



Explorations 06

Shaping successful scaling processes

with public-private engagement

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With this compilation and summary of insights from various studies and experiences, we seek to contribute to the professional capacity to address the urgent problems of poverty and climate change as they play out in the agriculture and water sectors and elsewhere.

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The Hague, October 2018*

Colophon

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Executive summary

Scaling is still a relatively young area of professional attention, but over the last few years, the international community and development practitioners have taken it up as a priority. With the adoption of the SDGs, aiming for impact at scale has become a broad ambition and expectation. At the same time, the gap between ambition and reality has also become more concrete. Poverty, climate change, and water and food issues need action and solutions at scale. But as there is neither a one-size-fits-all solution nor a silver bullet, scaling runs the risk of taking too easy approaches. Scaling is a complex process, and one that is therefore difficult to realize.

In earlier work, PPPLab has identified ten 'ingredients' or building blocks of scaling strategies (see Explorations #4: *Scaling: From simple models to rich strategies*¹, Insight Series #6: *Scaling through PPPs*², and *The Scaling Scan*³). This new study looks at factors that need to be addressed if effective scaling processes are to be achieved. It focuses on how to shape the process of scaling: on process dynamics, leadership, and the ability to act and relate, rather than on 'what' to address and achieve.

This document is mainly based on experiences of scaling in the agriculture and water sectors, but also integrates relevant experiences from other fields. The analysis has been performed with the ambition of developing stronger public-private engagement for development results under the SDGs. Yet not all insights come from PPPs or private-sector instruments. The perspectives developed in this study are also meant to be of relevance beyond the agriculture and water sectors, and for scaling processes that are less focused on public-private collaboration.

This study seeks to synthesize different reviews on scaling and to combine them with our own analysis of cases and of portfolios of programs in agriculture and water. This synthesis had the deliberate intention of integrating two particular perspectives: a) the innovation/technology-driven view on scaling as an expansion of new practices

(horizontal scaling), and b) the system change perspective that looks at how the dynamics of the sector and the 'rules of the game' change over time (vertical scaling⁴) and affect impact at scale.

On the basis of the available material, we identified eight critical areas (each with specific success factors) that influence the effectiveness of scaling processes. The eight attention areas are grouped under three main categories: the first looking at the basic dimensions, the second focusing on how to work with the system, and the third considering implementation leadership and quality.

Getting to grips with the basics: proposition, system, and time. This part addresses the fact that many initiatives with scaling ambitions can further improve their view on * the proposition/innovation they seek to scale and the implications of its characteristics, * the system they have to deal with, and * stages of the scaling process and pursuing realistic timelines

Working with the system: public & private engagement, finance, and actors. This second part focuses on three key aspects of working with the system that a scaling initiative operates in: * the need for engagement with both private and public domains and the challenges of combining these, * the graduation over time from subsidies (often with considerable donor/public finance) to sustainable finance (often provided by the market), * working with actor dynamics and developing supportive constituencies.

Implementation capability: leadership, adaptive capacity, and partnerships. The third part moves more explicitly towards the actors leading and facilitating the scaling process, and how they can create adequate implementation capacity. It looks in particular at * the key capabilities required for leading scaling processes, * creating adaptive capacity while being focused on clear goals, and * the deliberate and adequate use of partnerships - in particular public-private partnerships (PPPs) - to achieve impact at scale.

¹ PPPLab 2016a ² PPPLab 2017a ³ Jacobs et al. 2018 ⁴ A basic explanation of (the difference between) horizontal and vertical scaling can be found in PPPLab's earlier publication Explorations #4: *Scaling, from Simple Models to Rich Strategies*, mentioned in Footnote 1 above.

It is clear that scaling processes (through PPPs and other forms of collaboration) are multifaceted. Implementation is strongly determined by the issue at stake, the context, and the dynamics of the specific program. There are no silver bullets. Yet the lessons from reviews and experiences synthesized in this paper provide areas of attention and specific factors that need to be addressed to build a realistic and effective scaling process. These lessons support us as professionals in becoming more effective in addressing the pressing development and resource issues the world faces.

Acronyms

AAER	Adopt, Adapt, Expand and Respond
AECF	African Enterprise Challenge Fund
BoPInc	BoP Innovation Center
CIMMYT	International Maize and Wheat Improvement Center
FAO	Food and Agriculture Organization of the United Nations
FINISH INK	Financial Inclusion Improves Sanitation and Health in Kenya
FSG	Foundation Strategy Group
G4AW	Geodata for Agriculture and Water
ICT	Information, Communication and Technology
IDH	IDH the Sustainable Trade Initiative
IWAD Ghana	Integrated Water & Agricultural Development Ghana Limited
PPP	Public-Private Partnership
M&E	Monitoring & Evaluation
M4P	Making Markets Work for the Poor
MSI	Management Systems International
NGO	Non-Governmental Organization
RVO	'Rijksdienst voor Ondernemend Nederland' (Netherlands Enterprise Agency)
SNV	SNV Netherlands Development Organization
SRFSI	Sustainable and Resilient Farming Systems Intensification
SWFF	Securing Water for Food
SDGs	Sustainable Development Goals
TA	Technical Assistance
TNO	Netherlands Organisation for applied scientific research
USAID	United States Agency for International Development
WASH	Water, Sanitation and Hygiene

1. Introduction

As the SDG agenda seeks to address pressing global issues of socioeconomic inclusion and climate change, there is a growing recognition that this requires more than just technical and incremental solutions. Whether it is in agriculture and nutrition, water use and sanitation, youth employment, or extending health and social services to underprivileged populations, we need significant innovations to shift the 'rules of the game', so changes can be realized at scale.

