SCALING Up

Scaling Principles

Paper prepared for the Scaling Community of Practice

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Abstract

Scaling has increasingly been accepted by international development actors as core to their mission, goals and activities. While a number of scaling management frameworks have been developed, there is no articulated consensus on widely applicable scaling principles and lessons. To address this gap, the Scaling Community of Practice commissioned this working paper to help develop such a list of scaling principles.

This paper presents eight scaling principles and twenty lessons unpacking those principles, grouped under six broad questions about how to address the scaling challenge. The principles and lessons were derived from interviews with key informants active in scaling in international development and from a selective survey of the scaling literature. Drawing on that information, the principles and lessons were selected based on their frequency of mention and on the subjective views of the authors, each with over fifteen years of experience in scaling and over 40 years of development practice. The paper offers background as to the origins and description of each lesson, some operational guidance on how to apply the lesson in practice, and caveats as to the limits of the lesson. The paper ends with a set of conclusions that the authors draw from the process of selecting the principles and lessons and with the authors' reflections on the direction of possible future work in applying and adapting these principles.

The principles state that successful scaling requires a clear vision of the impact to be achieved and at what scale, the innovation or intervention to be scaled, and who will play key roles in going to scale and implementing at scale. All of these aspects of the vision need to be consistent with each other and aligned with systemic constraints, especially financial resources and implementation capacity. The vision needs to be complemented with a scaling strategy whose implementation should be iterative, adaptive and continue as long as necessary and appropriate. Other key considerations include: (i) bringing the scaling perspective into the innovation process from the beginning; (ii) focusing on changing behaviors, mindsets and social norms; (iii) addressing key tradeoffs in setting goals for scale, impact, quality, speed, equity and sustainability; (iv) being inclusive and participatory; and (v) embracing the political nature of scaling, including the need to advocate and to align incentives of key actors, while recognizing that that there will be not only winners, but also losers. Scaling requires broader, deeper and more continuous evidence than traditional project approaches to international development. Application of the principles and lessons will often imply a significant departure from existing development practice, suggesting that beginning with simple changes and scaling in phases may be the best approach to mainstreaming these principles.

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I. Introduction

In 2020-21 the Scaling Community of Practice (CoP)[1] commissioned a working paper[2] on cross-cutting scaling issues for which further analysis would benefit CoP members and the larger international development community. One of the areas highlighted was the need to identify a set of pragmatic high-level principles that can guide scaling practice. The Executive Committee of the CoP (ExCom) commissioned this paper as a basis for selecting a set of scaling principles to be endorsed by the CoP as a whole as reflecting "good practice" in scaling. This paper has benefitted from input and feedback by ExCom members, but the final selection of principles in this paper reflects only the views of the authors and not the views of the ExCom or of the CoP as a whole. Based on this paper and on feedback from the CoP Membership during the CoP Annual Workshop in November 2021, the ExCom will consider formulating and adopting a set of principles on behalf the CoP.

Based on a review of the literature and selective interviews, we have identified eight core principles and twenty lessons under those principles. These are presented in Box 1 below.

Box 1. Scaling Principles and Lessons

A. What is the vision of scale?

Principle #1: Develop from the outset a context-specific, shared and inclusive vision of the problem(s) that need(s) to be addressed and of the expected impact of interventions at optimal scale.

Lesson #1: Begin with the end in mind: Create a shared vision of the problem, expected impact and implementation at scale as a foundation for a strategy and expected pathway to get there.

Lesson #2: Target optimal, not maximal, scale based on careful consideration of tradeoffs between reach, quality of impact, speed, sustainability, equity and human rights.

Lesson #3: Be inclusive and participatory in defining the vision of scale and making key decisions throughout the scaling process; ownership by stakeholders is critical.

B. What to scale?

Principle #2: Define the core elements of the innovation (or innovation package) to be scaled and assess whether it can be sustainably scaled in a particular context.

Lesson #4: Clearly define what is to be scaled: focus on scaling core components and principles to reproduce impact. Vary and adapt interventions to align with context.

Lesson #5: Not every innovation should be scaled. Assess scalability and sustainability, including relevant ethical, impact, economic, political, behavior change and feasibility criteria. Make decisions to go forward with scaling based on evidence, including the results of the scalability assessment and *an analysis of* the cost-benefits of proceeding.

[1] See www.scalingcommunityofpractice.com.

[2] Richard Kohl (2021). "Crosscutting Issues Affecting Scaling: A Review and Appraisal of Scaling in International Development." https://www.scalingcommunityofpractice.com/wp-content/uploads/bp-attachments/7770/Scaling_Report_Final.pdf

C. *Who will scale?*

Principle #3: Identify, engage and coordinate leaders, champions, intermediaries, partners and public/private actors to fill key roles in driving, funding and implementing scaling.

Lesson #6: Leaders – identify and engage an actor(s) or organization(s) to lead and drive scaling with the necessary motivation to see it through.

Lesson #7: Intermediaries – identify and engage (or create if necessary) one or more actors or organizations to serve as intermediary, facilitator and coordinator of the scaling process. The intermediary needs to have the resources, skills and capacity to scale (or these need to be strengthened).

Lesson #8: Partners – create and leverage partnerships and collaboration to mobilize resources for effective implementation and political support. Ensure partnerships have adequate resources, management and governance structures to operate effectively and sustainably.

Lesson #9: Public and private actors – consider and address the appropriate role for the government/public sector in a predominantly private scaling pathway, and the role of the private sector in public scaling pathways.

D. *How to plan for scaling?*

Principle #4: From the outset, identify systemic opportunities, constraints and risks; plan to align with them or address them through system change along the scaling pathway.

Lesson #10: Map the relevant systems and context, taking into account complexity and possible unintended consequences. Align scaling strategy and pathway with existing opportunities and constraints or create the enabling conditions for scaling through systems change; demand, technical and organizational capacities, incentives, costs and finances are particularly important factors.

Lesson #11: Develop a viable, long-term business or funding model for scaling and for sustainable delivery/implementation at scale. Align the costs of the innovation and other resources needed with the funding and resources available and with financing mechanisms suitable for each specific stage of scaling pathway.

Lesson #12: Identify and manage risks along the pathway.

Principle #5: Develop an inclusive scaling strategy and implementation pathway(s) to achieve the scaling goal.

Lesson #13: Based on available evidence, develop a scaling strategy and implementation pathway for the innovation that aligns the scaling vision, what is to be scaled, and who will play key roles with financial and system constraints, based on a participatory process with key stakeholders.

E. *How to implement scaling?*

Principle #6: Create demand and mobilize resources for the scaling initiative by aligning incentives and pursuing advocacy to change attitudes, mindsets and social norms and enlist stakeholders.

Lesson # 14: Use evidence and experience from impactful and scalable innovation, especially pilots and demonstrations, to motivate, inform and sustain wider adoption. “Seeing is believing!”

Lesson #15: Align the incentives, interests and priorities of all stakeholders, especially Doers and Payers. Pay special attention to those potentially excluded or adversely affected by scaling.

Lesson #16: Use advocacy, marketing, communications, participation and especially champions to create demand, enlist various stakeholders to support scaling and provide resources, and ensure sustainability over political cycles.

Principle #7: Iterate, learn, adapt and sustain the scaling pathway as long as needed.

Lesson #17: Iterate and adapt – apply a cycle of experimentation, learning and strategic adjustments supported by evidence. Regularly revisit decisions about scaling goals and whether and how to scale.

Lesson #18: Focus on sustainability – financial, institutional, political and environmental – as an integral part of scaling built in from the beginning.

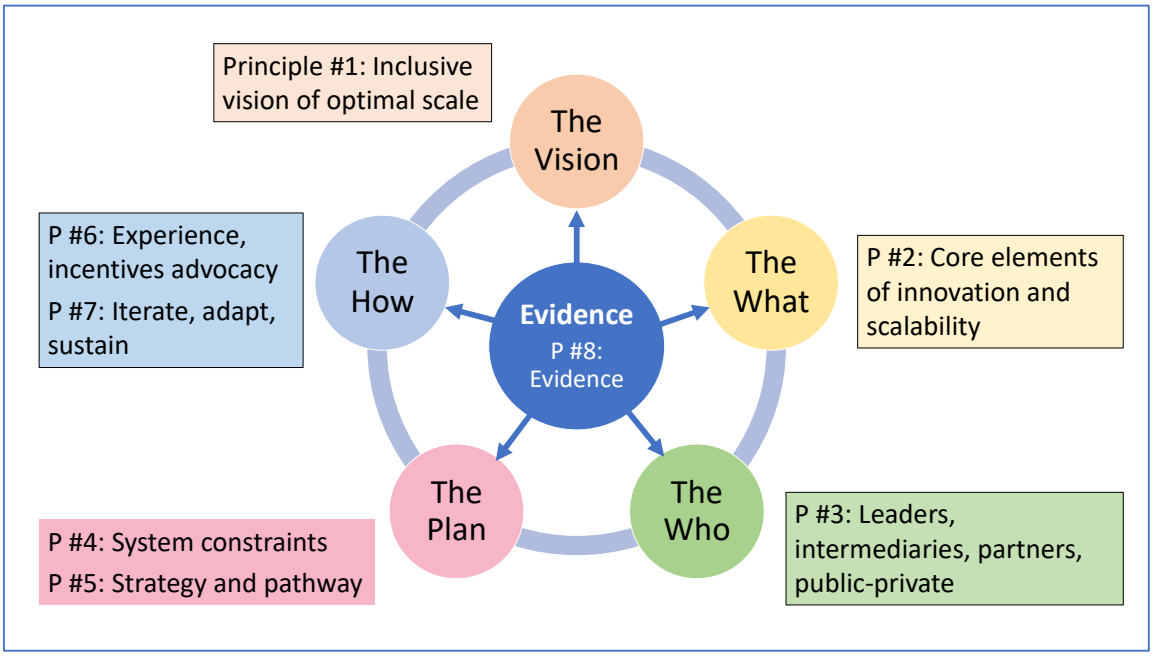
Lesson #19: Stick with it – anticipate and prepare for a long engagement; have the ambition, commitment, and patience to stay the course as long as necessary to achieve and sustain impact.

