MEL activities around scaling, as well as various dashboards for different users. More operational details and guidance will be developed and refined along with the implementation of the first batch of pilot projects.

Main outputs

The scaling assessment process is designed to produce several outputs, activities and written reports, including:

1. Initial scaling workshop report summarizing the findings and insights from the workshop. In the case of the light process, this will form the base of the scaling plan.

2. A "deep dive" using the scaling readiness (optional) to assess technology readiness, usage mapping, identified challenges and scaling options. This will result in an additional, more detailed report than the one prepared for light projects, including:

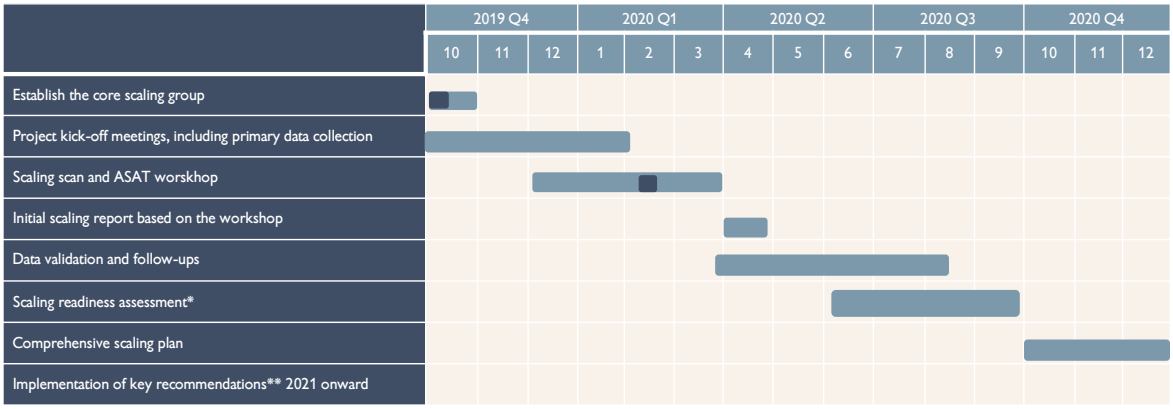
3. A detailed scaling plan that incorporates findings from overall analysis and assessments, clarifying:

    - Scaling pathway(s)
    - Analysis of main challenges and opportunities
    - Development partner mapping with a scaling focus for deep dives (including the possibility of social network analysis as part of the scaling readiness process)
    - Recommendations for next steps

Timeline

The expected timeline for an entire process (including deep dive) is typically around 12 months, although this does not mean full time work for an entire year. The timeline can be adjusted based on the scope and need of specific scaling projects. An indicative timeline is presented in Figure 2 for the first "wave" of pilots launched in 2019/2020.

Figure 2. An indicative timeline for a scaling process



*If a deep analysis of scaling readiness evaluation is to be conducted

**Led by project teams, with support from I@S available on demand.

Part II. Synthesis on scaling tools and guides

Introduction

To inform our process and understand methods better, we conducted a literature review of existing tools, related articles and relevant case studies. We also conducted several interviews with developers of the tools. This section provides summaries of scaling tools developed by various institutions.

A two-page summary of each tool is provided in this section in an attempt to make these tools more accessible to ILRI, CGIAR at large, and others with a similar interest in scaling agricultural innovations. Links to access the full document of the tools are listed at the end of the document, along with several resources to review.

Scaling tools

The following tools have been reviewed:

1. The scaling readiness guide (IITA and WUR as part of CRP RTB)
2. The scaling scan (CIMMYT and Public Private Partnership Knowledge Labs—PPP Labs)
3. Agricultural scalability assessment tool (E3 Analytics led by MSI for USAID)
4. Operational framework for scaling up results (IFAD)
5. Nine steps for developing a scaling-up strategy (ExpandNet and WHO)
6. Assessing scaling potential tool (WRI)
7. Scalability assessment and planning toolkit (Save the Children International)
8. Scaling up: from vision to large-scale change (MSI)
9. Scaling assessment map (ThoughtWorks)

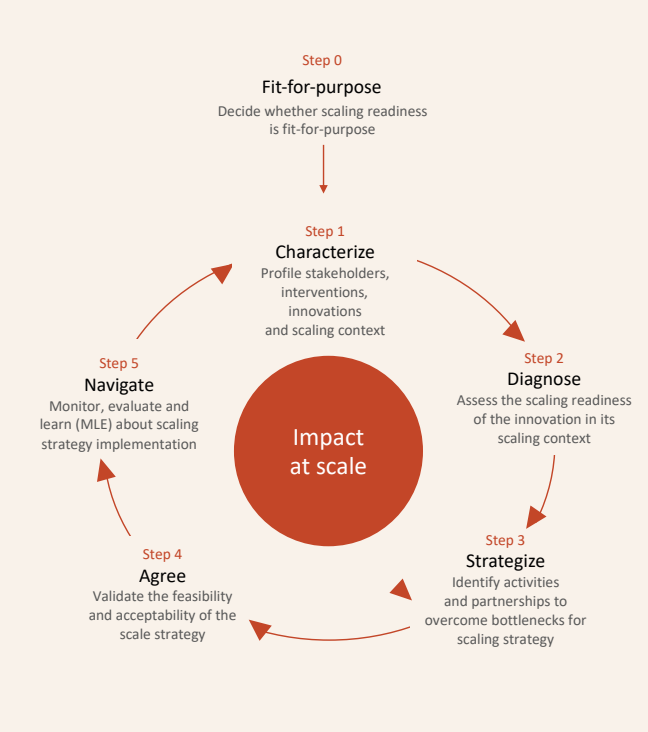
This list is not meant to be exhaustive and given the growing interest in scaling as a topic, it is likely that the list will be updated periodically to include latest thinking and newly published/revised tools. It should also be noted that we did not include every tool we reviewed as we did not feel they were a good match with the purpose and context of ILRI's work although they may be useful in other contexts. For example, we did not include the guidelines on scaling up for program managers and planning officers developed by GIZ, which introduces scaling in the organizational context and proposes several specific tools for conducting scaling at project level without including any assessment on innovations. Similarly, "Scaling impact: innovation for the public good", a book authored by the leader of the Scaling Science project of IDRC summarized key concepts of scaling and guiding principles to consider when conducting scaling. However, the book does not propose any standardized measurement and comparison of technology/innovations. Thus, these types of scaling

related guidelines and reports are not evaluated here. Other reviewed tools and organizations which have done scaling related work are included as resources at the end of this document, along with academic papers related to the concept of scaling and its application in agriculture and food systems.

Scaling readiness guidelines

The scaling readiness guidelines was developed by Wageningen University and Research (WUR) and the International Institute of Tropical Agriculture (IITA) in close collaboration with three other CGIAR research centres and with funding from CGIAR Fund Donors as an integral part of the CGIAR Research Program on Roots, Tubers and Bananas (RTB) from 2017 onwards. It aims to create a better understanding of the innovation in a comprehensive way, identify bottlenecks and opportunities for scaling the innovation in a specific context, develop strategies to overcome scaling bottlenecks, assist in choosing relevant partners for effective scaling of innovation, monitor whether the innovation becomes more "ready" for scaling over time and foster learning and capacity development in the team on scaling. It encourages critical reflection on how ready the innovations are for scaling and what actions could be taken to enhance scaling. It provides a stepwise approach towards designing, validating and implementing scaling strategies. There are five steps to follow after the initial Step 0: fit-for-purpose, and after deciding that the use of the tool is benefitting the research project with adequate resources and time for implementation.

Figure 3. Scaling readiness: a stepwise process toward designing, validating and implementing scaling strategies



Step 1: Characterize
Understand the innovation, the core and complementary components and the context and stakeholders involved.