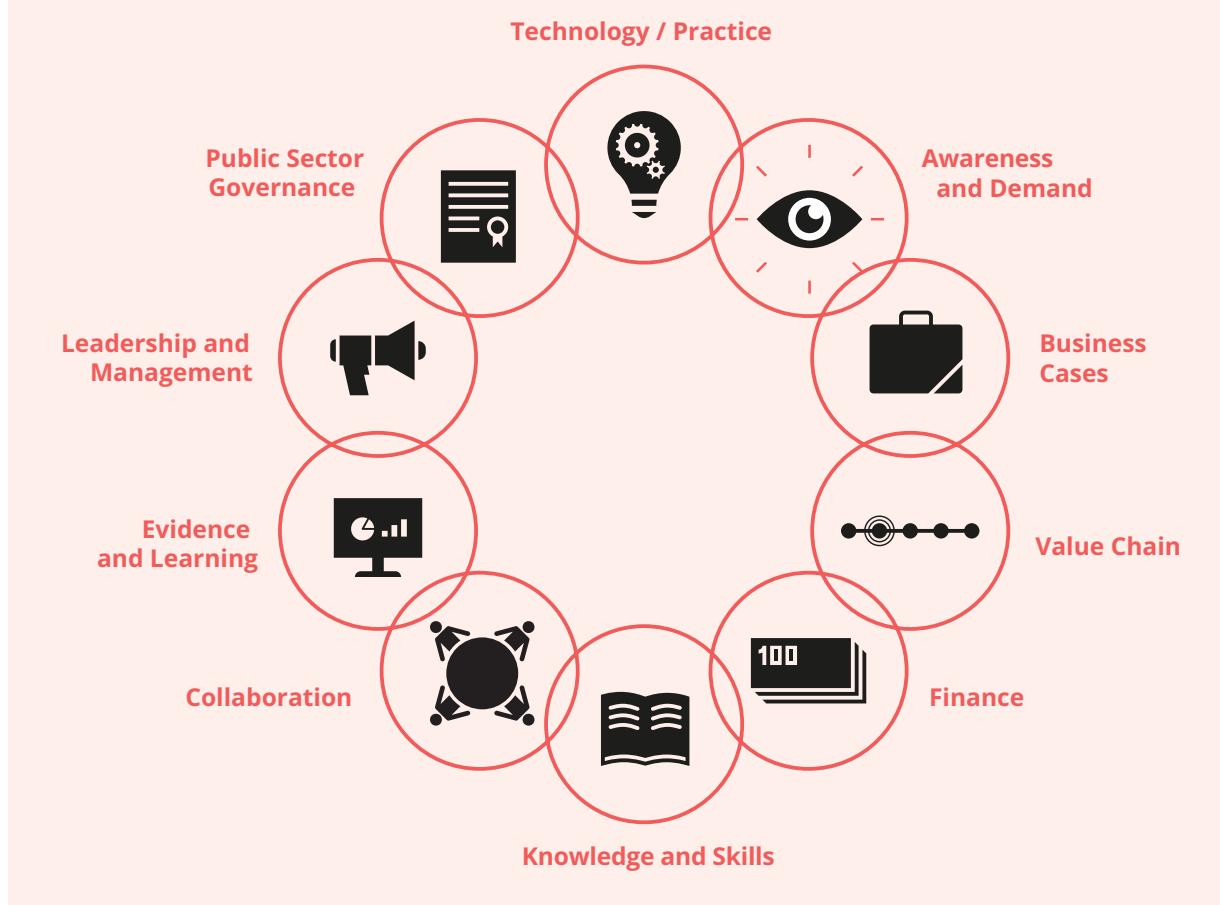
Such changes at scale will usually evolve from small initiatives that pioneer a new solution or approach and gradually mature, gaining influence and reaching a critical mass. In earlier publications, PPPLab unpacked scaling as a concept⁵ and explained the rationale for public-private engagement (PPPs) in scaling strategies. PPPLab has also developed the Scaling Scan, a tool that helps (PPP) practitioners obtain a critical look at various dimensions of their scaling ambition and strategy.

Box 1.1: The Scaling Scan: A practical tool to determine the strengths and weaknesses of your scaling ambition

PPPLab, in cooperation with CIMMYT, has developed the Scaling Scan - a tool that helps PPPs to formulate realistic scaling ambitions and

to understand what scaling requires in specific contexts. An important component is the self-assessment of the ten "scaling ingredients". These ingredients represent building blocks of a scaling strategy.

For more information on the Scaling Scan, see: <https://ppplab.org/2017/11/3223/>



⁵ PPPLab 2016a; PPPLab 2017a

While the Scaling Scan looks at what needs to be addressed to achieve a scaling ambition in a specific setting, the present study is a further step that focuses on how to shape and facilitate an adequate process to realize a scaling ambition. This means that it looks at process dimensions, dynamics, leadership, and the ability to act and relate - rather than what to address and achieve. In this paper, we distil key factors that influence the effectiveness of scaling processes⁶. This document builds on insights from over 70 real-life cases⁷. We have summarized these insights into a comprehensive set of 'success factors' that play a crucial role in scaling processes⁸. An overview of the success factors is given on page 10.

⁶ For an overview of all these sources, see Annexes I and II ⁷ In this summary, we have not looked at all of these cases directly, but instead have used the documents and overviews produced by others. ⁸ To create an effective synthesis of these lessons, we have simply listed key points from each study, case or interview, and then looked at the similarities that emerged across these lists. In this way, we created groupings of similar or related (even if sometimes opposing) points that were concerned with similar issues.