F. Based on what evidence?

Principle #8: Base all scaling decisions on relevant evidence and continuous learning.

Lesson #20: Generate evidence not only on impact but also to inform decisions about goals, strategy, scalability and implementation, and to support advocacy and ongoing learning and adaptation. (M&E&L)

A graphic representation of the six interdependent scaling questions and eight principles



Source: Authors

The next section defines terms such as "scaling" and "principles" and explains the approach the authors have followed in collecting and sifting the evidence to arrive at the above list of principles. Next, the eight principles and twenty lessons are presented. The paper concludes with a consideration of the limitations of our analysis and an exploration of the implications of this list for scaling in general and for the different actors who play a role in scaling.

II. Methodology

A. *Definitions and conceptual framework*

Based on their review of various standard definitions, the authors chose to define "principle" as: "A concise statement that represents a general truth and serves as a basis for action." Under each principle is at least one lesson that unpacks what is meant by the principle and offers more specific guidance for action and good practice. We define "lesson" as "a general rule of action based on experience with the application of the principle and elucidating the meaning of the principle".

Based on a review of the many definitions in the scaling literature, the authors define "scaling" as: "A systematic process leading to sustainable impact affecting a large and increasing proportion of the relevant need."[3]

The conceptual framework of scaling used in this paper involves three phases – development and testing of an innovation; going to scale; and implementing at scale. Going to scale is the process by which the pre-conditions for successful implementation at large scale are put in place, such as mobilizing resources or getting various actors to agree to play certain roles at scale, and effecting necessary systems changes to create enabling conditions or space for scaling. Implementing at scale is the widespread and sustained production, delivery and adoption or rollout at scale of an innovation. A "scaling pathway" is defined as the journey from developing and testing of an innovation through going to scale to implementing at scale.

There are many roles that need to be played in scaling. These roles are defined in a short glossary in Table 1 below. One individual or organization may play multiple roles. For example, the government might be the Doer, Payer and User at scale for an innovation that it integrates into the public health services. An innovative social enterprise might be not only the innovator, but also drive and facilitate the scaling process (Leader and Intermediary), and potentially also the Doer at scale. BRAC is a good example of an organization that plays these three roles and can also be the User in some cases.

Table 1. Glossary of Terms Used.

Term	Definition
Doers[4]	Doers produce, deliver and supply the innovation (product or service) or integrate the innovation into their systems and activities. When Doers utilize the innovation, they are the User.
Payers	Payers finance going to scale and/or implementation at scale. They can include Users, Government or external donors, though donors usually are not a long-term, sustainable option to fill this role.
Users	Individuals, businesses, government or communities who utilize the innovation.
Intermediaries	Intermediaries support the process of going to scale by facilitating agreement on a scaling vision, strategy and pathway; undertaking background analyses; organizing partnerships and collaboration; and mobilizing resources.

[3] This definition is deliberately broad, in order to encompass a widest possible range of scaling cases (e.g., those involving environmental or climate goals).

[4] The first two of these terms were, to the best of our knowledge, first proposed by Kevin Starr and Laura Hattendorf as a shorthand way of referring to the two principal roles in implementing at scale. Kevin Starr and Laura Hattendorf, (2015) "The Doer and the Payer: A Simple Approach to Scale", Stanford Social Innovation Review, August. https://ssir.org/articles/entry/the_doer_and_the_payer_a_simple_approach_to_scale. There are of course different types of doers, including technical assistance partners, direct implementers during scaling, those engaged in ongoing delivery, etc.).

Leaders	Leaders drive the scaling process including making key decisions about Vision, What, How, and Who.
Innovators	Innovators develop, design and initially test new interventions, products, programs, or services.
Innovation	Refers to "What is being scaled," the interventions and/or other practices that are being scaled up, including interventions that have been applied elsewhere but are new in the given context.

B. Analytical approach

The methodology for the preparation of this paper involved three stages of information gathering and analysis. In the first stage, the authors collected information on principles from two sources: sixteen publications relevant to scaling in developing countries, and eight key informant (KI) interviews with experts on scaling.[5] The documents and KIs are listed in the Appendices. While in some cases these sources explicitly stated principles, in other cases those principles had to be inferred.

The second stage involved the development of a set of categories under which the large number of potential principles identified in the first stage could be organized, followed by an iterative process of deciding which ideas were principles versus lessons versus guidance. Finally, we revised, reorganized and added/subtracted the categories, principles and lessons based on feedback from scaling experts. The final principles and lessons selected were based on three criteria: (i) they were mentioned by a majority of sources;[6] (ii) they were judged to be important by the authors; and (iii) they were emphasized in feedback from commentators on early drafts.

For each lesson, to the extent possible we cite all relevant sources that mention that lesson or something sufficiently similar. The sources are provided in endnotes, using the numbers for that source listed in the two appendices: K# for Key Informants and L# for literature.[7] The paper unpacks and explains what is meant by that principle and offers relevant background on its origins and significance.[8] For those principles and lessons where our sources or our own experience offered practical, actionable guidance on how to apply the principle, we summarize that guidance. Finally, where appropriate we offer comments on caveats as to the universality of that lesson, to the implementation challenges of applying that lesson in practice, or to both. In our attempt to keep this paper short and accessible, the guidance and caveats only include the most important considerations.

[5] The publications were selected based on the authors' familiarity with the scaling literature and on a review of the scaling bibliography of ExpandNet (https://expandnet.net/biblio/). The KIs were selected based on recommendations of the ExCom.

[6] Only two of the principles/lessons were not mentioned by a majority of sources: Lesson #2 (Optimal scale) under Principle 1, and Lesson #18 (Sustainability) under Principle 7. The authors chose to include these two lessons because of their prominent mention in recent CoP discussions of scaling.

[7] We do not provide citations for the eight principles as that would largely be repetitive of the lessons under each principle. Moreover many of the principles represent composites and are not directly taken from sources.

[8] This is similar to the approach used by those sources that we found in the literature that articulate specific principles, in particular Woltering et al. (L3), McLean and Gargani (L12) and Sutton and Rao (L16).

III. Scaling Principles

Principles and lessons can be grouped under six key questions that need to be addressed in the scaling process: (a) the vision of scale, (b) what to scale, (c) who scales, (d) how to plan for scaling, (e) how to scale, and (f) based on what evidence.

A. What is the vision of scale?

Principle #1: Develop from the outset a context-specific, shared and inclusive vision of the problem(s) that need(s) to be addressed and of the expected impact of interventions at optimal scale.

Lesson #1: Begin with the end in mind[9]: Create a shared vision of the problem, expected impact and implementation at scale as a foundation for a strategy and expected pathway to get there.[i]

Background. This lesson covers two issues: when to begin thinking of scaling and what that entails. Traditionally, thinking about scaling begins after an innovation reaches the proof of concept phase or even later. Waiting until the end of the innovation process to incorporate scaling often results in innovations poorly suited for scaling. This at best leads to extensive modifications to the innovations and can imply that evidence of impact and cost is no longer valid. Requiring proof of concept to be revisited translates into wasted time and resources. While there are tradeoffs entailed in thinking about scaling earlier, the default presumption of this lesson is that considerations of scale need to be integrated into the innovation process rather than waiting until after proof of impact or concept.

Guidance.

- Be clear on what problem is to be addressed in a given context based on problem characterization, situation analysis and systems mapping, and validate that the proposed innovation or intervention is relevant and based on credible evidence. "Let the problem drive the solution."
- Identify who the expected users are, confirm that they have a real as well as perceived need/demand based on the problem being addressed, and the specific nature of the need.
- Establish target outcomes and impacts, including the scale to be achieved, e.g., the number of people to be reached and the demographic groups and geographic areas to be covered.
- Set the expected scaling pathway at a generic level; i.e., whether public, private, or blended, and who clarify the expected Users, Doers and Payers.

Caveats and implementation constraints. There are tradeoffs and differences of opinion as to how early in the innovation phase this should be done, or even if it needs to be done at all (e.g., there are rare cases where innovations are already aligned with existing systems, spaces and context). Innovations that include early attention to scaling tend to have greater buy-in and ownership by key actors, and are better aligned with constraints present at large scale. However, this can make innovation more costly, and requires knowledge about the large-scale ecosystem and stakeholders that many innovators do not have or find costly to acquire.[10]

[9] The aphorism "Begin with the end in mind" is prominently applied by ExpandNet (L2).