Step 2: Diagnose
Evaluate the scaling readiness and current use of each innovation in the package.

Step 3: Strategize
Analyze the strategic options to increase the scaling readiness with stakeholder analysis for potential solutions and partnerships.

Step 4: Agree
Seek agreement among stakeholders on scaling investment decisions and facilitate learning and negotiation.

Step 5: Navigate
Identify emerging windows of opportunity, tipping points and the process of monitoring, evaluation and learning.

Highlights

The tool provides a thorough examination of the known challenges through a 9x9 metrics to evaluate how ready the innovations are (adapted from NASA's Technology Readiness Level framework: https://www.nasa.gov/directorates/heo/scan/engineering/technology/txt_accordion1.html) and the extent they have been practiced (innovation use) to identify the overall scaling readiness level of the package. The step by step approach breaks down the process of developing a scaling strategy into smaller and more manageable steps and ensures that each has their specific objective(s), methods and results for better communication among scaling teams and key scaling stakeholders. In addition, there are explicit feedback loops to enable continual monitoring, making it useful for aggregation and identification of trends over time and the potential application of the portfolio analysis.

Sector application

The scaling readiness design is based on experience primarily from the agriculture sector, thus brings high relevance in the agri-food system and other livelihood domains such as health and the environment. It can be used broadly for innovations in general to address societal challenge.

Previous practice

The scaling readiness concept was tested and validated within several RTB projects. These projects include scaling Banana Xanthomonas wilt (BXW) control in DR Congo and Uganda (led by Bioversity International), scaling best cassava agronomy practices in Tanzania and Nigeria (led by IITA), developing a national policy for a sustainable and resilient cassava sector in Cambodia (led by CIAT) and decision support for potato late blight management in Ecuador (led by CIP). In addition, the Food and Agriculture Organization of the United Nations (FAO) has used the Learning System for Agricultural Research for Development (LESARD) scaling readiness system in its projects in Bangladesh, Rwanda, Honduras, Guatemala and Laos.

Recommended position in the scaling cycle

The ideal intervention time for the scaling readiness process is at the start of the project. The steps included throughout the scaling readiness guide could be applied after the start of the project, but its effect would be reduced and the flow of the process will be hindered.

Method and duration of delivery

The process starts with the research or project manager making an initial review of the project and whether its fit for scaling based on the data and the available human and financial resources allocated to the process. In all steps, there are requirements for interaction among the core team members, and on occasion with external stakeholders, with a mixed method of online surveys, facilitated interviews, workshops and group meetings.

No firm time frames are placed on the process and it should be viewed as a collection of steps that are progressive along the project timeline. For each step, there is a constant and heavy requirement for data collection, validation and analysis, which will require a significant amount of time investment.

Expected participants

Project/development coordinators, managers and core members of the team who direct and know project resources and priorities are expected to participate in this process. The tool is primarily

developed for research and development managers who are responsible or concerned with the design, implementation and monitoring of effective strategies for scaling innovations. The tool specifically calls for the appointment of a scale readiness monitor, who is responsible for coordinating all data and direction of the process.

Time and resource estimates

The required time and resource estimation vary based on different project plans and scopes, modules of scaling readiness deployed, number of participants, location of workshops and meetings and level of data to be presented. The tool is considered a "complete" scaling tool and the overall expected resource is at a high level. An estimated four to six months are needed to carry out the process for the first time, which will mainly involve collecting data and information as indicated by the tool developer.

Links to key resources

- Full tool guideline: https://www.scalingreadiness.org/wp/wp-content/uploads/2019/10/CIP-guidelines-compressed.pdf
- Tool website: https://www.scalingreadiness.org/
- Summary sheet: https://hdl.handle.net/10568/89518

Scaling scan

The scaling scan (https://www.cimmyt.org/projects/scaling/) was developed by the PPP Lab and the International Maize and Wheat Improvement Center (CIMMYT) in 2017 and updated to its current state in June 2018. It is a self-assessment tool for scaling innovations in workshop settings and it comes with a spreadsheet. It aims to help understand the multiple dimensions of scaling and the significant role non-technical factors play in a scaling mindset. For organizations, the scaling scan can be used to check if project proposals, implementation plans and evaluations are "scale-proof", equipping them with higher scaling potentials.

With the three steps in the tool, the workshop participants can develop a realistic and responsible scaling ambition focusing on basic concepts and the definition of realistic and responsible scaling ambitions. After checking the ten interconnected scaling ingredients listed below and by discussing and giving scores to 40 questions, the challenges that need to be addressed, strengths to achieve the scaling ambition and potential solutions are identified.

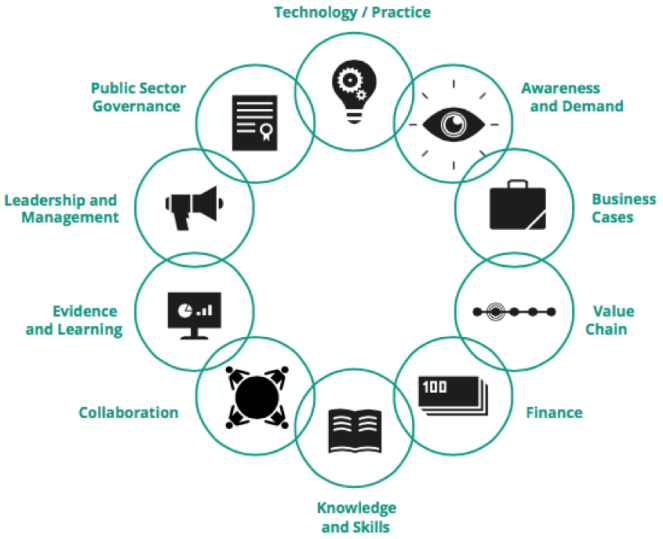


Figure 4. Ingredients considered in Step 2 of the scaling scan

- Technology/practice: an effective and efficient solution for the issue at stake
- Awareness and demand: a wish and readiness for a consumer or producer to use the solution
- Business cases: attractive financial/economic propositions for users and other actors to respond to demand
- Value chain: effective links between actors to pursue their business cases
- Finance: effective financing options for users and other value chain actors
- Knowledge and skills: capacities at the individual and institutional level to use, adapt and promote innovations
- Collaboration: strategic collaboration within and beyond the sector to scale the innovation
- Evidence and learning: evidence and facts underpin and help gain support for scaling ambition
- Leadership and management: effective coordination and navigation of the scaling process

- Public sector governance: government support to reach the scaling ambition

Highlights

The scaling scan is a practical tool for basic review and assessment on the necessary aspects of scaling. It provides quick feedback to lead the scaling project from the initiation of ambition to solutions for key challenges. It gives comprehensive metrics to evaluate what needs to be considered for a successful scaling strategy/plan with numeric answers to show the possibilities to achieve the scaling ambition (average over 3 or below 3 in a 1–5 scale). A unique feature if the Scaling Scan is inclusion of a "responsibility check" that challenges users to assess the risk associated with reaching the scaling ambition within and beyond the geographic, social, and time boundaries set by the project. The scaling scan can be considered as a very useful group exercise to seek stakeholder input and buy-in. Additionally, the accompanying excel sheet (which can be downloaded from https://www.cimmyt.org/projects/scaling/) offers standardized data management and direct visualization.

Sector applications

The scaling scan is not a sector-specific tool, but it is developed based on experience primarily from the agriculture and water sector. It is designed for "pro-poor and sustainable development programs" in general. With a CGIAR institute being one of the tool developers, the tool is highly applicable to the agriculture sector and the context of CGIAR.