2. Two complementary perspectives on how scale happens

In recent literature and thinking on scaling, two fundamentally different though complementary perspectives on scaling can be distinguished. The first, more dominant, perspective looks at scaling from the angle of spreading a particular technical or practical innovation, 'pushing' it to wider application⁹. This perspective emphasizes efficiency, simplicity, and the use of existing mechanisms where possible; it usually employs timeframes of 1–5 years. This perspective is associated with what we have referred to as horizontal scaling in earlier PPPLab publications¹⁰. This perspective is adopted by technology firms, private-sector service providers, and research organizations focused on agricultural innovations, such as a new fertilizers, storage bags, and agricultural machinery.

The other perspective begins with the ambition to shift the 'rules of the game' in a sector or system in order to make it more equitable, participatory, or sustainable¹¹. The interest here is more in finding new means of actor engagement and improved organizational and institutional dynamics in the sector, rather than in specific technical solutions alone. This perspective, which is more closely related to 'vertical scaling', employs longer timelines - often a decade or decades - and tends to focus on changes in organizational, financial, and institutional arrangements.

Box 2.1: The development of the Gujarati dairy sector through a system lens

An example of the system perspective can be seen in the description by FSG (2017) of how the dairy sector in Gujarat, India has become more inclusive of small producers since the 1940s. Due to a combination of factors, such as small dairy farmers who succeeded in organizing themselves, a balance of payments crisis in government leading to a butter import ban and the liberalization of the dairy sector, the Gujarati dairy sector has transformed from a market where dairy farmers were exploited by middlemen to a market in which farmers own the largest food product marketing organization in India (FSG 2017: 7-14).

Scaling cases often start with the first perspective - expanding the use of a specific technical solution. But later on, their attention often shifts to the second perspective of institutional and sector dynamics. This is logical, as technological innovations often meet systemic bottlenecks when they try to achieve scale. However, as discussed later in this document, applying the system lens early on appears to be one of the main factors for fostering success in effective and sustainable scaling.

Box 2.2: Scaling as a buzzword

Scaling is receiving increased attention in international development. The ambitious SDG agenda has led to the recognition that impact at scale is needed to address global problems. Scaling has become a buzzword, and is sometimes formulated as a goal in itself. But there are also limits and dangers to scaling ambitions. Scaling is about enlarging the impact from one level to another and making it more efficient; it is not about limitless growth. Applying solutions at scale can also have unexpected consequences or side effects (see Section G3). Scaling processes that are implemented in simplistic or excessively standardized ways ('rolling-out'), without adequate attention to context and organizational requirements can be detrimental, and may lower effectiveness and efficiency, rather than increasing it.

We deliberately seek to apply a combination of these two lenses: the practical, hands-on focus on spreading innovations and the system perspective on transforming the rules of the game¹². Combining these two perspectives is essential if one wants to work on specific practical or technological innovations and use these to influence the performance of a sector as a whole. The two perspectives also cover the early stages of incubation and piloting innovations, as well as later stages in upscaling and institutionalization. The essential challenge of scaling innovations for more development impact lies precisely in combining these two perspectives.

⁹ MSI 2006; USAID 2017; and Monitor Deloitte 2014 ¹⁰ PPPLab 2016 ¹¹ FSG 2017; the Springfield Centre 2015 ¹² In doing so, we will not dive into the intricacies of systems thinking, as this is beyond the scope of this paper. However, we will seek to provide lessons on using system dimensions to foster successful scaling.

Box 2.3: A rich literature analysis

The dominant thinking within the aid sector on how scale happens has shifted over time, from the view that scaling can be planned and is a matter of solving barriers to scale, to the view that one should navigate through a system and deal with the given context to reach scaling ambitions. The perspectives on how scaling for impact happens are, of course, influenced by the organizations who initiate the analysis of scaling.

Below, we present an overview of the main publications used in this synthesis and the framing they apply to understand scaling processes. Most arguments made by their authors are grounded in one of the two scaling perspectives that we describe in Chapter 2. The first perspective, which focuses on scaling a particular innovation, is particularly strong in these analyses:

- **MSI (2008) in “Scaling up – from vision to large-scale change”** provides concrete guidelines (on the basis of five cases) for improved management of scaling processes, laying out ten key tasks for the lead organization that scales.
- **USAID (2017) in “Synthesis Report - Review of successful scaling of agricultural technologies”** provides lessons from five case studies examining the scaling up of agricultural innovations through commercial pathways. In contrast to MSI, this study also considers the context of the country as an essential factor.
- **Monitor Deloitte in “From Blueprint to Scale: The Case for Philanthropy in Impact Investing” (2012) and “Beyond the Pioneer - Getting Inclusive Industries to Scale” (2014)** looks at how inclusive market-based solutions can best be scaled, considering companies and industries as lead actors in scaling (based on at least six in-depth case studies and longer-term tracking of 439 social enterprises). To some extent they use a system perspective, though rather from the perspective of the individual firm that has to overcome systemic barriers to scale than from the perspective of using system dynamics in a strategic way.

This is in contrast to the second perspective, which reasons from how the rules of the game of a whole system can be changed to obtain large-scale impact. This perspective is strong in the following:

- **The Springfield Centre (2015) in “The Operational Guide for the Making Markets Work for the Poor (M4P) Approach”** seeks to improve lives of the poor through transforming the (market) systems around them. It looks at how systems can be changed by the way core functions, supporting functions, and rules are shaped and performed.
- **FSG (2017) in “Shaping Inclusive Markets. How Funders and Intermediaries Can Help Markets Move toward Greater Economic Inclusion”** looks at the much higher level of inclusive systemic transformation on the basis of seven cases. They argue that one innovation being scaled is not enough. Real change usually only occurs as a result of several or many innovations coming together over time, interacting with and building on each other, in order for market systems to evolve.