[10] A good summary of the pros and cons of early engagement with stakeholders, and implicitly with scaling considerations, can be found in Erin Worsham, Kimberly Langsam, and Ellen Martin (2018) Leveraging Government Partnerships for Scaled Impact. *Scaling Pathways Theme Studies Series*. Innovation Investment Alliance, Skoll Foundation, and CASE at Duke. September. https://centers.fuqua.duke.edu/case/wp-content/uploads/sites/7/2020/11/Scaling-Pathways_Leveraging-Government-Partnerships.pdf

Lesson #2: Target optimal, not maximal, scale based on careful consideration of tradeoffs between reach, speed, quality of impact, sustainability, equity and human rights.[ii]

Background. Traditional approaches to scaling, such as diffusion of technological innovations, have focused almost exclusively on reaching maximum numbers or geographic reach with impact narrowly defined in areas such as productivity, income or mortality/morbidity rates. In fact, scaling almost always has multiple, diverse effects beyond its intended impact, such as environment and natural resources or gender. It also usually has differential impact (or lack thereof) across demographics, especially marginalized groups. Often these consequences are unexpected, and some are negative which can even outweigh the positive benefits, e.g., if irrigation permanently depletes the water table. Sometimes they reflect effects that **only** manifest at scale. Unintended consequences can particularly arise from "sins of omission," where scaling reinforces pre-existing inequities because of structural issues, e.g., high income groups or elites benefiting more from improvements in infrastructure. Given limited financial resources, there are inevitably tradeoffs between numbers of people reached, impact in its multiple dimensions, speed, quality, cost and especially equity.

Guidance.

- Map systems and complexity (Lesson #10) to identify unintended consequences and indirect effects, and guide efforts to reach marginalized populations and areas. Have humility about what can be foreseen.
- Make explicit the multiple effects and potential unintended consequences, especially in cross-cutting issues like the environment and natural resources, gender and marginalization.
- Make tradeoffs based on a careful weighing of evidence, values, and sensitivity to whose values are being taken into account. This involves an ethical decision; some actors will value limiting negative side effects, protecting losers, reaching marginalized groups, or addressing historical inequities; others will focus on maximizing impact and/or coverage.
- Phase and sequence the scaling process, and reassess the vision of problem, impact and pathway as scaling proceeds, based on emerging evidence on the optimal scope of the scaling pathway.

Caveats and implementation constraints. Given limited resources, one scaling effort cannot achieve all development objectives. The scaling of visions that seek to achieve a large number of objectives usually implies limited scale in terms of numbers, reach and coverage. But there are also cases where optimum scale implies maximum scale (e.g., elimination of certain infectious diseases).

Lesson #3: Be inclusive and participatory in defining the vision of scale and making key decisions throughout the scaling process; ownership by stakeholders is critical.[iii]

Background. The various decisions and choices about what to scale, goals for scaling, and pathways and strategies to achieve scale have often been made by innovators, funders or implementers. There has traditionally been an insufficient role for local actors, whether government, communities, users or frontline service providers, and for marginalized groups, including women and girls. The result has been the need to retroactively address their interests and concerns; at worst, it has led scaling to underperform, fail, or result in harmful outcomes. In addition to ethical considerations, participatory approaches generate political commitment, build ownership, create champions, and increase the likelihood of adoption by Users and others.

Guidance.

- Be as inclusive as possible of all stakeholders relevant in a particular context so as to improve systems analysis and coherence between the Vision, What, How and Who of a scaling strategy.
- Ensure that different stakeholders in the ecosystem are not just consulted but have power in decision making and to inform what evidence is generated and serves as the basis for decisions.
- Include local stakeholders from the grassroots levels such as users, communities and local service providers in creating a vision and strategy. Scaling requires deep engagement with local communities, a willingness to learn from them.
- Seek consensus amongst key stakeholders, recognizing that scaling is intrinsically a political process involving winners and losers. In highly contentious or resource-constrained situations, there is no guarantee that participation will lead to compromise or consensus solutions.
- Build capacity, particularly of users, communities and service providers, to enable and empower them to participate effectively in systems mapping, goal setting, planning and other decision making.

Caveats and implementation constraints. The identification of "relevant stakeholders" depends on the nature of the intervention and context. Participatory and inclusive development requires special attention, skills and methods, time, resources and patience – all assets that are in short supply in many development institutions and among actors on the ground. Excluded stakeholders may lack information or experience to participate effectively, especially until they can see and experience the innovation in action.

B. What to scale?

Principle #2: Define the core elements of the innovation (or innovation package) to be scaled and assess whether it can be sustainably scaled in a particular context.

Lesson #4: Clearly define what is to be scaled: focus on scaling core components and principles to reproduce impact. Vary and adapt interventions to align with context.[iv]

Background. Scaling standardized models often results in economies of scale and simplifies replication. However, often it fails to reproduce impact because such models do not work when facing different contexts or systemic constraints, or because of problems of fidelity. Key components are dropped or diluted, especially those that are intangible, qualitative or otherwise difficult to measure and account for. This can be a challenge, especially in low resource settings characterized by weak oversight, incentives and accountability systems that emphasize outputs versus outcomes. These issues can be addressed by reframing the innovation in terms of its core components, essential principles, and intermediate outcomes, allowing specific components and activities to be adapted to local circumstances.

Guidance.

- Ensure that all of the components of the innovation are identified and documented, including intangible and qualitative aspects, how it is produced and delivered, and the inputs required. Leverage external observers, evaluators or partners who have an arms-length relationship to the innovation.
- Determine the core or non-negotiable aspects of an innovation and keep these aspects as simple as possible.
- Create a menu of activities aligned with core aspects of the innovation that can be applied in diverse contexts.
- Adapt and build on existing models and local knowledge.

Caveats and implementation constraints. There is a tension between fidelity and adaptation, and it can be difficult to determine the core principles or components of the innovation until the innovation has been implemented in multiple, diverse contexts. If such a determination is to be evidence based, it needs to be part of proof-of-concept efforts and implies testing and evaluating multiple permutations and combinations of components, i.e., testing external validity. This can rapidly increase the costs and effort required, especially when randomized controlled trials are used. This principle and lesson have limited applicability for interventions focused on systems change, supporting social movements, and changes in social norms, attitudes and culture.

> ***Lesson #5:* Not every innovation should be scaled. Assess scalability including relevant ethical, impact, economic, political, behavior change and feasibility criteria. Make decisions to go forward with scaling based on evidence, including the results of the scalability assessment and an analysis of the cost-benefits of proceeding.**[v]

Background. Innovations have sometimes been scaled despite lack evidence of impact and/or scalability, because they were pushed by a funder or innovator with a vested interest in showing "success", or by governments with political agendas. Before proceeding with scaling, innovations should meet proven scaling criteria, beginning with clear evidence of impact.

Guidance.

- Develop and apply scalability criteria based on existing and evolving literature and experience.[11] Criteria should include: relevance and fit with users' and stakeholders' needs, comparative cost effectiveness, simplicity and ease of adoption, low cost and/or affordability, adaptability, alignment with sociocultural norms and structures, robustness across relevant contexts, and acceptability to providers, users and communities.
- Scan for evidence on existing alternative solutions and innovations to the same problem, and compare impact, cost-effectiveness and scalability.
- Be clear as to which criteria are go/no-go with special attention to size and significance of impact, the probability of successful scaling, and the costs and effort required relative to potential benefits.
- Modify, simplify and adapt innovations to meet scalability criteria before proceeding with scaling, or as part of the scaling process. Reassess scalability periodically as the scaling process proceeds.

Caveats and implementation constraints. While some scalability criteria are universal, others are specific to particular sectors, scaling pathways or types of innovations. Focusing too much on avoiding scaling the wrong thing or scaling the wrong way (Type 2 error) may lead to not enough scaling (Type 1 error).[12]

[11] For an example of a scalability assessment tool, see MSI, "Scaling Up: From Vision to Large-Scale Change – Tools for Practitioners". Second Edition, 2021. https://msiworldwide.com/sites/default/files/additional-resources/2021-05/ScalingUp_toolkit_2021_v5_0.pdf

[12] The terminology of Type 1 and Type 2 errors is found in A. Hartmann and J. Linn (2008). "Scaling Up: A Framework and Lessons for Development Effectiveness from Literature and Practice." Wolfensohn Center Working Paper No. 5. Brookings. http://www.brookings.edu/research/papers/2008/10/scaling-up-aid-linn

C. Who will scale?

Principle #3: Identify, engage and coordinate leaders, champions, intermediaries, partners and public/private actors to fill key roles in driving, funding and implementing scaling.

Lesson #6: Leaders – identify and engage an actor(s) or organization(s) to lead and drive scaling with the necessary motivation to see it through.[vi]

Background. Going to scale rarely happens spontaneously or by itself; the frequency of "build it and they will come" or spontaneous scaling is greatly exaggerated. Without leadership, scaling usually fails. Going to scale requires an actor(s) or organization(s) committed to seeing scaling through to success, willing to make decisions, and able to mobilize others to support of scaling goals, strategy and tactics.

Guidance.

- Identify leaders with the motivation, long-term vision, commitment to stick with it, and pre-existing relationships with potential Doers and Payers (and Funders). If those relationships do not exist, they have to be created.
- Complement leaders with champions at all levels and parts of the ecosystem to support advocacy.
- Anticipate conflicts and power struggles between leaders, champions, Innovators (if they are not leading), Doers, Payers, Funders and other stakeholders. Carefully balance expediency with shared decision making among multiple stakeholders.
- Plan for succession of the leader and champions in a timely, transparent and inclusive manner.
- Ensure leaders effectively play their key role in coordination of actors.