Previous practice

The scaling scan has been tested in workshop settings in the Netherlands, Mexico, Kenya, India, Nepal, Uganda and Tanzania with project managers, scientists, agricultural extension agents and other development practitioners working in the agri-food and rural water supply sectors. Van Loon et al. (2020) used the scaling scan to frame the assessment of 3x15 local stakeholders (private, public and project staff) of scaling of mechanization projects in Mexico, Zimbabwe and Bangladesh, and reported that 'within a matter of hours, the scaling scan tool helped three sample groups (government, private sector and project collaborators) have a structured exchange on what local ownership, leadership, sustainability and systems change means in their context.'

Recommended position in the scaling cycle

The tool is suitable to be applied between the stages of having a general idea of what should be scaled and having a detailed scaling strategy ready for implementation. The tool can also be useful to assess bottlenecks and leverage points during the project implementation stage to steer its course. The tool developers recommend undertaking the assessment before the project starts and further along on the line of the scaling strategy for better result. The tool can be a quick and light review at the project germination to help map out a strategic course and identify prominent warning at the early stage of planning.

Method and duration of delivery

The primary delivery method is a facilitated workshop involving all parties or as many as the project needs to go through the three steps with little or no preparation. The possible forms of facilitating the workshop include presentations, group discussions and other participatory methods to engage participants for successful and informative sessions. The scaling scan was designed as a workbook with facilitation tips where users can fill in the blanks. The suggested time frame range from two hours to two days depending on the

type of project in question; stage of the project planning; and the engagement, knowledge and experience level of participants. In 2019, virtual workshop concepts were successfully tested that constituted a short webinar introduction with Q&A and self-assessments using Googlesheets. As this scaling tool is in a relatively early stage, it is reasonable to estimate two to three days to work through the designed activities, allowing enough time for people to be familiar with the scaling context and contribute in a meaningful way.

Expected participants

For ILRI's context, project leaders, managers and team members who lead the project and are familiar with the resources and priorities of the project are the most relevant groups to participate in the scaling scan. Since it is a "scan", the tool relies mostly on the experience of the user and does not require a lot of data before one can go to the next step. The scaling scan is accessible and understandable to a broad range of stakeholders. Therefore, it is recommended to be used with local implementing staff, value chain actors and technical/market experts. The tool authors originally targeted local stakeholders, hence the tools is also available in Spanish. According to the experience of the scaling scan team, it is necessary to assign a scaling coordinator to facilitate the workshop and guide the whole process.

Time and resource estimates

The accurate resources and time depend on specific assessment planning, considering the practical context of the research team and scaling scope. Since the tool is regarded as a quick scaling tool, it is recommended for the facilitated workshop not to exceed 2–3 days. An overall expected resource factor of "moderate" would be applied to this option.

Links to key resources

- The introductory blog to the tool: https://www.cimmyt.org/news/scaling-scan-a-simple-tool-for-big-impact/
- The tool (full document): https://www.cimmyt.org/content/uploads/2019/01/PPPLab-and-CIMMYT-The-Scaling-Scan-2019-02-full.pdf
- Excel sheet: offers a practical template with pre-designed tables, formulas and graphs (can be downloaded from here: https://www.cimmyt.org/projects/scaling/)

Agricultural scalability assessment tool (ASAT)

The agricultural scalability assessment tool (ASAT) is developed by the E3 Analytics and Evaluation Project, led by Management Systems International (MSI) for USAID's Bureau of Food Security (BFS). The tool was published in June 2018 and aims to help select an appropriate scaling pathway for an innovation through a qualitative appraisal of the scalability with information on strengths and weaknesses, context of target locations, populations, markets, and sectoral willingness and capacity. The overall aim for designing and applying this tool is to improve USAID's internal decision making by identifying innovations with the greatest potential for both successful scaling, significantly improving food security and reducing malnutrition. The process includes two tools:

- Agriculture scaling decision tree (ASDT) to assess resources, incentives and ability to produce and operate the innovation product, drive the scaling process, create demand among adopters and provide training and technical support (12 detailed tasks) for selecting a scaling pathway (private sector-led, public sector-led and public-private partnership driven).
- Agricultural scalability assessment matrix (ASAM) includes 39 criteria in 6 sections with standards for quantitative and unweighted scoring to identify critical information gaps. It provides a more detailed analysis of the strengths and weaknesses of the innovation.

Figure 5. Detailed questions for determining the appropriate scaling pathway (2 of the total 12)

	Tasks	Role of the			
		Private	Public	PPP	Donor
1	Who has the resources, technical knowledge, and incentives to take overall resposibility for **driving the scaling up process** and **coordinating** among various actors?				
2	In its current form, are target adopters (producers) likely to be willing and able to pay for the innovation and any associated additional inputs or investments? I.e. is there likely to be a market for the innovation given the business case for adopters?				

The commercial pathways led by the private sector are prioritized by ASAT to retain the impact in a financially and institutionally sustainable way. ASDT should be applied first since scoring in the ASAM is contingent on the choice of pathway. A dashboard summarizes the results of the tools and provides recommendations based on the analysis.

Data collection is the first step of applying the ASAT tool, and the quality of available information directly decides the effectiveness of the resulting analysis and the final scaling strategy it generates. It covers the information of the innovation, potential adopters, current and relevant practice, the agronomic and financial impact of the innovation, alternative technologies, regulation environment, enabling environments for the public sector like policies and resources, and information on market system and value chain linkages.

Highlights

The tool helps identify a clear scaling pathway and evaluates based on detailed scalability factors identified in previous practice of USAID and MSI on successful scaling with a relatively small team. With a strong preference of the commercial pathway in the business case, the corresponding scaling strategy has a relatively larger potential for achieving financial sustainability in the long term with full considerations of the sectoral environment and the functions of different actors.

Sector applications

ASAT is specific to the agriculture sector and designed as a generic tool for broad types of agricultural innovations and good practices. It can help introduce consistency in scaling decisions across various agricultural innovations and serves as a form of due diligence. It can also potentially be applied to innovation assessment in other sectors with some modifications on criteria.

Previous practice

The guiding document claims extensive trials, testing and iterations of the tool before it got to the current stage. It integrates the experience from multiple iterations at MSI and learning acquired in previous USAID-funded projects. The report is followed by a series of five detailed case studies examining the determinants of successful scaling of agricultural innovations through commercial pathways in developing countries. The list is as follows:

- Scaling up of drought tolerant maize in Zambia: https://www.agrilinks.org/sites/default/files/resource/files/BFS%20Scaling%20Review%20-%20Zambia%20Report%20REVISED%202-8-16.pdf
- Scaling up of improved poultry breeds in Uganda: https://www.agrilinks.org/sites/default/files/resource/files/BFS%20Scaling%20Review%20-%20Uganda%20Report%202-13-17%20508%20Final.pdf
- Scaling up of hermetic bag technology in Kenya: https://www.agrilinks.org/sites/default/files/resource/files/BFS%20Scaling%20Review%20-%20Kenya%20Report%20REVISED%20508%2011-16-16.pdf
- Scaling up of agricultural machinery in Bangladesh: https://www.agrilinks.org/sites/default/files/resource/files/BFS%20Scaling%20Review%20-%20Bangladesh%20Report%20FINAL%20508.pdf
- Scaling up of Sahel rice varieties in Senegal: https://www.agrilinks.org/sites/default/files/resource/files/BFS%20Scaling%20Review%20-%20Senegal%20Report%20FINAL%20508%2011-6-16.PDF

Recommended position in the scaling cycle

ASAT can be used several times during a project from research and design to implementation as it is designed to inform decisions regarding scaling innovation at each stage of research, testing, piloting, planning and implementation. It can be used to integrate scaling up considerations; assess progress; decide whether scaling up makes sense; and modify current approaches to the innovation design, testing, and scaling based on new evidence. One important use is to create the foundation for a scaling strategy prior to implementation and lead the implementation onward. This shows that the ASAT tool may be most useful at early stages in the project cycle.