There are also a number of authors and interviewees who have argued from a combination of these two perspectives or have taken a position between them. One example is:

Hartmann & Linn (2008) in “Scaling Up: A Framework and Lessons for Development Effectiveness from Literature and Practice”. On the one hand, these authors provide lessons on how best to manage a specific scaling ambition; on the other hand, they consider how different system levels (projects, policies, institutions) are interlinked.

3. Success factors: an overview

The studies, cases, and interviews reviewed for this study are based on different experiences in terms of what was scaled (from technical innovations to public services) and the characteristics of the context (different socioeconomic settings, different continents). Notwithstanding such variation, common lessons were drawn that seem to influence the success of scaling processes in almost any situation. In this paper, we summarize these in twenty four key factors that influence the effectiveness of scaling processes, and we grouped these into eight critical areas of attention. Although

there are no silver bullets, our range of sources and experiences suggests that addressing these factors provides essential guidance in realizing scaling ambitions in practice.

In the overview below, the eight areas are grouped under three main headings. **Getting to grips with the basics** focuses on being clear about ambition and scope. **Working with the system** focuses on how to deal with the context in which one is operating, and **Implementation capability** focuses on leadership and collaboration for scaling.

Table 3.1: Success factors in shaping successful scaling process

Getting to grips with the basics	Working with the system	Implementation capability
<p>A. The nature of the proposition</p> <ol style="list-style-type: none"> 1. Competitive power and clear benefits 2. Simplicity 3. An adequate delivery mechanism <p>B. System understanding</p> <ol style="list-style-type: none"> 1. System dimensions 2. The system's history and present momentum 3. Actor dynamics and drivers <p>C. Timeline</p> <ol style="list-style-type: none"> 1. Stages of scaling 2. Refined definitions of success 3. Realism about progress 	<p>D. Working with public and private domains</p> <ol style="list-style-type: none"> 1. Private-sector engagement for sustainability and scale 2. Public-sector engagement for support and enabling environment 3. Bridging private and public dynamics <p>E. Graduation of finance</p> <ol style="list-style-type: none"> 1. Locally owned business cases 2. A vision of long-term sustainable finance 3. Flexible finance <p>F. Dealing with actor dynamics in the system</p> <ol style="list-style-type: none"> 1. Connecting actors, drivers, and accountability 2. Vertical linkages 3. Developing constituencies and local ownership 	<p>G. Capabilities of implementers</p> <ol style="list-style-type: none"> 1. Connective leadership and adaptive capacity 2. Information, learning, and evaluation 3. Responsible scaling <p>H. Deliberate use of partnerships</p> <ol style="list-style-type: none"> 1. Choice of roles and types of PPPs 2. Evolving partnership needs in different stages 3. Balancing commitment and flexibility

4. Getting to grips with the basics: proposition, system, time

Getting a realistic sense of the basic dimensions of a scaling ambition is vital. These include the quality of the proposition, a clear view of the scope of the system that the scaling initiative is dealing with, and a realistic time horizon. Many initiatives are locked into their technology focus or present project design, and do not reflect on their scaling ambition in a critical way. This leads to vague or unrealistic expectations. Having a clear view of the basic dimensions of the scaling effort in the first place enhances the effectiveness of later stages of the scaling process.

Box 4.1: Public-Private Partnerships for scaling

The range of success factors that we present in this paper will show how complicated the process of scaling innovations for impact is. Partnerships are needed because not one actor can do this alone; the factors point towards the need for public and private engagement to reach impact at scale in practice. A range of concrete examples of PPPs will therefore be used for illustration. The insights presented in this paper are, however, more broadly applicable than in PPPs alone. They can help anyone engaged in scaling to better shape and steer their processes towards achieving impact at scale.

A. The nature of the proposition

What is scaled is usually an innovation, a practice, or a model that represents a break from existing or competing practices. In the agrifood or WASH sector, this may be a specific technical solution - for example a new type of latrine or an agricultural practice that is more climate-resilient. The characteristics of the proposition can have important implications for the scaling process. Three factors that should be critically assessed are:

- **Competitive power and clear benefits**
- **Simplicity**
- **An adequate delivery mechanism**

A1. Competitive power and clear benefits

It is essential to have a realistic assessment of the **competitive power** and attractiveness of the innovation, as compared to existing solutions. A range of tools¹³ has recently been developed to help look in detail at factors that affect competitive power and user uptake. Many technology-oriented initiatives, driven by belief in their own innovation, risk unrealistic expectations of the actual demand for the innovation. In gauging perceived needs, it helps if the organization that leads the scaling process already has an existing customer base¹⁴.

Demand is stimulated if the innovation has **clear financial benefits**. Considering that targeted low-income populations are often risk-averse, the innovation must have tangible and immediate benefits. Earlier research has shown that cash profits most strongly encourage low-income target populations to adopt an innovation, as compared to other less tangible benefits, such as access to nutritious food or hygiene¹⁵.

In addition to straightforward benefit, the innovation's **affordability** relative to income is key. Moreover, **financial risk** has more bearing than financial return in the decisions of low-income households. In most cases, innovations that allow risk to be diversified over time and space are preferred¹⁶, and adoption is most likely when it requires minimal financial investment and short repayment periods. It also helps when the innovation can be packaged with an input or service that users already buy and use.