Caveats and implementation constraints. Overreliance on strong leaders and champions can result in neglect of other important requirements for successful scaling. Lack of succession planning can cause a vacuum when leaders depart and undermines sustainability.

Lesson #7: Intermediaries – identify and engage (or create if necessary) one or more actors or organizations to serve as the intermediary, [13] ***facilitator and coordinator of the scaling process. The intermediary needs to have the resources, skills and capacity to scale (or these need to be strengthened).*** [vii]

Background. The skills needed for the process of scaling are different from those required to develop an innovation, to implement a pilot at small scale, or to deliver at scale. These intermediary skills include undertaking or facilitating activities like convening, systems analysis, boundary spanning, strategic planning and goal setting, advocacy and communication, process facilitation and people management, networking and coordinating, monitoring and evaluation, and financial and costing analysis. The intermediary role is often either ignored entirely, or inadequately filled because the most likely candidates – Innovators or funders – lack the necessary incentives, motivation or capacity. Innovators can sometimes play the intermediary role, but it is usually more cost-effective to have one or a few organizations play this role in a given sector or country rather than reproducing this capacity for one-off scaling efforts. Moreover, innovators are often heavily invested in the original innovation design and maximizing impact narrowly defined rather than balancing the multiple tradeoffs necessary in scaling; a third party can often be more pragmatic in balancing technical impact with feasibility. When the intermediary role is not filled, scaling usually fails.

[13] The intermediary role is stressed by Larry Cooley (L1). It is also referred to as the "resource team" in the ExpandNet (L2) framework.

Guidance.

- Identify or create one or more organization with the skills, capacity and motivation to fill the intermediary role.
- Look beyond innovators to establish an intermediary.

Caveats and implementation constraints. Different scaling pathways require different intermediation capabilities. Scaling through a private sector pathway may involve creating demand or developing profitable business propositions for partners and collaborators that are not required for public sector pathways. Scaling through a public sector pathway requires sound policy and political economy analysis.

> ***Lesson #8: Partners – create and leverage partnerships and collaboration to mobilize resources for effective implementation and political support. Ensure partnerships have adequate resources, management and governance structures to operate effectively and sustainably.***[viii]

Background. Traditional approaches to scaling have either emphasized simple diffusion of innovation or scaling via the growth in the scale of operations of the Innovator, such as social enterprises. While these can be viable pathways for scaling, even in those cases there is usually substantial need for collaborators or partners. One organization going it alone usually lacks the necessary skills, capacity, resources, political clout and community grounding to scale successfully. Scaling to diverse populations and contexts often requires local knowledge, relationships and a network of local organizations. Partnerships also allow for effective hand-off to another actor when moving to new contexts or in cases where the original organization cannot continue engaging in the scaling process.

Guidance.

- Harmonize partners' broad vision of social impact with their organizational objectives.
- To the extent possible, build on existing convening and cooperative structures to facilitate coordination.
- Clearly allocate roles and responsibilities and ensure accountability.
- Regularly revisit the alignment on goals, strategy, roles, responsibilities and accountability, especially when a network or collaboration involves sharing financial resources.
- Establish and resource a management and governance structure with a long-term view, especially when partnerships are key to sustainable implementation at scale.

Caveats and implementation constraints. Partnerships are not easy to organize, manage and sustain. The time and resources spent in organizing them and in coordination are often substantial and easily underestimated, especially when they involve organizations with diverse goals, values and organizational missions and cultures.[14]

> ***Lesson #9: Public and private actors – consider and address the appropriate role for the government/public sector in a predominantly private scaling pathway, and the role for the private sector in public scaling pathways.*** [ix]

Background. Scaling through private or social enterprise pathways sometimes ignores the role of the public sector. Where private commercial activity predominates, the public sector still plays a role, including setting the legal, regulatory and policy enabling environment, and giving permission, approval or sanction for scaling. More generally, any intervention that reaches scale inevitably becomes "political" because it affects large numbers of people or places, involves significant financial, fiscal and

[14] The experience of frequent failed donor coordination efforts around the globe is testimony to the difficulty of effective partnership formation. See Fengler, Wolfgang, and Homi Kharas, eds. (2010). *Delivering Aid Differently – Lessons from the Field.* Washington, DC: Brookings Institution.

other resources, and/or threatens existing political powers.[15] Experience shows that neglecting the role of the public sector, even if it is not a Doer or Payer, decreases the likelihood of successful scaling, or can slow progress down significantly. The converse is also true; the private sector typically has extensive and frequently neglected roles to play in scaling innovations through public pathways.[16]

Guidance.

- Be clear on what the intended role of the government is: (i) preventing or avoiding political interference or addressing other informal barriers; (ii) granting permission, approval or some other form of positive sanction; (iii) providing in-kind resources; (iv) outsourcing, contracting, private-public partnerships (PPP), serving as the Payer in part or whole; and/or (v) adopting and integrating into existing public delivery systems.
- Align with existing government priorities to the extent possible, but advocate for changes in policy, laws, and regulations when necessary.
- Support and build government capacity for going to scale and for implementation at scale, while navigating the challenges of conflicts of interest, rent seeking and possible corruption.
- Ensure that the burden for Doers and Users in terms of behavior change, additional bureaucracy, and taking on risk is kept to the minimum possible.
- Work across multiple agencies and levels of government, vertically and horizontally. Permission or approval from the highest level is not sufficient to ensure support, cooperation and implementation through the various levels of bureaucracy and subnational levels of government.
- Consider to what extent private sector initiative and engagement and public-private partnership can enhance the effectiveness of public sector pathways.

Caveats and implementation constraints. There are some innovations (often technologies) that can go to scale through purely commercial pathways, i.e., without any government involvement. This is especially the case in sectors where the government does not have the primary delivery role or an important regulatory role. However, these are the exception rather than the rule. Changes in public sector priorities, especially when governments change, can result in discontinuities in public sector pathways or public sector support for commercial pathways. Moreover, challenges from conflict of interest, rent seeking and possible corruption are difficult to address, even where well identified early on.

D. How to plan for scaling?

Principle #4: From the outset, identify systemic opportunities, constraints and risks; plan to align with them or address them through system change along the scaling pathway.

Lesson #10: Map the relevant systems and context, taking into account complexity and possible unintended consequences. Align scaling strategy and pathway with existing opportunities and constraints or create the enabling conditions for scaling through systems change. Demand,

[15] For example, as BRAC successfully scaled many social enterprises it regularly engaged with the government of Bangladesh. For example, in the case of scaling BRAC's Non-Formal Primary Education program, while its main scaling pathway was through its own schools, it developed programs to support government schools as well. See Ahmed Salehuddin and Micaela French. (2006) "Scaling Up: The BRAC Experience" BRAC University Journal, Vol. III, No. 2, pp. 35-40 https://core.ac.uk/download/pdf/61800718.pdf

[16] This point is a core theme of L. Chandy, A. Hosono, H. Kharas, and J. Linn, eds. 2013. *Getting to Scale: How to Bring Development Solutions to Millions of Poor People.* Washington, DC: Brookings Institution Press. *http://www.brookings.edu/research/books/2013/gettingtoscale.*

technical and organizational capacities, incentives, costs and finances are particularly important factors.[x]

Background. Innovations often fail to scale because they do not fit within existing systemic constraints or spaces, particularly financial constraints. Many innovations are simply too expensive relative to users' financial or governments' fiscal capacity. Innovations need to be implementable within existing constraints at target scale, or those constraints need to be addressed. While there are cases where little or no systems mapping, alignment and change is needed, there is a pervasive tendency, particularly on the part of innovation funders and technology innovators, to underestimate what is needed. Horizontal scaling (or "scaling out"), i.e., simple replication or expansion, usually has to go hand in hand with vertical scaling (or "scaling up"), i.e., creating the required spaces or enabling conditions through systems change.

Guidance.

- Map and analyze the ecosystem based on available evidence, focusing particularly on financial and human resources and organizational capacity in systems relevant for production and delivery. Pay particular attention to (i) financial and economic enabling conditions, e.g., assets, infrastructure, market access; (ii) knowledge, e.g., awareness of problems and opportunities, skills and trust; and (iii) attitudes, e.g., social and cultural norms.[17]
- Ensure that there is effective demand, not only need, by potential Users; align the scaling pathway with existing demand or generate demand to permit scaling to meet a social need.
- Be as inclusive as feasible in analysis; the more and different viewpoints are incorporated representing different parts of the system, the sounder the analysis is likely to be.
- The more the scaling process pushes the limits of the existing system, the more it needs to engage in creating space or systems change.
- Avoid paralysis by analysis. Use multiple or complex analytical tools only where they clearly add value in decision making and where time and resources permit.

Caveats and implementation constraints. There are innovations, though fewer than commonly acknowledged, that require few or no changes in systems, i.e., that are already fully or largely aligned with existing systems. Systems analysis, where it is needed, can be complex, costly and time consuming. Simple systems analysis is better than none.