Method and duration of delivery

The tool developers strongly recommend the tool to be applied by a team of at least three people in a group discussion setting with pre-course preparation work, such as compiling all required data. The data collection involves review of literature and existing databases, and open-ended interviews with the innovation's research team and collaborators. No estimation on time frames is provided in the tool but one can assume that in addition to the in-person workshop there would be additional follow-up work to finalize related reports.

Expected participants

Participants are expected to include experts and stakeholders with a team of at least three people. For example, this team may include a researcher with knowledge of the relevant sector, a market expert and someone with considerable knowledge of the country(ies) or region(s) where scaling is targeted to take place. The composition of the team aims to cover most of the knowledge aspects for scaling assessment. Other stakeholders that can be involved may include BFS staff, relevant staff from USAID country missions, country mission agency officers, other donors working in agriculture and rural development and USAID's research and implementing partners.

Time and resource estimates

The data collection process will take most of the time when applying the ASAT tool. It can be a month-long effort to coordinate among the research team, country program and in-country partners to integrate and summarize key points and insights from all existing secondhand data. The tool calls for a panel of at least three people from a sound knowledge base in a group setting for an estimated two days initially. The resource factor is considered "high" for using this tool.

Links to key resources

- Guide to the agricultural scalability assessment tool, June 2018: https://www.agrilinks.org/sites/default/files/resources/asat_guide_revised_6-7-18.pdf
- Agrilinks article, July 2018: https://www.agrilinks.org/post/guide-agricultural-scalability-assessment-tool
- Briefing note: using commercial pathways to scale up agricultural technologies: https://www.agrilinks.org/post/briefing-note-using-commercial-pathways-scale-agricultural-technologies
- Synthesis report: review of successful scaling of agricultural technologies: https://www.agrilinks.org/library/synthesis-report-review-successful-scaling-agricultural-technologies

Operational framework for scaling up results

The operational framework for scaling up results was developed by the program management department of the International Fund for Agricultural Development (IFAD) in December 2015. IFAD uses the conceptual framework elaborated by the Brookings Institution with elements of similar approaches designed by others. The framework provides guidance on how to systematically consider scaling up in IFAD's operations from inception to completion and in different contexts. It suggests specific guiding questions for different stages of the project cycle related to "vision, strategy and implementing the scaling up process" that probe threshold considerations on scaling.

The framework looks at lessons learned from IFAD's past interventions seeks the answers to what works and what is to be scaled up, and defines the pathways and the drivers that will allow results to be brought to scale in the future through the financial, policy and knowledge services that IFAD provides beyond project boundaries. The tool aims to guide and stimulate operational approaches and complement IFAD's operational policies. It can also provide IFAD's partners with information on how, they can increase development impacts together.

The guiding document breaks the steps up into two parts—the strategy behind scale-up and designing projects with scale-up in mind. The strategy component is considered appropriate for adequately covering the methodologies after the strategic objectives have been agreed between the government and IFAD. The tool follows three steps as described below.

Step 1. Defining the vision of scale: determining the country context for scaling up, assessing institutional capacity and past experiences

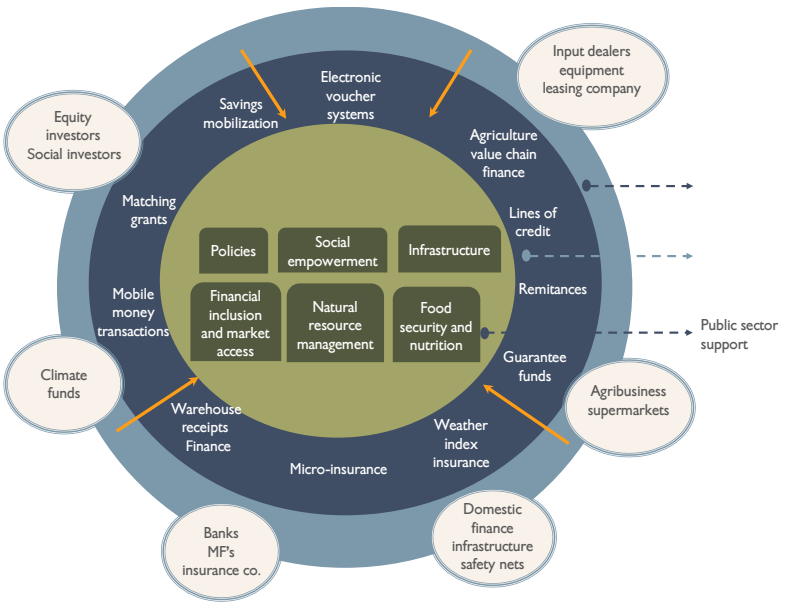
Step 2. Developing the scaling up strategy: establishing the dimensions along which scaling up will take place and identifying key drivers and spaces that affect the scaling up pathway

Step 3. Planning the scaling up process management: coming up with knowledge management and monitoring and evaluation plans, and managing constraints and risks to scaling up

Highlights

The framework is a broad-based guiding document that is very specific to IFAD's policies and procedures and makes a lot of reference to their internal processes. The 4P's concept (public-private-production-partnership) would be applicable across all other tools and guides that have been examined.

Figure 6. Public-private-producer partnership (4Ps) as an instrument for scaling up



Sector applications

The framework applies to agriculture investment programs in general according to the nature of IFAD's work and from the funding organization's perspective. As IFAD also funds projects covering broad themes among poverty alleviation and rural development, it could be adapted across different sectors. However, as an institutional framework, it has relatively weak applicability across sectors.

Previous practice

The guiding document provided no evidence of specific trials of the tools or outcomes from its application and no specific examples could be located through searches. As it is a framework that has been in existence since 2015, it is highly likely to be used in general project preparation among IFAD-funded projects.

Recommended position in the scaling cycle

This framework most useful at the start of the process to guide IFAD staff in thinking about scale-up options from the germination of a concept.

Method and duration of delivery

The delivery approach and relevant details are not defined in the guiding document. A facilitated setting could be applicable due to the questions asked but it could also be used as a guide for the project team as they move through the concept document for the project.

Expected participants

The guiding document is vague on who or what level of operation this framework is aimed at except to claim that it is an "operational" framework and it is intended to provide more structured and consistent guidance to IFAD country teams on how to systematically mainstream scaling up into operations. It provides staff with a broad overview on how to think through scaling up in particular contexts.

Time and resource estimates

As an operational framework, there is no specific commitment to workshops or brainstorming sessions. Resources required could be low if the framework is simply referred to through the concept stage only but may be higher if workshops or other resource intensive methods are employed. However, the overall efforts invested under the framework will be high as an organizational strategy for scaling work.