A2. Simplicity

It is generally acknowledged that **simplicity of an innovation eases its adoption, which stimulates the scaling process**¹⁷. 'Simple' means that the innovation is not a huge departure from existing practice, that it consists of relatively few components that are technologically uncomplicated, and that it can be accessed through existing (distribution) channels. Such simplicity not only requires less investment by the user, it also enables easier adaptation to different contexts.

¹³ An example is the ADOPT (Adoption and Diffusion Outcome Prediction Tool) by CSIRO: an Microsoft Excel-based tool that evaluates and predicts the likely level of adoption and diffusion of specific agricultural technologies and practices, with a particular target population in mind. See: <https://research.csiro.au/software/adopt>
¹⁴ Interview McMahan ¹⁵ USAID 2017 ¹⁶ USAID 2017 ¹⁷ MSI 2006, Hartmann & Linn 2008, and USAID 2017

A scaling effort is usually preceded by testing, refining, and simplifying the innovation to those elements that are essential to its success. Such refinement and simplification will often take several iterations and technical adjustments, which will usually take several years up to as long as 10–15 years¹⁸.

However, an innovation cannot always be made simple, and this can have major implications for the scaling process. Naturally, **innovations that require new behaviour and more sophisticated management techniques (for example in case of agricultural innovations) will scale at a slower pace than those who do not require behavioural change**¹⁹. The requirement of extensive training and new management techniques limits spontaneous adoption and thus requires more drive on the part of the project or programme. Sustainability and continuation of scaling then need to be considered: who pays for such training and guidance in the long-run? Moreover, in such cases, indirect adopters are unlikely to use all components or to apply the innovation in the recommended way.

Box 4.2: An example of simplifying an innovation: the AquaKit

FoodTechAfrica is a PPP led by Larive International, combining the strengths of Dutch and East African agrifood companies, knowledge institutes, and governmental agencies in establishing an integrated aquaculture value chain in East Africa. One innovation of this PPP was the development of the AquaKit, an aquaculture starter kit for farmers. It was key in the development process to bring its design to its simplest form, in order to lower the barrier for farmers to start in aquaculture. In its final design, the AquaKit requires low investment, has low production costs, features a modular design, requires little maintenance, and is built from local materials - all of which contribute to its scaling potential (Interview van Vliet).

A3. An adequate delivery mechanism

Next to competitive power and simplicity, the nature of the proposition also affects the degree of interaction needed to get the innovation to larger number of users. Innovations that require extensive training or behavioural change activities are interaction-intensive. These often require 'push' strategies, because the targeted population first needs to be convinced of the benefits of the innovation before they make any investment. This is in contrast to 'pull' innovations, which users readily desire and demand. Clearly, **initiatives that promote 'push' innovations face a tougher challenge in moving towards scale**²⁰.

Hartmann & Linn (2008) help to understand this further by pointing to two critical dimensions related to the nature of the proposition: the **transaction intensity** (i.e., the intensity and costs of interaction) and the **degree of discretion** (i.e., situation-specific information) needed to scale the innovation. For example, the scaling of mobile phone services involves low transaction intensity and little context-specific information, which makes rolling out the service through a centralized and standardized approach relatively easy. On the other hand, community-based solutions, such as for the management of a well, have high transaction costs and require context-specific information. Such innovations require a higher intensity of contact with the target population²¹. Clearly, mobile phone services are relatively easy to scale, while large-scale adoption of community-based solutions takes more time and effort²².

The transaction intensity and degree of discretion also shape the requirements of a delivery model or mechanism for the innovation. If transaction costs are high, if possible it may be wise to apply a piggybacking model, whereby the innovation is offered on the back of similar conventional products or services. Where there is a high degree of discretion, it will be required to develop a delivery mechanism that includes local providers who are able to make adjustments to specific contexts, rather than using a standardized model.

¹⁸ MSI 2006 ¹⁹ USAID 2017 ²⁰ Monitor Deloitte 2014 ²¹ Hartmann & Linn 2008 ²² Note that a high degree of discretion will usually also imply higher transaction requirements. Low discretion, on the other hand, will not necessarily mean low transaction requirements, as these may arise due to the complicated nature of the proposition itself.

B. System understanding

Scaling of an innovation happens in an existing system: a set of practices, relations, and rules of the game that shape the particular context. Many scaling initiatives fail to understand that system sufficiently well, which limits the effectiveness of their efforts. From a systems perspective, taking the following three factors into account can improve the effectiveness of a scaling process:

- **System dimensions**
- **The system's history and present momentum**
- **Actor dynamics and drivers**

B1. System dimensions

It is important to recognize that any sector in a country (based around an agricultural commodity, sanitation, etc.) is embedded in a wider system. A key characteristic of a system is that different actors and institutions are interconnected in multiple ways and cause and effect are not linear. The triangle in the box on the next page points out the important **elements of a social system** determining its present functioning: practices, policies, and resource flows; formal and informal relationship patterns and power dynamics; and implicit mental models. The implication is clear: if a scaling initiative aspires to shift or shape the 'new normal' in a sector, it needs to address multiple if not all of those elements. System change does not happen when only one element is addressed.

It is also important to recognize that most systems are 'nested': practices are nested in forms of organization, which again are nested in larger macro socioeconomic structures. Recognizing such interconnected **levels** in the scaling processes is essential (see also PPPLab Insight Series #6 on the vertical dimension of scaling).

The understanding of levels also points at the importance of determining the **boundaries** of what can be influenced. The risk of having activities locked into project designs is that they become less responsive to other system levels with which they should connect in order to scale. At the same time, it is essential to recognize one's limitations in dealing with the system (in relations, competencies, and means) and to be realistic about what is beyond the effort's scope.