Lesson #11: Develop a viable, long-term business or funding model for scaling and for sustainable delivery/implementation at scale. Align the costs of the innovation and other resources needed with the funding and resources available and with financing mechanisms suitable for each specific stage of scaling pathway.[xi]

Background. One of the principal reasons that scaling efforts fail is that the financial resources required to cover sustained implementation at large scale are missing or inadequate. Innovations, especially

[17] Other relevant spaces or enabling conditions include governmental policies and regulations, market and community demand (including market or user segmentation), political obstacles and opportunities, and environmental constraints. Constraints may be "internal," such as to Doer and/or Payer organizations, or they may be elements of the external ecosystem. A list of relevant system aspects, enabling conditions or "spaces" can be found in A. Hartmann and J. Linn, "Scaling Up: A Framework and Lessons for Development Effectiveness from Literature and Practice." *Wolfensohn Center Working Paper* No. 5. Brookings. 2008 (http://www.brookings.edu/research/papers/2008/10/scaling-up-aid-linn); IDIA, "Scaling and Measuring the Impact of Innovation." IDIA Insights. Washington, D.C.: R4D. 2017 (https://www.idiainnovation.org/idia-insights); and MSI (2021) op.cit.

technical innovations, are too often developed without regard to cost or cost-benefit calculations, considerations of affordability by users, or of fiscal capacity and competing policy priorities. This problem is aggravated when more resources are available for a pilot than are available sustainability. The category of potential Payers is limited to users/consumers/producers, businesses, the public sector, or (rarely) the non-profit sector or civil society. All of those actors have limits on their ability or willingness to pay. Financing is also needed for all the tasks involved in going to scale, especially any one-off costs of initial adoption, capacity building and systems change. Traditionally, funders have paid more attention to supporting innovation than to scaling and are generally even less willing to support ongoing delivery at scale.[18]

Guidance.

- Estimate the unit costs and how costs may evolve with scale. Continue to monitor costs as scaling progresses. Since total costs will virtually always rise with scale, also assess how they stack up against aggregate financial and fiscal resource constraints (including budget, debt or equity constraints).
- Where possible, standardize or modify the innovation to produce economies of scale or scope.
- Design flexible financing to adjust to the dynamic, adaptive nature of scaling, since appropriate instruments (grants, loans, equity, guarantees, etc.) and Payers may change as scaling progresses.
- Develop a pricing or funding strategy that aligns with how cost curves may evolve over time or at scale, or modify/simplify the innovation to align with funding constraints. Funding modalities and instruments will often have to change along the scaling pathway, e.g., subsidies in the early stages, loan or equity finance later on.
- When operating in a project mode, make sure to prepare the ground for institutional and funding arrangements to continue to support scaling once the project ends.
- Develop and implement strategies to protect scaling from competing demands on budgetary allocations, sustain resource mobilization, and provide for suitable cost recovery for interventions that have private benefits.

Caveats and implementation constraints. The usual project cycle-based institutional and funding arrangements place constraints on many funders' capacity to provide long-term finance at sufficient scale. This encourages a focus on short-term and limited project impact. Short political cycles in countries tend to make long-term fiscal planning challenging and undermine sustained scaling. Information about fiscal capacity and willingness/ability to pay of consumers is often difficult to obtain and unreliable. Fiscal constraints are often beyond the scope of actors' ability to change.

Lesson #12: Identify and manage risks along the pathway.[xii]

Background. Scaling is particularly prone to the contextual and programmatic risks that are common to international development. Limited resources, weak governance and infrastructure, and unstable political environments create risks regarding financing and capacity to implement at scale. Programmatic risk shows up in several ways. Scaling is inherently a high risk proposition, and there are numerous uncertainties about the innovation being scaled in terms of impact, variance of outcomes, existence of demand, profitability for all private actors, and alignment with public policy objectives. These translate into risks for early adopters to accept, fund or implement innovations. Many risks are

[18] For example, the problem of sustainability at scale is recognized by the new Systematic Observations Financing Facility (SOFF). Created by the World Meteorological Organization, UNDP and UNEP, this fund will provide grant financing for operations and maintenance costs of weather observations stations in least developed countries and small island developing states. (https://alliancehydromet.org/systematic-observations-financing-facility/)

specific to different scaling stages, and hence need to be revisited at each stage, as the innovation is scaled beyond the initial pilot to multiple regions or the national level.

Guidance.

- Incorporate an assessment of risks in scalability assessment (Lesson #5), systems analysis (Lesson #10), and in the development of a scaling vision (Lesson #1) and strategy (Lesson #13), particularly regarding the willingness and ability of potential Doers and Payers to play key roles. Assess the impact and probability of identified risks and develop strategies to accept, hedge, mitigate or avoid them.
- Generate evidence that reduces uncertainty. Often such evidence must be generated during implementation, such as evidence of sustainable large-scale demand. Pursue a phased approach to scaling to allow for scale-specific risks to reveal themselves.
- Risk mitigation like subsidies, insurance, or taking a first-loss position can be helpful to encourage early adoption and participation from Doers and Payers. However, they may create perverse incentives in the long run while proving politically difficult to remove later. Ensure that any risk mitigation schemes avoid institutionalizing perverse incentives that can undermine scalability by incorporating a sunset provision of phase out from the beginning.
- Monitor previously identified risks and scan for new risks during scaling.

Caveats and implementation constraints. Risk analysis can easily turn into a box-checking exercise, or alternatively become time consuming and costly, e.g., if it involves complex scenario planning.

Principle #5: Develop an inclusive scaling strategy and implementation pathway(s) to achieve the scaling goal.

Lesson #13: Based on available evidence, develop a scaling strategy and pathway for the innovation (package) that aligns with the scaling vision, what is to be scaled and who will play key roles with financial and system constraints, based on a participatory process with key stakeholders.[xiii]

Background. Often scaling strategies make choices for What or Where (scale) that are inconsistent with existing spaces and constraints. The What implies both costs and implementation capacity that reflect the targeted numbers at scale, as well as adaptation to different demographics and contexts. Payers and Doers must be willing and able to play their expected roles.

Guidance.

- Recognize that "what got you here, won't get you there": scaling requires different resources and skills from innovation, and operating at scale may require different institutional capacities.
- A scaling strategy requires tradeoffs between narrow impact (and cost), scaling vision (numbers, coverage, marginalized populations), and the time and resources necessary for building capacity and systems strengthening. Recognize and make explicit such tradeoffs, as with Optimal Scale (Lesson #2).
- Ensure that Doers have the capacity and alignment of organizational culture and incentives to implement at scale. Address these issues where necessary by building their capacity and with change management and organizational development. When the scaling vision implies multiple, significantly different demographics and locations, (multiple) Doers are often necessary who have the local knowledge and relationships to adapt and implement the innovation accordingly.
- Develop the scaling strategy based on an inclusive and participatory multi-stakeholder process (see also Lesson #3).

- Recognize that the time, resources and effort required to effect changes in systems, attitudes and behaviors increase with the size of the change needed. It is often easier to adjust the innovation and its components than expect major changes in existing incentives and organizational culture.
- Develop a robust theory of change that captures the sense of ambition at scale and also recognizes the need for phases. Phase scaling to allow time for financing to increase and implementation capacity to develop.

E. How to scale?

Principle #6: Create demand and mobilize resources for scaling by aligning incentives and pursuing advocacy to change attitudes, mindsets and social norms and enlist stakeholders.

Lesson # 14: Use evidence and experience from innovation, especially pilots and demonstrations of early wins, to motivate, inform and sustain wider adoption. "Seeing is believing!"[xiv]

Background. Evidence is the raw material for advocacy, marketing and other activities to enroll Payers and Doers and to motivate adoption by Users. Proof of concept or impact is necessary but not sufficient for scaling. Traditional approaches to monitoring and evaluation often fail to provide the diverse types of evidence to support advocacy with decision makers and other stakeholders because it does not address their concerns and interests.

Guidance.

- Undertake stakeholder analysis and mapping of the individuals, communities and organizations involved with scaling with a view to identifying their interests. Ascertain what evidence and information, quantitative and qualitative, is necessary to enlist and engage them.
- Firsthand experience, demonstration of early wins, understanding of what communities value, and emotional appeals are as important as technical evidence of impact.
- Reputation, credibility and legitimacy of evidence providers are as important as the research methodology used.
- Lessons based on evidence need to be conveyed to Innovators, Doers and Users in a way that is readily accessible to them.

Caveats and implementation constraints. Evidence of impact, e.g., from a pilot, is important to justify scaling and convert the sceptics, but distrust of elites and science can overwhelm evidence. An exclusive focus on demonstrating pilot project impact can also result in excessive efforts to make the pilot work at all cost, neglecting the implications this has for replicability and scaling.

Lesson #15: Align the incentives, interests and priorities of all stakeholders, especially Doers and Payers. Pay special attention to those potentially excluded or adversely affected by scaling.[xv]

Background. In most scaling efforts there is a presumption that many actors, especially public sector actors, will agree to play a needed role in scaling because the innovation addresses an important social or economic problem; they will do the right thing for altruistic reasons. Or alternatively, Users like consumers or farmers will adopt the innovation based on narrow considerations of self-interest such as productivity or profitability. In actual fact, the motivations of Users, Doers and Payers are almost always more complex. Applying simplistic models of human and organizational decision making decreases the chances for successful scaling. Moreover, scaling can elicit resistance or active opposition from vested interests or simply because it involves significant change in attitudes or behavior for users, organizations and systems (i.e., inertia and homeostasis have to be overcome). There have to be motivation and

rewards for everyone or at least for a sufficient number to support scaling. Successful scaling will almost always involve changes in attitudes and mind-sets, and even social norms.

