A capacity framework for strengthening science, education and practice of scaling innovation

Developed by the CGIAR Initiative for Diversification in East and Southern Africa[1] (Ukama Ustawi)

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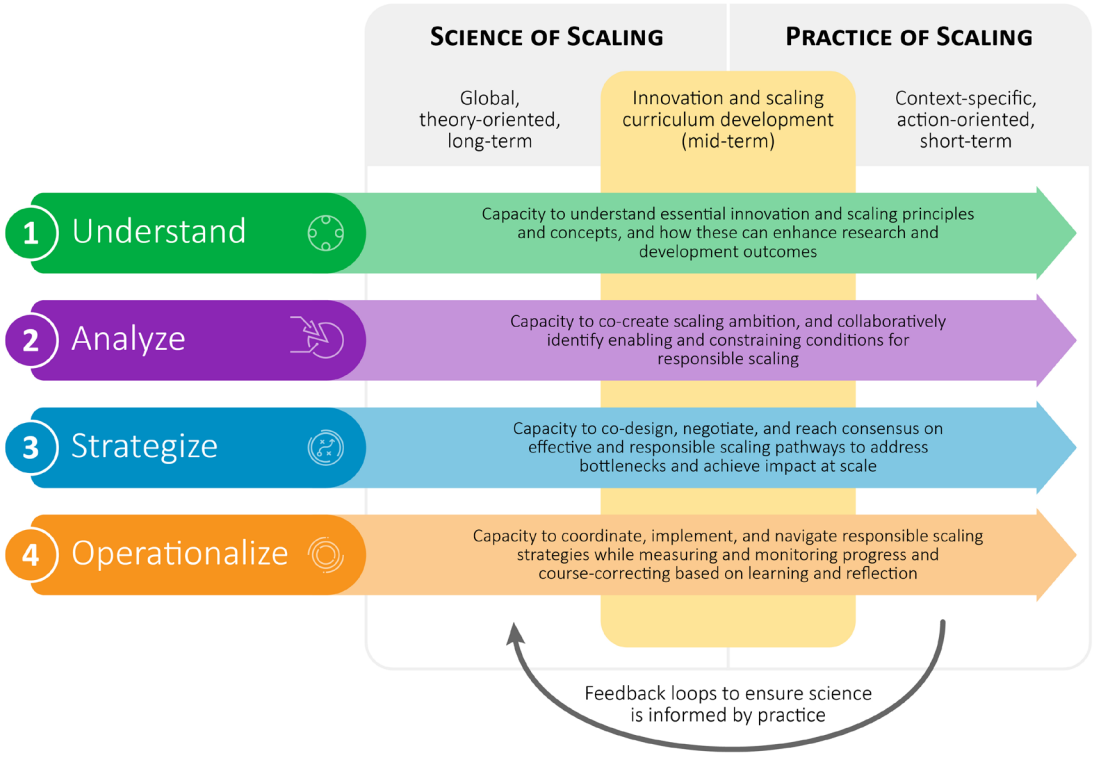
Value proposition and summary

To empower governments, research and development organizations, and private sector in co-creating, implementing and monitoring strategies for scaling innovation, CGIAR, Wageningen University and partners are seeking an investment of USD 6M to strengthen:

1. Scaling science capacity of 15 future research and policy leaders (12 PhD and 3 postdocs) in east and southern Africa through academic training by end of 2028 (~USD 3M)
2. New or improved MSc and/or BSc innovation and scaling curricula in 5 east and southern African countries by end of 2026 (~USD 1.5M)
3. Scaling practice capacity of 3000 government, research and development (incl. CGIAR and NARS), and private sector experts working in east and southern Africa through (e-learning) courses and trainings by end of 2025 (~USD 1.5M)



Combined, the investment will strengthen systemic science, education, and practice capacity to understand, analyze, strategize, and operationalize scaling efforts in east and southern Africa on the short-, medium- and long-term towards more impactful innovation scaling that is required to achieve the 2030 Sustainable Development Goals.

[1] This Concept Note was developed under the CGIAR Initiative for Diversification in east and southern Africa and therefore has a specific focus on east and southern Africa. The capacities and concepts presented in this note do however have broader global reference, and this note can be adapted to fit other geographical regions.

Strengthen innovation and scaling capacity is essential to achieve the Sustainable Development Goals

In today's rapidly evolving world, scaling innovation is crucial for addressing complex global challenges and achieving Sustainable Development Goals (SDGs)[2]. The ability to successfully scale innovative solutions has the potential to revolutionize societies in directions that have become critical (e.g. climate change, agro-biodiversity, social inclusion) and positively impact countless lives. However, despite the growing recognition of the importance of scaling innovations, there exists a significant gap in understanding and applying effective tools and strategies for achieving impact at scale.

This concept note highlights the significance of strengthening capacity in the science and practice of scaling innovation. The lack of a comprehensive and realistic understanding of innovation and scaling processes, coupled with limited scaling knowledge and capacity across individual, organizational and system levels hinder the effective scaling of innovations. Consequently, many promising initiatives fail to reach their full potential and address systemic issues at scale.

CGIAR, through its regional and thematic Initiatives and partnerships, can play an important role in advancing state-of-the-art science of scaling, and integrate that science into education and training curricula and practical tools that can support the practice of scaling. Examples of existing tools include the CGIAR e-learning course on innovation and scaling, capacity development on gender-responsible scaling, and training of Innovation Packages and Scaling Readiness facilitators.