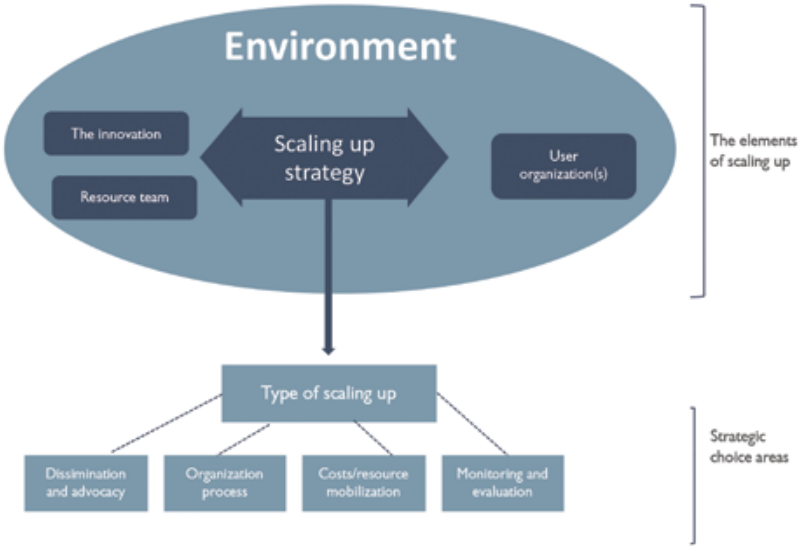
Links to key resources

- Assessing scaling potential tool and guidance: https://www.gcfreadinessprogramme.org/file/assessing-scaling-potential-tool-and-guidance-pdf
- IFAD's page on scaling-up results: https://www.ifad.org/en/scaling-up-results
- IFAD e-learning course on scaling up, March 2019: https://www.ifad.org/en/web/knowledge/publication/asset/41084895

Nine steps for developing a scaling-up strategy

The nine steps for developing a scaling-up strategy was developed by ExpandNet[1] in 2010 responding to the needs of the action research project development. The purpose of this document is to facilitate systematic planning and outline a concise, step by step process for developing a scaling up strategy. There are nine steps in the process taking care of each component in the framework as described below.

Figure 7. The ExpandNet/WHO framework for scaling up



- Step 1. Planning actions to increase the scalability of innovations
- Step 2. Increasing the capacity of the user organization to implement scaling up
- Step 3. Assessing the environment and planning actions to increase the potential for scaling up success
- Step 4. Increasing the capacity of the resource team to support scaling up
- Step 5. Making strategic choices to support vertical scaling up (institutionalization)
- Step 6. Making strategic choices to support horizontal scaling up (expansion/replication)
- Step 7. Determining the role of diversification
- Step 8. Planning actions to address spontaneous scaling up
- Step 9. Finalizing the scaling up strategy and identifying next steps

In addition to these nine steps, there are four key principles that guide the whole analysis, planning and decision making These are system thinking; focus on sustainability; enhancing scalability; and respect for human rights, equity and gender.

Highlights

The processes define a framework that conceptualizes scaling up as a system with interconnected elements and strategic choices to be made. Besides the document itself, ExpandNet provides six other tools to support scaling efforts, including the practical guidance for scaling up health service innovations.

1. ExpandNet is a global network seeking to promote equitable access to quality care by ensuring the expansion of successful health interventions to reach more people more effectively.

Sector applications

The original ideas come from the development and assessment of WHO's strategic approach to strengthening reproductive health policies and programs. Based on the mission of the two tool creators, it fits the best in the health sector assessing health service innovations with applications related to nutrition and development sector in general. Noted in the document, the nine-steps approach is applicable to government, nongovernment and private organizations without being sector-specific.

Previous practice

ExpandNet members assisted country projects with the development of scaling up strategies in Asia, Africa and Latin America with field visits.

Recommended position in the scaling cycle

As a systematic approach, the nine steps cover the whole scaling cycle. It is recommended to follow the framework design by evaluating each component with the standardized format. Every single step can be applied separately with the necessary information and data being collected.

Method and duration of delivery and expected participants

The nine steps consist of a series of discussions. The steps are intended for program managers, researchers and technical support agencies who are seeking to scale up health service innovations that have been tested in pilot projects or other field tests and proven successful. It is recommended by the document to go through the nine-step assessment with a team consisting of key stakeholders and management staff. The process can also be done by individual managers or only the core management team. As ExpandNet members have used this guide and the worksheets in a process that includes field visits, it might be helpful to get the visit facilitators and program coordinators involved for more comprehensive and accurate information.

Time and resource estimates

The nine steps can take a relatively long time to go through requiring detailed information to answer the questions in each category. No timeframe is proposed in the tool and it depends on the choice of tool implementors, availability of information and knowledge level about the innovation and other relevant components.

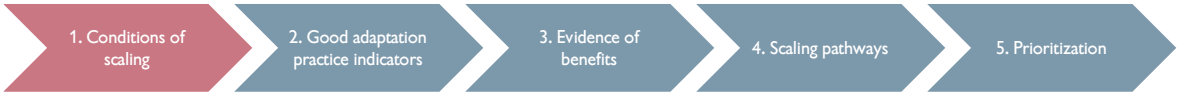
Links to key resources

- Tool document: https://www.who.int/reproductivehealth/publications/strategic_approach/9789241500319/en/ or https://apps.who.int/iris/bitstream/handle/10665/44432/9789241500319_eng.pdf;jsessionid=5CD1FF42BAFF4BEF955BC10FF387B586?sequence=1

Assessing scaling potential tool

The assessing scaling potential (ASP) tool was developed by the World Resources Institute (WRI) with the support of GIZ in 2016. The objective of the tool is to help project planners rapidly test for scalability of projects from the design phase to post implementation phase and help portfolio managers prioritize options or projects that have the potential to scale and create transformational change and paradigm shifts. It is developed according to the WRI publication "Scaling success: lessons from adaptation projects in rainfed areas of India"[2]. It takes the framework on assessing scaling potential from the publication and converts the assessment process into five steps to assess if a project can be scaled. The five steps are described in Figure 8 below.

Figure 8. Five steps in assessing scalability of projects



- Step 1. Conditions of scaling: including four categories of resources, partnerships, local context and knowledge management analyzed both internally and externally
- Step 2. Good adaptation indicators: incorporate vulnerability assessment findings, climate trend analysis, climate information services, knowledge sharing, address uncertainty and ensure community ownership
- Step 3. Evidence of benefits: six levels of evidence from pilots to policy principle
- Step 4. Scaling pathways: horizontal and vertical pathways with key actors and activities
- Step 5. Prioritization: through the scoring and ranking system

Highlights

Developed recently and by credible authors with clear and simple steps, this tool offers a quick review of the potential scalability of pilot projects through comparisons. All the questions are delivered accompanied by choices without much data validation and the final scores for each option are the sum of total checks achieved.

Sector applications

The tool is intended to be used by organizations from a wide variety of sectors that are involved in project planning. WRI's expertise covers environment, climate, transportation, agriculture and sustainable development in general. There is no direct reference to any particular commodity type except agriculture.

Previous practice

No case study applying the tool is mentioned in the guiding document and no relevant report is found to indicate the ASP tool has been used. Developed by a specific organization (WRI) and summarized from existing practice, it is possible that the tool is used in WRI projects. Also, real life solutions (including innovations) are used as examples throughout the document.

2. Appadurai et al. (2015)

Recommended position in the scaling cycle

The tool is very flexible to be used at any stage of project implementation to test for scaling potential. However, it is recommended to apply this tool before an option is chosen to be implemented so that it can be modified to incorporate scaling components.

Method and duration of delivery

The tool can be used in a group setting or individually. It requires at least two options or project ideas (proposals) to compare what to prioritize and relevant information on each option. It is not necessary for the two options or project proposals to be on the same topic because the principles of scaling incorporated into the tool are applicable to all types of projects. An indicative timeframe of 70 minutes is provided on the guiding document. The breakdown for each activity is as follows:

- Identify conditions that could influence the scaling process (15 minutes)
- Assess if good adaptation practice indicators are incorporated into the project (15 minutes)
- Determine if monitoring and evaluation system is in place (10 minutes)
- Visualize a pathway to scale (15 minutes)
- Prioritize projects based on the potential to scale through scoring (15 minutes)

Expected participants

Participants can be from a wide variety of sectors and do not need high level technical skills to use the tool. No minimum operational level, such as project manager, is required. However, the ASP tool suggests for all users to:

- have a good understanding of the context in which the option will be implemented and potentially scaled;
- be familiar with the monitoring and evaluation systems; and
- be able to think creatively about scaling pathways.