Guidance.

- Anticipate resistance from Innovators when adapting and simplifying "their" innovation, as well as resistance of the not-invented-here (NIH) type.
- Risk is at least as important to private actors as profitability, especially for early adopters. Address their concerns about risk by providing evidence on concerns like affordability, willingness to pay, return on investment and its time period, and the size and sustainability of the market; where appropriate find ways to mitigate or share risks (see Lesson #12).
- Assess and align the policy priorities, bureaucratic incentives and other motivations of public sector. For politicians, reelection, publicity, and opportunities for patronage and job creation can be key.
- For Doers, take into account and minimize additional work demands, burden and cost on supervisors, service providers, and delivery systems.
- Assess who are the winners and losers from the scaling process. Ensure the backing of the winners and minimize the losses of losers and opponents generally, to the extent possible.
- Develop institutional mechanisms and incentives that help sustain the scaling process over political cycles.[19]

Caveats and implementation constraints. While for ethical considerations it would be best for all stakeholders to support and benefit from scaling, it is not always possible to fully compensate all losers or overcome negative incentives and risk aversion. Consensus is desirable but not always possible.

Lesson #16: Use advocacy, marketing, communications, participation and especially champions to create demand, enlist various stakeholders to support scaling and provide resources, and ensure sustainability over political cycles.[xvi]

Background. As noted above, there is often a tendency to believe that scaling happens by attraction, i.e., "build it and they will come". In this view, evidence of proof of concept is not only necessary but sufficient to enroll stakeholders to play their various roles. In actual practice this is rare, and usually incorrect. The demand side of scaling is as important as the supply of an innovation. Innovators interested in "selling" their model may be tone deaf to the concerns of Doers, Payers, Users and other stakeholders. While participation of stakeholders in pilots, proof of concept, and planning scaling can help, it does not always translate into alignment let alone agreement. Even when their incentives and interests are aligned with scaling, relevant information that addresses the actual concerns of stakeholders must be communicated to produce decisions to participate in scaling.

Guidance.

- Engage in stakeholder analysis and mapping, as they are foundational for advocacy and marketing. Enrolling stakeholders is largely a political process, even for private actors.
- For public sector scaling involve government early. Advocacy is not a one-off activity; agreement must be renewed and reinforced. Pursue ongoing advocacy over all phases of scaling.
- Go beyond simple adoption and organizational strengthening to changing mindsets of Users and Doers for greater scale and sustainability.

[19] For an example of a deliberate strategy to protect a scaling process from political changes, see Santiago Levy's analysis of the Mexican conditional cash transfer program Progresa-Oportunidades (https://www.brookings.edu/book/progress-against-poverty/).

- Use policy champions and networks, celebrities and ”legitimators” to add credibility. Engage champions early and at all levels. Use multiple champions to avoid overreliance on one individual. Cultivate champions who can make a long-term commitment.
- Use multiple channels for influencing, including traditional and social media, etc.
- Leverage windows of opportunity and crises.
- For changes to social or cultural norms or barriers that take the form of power/political issues[20] be prepared for longer, deeper and more direct engagement than for addressing technical problems.

Caveats and implementation constraints. Effective advocacy takes planning, communication skills, institutional capacity and resources. These are not always available nor affordable, or at least not commensurate with the need.

Principle #7: Iterate, learn, adapt and sustain the scaling pathway as long as needed.

Lesson #17: Iterate and adapt – apply a cycle of experimentation, learning and strategic adjustments supported by evidence. Regularly revisit decisions about scaling goals and whether and how to scale.[xvii]

Background. Scaling efforts often adopt project approaches, i.e., define specific goals and workplans from the beginning and then implement them rigidly over the lifespan of a project. A focus on, and accountability for, achieving promised project results drives implementers to stick with their original project or program design regardless of developments on the ground. This may lead to achieving the planned scale of project outcomes in the sense of beneficiaries and geographic coverage over a project's limited time horizon. However, it rarely produces sustainable impact at scale or even the foundations for continued scaling beyond the project end. In fact, it can create perverse incentives for implementers that undermine further scaling after the project ends. Changes in scale often create new challenges in the relevant systems/spaces, stakeholders, context and resources. Managing and driving scaling needs to take such changes as likely and constantly reexamine assumptions, revise the scaling vision and strategy, and adapt activities and tactics accordingly. For these reasons, scaling almost always involves multiple and continuous feedback loops.

Guidance.

- Build long-term considerations into project preparation and implementation practices to ensure enabling conditions for sustainability and scaling beyond project end.
- Scale in phases to allow new risks and new lessons to emerge and to better facilitate more tailored support (Lesson #12) and make needed adjustments.
- Pause, reflect, and reorient as needed. If a project has a mid-term review, ensure that it focuses not only on what remains to be done to achieve the project goals by the time the project ends, but also examines whether the conditions for sustainable scaling beyond the project's end are being put in place.
- Put in place monitoring and review processes that generate the information needed for frequent reassessments.
- Be prepared to abandon the scaling effort for a particular intervention if expected impacts do not materialize or better options to achieve the same impact at scale arise. Independent evaluation is helpful in coming up with the right decision.

[20] These are what Christian Seelos refers to as relational barriers. See Christian Seelos (2014) “The Face of Poverty”, Stanford Social Innovation Review. Dec. 18. https://ssir.org/articles/entry/the_face_of_poverty#

Caveats and implementation constraints. Application of this principle can come into conflict with funders' practices, given their institutional processes and requirements for project preparation, delivery, monitoring and evaluation. Funders, especially bilateral and multi-lateral donors, have legitimate needs for outcomes and accountability as well as legal constraints in contracting and bidding. While greater flexibility can and should be introduced to facilitate scaling where possible, these constraints need to be acknowledged. Abandoning scaling efforts when appropriate may be difficult for some stakeholders to accept, hence the need for an independent assessment.

Lesson #18: Focus on sustainability – financial, institutional, political and environmental – as an integral part of scaling built in from the beginning. [xviii]

Background. Achieving implementation at scale does not necessarily imply sustainability, but without sustainability reaching scale is of no long-term benefit. In many scaling efforts there is so much emphasis on reaching large numbers of people or places that ensuring sustainability is deemphasized or neglected. These factors are compounded by lack of incentives and accountability for sustainability, which is difficult to measure and can only be fully assessed long after project completion. Sustainability requires a viable business model or funding source, institutional capacity, and ongoing political support. Capacity means ensuring not only that Doers have the capacity to implement successfully, but that they have the ability to update and renew that capacity given turnover in human resources and other normal forms of "depreciation". For physical assets, such as infrastructure, appropriate operations and maintenance requirements have to be assured. For Users, adoption is one thing, consistent ongoing use is another.

Guidance.

- Consider projects as building blocks or stepping stones along a scaling pathway, rather than one-off interventions. Think beyond the project and ask throughout "what happens when the project ends?" Build sustainability along with scaling into the incentives for project implementers and monitoring and evaluation indicators.
- Identify and support scaling of those innovation components that can be realistically sustained financially without continued external support. Where possible, ensure that public funding to the extent possible is based on sources linked directly to the provision of goods and services, such as taxes and user fees, while recognizing that public goods shouldn't be paid for by users.
- Anticipate turnover in champions, decisionmakers and individuals in key positions. Ensure personal relationships eventually become institutionalized.
- Organize sustainable pressure groups, such as users or civil society actors, who can maintain ongoing advocacy during changes in formal leadership and the political cycle.
- Create or strengthen training institutions and programs that allow for updating and renewing skills and human resources as needed in Doers and relevant policy and regulatory institutions.

Caveats and implementation constraints. Building sustainability into scaling pathways faces many of the same caveats and constraints as does scaling itself, most importantly the pervasive tendency of program managers, funders, leaders of organizations and politicians to focus on one-off project results rather than putting in place the conditions that allow longer-term sustainable scaling (see Lesson #19).

Lesson #19: Stick with it – anticipate and prepare for a long engagement; have the ambition, commitment, and patience to stay the course as long as necessary to achieve and sustain impact. [xix]

Background. Politicians, bureaucrats, business executives and funders often have short time horizons; they prefer immediate payoffs over longer-term impact at scale. These time horizons are reinforced and embedded in political cycles and bureaucratic limitations on the duration of their engagements. They

lead to an almost exclusive emphasis on rapid increases in scale through "quick wins" or "low-hanging fruit". Quick wins can and often need to support scaling when they are used to build political will and momentum and demonstrate feasibility. They become counterproductive when they become a goal unto themselves, create perverse incentives in the future, or neglect the need for creating the foundations for sustainable scale in terms of necessary enabling conditions. Short-term thinking, incentives and constraints lead actors to underestimate the time horizon needed for scaling. Scaling and achieving sustainable implementation at scale take a minimum of five years, and ten to fifteen years is often needed when changes in systems, attitudes, mindsets and social norms, or policy priorities are involved.[21]

Guidance.

- Think, plan and implement in terms of scaling pathways, sequential projects, and programmatic approaches for longer term impact at scale.
- Identify leaders, intermediaries, and partners (Lessons #6-8) that are committed to the journey for the long-term. For actors who cannot stay engaged over the long term, plan and act for effective hand-over to others. Plan for transitions when new skills are needed, or partnership time-frames differ from scaling requirements. Do the same with Funders who may have limitations on what parts of Innovation and Scaling they are willing to support.
- Use interim targets, periodic evaluations, and phased funding or tranches to provide a reality check on progress over the long term.