Scaling initiatives should also be **aware of parallel initiatives that influence the scaling activity**.

This multitude of similar or complementary scaling initiatives is referred to by FSG (2017) as the 'panoply of innovations' that together lead to real system change. However, especially in early pilot and first mover stages²³, collaboration across initiatives does often not happen easily, as they consider each other competitors²⁴. Yet together, they bring different elements that are mutually reinforcing. It is only through such processes that shaping the new normal in a wider system usually happens.

B2. The system's history and present momentum

It is also essential to **understand the system's history**: why are things the way they are? It can be relevant to look at the major events, tensions, and experiences that have affected how actors look at your proposition and deal with the scaling process. It is equally important to understand the present status quo: what are the reasons why your innovation has never been tried before, or has previously failed? What is the problem your innovation is trying to address and what is currently keeping it in place? Such analyses should inform the design of your innovation and your scaling process (see also A1 and E1). A particular point of attention in this context is what **earlier initiatives** undertook on the same issue, and to what degree they succeeded or failed - and why.

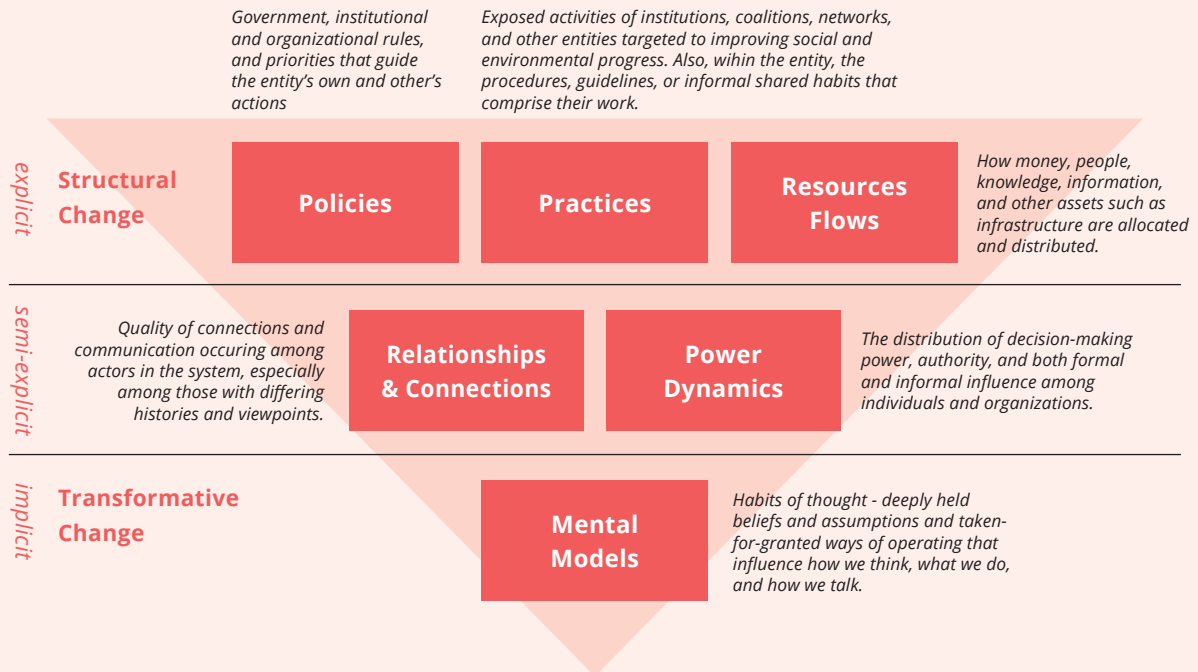
Box 4.3: Inclusive water delivery in Manila

The water market in Manila, previously run by a state utility, was privatized in 1997. Thanks to a range of complementary innovations, the market has evolved in an inclusive manner: more than 90 percent of the population now has access to reliable and safe piped water. The electricity sector had been privatized in the 1980s, and the success of this process soon led to calls for the same approach to be applied to the water market, using a decentralized management structure and a performance framework including a number of targets oriented toward economic inclusion. Through further local pressure and support from international organizations, the water regulator pushed the privatized water utility Manila Water to have low-income households individually connected to the network. Hence, most improvements were experienced by low-income households (FSG 2017: 17–20).

²³ See C1 for discussion of stages. ²⁴ NewForesight 2018

Box 4.4: Applied systems thinking in practice by FSG

Six Conditions of Systems Change



- Shifts in system conditions are more likely to be sustained when working at all three levels of change
- Transforming a system is really about transforming relationships between people who make up the system
- Most system theorists agree that mental models are foundational drivers of activity in any system

Characteristics of systems

- Everything in a system is connected; events in one part affect some or all of the other parts
- Relationships between entities are just as important as the entities themselves - if not more important
- Context matters; it can often make or break an initiative
- Cause and effect is not a linear, predictable, or one-directional process; it is much more iterative
- Patterns emerge from several semi-independent and diverse agents who are free to act in autonomous ways
- A system cannot be fully understood from one perspective; complex problems cannot be solved by one actor
- Shifts in system conditions are more likely to be sustained when working at all three levels of change
- Transforming a system is really about transforming relationships between people who make up the system
- Most system theorists agree that mental models are foundational drivers of activity in any system

Five simple rules for actors seeking to support lasting system change

1. Build on existing trends and momentum in the system.
2. Pay greater attention to connections and interdependence.
3. Employ rigor after the strategy has been developed.
4. Be systematic about measuring systems change.
5. "Be the change" by building internal adaptive capacity.

