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Scaling in ARD processes

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Importance of scaling

Achieving the Sustainable Development Goals (SDG) adopted in 2015 calls for transformation at scale requiring the different sectors and actors to work together, pool financial resources, knowledge, and expertise (PPPLab, 2017a). Such multi-stakeholder collaboration is at the core of Agricultural Research for Development (ARD) partnerships.

Scaling has been defined as a process of:

- distribution and transfer of technologies to new beneficiaries in a given space or into larger geographic areas;
- expanding, adapting, and sustaining successful policies, programmes or projects in different locations and over time to reach a greater number of people;
- bringing more quality benefits to people over a wider geographical area, more quickly, more equitably, and in a sustainable version;
- increasing the impact of technologies that have been successfully tested in pilot or experimental projects to benefit more people and to foster policy and development in a programmatic version (Ajayi et al., 2018).

Overall, it can be seen as a process whereby an innovation (technology, product, process or structure) brings three types of benefits (PPPLab, 2017a):

- Reaching more people,
- Creating greater efficiency per person reached, and
- Achieving system change and sustainability.

Types of scale

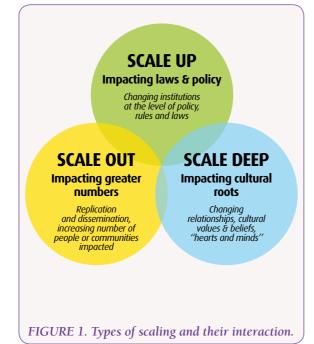
Three main types of interdependent scaling can be differentiated (Figure 1):

Scaling-out or horizontal scaling: This represents the replication or rolling out of a successful solution or model to new clients or beneficiaries or to new geographies. The objective here is to increase

significantly the number of those benefitting. An example is the Burundi consortium¹ that widely disseminates locally adapted potato seeds through cooperatives.

Scaling-up or vertical scaling: Significant scale can frequently only be achieved by addressing the enabling environment on the institutional level of a system. This includes not only changing the way in which the organizations and institutions function and the working relations within them; it also involves policies, regulations, laws and resource allocation to enable the performance, expansion and sustainability of the innovation. The work in building new international partnerships to address the issue of combatting aflatoxin² illustrates vertical scaling well.

Scaling deep or cultural scaling: Riddell and Moore (2013) proposed another interrelated level of scaling, that of changing the "hearts and minds" of people, the organization, system or community (e.g., in terms of narrative, values, beliefs and identities). Empowering women in the innovation process, as part of the soybean consortium in Benin³, is a case in point. The indigenous vegetable consortium in Uganda, seeks, amongst others, to revitalize acceptance of traditional foods⁴.





Women's groups partners of the consortium on soybean disseminate their knowledge to other women's groups in Benin.

What is being scaled in PAEPARD

Within PAEPARD, consortia and user-led processes address all three of these levels of scaling. Successful innovations are scaled out to a larger number of beneficiaries, whilst creating an enabling environment for the uptake of these innovations. At a different level, PAEPARD is also concerned with scaling-out and scaling-up of an ARD approach not only influencing, the way people work together for relevant research, but also ensuring increased resource allocation for such an approach. This includes the promotion of public-private partnerships to address priority research issues and responding to user needs (Alfred et al., 2018).

Public-private engagement is seen as providing the basis of successful scaling initiatives since:

- together, business, government, civic, knowledge and financial actors are able to combine their expertise, mandates and resources to address development challenges and
- market driven approaches tend to result in sustainable solutions and higher impact as they are driven by business cases. However, the development of solutions responding to user needs may require public subsidies,

in the initial stages at least, to mitigate risks and decrease upfront investment encouraging businesses to enter difficult or unknown domains (PPPLab, 2017b).