Time and resource estimates

The tool is considered a "cursory" scaling tool that is conducted in a relatively short time by making choices between options. As the guiding document states, it can be done by both individuals and groups with little data validation as it is essentially a self-assessment tool. No specific resources are required to complete the assessment.

Links to key resources

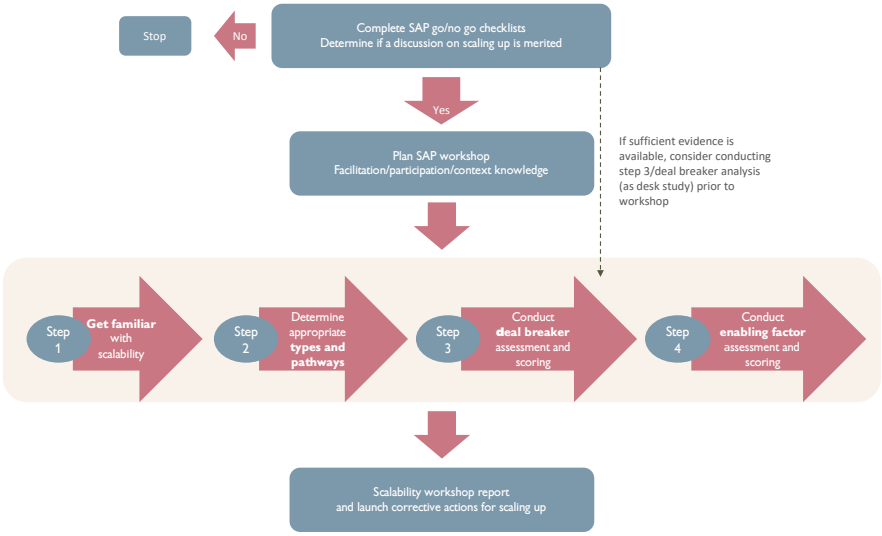
- Tool document : https://www.gcfreadinessprogramme.org/sites/default/files/Assessing%20Scaling%20Potential%20Tool%20and%20Guidance%20.pdf

Scalability assessment and planning toolkit

The scalability assessment and planning (SAP) toolkit was developed by Save the Children International and published in April 2019, guiding the initiatives for effective assessment and planning with corrective actions to strengthen or enable scaling up. The tool has three key components as listed below:

1. Pre-discussion go/no go checklist to decide whether to continue with the assessment
2. Workshop
    - Introduction to scalability
    - Identify scaling up types and pathways
    - Conduct deal-breaker assessment: adaptability, success, sustainability and M&E (scoring from 1–5 with detailed answers and corrective actions for scores below 3)
    - Conduct enabling environment assessment: assessing scaling entity (both internal and external factors) and 20 questions representing factors of the critical enabling environment under 13 categories (scoring from 1–5 with detailed answers and corrective actions for scores below 3)
3. Workshop report according to the template

Figure 9. Three components in the SAP toolkit



Highlights

The scalability assessment and planning toolkit provides a comprehensive process to evaluate the scalability of ideas or solutions with practical and detailed instruments and agenda ready for use. With practical worksheets for documenting the assessment results, it can be used as a standardized tool for portfolio management and comparing different projects. It has a good combination of both qualitative and quantitative data to inform the final decision making.

Sector applications

Although Save the Children is an organization focusing on children and their education, health and economic opportunities, this tool targets innovations in general instead of being sector specific. According to the reference, the tool is designed with experience from ExpandNet, WHO, MSI

and UNDP, coming up with a good combination of sector learning mainly in education, disaster management and health.

Previous practice

No case of applying the full tool is mentioned in the guideline document. However, in the section of workshop steps, there are many examples showing practices of each assessment. For example, in Annex 4 workshop report section, Disaster Management Resource Centre (DMRC) in India provided full results using the toolkit.

Recommended position in the scaling cycle

The SAP workshop can be conducted at the end of a pilot to assess scalability and plan for scaling up, once scaling up is underway or to draw lessons retrospectively from completed scaling up processes; or during the design phase of an initiative in the design discussions. It is beneficial to repeat the workshop during all phases (design, following the pilot and during scaling up) for reflection and adjusting scaling up strategies.

Method and duration of delivery

The pre-discussion is designed for program managers or technical advisors who are going to make decisions for the project, with simple yes or no answers. It can be done virtually or in-person. The four assessments proposed for the workshop should be conducted separately and in sequence. The toolkit is primarily designed for facilitated workshop for at least 1.5 days to 3 days if feasible. At minimum, one day should be allocated for scalability discussions. In some cases, if evidence-based documentation is available, certain components could be completed as a desk review.

Expected participants

At minimum, participants should include the relevant program and M&E staff, and relevant staff from the scaling entity. Other potential participants include people with knowledge of the geographic locations and/or target groups, relevant stakeholders such as affected community, local or national authorities and donors. It is recommended to have 10–20 people for each of the SAP workshops.

Time and resource estimates

The implementation of the whole process might take a month or so to coordinate the logistics to bring 10–20 people together for an in-person workshop. The workshop itself takes 1.5–3 days depending on availability of time and resources. Several weeks of data validation is needed due to large amount of information involved. As the process is clearly defined within the guidance document, it helps save time and resources on designing the assessment and questions. The required time will also decrease because of the availability of a reporting template.

Links to key resources

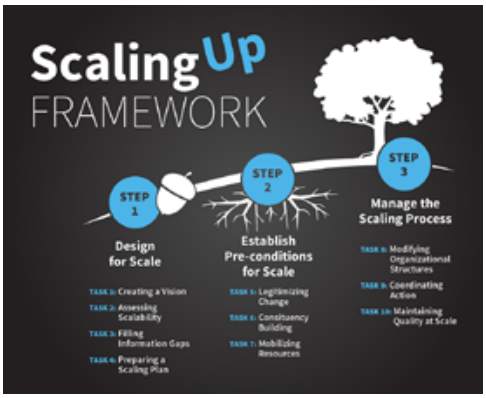
- Introduction to the SAP toolkit: https://resourcecentre.savethechildren.net/library/scalability-assessment-and-planning-sap-toolkit
- Tool document : https://resourcecentre.savethechildren.net/node/14187/pdf/scalability_assessment_and_planning_toolkit_eng_2018.pdf

Scaling up from vision to large-scale change

The scaling up from vision to large-scale change toolkit was completed in late 2012. MSI summarizes its experience in developing, applying and disseminating methods and tools for scaling up innovative solutions for social problems in a series of publications: the framework (http://msiworldwidewjzvccptpx.devcloud.acquia-sites.com/sites/default/files/additional-resources/2018-11/ScalingUp_3rdEdition.pdf), toolkit (http://msiworldwidewjzvccptpx.devcloud.acquia-sites.com/sites/default/files/additional-resources/2018-11/MSI-Scaling-Up-Toolkit.pdf) and checklist (https://www.agrilinks.org/sites/default/files/resource/files/MSI_Scaling_Checklist.pdf) under the scaling up program (https://msiworldwide.com/what-we-do/our-services/education/scaling). It helps donors and investors to understand and assess the scalability of proposed interventions and provide guidelines and specific tools for the process. Ultimately, it aims to improve the design and selection of pilot projects based on the scalability criteria and to develop interventions that significantly increase the proportion of pilot projects that achieve and sustain large scale impact.

The management framework is organized around a three-step, ten-task process with proposed pathways (both direct and indirect) or strategies that have been successfully used for scaling up. The steps are described below.