Caveats and implementation constraints. Aligning time frames with what is needed for scaling has to allow for the time frames and institutional constraints of funders, partners and other actors. The long time frames needed for scaling cannot be used as an excuse for infinitely open-ended commitments. There does need to be a regular check on whether the intervention still achieves the desired impact to avoid throwing good money after bad.[22]

F. Based on what evidence?

Principle #8: Base all scaling decisions on relevant evidence and continuous learning.

Lesson #20: Generate evidence not only on impact, but also to inform decisions about goals, strategy, scalability and implementation, and to support advocacy and ongoing learning and adaptation. [xx](M&E&L)

Background. Evidence is fundamental for all aspects and activities in scaling, including setting the vision, assessing scalabilty, choosing or modifying what to scale, identifying and addressing the enabling systemic conditions along the scaling pathway. Information on costs is critical to creating viable and sustainable business/funding, but common scaling practice tends to neglect cost data, especially incremental costs of operating at scale and one-time costs associated with the initial rollout of an innovation, capacity building, and system changes and strengthening. "Dynamic" monitoring, evaluation and learning,[23] i.e., regular gathering of evidence about the continuing validity of the problem and

[21] Private sector scaling can take years when it is necessary to generate demand and build new markets, create market linkages, and engage in other forms of value chain strengthening. Public sector scaling pathways are also normally lengthy, though for other reasons: advocacy and demonstration that an intervention is a promising solution alone can take years and has to be renewed when key actors change.

[22] The authors are grateful to Stephen Hodgins for reminding them of Pete Seger's apposite song "Waist Deep in the Big Muddy".

[23] McLean and Gargani (L12) coined this phrase.

scaling vision, and the often changing factors along the scaling pathway, are the jet fuel for effective scaling.

Guidance.

- Research the size and impact of the problem, not only the solution, to provide crucial motivation and support advocacy. Demonstrate the severity, size and urgency of the problem.
- Be cautious about initiating scale-up before the required evidence is available. If it is decided to scale-up based on only initial results, continue the evaluation of process and outcome measures.
- Ensure that the evidence provided addresses all the information needed for scaling, including proof of concept, impacts and costs of both initial rollout and adaptation, and during ongoing implementation.
- Develop and implement an ongoing monitoring system of key indicators to support systems change, advocacy and other components of scaling, and evaluate scaling continuously, preferably in real time. Focus on intermediate outputs and also the evolution of enabling conditions and constraints.

Caveats and implementation constraints. Generating the multiple types of evidence for scaling, especially advocacy, ongoing monitoring for adaptation, and tracking of progress on systems constraints and sustainability are, taken together, likely to take greater resources than are commonly allocated.[24]

IV. Conclusions

A. Summary of findings

The eight principles presented in this paper, categorized as responses to six basic questions, reflect a strong consensus on what is important in scaling. There needs to be (i) an inclusive vision of scaling, (ii) a clear sense of what is being scaled, (iii) a good understanding of who will play key roles in scaling, (iv) a plan for scale that ensures that those choices are aligned with each other, systems constraints and key stakeholder preferences, (v) effective implementation along the scaling pathway, and (vi) evidence underpinning each decision during the scaling process.

Key elements for implementing the scaling strategy include creating demand and capacity, mobilizing resources, and enrolling stakeholders. In developing a scaling strategy, the multiple choices and decisions that have to be made should make explicit the tradeoffs between various considerations of scale, quality of impact, equity and sustainability and the values behind those choices. Those and other strategic decisions should be as participatory and inclusive as possible, while understanding that even then there may be losers.

A major conclusion of this study is that evidence is key to scaling in almost every dimension. Monitoring and evaluation touches on almost all aspects of scaling: supporting initial strategic decisions and subsequent adaptation, providing necessary information for advocacy, for alignment with systems constraints, and for assessing funding requirements. It needs to continue throughout the scaling pathway, to support adaptation, learning and feedback loops, as new challenges arise at each phase of scaling. This means that the depth and breadth of information needed is not just simple proof of concept or impact but requires evidence well beyond what is commonly found in traditional donor projects where the primary focus is accountability.

[24] The M&E Working Group of the Scaling Community of Practice suggests as a guideline that a minimum of 20 percent of the budget of pilot projects needs to be devoted to monitoring, evaluation, and dissemination; in practice, standard project budget allocations are in the 3-5 percent range. (Source: informal survey of members of the M&E Working Group)

Few if any of the principles and lessons are categorical imperatives. For example, "Begin with the end in mind," "Map systems and align with systems constraints," and "Generate evidence beyond impact" are arguably amongst the most generally relevant of the principles listed. Yet even they have their limits in terms of how universally they can and should be applied. However, because many of the principles and lessons are routinely ignored, neglected or inadequately applied, the default assumption should be that they are relevant unless proven otherwise.

Many, if not the majority of these principles stand in contrast to actual practice in international development. Innovators, and their funders, too often do not build scaling considerations into their work, especially prior to the proof of concept phase. This is particularly true of Funders who use project-based approaches, and Innovators who do not engage with the scaling of their own innovations. For example, most project Funders do not have a clear longer-term vision of implementation at scale, how to get there, and what sustainability looks like past project end.[25] Not surprisingly, standard evaluation practice does not adequately consider scaling.[26]

While Funders (donors) are only one of many stakeholders in scaling, they are a particularly influential part of the development ecosystem, so their practices matter. Donors, who mostly work through projects, rarely allow adaptive, dynamic and flexible approaches, do not have the ten-to-fifteen-year time frame that scaling requires, and do not have in place mechanisms to ensure that shorter projects lay the groundwork for the next phase in scaling. Addressing this tension between donor practice and scaling principles is critically important if more interventions (innovations, projects and programs) are to deliver on their potential for impact at scale. The solution may lie in a concept embedded in many of the scaling principles: a phased approach that allows the scaling pathway to be broken down into a sequence of projects associated with specific phases of scaling.

If scaling in international development is to become more widespread and achieve a higher rate of success, it will require changes in deeply entrenched practices. Changing such long-established practices may appear an insurmountable challenge, reinforced by the perception that a systematic focus on scaling is prohibitively costly in terms of money, staff and time. But this need not be the case. One practical option is to start with simple applications of the principles, lessons and guidance laid out above. For example, a simple exploration of fiscal constraints and ensuring that costs fit within that constraint may be sufficient at the start of an intervention. Similarly, consideration of potential winners and losers will suffice in many cases without an in-depth stakeholder or political economy analysis. And a scan of possible ecosystem constraints without a full-blown, in-depth systems mapping will go a long way. So, "Keep it simple!" is and should be kept in mind as a fundamental tenet for those interested in putting these principles and lessons into practice.

B. Challenges and directions of further work

The research, analysis and writing of this paper faced several challenges. First, based on the literature review and KI interviews, there were a lot of principles to choose from. In response, the authors decided

[25] See J. Linn (2011). "Scaling Up with Aid: The Institutional Dimension" in H. Kharas, K. Makino, and W. Jung, *Catalyzing Development: A New Vision for Aid*. Brookings: Washington, DC. There appear to be no more recent systematic reviews of donor scaling practice, but judging from the extensive work by the authors with a large range of donor organizations, the situation has not substantially changed, despite increased attention to scaling in donor mission statements and strategies.

[26] Notably, the OECD-endorsed evaluation criteria include "sustainability" but not "scalability" in their summary definition (https://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm); only in the detailed discussion of the sustainability criterion is there passing reference to "scaling" and "scalability." This reflects the general neglect of scaling in much of the standard evaluation practice.

on the hierarchy of principles, lessons and guidance, which allows the reader to focus on a limited number of high-level principles, but then to delve as needed into greater detail.

Second, incorporating examples would have been valuable, but would have made the paper even longer than it already is. The preparation of case studies applying the principles would be a logical area for future research that would add significant value.

Third, many of the principles and lessons overlap. For example, the principle of evidence shows up in most other principles and lessons, a reflection of the fac that these principles and lessons are interdependent and should be treated holistically.

Fourth, due to limitations of time and resources, the literature review and interviews were less diverse than intended. The majority of the literature reviewed was from the sectors of health, agriculture, and social enterprises. Almost all the key informants were from the Global North and usually involved in studying, implementing or supporting scaling. Future efforts could add significant value by casting a broader net, soliciting input from a more comprehensive set of stakeholders, including Funders, Innovators and Doers, and from actors in the Global South.[27]

A final challenge was the breadth of the intended audience. It was challenging to identify principles equally relevant to the different roles in scaling; different starting mindsets and places; and different pathways (e.g., commercial, public sector, social enterprise). Starting from the general principles proposed in this paper, separate principles adapted for at least some of those pathways and actors could be explored, e.g., guidelines for funders.

Despite the challenges, the authors conclude that the list of principles, lessons, and guidelines provide useful insight for those who aims to pursue scaling in a systematic manner. Ideally, they serve as a foundation and starting point for the Scaling Community of Practice, and for scaling practitioners in general, to apply, adapt and extend them through further exploration, including the development of case studies and tailoring the principles for specific sectors and thematic areas.