System change means shifting the conditions that hold the problem in place

"Making big bets to tackle a problem without first immersing yourself in understanding what is holding it in place is a recipe for failure. On the other hand, bringing attention to shifting the power dynamics at play, identifying where people are connected or disconnected from others who must be part of the solution, exposing mental models that inhibit success, and investigating your own organization's conditions that help or hinder external aspirations - this is the nature of successfully changing systems. This is systems change." (FSG)

Using the system's momentum and dynamics also stimulates scaling. In the first instance, this requires a good understanding of current trends and events. Secondly, the challenge lies in finding the windows of opportunity to use or piggyback on this momentum - which can range from using political opportunities (elections, certain parties in power, even political crises), public events, scandals that draw attention to the problem you need to address, allying with actors or initiatives working on the same cause, or using existing delivery mechanisms for the innovation. An applied example of systems thinking with particular attention to the current dynamics is presented in the box below.

B3. Actor dynamics and drivers

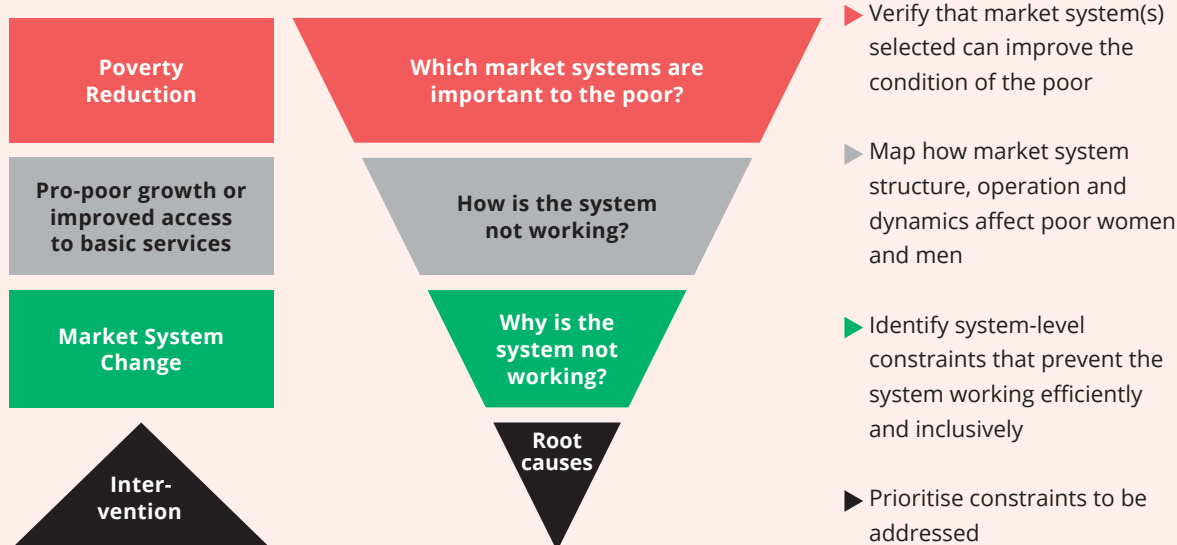
It is essential to realize that systems are driven by actors and their interests. When scaling processes go beyond proof of concept, the capacity of the initiative to build relations and partnerships with a diverse range of actors becomes vital.

Actor-mapping is key if an initiative wishes to influence a system more deliberately. It is important to keep in mind that the range of potential stakeholders who can contribute to (or hinder) scaling is wide: from government at all levels (high-level politicians to civil servants), civil society (academics, journalists, and development practitioners), research institutes, to businesses and financial institutes.

Box 4.5: Making Markets Work for the Poor; the "M4P" approach

Market systems development refers to improving the way in which the core functions, supporting functions, and rules that ultimately improve the poor's terms of participation within the market system perform. The potential of the M4P approach lies in understanding the underlying causes of poverty challenges ('why?'), in identifying the system-level changes required to address these ('what?'), and in guiding interventions that can bring about sustainable change ('how?'). The M4P approach emphasizes that a diagnosis of the system should be done first. The steps for identifying the necessary changes in the market system are presented below:

Figure 4.1: The diagnostic process (The Springfield Centre 2015: 13)



On the basis of a thorough analysis, the M4P approach also strongly focuses on the sustainability of the changes created and on an exit strategy for (project) interventions (The Springfield Centre 2015).

A subsequent step in understanding actor dynamics is a (simple form of) **political economy analysis**²⁵. Such analysis involves looking at the existing **power structures, interests, and drivers of (key) actors**. This assists in understanding hurdles to change more consciously and more seriously²⁶. If implementers of scaling strategies have a business background, they tend to focus on market dynamics while overlooking political and sociocultural interests, drivers, and norms - even though capitalizing on these can be essential in transitioning towards a scaling phase²⁷. In the review of cases, we came across many scaling initiatives that got stuck because of resistance of certain stakeholders whose interests were not sufficiently addressed.

Box 4.6: Developing a potato value chain in Kenya

Through a project entitled “Food security via vertical integration of a new Kenyan potato chain”, a PPP led by Agrico East Africa has been working on the development of a potato value chain in Kenya - a country in which potatoes are not staple food yet. Since the start in 2015, the PPP has had to deal with a number of (differing) interests from local actors, such as other market players; the national government’s inspectorate service requiring a long time for the certification of seeds because of a plant disease crisis in 2012; and having to align with county governments’ priorities because of their increased mandate since the devolution of the Kenyan government in 2012 (PPPLab 2017b). These issues keep on influencing the project (and its progress in scaling).