Figure 10. Scaling up framework



- Step 1. Develop a scaling up plan: tasks include creating a vision, assessing scalability, filling information gaps and preparing a scaling up plan
- Step 2. Establish the preconditions for scaling up: tasks include legitimizing change, building a constituency and realigning and mobilizing resources
- Step 3. Implement the scaling up process: tasks include to modifying and strengthening organizations, coordinating action, adapting strategy and maintaining momentum

The scalability checklist identified seven model categories:

1. How convincing is the scaling strategy?
2. Is the intervention credible?
3. How strong is the support for change?
4. Does the model have relative advantage over existing practices?
5. How easy is the model to transfer and adopt?
6. How good is the fit between the intervention and the adopting organization?
7. Is there a sustainable source of funding?

The scoring is based on 32 specific standards under these categories that are being measured as hard, middle and easy for scaling up, with a final calculation for number of choices under each.

Highlights

With rich experience, MSI is one of the leaders with a systematic and comprehensive approach and methods for scaling some of which are important foundations for other tools listed. The framework covers the whole process from the initial scope to implementation and further learning. All the materials are practical and ready for use.

Sector applications

There is no specific sector that the tool targets. Instead, it can be used to assess development innovations or technologies in general.

Previous practice

The primary practices are in the education sector. According to the scaling up program, the guidelines and tools have been used with donor education officers in global scaling up for sustainability training and with government education specialists on the scale up of a bilingual primary school curriculum in Senegal.

Recommended position in the scaling cycle

The management framework and toolkit are designed to cover the whole scaling cycle; thus, it can be applied at each of the steps. The assessment is conducted as the second step, which is located at the beginning of the scaling project planning. Some questions in the checklist involve the review of the scaling strategy, so the strategy or scaling plan needs to be developed before conducting the assessment.

Method and duration of delivery and expected participants

The delivery methods of other tasks vary from their contents. The assessment is done by evaluating each criterion and measuring if it is hard or easy to achieve. While not clearly indicated in the document, the assessment is better to be done in a group setting with discussion among innovation researchers, project staff, implementers, as well as donors and other key stakeholders.

Time and resource estimates

The scalability assessment discussion is estimated to be completed within half to one day, while the data collection for measurement requires much more time and resources to coordinate.

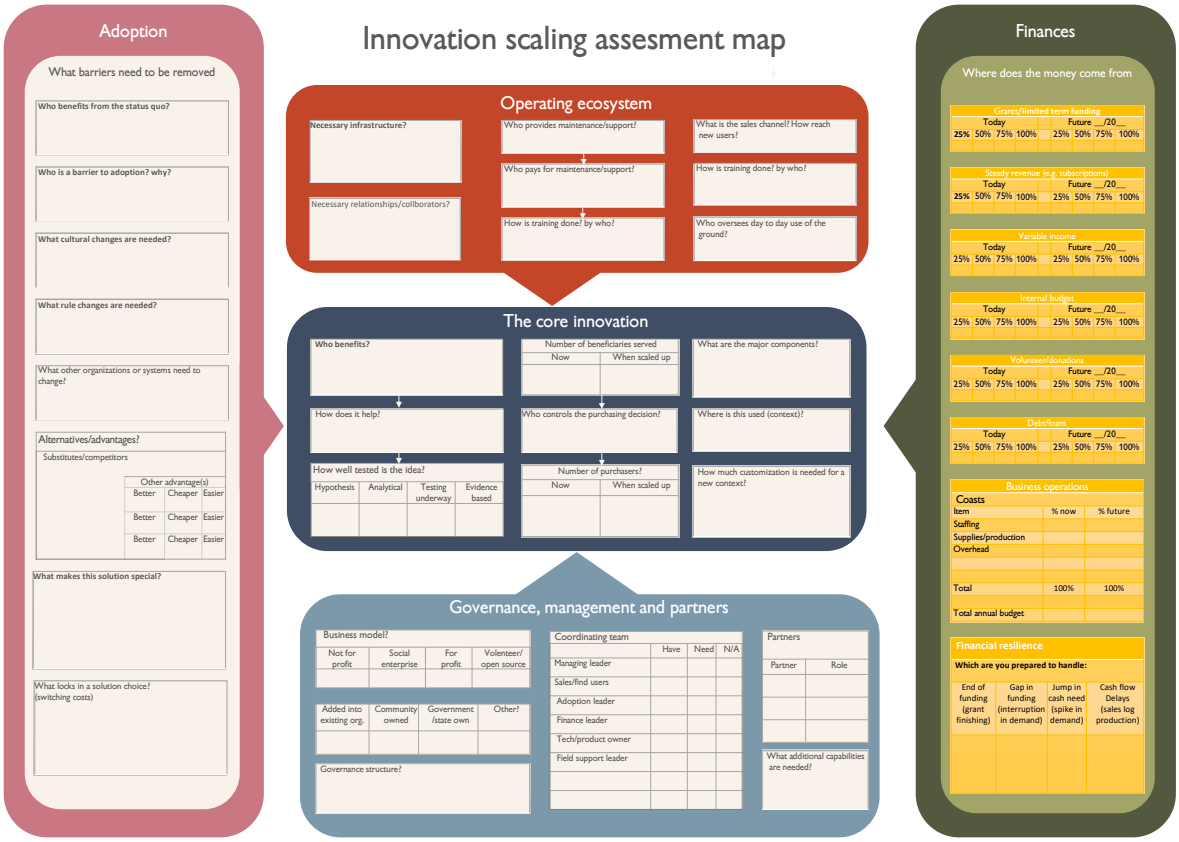
Links to key resources

- MSI scaling framework: http://msiworldwidewjzvccptpx.devcloud.acquia-sites.com/sites/default/files/additional-resources/2018-11/ScalingUp_3rdEdition.pdf
- MSI scaling toolkit: http://msiworldwidewjzvccptpx.devcloud.acquia-sites.com/sites/default/files/additional-resources/2018-11/MSI-Scaling-Up-Toolkit.pdf
- Scaling checklist: https://www.agrilinks.org/sites/default/files/resource/files/MSI_Scaling_Checklist.pdf
- Scaling up program: https://msiworldwide.com/what-we-do/our-services/education/scaling

Scaling assessment map

The scaling assessment map is a working tool for innovation scale up through filling the gap in the innovation lifecycle. It was developed in November 2016 (current version 3-1) by Ian Gray (Director at Gray Dot Catalyst) and Dan McClure (the Innovation Design Lead at ThoughtWorks) to support the evaluation and planning for pilot innovation programs to reach the goal of replication and optimization in multiple contexts. The map incorporates practical experience from the prior work of ThoughtWorks—a global software consultancy solving complex problems with technology, exploring broad challenges faced by innovation teams to create a sustainable ecosystem around their idea.

Figure 11. Innovation scaling assessment map



The map provides an evolving process focusing on design challenges when innovators are trying to move on with a pilot project from an idea to a sustainable scaled up solution with more complicated and complex structure. The process is used and refined with innovation teams and mentors throughout the planning stage. The current version of the scaling map has five major domains that are each broken down into component elements as outlined in the Engineering Scaled Up Solutions paper:

1. The core innovation: major components, functions, potential customizations, beneficiaries, use cases, current practice, evidence of impact, etc.
2. Adoption: barriers and value propositions compared with alternative solutions
3. Operating ecosystem: required infrastructure and relationships, and responsibility of teams

4. Governance, management and partners: business model, governance structure, coordinating team, and partners and additional capabilities needed
5. Finances: current situation of available funding, revenue, income, budget, donations, loans, business operation costs and financial resilience

Highlights

The map is a template similar to a business model canvas that allows the innovation team to continuously improve the scaling model (including both business and financial models) throughout the planning stage. Its target is to solve the problem of the "missing middle" and it provides a detailed framework to think about the components of a feasible scaling plan with logistics and support from the outside environment. It also allows for blank spaces and compromises during the pilot stage and gives the opportunity for trial and adjustment. It is most suitable for commercial products with social missions and a more business-oriented environment.