Success factors for scaling

Successful scaling is complex. What works in one setting may not necessarily be successful in another. Successful scaling therefore requires taking into consideration the existing system of a set of practices, relations and institutional arrangements, beliefs and values that shape a particular context; Many scaling initiatives fail because they have not understood the system sufficiently well, limiting the effectiveness of their efforts (PPPLab, 2018). It is also important to reflect on the timeframe required for scaling. Hillbur (2013) suggested that scaling-out of a technology may take up to five years, while Fatunbi et al. (2017) estimated that efforts aimed at combining scaling-out and -up could take anything up to fifteen years. This means that a continuous assessment of a changing system is necessary to ensure interventions remain relevant and achieve the desired effects.

The PPPLab has identified ten, interrelated domains that need to be addressed for successful scaling (Figure 2 on next page).

These are:

- Technology Practice
- Awareness and Demand
- Business Cases
- Value Chain
- Finance
- Knowledge and skills
- Collaboration
- Evidence and Learning
- Leadership and Management
- Public Sector Governance



https://paepard.org/?SitesWebConsortia 2 https://paepard. org/?PublicationsPaepard/, download&file=Policy_brief_ FANRPAN_Stemming_Aflatoxins__PAEPARD_GNVC_ Apr_2016.pdf

³ https://paepard.org/?PublicationsPaepard/download&file=Presentation_CRF_Soja_Benin.pdf

⁴ https://paepard.org/?PublicationsPaepard/download&file=PAEPARD INDIGENOUS VE-GETABLESEN2016V1.pdf



Ajayi et al. (2018) identify 15 factors of successful scaling that are in line with these ten domains, while Hillbur (2013) emphasizes that a key element in bringing these factors together is building trust. As discussed in the PAEPARD Thematic Brief #6 on Reflection and learning, skilfully facilitated, iterative learning cycles among stakeholders are key to creating trustful relationships.

Trolloch (2018) points out however, that "the expectation that a worthwhile solution ought to be spreadable or replicable beyond the proximal area that gave birth to it is simply wrong". He notes that solutions found in one context may provide lessons for creative approaches to complex challenges but may not always be possible or desirable to bring them to scale. As he states, "the signature of a worthy idea is not necessarily that it is scalable".

Strategies for Scaling

Navigating the complexity of the system so as to scale-out and -up requires the design of clear strategies by ARD platforms at early stages of their formation. Riddell and Moore (2015) identified three main strategies linked to the types of scaling and one crosscutting strategy.

Other authors postulated frameworks (MSI, 2012a; Fatunbi et al., 2017) for designing and implementing the strategy. Such frameworks cover basic planning steps, a key step of which is assessing the viability (or even desirability) for scaling-out or -up of an innovation.

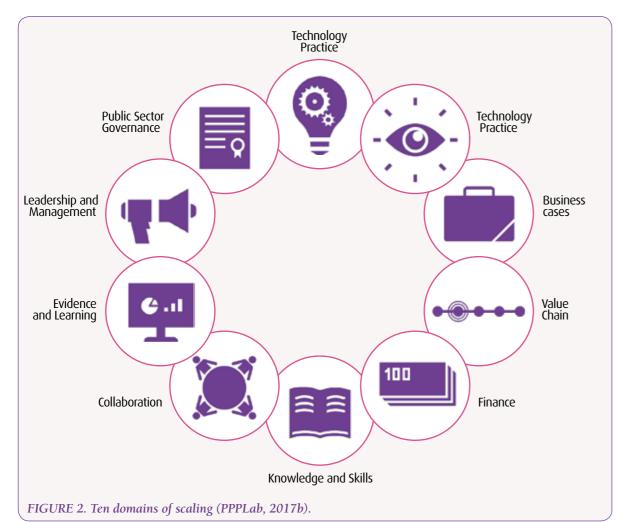


TABLE 1. Types of "scaling" and their main strategies (adapted from Riddell and Moore, 2015).