[27] This effort could link with and build on IDRC's "scalingXchange" initiative, which focused on exploring key scaling principles and practice with participants from the Global South. It has generated recommendations for eight actions for funder support for scaling from the perspective of the Global South (https://www.idrc.ca/en/research-in-action/scalingxchange-amplifying-southern-perspectives-scaling).

Appendix I: Literature Reviewed

	Title	Date and Reference or Link	Authors	Type	Role	Sector	Perspective
L1	Taking Innovations to Scale: Methods, Applications and Lessons	September 2014 https://www.msiworldwide.com/additional-resources/taking-innovations-scale-methods-applications-and-lessons	Larry Cooley and Johannes F. Linn	Monograph	Scaling Consultant and Researcher	General	General
L2	Beginning with the End in Mind	2011. https://expandnet.net/PDFs/ExpandNet-WHO%20-%20Beginning%20with%20the%20end%20in%20mind%20-%202011.pdf	ExpandNet	Monograph	Consultant, Scaling Researchers, Implementers	Health	Primarily Public Sector
L3	Scaling Brief #2: Scaling Principles	December 2020. https://www.researchgate.net/publication/348382379_Scaling_Brief_2_Scaling_Principles	Woltering, Linn and CGIAR	Briefing Paper	Scaling Researchers, Innovators, Implementers	Agriculture	General, Scaling Technical Innovations
L4	Lean Impact: How to Innovate for Radically Greater Social Good	2019. Hoboken, NJ: John Wiley and Sons.	Ann Mei Chang	Book	Innovation Funder	General	Social Enterprise
L5	Scaling-up is a craft not a science'	November 2014. *Social Science & Medicine*. Vol: 121, pp. 30-38	Neil Spicer et al	Journal Article	Academic Researchers	Health	Mostly public sector scaling
L6	Seeing, Facilitating and Assessing Systems Change	July 2020. https://www.rockpa.org/wp-content/uploads/2020/07/Rockefeller-Philanthropy-Advisors-Scaling-Solutions-Report.pdf	Heather Grady et al.	Monograph	Scaling Consultants	General	Donors and Foundations
L7	Innovations and Scaling for Impact	2017. Stanford, CA: Stanford University Press.	Christian Seelos and Johanna Mair	Book	Academic Researcher	General	Social Enterprises
L8	Millions Learning: Scaling Up Quality Education in Developing Countries	April 2016. https://www.brookings.edu/research/millions-learning-scaling-up-quality-education-in-developing-countries/	Jenny Perlman-Robinson and Rebecca Winthrop	Monograph	Scaling Researcher and Implementer	Education	Primarily Public Sector
L9	Nine Steps for Developing a Scaling Strategy	2010. https://www.who.int/immunization/hpv/deliver/nine_steps_for_developing_a_scalingup_strategy_who_2010.pdf	Ruth Simmons, Laura Ghiron and Peter Fajans	Monograph	Academic Scaling Researchers and Consultants	Health	Primarily Public Sector

L10	Pathways to Scale.	2016. https://www.usaid.gov/sites/default/files/documents/1864/Pathways-to-Scale-Guide-508-final.pdf	USAID Global Health Bureau. CII	Monograph	Innovation Funder	Health	Mostly technical innovations
L11	Leveraging Government Partnerships for Scaled Impact	September 2018. https://centers.fuqua.duke.edu/case/wp-content/uploads/sites/7/2020/11/Scaling-Pathways_Leveraging-Government-Partnerships.pdf	Erin Worsham, Kimberly Langsam, and Ellen Martin	Monograph	Scaling Consultants and Researchers	General	Social Enterprises
L12	Scaling Impact: Innovation for the Public Good	2019. Ottawa, Canada: Routledge. https://idl-bnc-idrc.dspacedirect.org/bitstream/handle/10625/57605/Scaling%20impact.pdf?sequence=2&isAllowed=y	Robert McLean and John Gargani	Book	Innovation Funder; Scaling Consultants and Researchers	General	General
L13	How and Why Do Social and Sustainable Initiatives Scale? A Systematic Review of the Literature on Social Entrepreneurship and Grassroots Innovation	March 2020. *International Journal of Voluntary and Nonprofit Organizations.* 31(5) https://www.researchgate.net/publication/339669404_How_and_Why_Do_Social_and_Sustainable_Initiatives_Scale_A_Systematic_Review_of_the_Literature_on_Social_Entrepreneurship_and_Grassroots_Innovation	Marion von Lunenburg et al.	Journal Article	Academic Researchers	General	Social Enterprises Grassroots Activities
L14	Scaling Out, Scaling Up, Scaling Deep	October 2015. Prepared for the J.W. McConnell Family Foundation and Tamarack Institute. https://mcconnellfoundation.ca/wp-content/uploads/2017/08/ScalingOut_Nov27A_AV_BrandedBleed.pdf	Darcy Riddell and Michele-Lee Moore	Monograph	Academic Researchers	General	[?]
L15	Factors influencing the scale-up of public health interventions in low- and middle-income countries	November 2019. *Health Policy and* Planning 35(2). https://www.researchgate.net/publication/337258396_Factors_influencing_the_scale-up_of_public_health_interventions_in_low-_and_middle-	Bulthuis, Kok, Raven and Dieleman	Journal Article	Academic Researchers	Health	General

		income_countries_a_qualitative_systematic_literature_review					
L16	Scaling Up Excellence: Getting to More without Settling for Less	2014. New York: Crown Publishing.	Robert I. Sutton, Huggy Rao	Book	Academic Researchers	General	Primarily private sector

Appendix II. Key Informants Interviewed

Name		Affiliation	Role	Sector	Perspective
K1	Lennart Woltering and Marc Schut	Scaling Advisory, CIMMYT Senior Innovation and Scaling Scientist – Wageningen University and IITA/ RTB Strategic Advisor Innovation, Scaling and Stage-gating – CGIAR	Scaling Consultants and Researchers	General	Primarily Social Enterprise
K2	Simon Winter	Executive Director, Syngenta Foundation for Sustainable Agriculture	Innovation, Funder and Implementer	Agriculture	Market-based solution
K3	Erin Worsham and Kim Bardy Langsam	Executive Director and Senior Program Director, CASE (Center for Advancement of Social Entrepreneurship) at Duke University, Fuqua School of Business	Scaling Consultants and Researchers	Agriculture	Social Enterprise
K4	Jean Michel Voisard	Director Market Systems/ Food Security & Agriculture at RTI International, Former Chief of Party for USAID projects	Implementer	Agriculture	Market based solution
K5	Dan McClure	Partner , Innovation Ecosystems	Systems Change and Innovation Consultant	General	Systems Change
K6	Hayley Price-Kelly	Program Officer, Monitoring and Evaluation, International Development Research Centre, Canada	Donor, Scaling Researcher	General	General

End Notes

[references refer to literature (L) and key information sources (K) cited in Appendix I and II.]

[i] Lesson 1. End in Mind. Cited by K1, K2, K3, K4, K5 (particularly the importance of understanding the problem), L1, L2,L3, L4, L8, L9, L13, L15,

[ii] Lesson 2. Optimal Scale. Cited by K1, K5, L3, L12 .

[iii] Lesson 3. Inclusive and Participatory. Cited by K4, L6, L7, L8, L12, L15,

[iv] Lesson 4. Define and Adapt intervention. Cited by K2, L5, L1, L6, L8, L9, L14

[v] Lesson 5. Assess Scalability, Decide Go/No Go L1, L2, L8, L9

[vi] Lesson 6. Identify and Engage Leaders Cited by K2, K3, L8, L9, L11, L13, L15,

[vii] Lesson 7. Identify and Engage Intermediaries Cited by K1, K2, K5, L1, L5, L9, L13

[viii] Lesson 8. Identify and Engage Partners Cited by K2, L1, L4, L5, L6, L8, L9, L10, L13, L15,

[ix] Lesson 9 Identify and Engage Public and Private Actors Cited by K3, K4, L1, L5, L11, L15

[x] Lesson 10. Identify and Align with Systems Constraints Cited by K1, K3, K4, K5, L1, L2, L4, L6, L7, L8, L9, L14,

[xi] Lesson 11. Develop Sustainable Business and Funding Model Cited by K5, L2, L4, L5, L6, L7,L8, L14, L15,

[xii] Lesson 12. Identify and Manage Risks.

[xiii] Lesson 13. Develop a Strategy Aligning Who, Where, What, and How Cited by L1, L8, L9, L13, L15

[xiv] Lesson 14. Develop and Use evidence to support advocacy Cited by K3, L2, L5, L8, L15

[xv] Lesson 15. Align incentives of key actors, esp. Doers and Payers Cited by K1, K2, K3, K4, K5, L1, L2, L3, L5, L7, L8, L10, L14, L15,

[xvi] Lesson 16. Use Advocacy to Enlist and Enroll Stakeholders and Resources Cited by L1, L2, L9, L10, L15,

[xvii] Lesson 17. Iterate and Adapt Cited by K4, L4, L1, L3, L5, L6, L8, L11

[xviii] Lesson 18. Focus on Sustainability Cited by L2, L6, L9, L15,

[xix] Lesson 19. Stick With It Cited by K2, K3, K5, L1, L4, L5, L6, L10, L11

[xx] Lesson 20. Use Evidence Beyond Impact for decisions on goals and strategy and to support advocacy and implementation Cited by K1, K2, K3, L1, L2, L4, L5, L6, L8, L9, L10, L11, L13, L15,