Sector applications

The scaling assessment map is designed for humanitarian innovation; it focusses more on perspectives of product design for a for profit company or a social enterprise at the planning stage, but broadly applies to the social sector.

Recommended position in the scaling cycle

The map should be applied when the innovation enters the scaling up stage after the early stage evaluations of pilot programs are done. At this stage, there will be a clear need and viable solutions with appropriate design ready form a specific innovation product for the market. The map should be filled with a valid business case and continue to developing a higher-level strategy.

Method and duration of delivery

Participants are advised to discuss and fill each box with accurate information to identify and record the distinct components that need to be in place for scale up to succeed. There is no specific sequence of filling the map but the middlebox of core innovation should be clarified first as the base of the whole map. The process can be done through a group meeting or a workshop in 1–2 hours, depending on consensus among participants, the complexity of the innovation and its market. The map should be reviewed and improved throughout the whole planning process.

Expected participants

As a tool for internal strategic planning, the scaling assessment map should be applied by the innovation team of the technology, potentially with mentors and administrators responsible for scaling up an innovation. The product management and marketing team members could also be involved in the process.

Time and resource estimates

The map can be completed quickly in 1–2 hours. It is also possible for the team to invest more time on developing the map through continuous improvements and revision of each component. The required resources are simple—the map itself and existing documents of previous innovation design, pilot evaluation and management plan.

Links to key resources

- Scaling assessment map: https://www.thoughtworks.com/insights/blog/scaling-assessment-map-evolving-tool-supporting-innovation-scale#_edn2

Assessment of the tools

Based on the evaluation metrics, the nine evaluated tools cover a broad range of sector background including the area of expertise of the author organization, previous experience in the usage of the tool and the purpose of the tool. When evaluating suitability, we focus on three main guiding criteria as described below.

1. Applicability/fitness: to evaluate how well the tool can be applied to ILRI and CGIAR contexts and meet scaling needs by considering the sector for which the tool is developed, the area of expertise of the author organization(s), suitability of ILRI/CGIAR organizational structures and nature of the work and the "target unit" for the scaling assessment (whether it is product-based or project-based).
2. Functionality: to check if the tool helps identify a specific scaling pathway, evaluate the current status of the technology or innovation that will be going through the scaling assessment, review the enabling environment for scaling, or provide the basis for portfolio management showing readiness of different research projects.
3. Operational feasibility: to estimate the level of required time and resources to apply information or digital technology whether to collect data or show assessment results. The levels are evaluated as high, moderate or low.

A summary of our assessment can be found in Table 1, which is also shown again below.

Detailed assessment of scaling tools

Tool	Author organization	Applicability/fitness			Functionality			Operational feasibility	
		Sector background	Organization context	Target unit	Identify scaling pathway	Evaluate scaling environment	Portfolio management	Time and resource requirements	Technology requirements
Scaling readiness	IITA and WUR as part of CRP RTB	Agriculture	✓	Technology/ innovation (package)	✓	✓	✓	High	High
Scaling scan	CIMMYT and PPP Lab	Aggriculture and water	✓	Technology/ innovation	✗	✓	✗	Moderate	Moderate
Agricultural scalability assessment tool (ASAT)	E3 Analytics led by MSI for USAID	Agriculture	✓	Technology/ innovation	✓	✓	✗	High	Low
Operational framework for scaling up results	IFAD	Agriculture Finance	✗	Project	✓	✓	✗	High	Low
Nine steps for developing a scaling up strategy	ExpandNet and WHO	Health	✗	Technology/ innovation	✓	✓	✗	High	Low
Assessing scaling potential tool	WRI		✗	Project	✓	✓	✗	Low	Low
Scalability assessment and planning toolkit	Save the children International	Not specified	✗	Project/ initiative	✗	✓	✗	Moderate	Moderate

Scaling up: from vision to large-scale change	MSI	Education	✓	Technology/ innovation	✓	✓	✗	Moderate	Low
Scaling assessment map	Thought Works	Social	✗	Technology/ innovation	✗	✓	✗	Low	Low

All tools originate from international development sectors in agriculture, health, education and other social sciences in general. As part of the tool inclusion standards, the tool must be able to evaluate a specific intervention (innovation/technology) or a project or package of innovations. The desired functions for the assessment tools include identifying a specific scaling pathway, whether sector-based or step-based; evaluating the larger environment where the scaling will take place, including social and institutional environments that might affect the scaling process and results; and the possibility for conducting portfolio management for a large research project pool.

Three of the tools do not assess scaling pathway. These tools are the scaling scan, the nine steps for developing a scaling-up strategy and the scaling assessment map. All tools include the enabling environment for scaling using different approaches. The scaling readiness is currently the only tool which allows for portfolio management.

As practical tools to be applied in the management process, it is important to consider operational feasibility based on specific contexts, including time and resources needed to perform the function of the tool and the required level of using digital technology and the internet to complete the process. Sometimes, the data collection process is conducted in remote areas in developing countries, where digital literacy is relatively low and internet infrastructure is underdeveloped, potentially limiting the applicability of the tool. There are three levels of rating based on the current evaluation—high, moderate and low. Scaling readiness is a comprehensive tool with five online surveys and long project cycle, thus, both the time and resource level (technology required) are high. Similarly, the agricultural scalability assessment tool (ASAT), operational framework for scaling up results and nine steps for developing a scaling-up strategy also require large efforts on data collection and implementing each designed step. However, their dependency on technology and digital equipment is low. As "light review", the scaling scan, scalability assessment and planning toolkit, and MSI's scaling up only require moderate time and resources. The scaling scan uses an Excel sheet to document and visualize the results of the scaling ingredients and the scalability assessment and planning toolkit includes a series of digital templates. The scaling assessment map is the simplest tool among the list, which only requires a large paper and can be done in less than an hour.

A few of the tools meet the context and working structure of CGIAR and ILRI projects particularly well, as they focus on agriculture or natural resources management (scaling readiness, scaling scan, ASAT), designed for CGIAR research programs (scaling readiness, scaling scan) or its donors (ASAT) to evaluate the effectiveness of projects, or fit into the general innovation scaling assessment (MSI scaling up).

Considering the fitness of the organizational context, maturity of the tool development and availability of ready-for-use instruments and combination of functions, three tools are prioritized for ILRI and CGIAR's scaling process. These are the scaling scan for a light review, combined with the ASAT to identify scaling pathways, the scaling readiness for a deeper analysis.

The three tools are prioritized based on the findings explained below.

- They are appropriate for the context of ILRI and CGIAR as they mainly assess agricultural innovations. For these tools, CGIAR institutes were involved in the tool design, or the tool was developed for CGIAR donors based on contexts similar to those likely to be found in most CGIAR research projects.
- They are relatively developed, with instruments available to be applied directly (such as sample questionnaire, interview protocols and workshop planning, templates and online tools, etc.)
- They provide all necessary assessments to add to the process with a good combination of tools for initial review and deep analysis, single technology and packages of innovations, and scaling environment and technology.
- In the case of the scaling readiness tool, there's an option to track not only individual projects, but also a "portfolio" of projects or innovations that can be aggregated across projects, programs and the institute.
- They have feasible workload and resource demand that can be accommodated by most ILRI/CGIAR projects.
- The tools are likely to help ILRI/CGIAR increase its capacity to design and deliver scaling-related activities that can help achieve larger objectives of the organization and its investors.

Resources and further reading

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