	DESCRIPTION	MAIN STRATEGIES
Scaling Out	Impacting greater numbers. Based on the recognition that many good ideas or initiatives never spread or achieve widespread impact.	Deliberate replication: Replicating or spreading programs geographically and to greater numbers Spreading principles: Disseminate principles, with adaptation to new contexts via cogeneration of knowledge.
Scaling Up	Impacting law and policy. Based on the recognition that the roots of social problems transcend particular places, and innovative approaches must be codified in law, policy and institutions.	Policy or legal change efforts: New policy development, partnering, advocacy to advance legal change and redirect institutional resources.
Scaling Deep	Impacting cultural roots. Based on the recognition that culture plays a powerful role in shifting problem domains, and change must be deeply rooted in people, relationships, communities and cultures.	Spreading big cultural ideas and using stories to shift norms and beliefs Investing in transformative learning and communities of practice.
Crosscutting strategies for scaling	Cross-cutting strategies approaches to scale initiatives, and not specifically associated with scaling out, up, or deep.	Making scale a conscious choice. Analyzing root causes and clarifying purpose. Building networks and partnerships. Seeking new resources. Commitment to evaluation.

Scaling up the impacts of ARD is in the centre of present debate

⊯ Tools for Scaling

Many of the tools for developing an action plan for scaling based identified scaling strategies, such as network, systems or trend mapping are already described in earlier briefs (# 2 Systems Thinking and # 6 Reflection and Learning). Three tools for assessing the viability of scaling ambitions are described here.

• The Scaling Scan: A practical tool to determine the strengths and weaknesses of your scaling ambition

The Scaling Scan assesses the ten scaling domains presented above to create a rich understanding of how to scale an identified innovation. It fills the niche between having (at least) a general idea of what should scale where (for example, when a donor requests a proposal for adoption of a technology) and having a detailed scaling strategy ready for implementation. The Scaling Scan helps:

- Fully understand what scaling your innovation would
- Facilitate an exploration about the challenges scaling your innovation is likely to face and the opportunities it can leverage;
- Identify points of attention that should be addressed in the scaling strategy; and
- Monitor and learn how the scalability of the project changes over time.

The Scaling Scan is not a design tool but rather provides a snapshot in time identifying current opportunities and challenges for a scaling strategy. The assessment can be filled in regularly by project teams to monitor progress in addressing the challenges (PPPLab, 2017b).

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Agricultural scalability assessment tool for assessing and improving the scaling potential of agricultural technologies (ASAT) by USAID

The ASAT provides a qualitative appraisal of an innovation's scalability by analysing the factors affecting scaling potential relative to a specific socio-economic context and the characteristics of target adopters. The ASAT provides information on the strengths and weaknesses of the innovation relative to scalability, the most promising scaling up pathways (i.e., commercial, public, or public-private partnerships), and information on the extent to which target contexts - locations and populations - and their market and public-sector capacity currently facilitate scaling.

The ASAT is not meant to be the decision-making toolkit but intended to identify constraints to and opportunities for scaling. It can inform decisions about whether, and where, to invest in the scaling up of specific innovations, or for further investment in research and development. The ASAT can also inform design efforts to improve the scalability of an innovation, improve and strengthen market and public-sector systems to facilitate scaling, or both.

The ASAT consists of two components, or tools: an Agriculture Scaling Decision Tree (ASDT) and an Agricultural Scalability Assessment Matrix (ASAM).

A dashboard also summarizes the results of the tools and provides recommendations based on that analysis. It prioritizes commercial scaling as the preferred choice, along with public-private partnerships. That is, it prioritizes pathways that are likely to achieve something approaching potential scale, retain impact, and is financially and institutionally sustainable.

Download the assessment tool at https://reliefweb. int/report/world/quide-agricultural-scalability-assessment-tool-assessing-and-improving-scaling.

Scalability Assessment Tool (SAT) –

The primary purpose of the assessment is to provide a very rough indication of the scalability of a model and a basis for anticipating the most likely challenges that will be faced. It enables the recognition and differentiation of contextual factors affecting the scalability of a model and the key features that are intrinsic to the model itself. The SAT can help decide whether scaling up is a viable option; assess how relatively hard or easy that process will be; and identify ways to improve its scalability. It considers seven factors:

- **1. Credibility:** The extent to which the model is credible in the eyes of potential adopters, funders, implementers, and
- or effectiveness) of the model are observable.