Input to this concept note was provided during a Science of Scaling workshop that was held in Kigali, Rwanda on 24-25 April 2023. The 11 participants represented CGIAR System Organization, Ukama Ustawi, Wageningen University and funder organizations with an interest in advancing the science and practice of scaling. The workshop builds on a scoping study that was conducted in 2022 to identify key challenges and opportunities for scaling innovation in east and southern Africa.

An integrated science, education and practice capacity framework for scaling

To unlock transformative opportunities and maximize the impact of research and innovation, investment in strengthening capacity in both the science and practice of scaling innovation is essential. Science of scaling is mainly concerned with the design, testing and validation of scientific theories, concepts and methods to understand and guide scaling of innovation to achieve societal outcomes and impacts. In other words, it aims at understanding scaling processes, what works, where, for whom and under which conditions. The Practice of Scaling can be defined as the deliberate efforts and interventions that lead to defined societal outcomes and impacts[3]. The science of scaling should be informed by the practice of scaling and vice-versa.

Despite a rich history of extension, adoption, diffusion and impact studies, the agricultural sector continues to lack capacity to study and implement more holistic and adaptive approaches to innovation and scaling. Although novel approaches are being mainstreamed in some pockets of the research and development system (e.g. the Scaling Readiness approach), many scaling concepts and strategies are simplistic and based on unrealistic assumptions. As a result, many innovative solutions do not go beyond piloting stage, or end up 'on the shelf' in research stations, rather than in the hands of farmers or other end-users.

Four essential and interrelated capacities necessary for scaling innovation are assumed

1. Understand

Capacity to commonly understand essential innovation and scaling principles and concepts, and how these can enhance research and development outcomes.

2. Analyze

Capacity to co-create scaling ambition, and collaboratively identify enabling and constraining conditions for responsible scaling.

3. Strategize

Capacity to co-design, negotiate, and reach consensus on effective and responsible scaling pathways to address bottlenecks and achieve impact at scale.

4. Operationalize

Capacity to coordinate, implement, and managing responsible scaling strategies while measuring and monitoring progress and course-correcting based on learning and reflection

The four capacities cut across the science and practice of scaling, which means that these can be studied from a scientific research perspective, as well as deliver needed hands-on skills and competencies to support scaling action on the ground. At the interface of science and practice sits agricultural education and curriculum development, where the aim is to strengthen the analytical and implementation capacities of the next generation of science and practice leaders.

[2] Schut et al., 2020. Science of Scaling: Understanding and guiding the scaling of innovation for societal outcomes. Agricultural Systems: https://doi.org/10.1016/j.agsy.2020.102908.
[3] Wigboldus et al., 2016- Systemic perspectives on scaling agricultural innovations. A review. Agronomy for Sustainable Development: https://link.springer.com/article/10.1007/s13593-016-0380-z.

Key results, timelines and fund requirements

The below table provides more details on the focus, modality, anticipated key results, timelines and estimated funding requirement:

Theme	Science of Scaling	Innovation and scaling curriculum development	Practice of Scaling
Focus	*Address gaps in the science literature by answering questions, for example:*	*Support curriculum development and implementation in relation to:*	*Train CGIAR and partners in advancing the practice of scaling to:*
1. Understand	How does divergent or aligned understanding of innovation and scaling affect multi-stakeholder change processes?	Understanding of different paradigms on innovation, extension and scaling, and their differences and complementarities	Gain knowledge on key interdependent concepts from different lifeworld as part of responsible innovation and scaling pathways
2. Analyze	What are efficient and action-oriented ways to map and diagnose innovation and scaling ecosystems? What can be the role of artificial intelligence?	Strengthen system thinking and approaches to responsible innovation and scaling and embrace state-of the art tools	Be able to analyze innovation systems with stakeholders, design innovation packages and identify key bottlenecks for scaling
3. Strategize	To what degree is co-creation with partners important for success of (responsible) scaling strategies? How can trade-off and scenario analysis support stakeholder decision-making?	Embrace the politics and institutional dimension of multi-stakeholder innovation and scaling processes	Ability to support stakeholders in designing and agreeing scaling strategies that tackle strategic bottlenecks for scaling
4. Operationalize	What are existing barriers and opportunities to more flexible institutional arrangements which enable navigate the scaling process?	Learn how to apply reflexive MEL and adaptive management of innovation and scaling processes	Develop targeted M&E tools and skills to project and stakeholder management, adaptive management, and communication
Modality	A science of scaling research program that consists of PhDs and postdocs, supervised by lead global innovation and scaling scientists	Curriculum analysis, improvement and testing in collaboration with selected agricultural education institutes	E-learning and in-person trainings on key innovation and scaling concepts, approaches and tools
Key results	12 PhDs and 3 postdoctoral scientists trained	5 agricultural innovation curricula analyzed and improved	3000 experts from research, government, development and private sector trained
Timelines	Long-term: 2024-2028	Mid-term: 2024-2026	Short-term: 2024-2025
Est. budget	USD 3M	USD 1.5M	USD 1.5M
Potential funders	INREF, NL-NWO (Strategic Expert Program), CIRAD, BMGF, USAID, MFAT, World Bank	SIDA, CapSha, USAID, GIZ, IFAD, Winrock Foundation, RUFORUM, AICCRA	World Bank, BMGF, GIZ, USAID, Bezos Fund, MFAT, SIDA

For more information on this concept note, please contact **Dr. Marc Schut** (m.schut@cgiar.org / marc.schut@wur.nl), Strategic Advisor and Senior Scientist Innovation and Scaling, CGIAR and Wageningen University.