Management Systems International (MSI)

- other stakeholders, including beneficiaries or end-users.
- **2. Observable:** The extent to which the results (impact

Examples of scaling in PAEPARD partnerships

SCALING OUT

The PAEPARD consortium in Burundi, involving a range of interested organizations, addressed the lack of availability and limited access by local farmers to quality potato seeds. Working initially in three pilot locations with 580 on-farm plots, local adapted seeds achieved increased in yields of over 80% compared to traditional varieties and methods. Through the involvement of one of the partners - the Confédération des Associations des Producteurs Agricoles pour le Développement the consortium has been able to rapidly disseminate and ensure adoption of the locally adapted seeds across the country.

In Benin, the NGO SOJAGNON coordinated a consortium of multiple stakeholders from private and public sectors to develop a number of soybean derived products (e.g., soybean milk and "afitin"), strengthen food and nutritional security, and increase household income.

To ensure the benefits of research reached larger numbers of producers, processors and consumers, the consortium adopted a market led approach from the very beginning. Women processing groups have now taken ownership and are now active in six of the most important soya producing areas in Benin.

SCALING UP

PAEPARD consortia managed by The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) and East African Farmers Federation (EAFF) addressed national issues of aflatoxin contamination in groundnuts and maize. However, they soon realized that effective solutions could only be achieved through changes in high level policies and resource allocation, and so increasingly focused on these aspects to achieve greater impact at scale. Beyond policy dialogue at national level, PAEPARD also played an active role to support and

inform international consortia on aflatoxin to mobilize international research, political commitment and private sector solutions.

SCALING DEEP

The research consortia led by the Ugandan Christian University had the aim of "Enhancing nutrition security and incomes through adding value to indigenous vegetables in East and Central Uganda". Once a part of the traditional diet, modern eating habits in Uganda had come to favour less nutritious 'European' vegetables such as carrots and cabbage. As well as improving production and marketing of indigenous vegetables, the consortia also therefore initiated targeted awareness campaigns to "educate" consumers on the nutritional benefits of indigenous vegetables, change their image from being somehow "primitive" to that of being important ingredients of a modern diet.

- **3. Relevance:** The extent to which the model is relevant to the concerns of potential adopters, funders, implementers, beneficiaries, and other stakeholders.
- **4. Relative advantage:** The extent to which the model has relative advantages over existing practices.
- **5. Easy to adopt:** This refers to the adoption of the model by other organizations as well as its transfer to other social contexts. It also involves how the requirements of the model match up with the culture, capabilities, and incentives of potential large-scale implementers.
- **6. Testable and adaptable:** The first part of this refers to the ease with which the model can be tried on a small scale by potential adopters without a large commitment of resources. The second part is whether the model can be adapted to new contexts and still retain its effectiveness, even with modifications.
- **7. Affordable:** This criterion refers to the extent to which the model is more cost-effective than existing and competing models.

This tool and numerous others for analysing context, designing and implementing a scaling plan can be found in the Scaling Up Toolkit⁵.

5 http://www.msiworldwide com/wp-content/uploads/MSI-Scaling-Up-Toolkit.pdf



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(For a comprehensive literature list, please see Ajavi et al., 2018)

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Executive summary

Agricultural Research for Development

(ARD) partnerships typically conduct their activities within a defined. project-related, context and with a specific group of potential beneficiaries. To achieve the maximum benefit from project investments, it is important to consider how resulting innovations can be "scaled" to reach more people and have an impact on a broader system than the original project context.

In this brief, three types of scaling are considered: "scaling-out", where an innovation is replicated or extended to new beneficiaries in new geographic areas; "scaling-up", where elements of the enabling environment, policies

or institutional context of the original innovation are addressed to broaden the applicability of the innovation; and "scaling deep", where cultural attitudes are changed to further the acceptance of an innovation.

Although PAEPARD partnerships may still be in the early stages, all three of these types of scaling have been addressed and examples are given here. More generally, the PAEPARD project advocated for a change in "the rules of the game" and increased funding for ARD approaches. Success factors for scaling and a number of practical strategies and tools for assessing potential scalability of an innovation are also described in this brief.



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