²⁵ FSG 2017 ²⁶ The Springfield Centre 2015 ²⁷ FSG 2017

C. Timeline

The timeline is a particularly debated dimension of scaling processes, especially where the pressure for visible results is high. Such pressure can be created by business interests, the urgency of the issue, the ambitions of the implementers and donor expectations. In practice, many initiatives underestimate the time they need - though this may also have to do with their understanding of success. Three factors that need to be taken into account are:

- **Stages of scaling**
- **Refined definitions of success**
- **Realism about progress**

C1. Stages of scaling

The timeframes related to scaling processes are understood in different ways, ranging from a few years to several decades. This is related to the **two different perspectives** on how scale occurs (see Chapter 2): the first perspective is of scaling a single innovation to reach a large number of people, which is often used by donors and project implementers who are used to working in projects of 3-4 years²⁸. A second perspective looks more at the time it takes to change the rules of the game in a system, so that it become the new normal. Such system changes often take at least a decade²⁹.

In earlier publications³⁰, PPPLab used a logic of **four stages of system change**³¹, which are presented in figure 4.2 on page 18.

The figure visualizes how individual efforts of scaling innovations begin to shift the wider system.

Such a timeline starts with a) the inception of new solutions reaching a proof of concept, then moves to b), first movers showing the viability of the concept in practice on a still limited scale; then c), develop towards a critical mass through replication and crowding in, after which d) institutionalization helps to establish the improved solution or practice as the 'new normal'³².

C2. Refined definitions of success

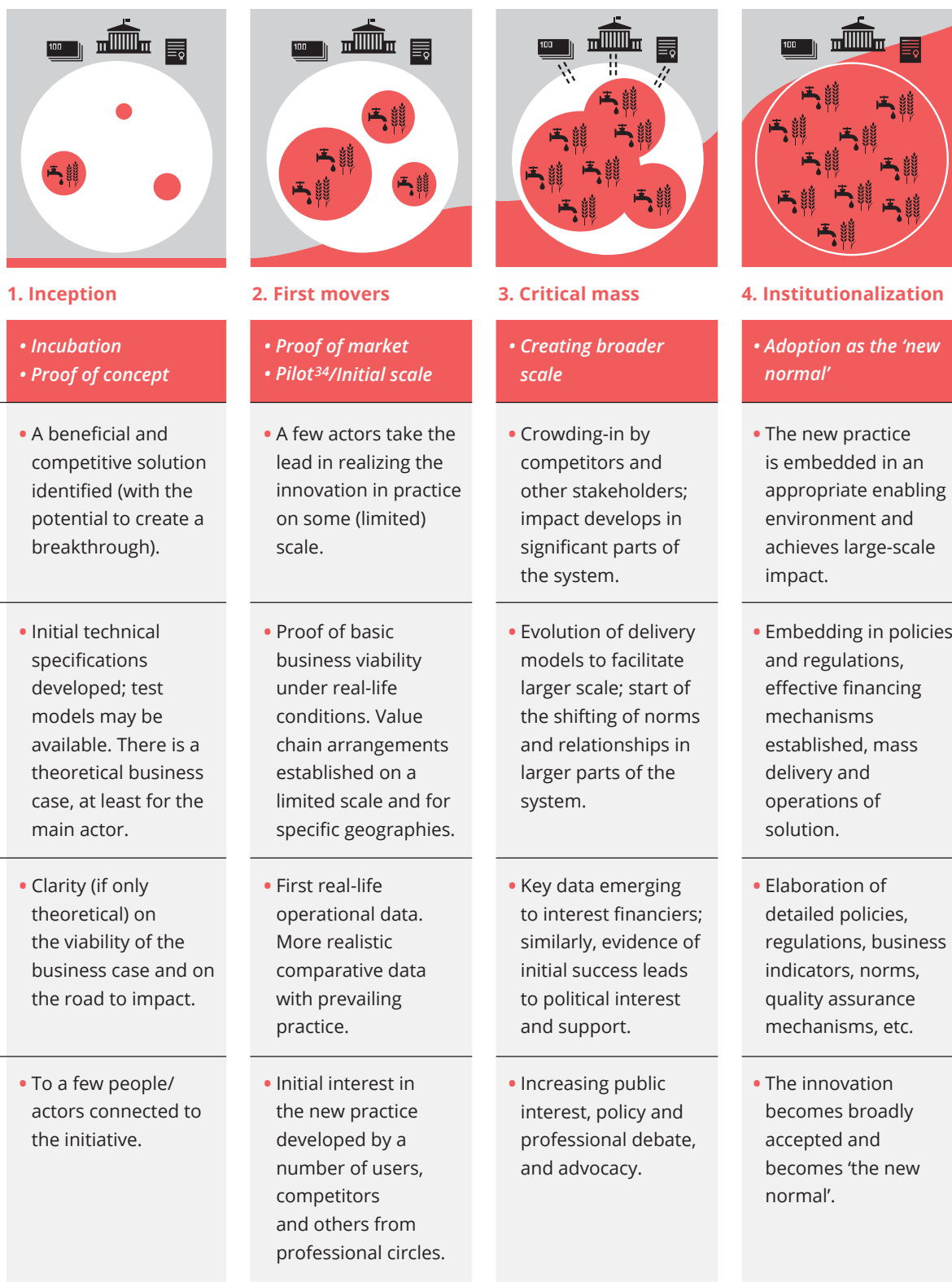
There is a strong inclination in the development sector to focus on concrete impact numbers. However, this only addresses one dimension of scaling: the **'horizontal' achievement of sheer numbers**. As discussed in Exploration #4³³, this focus usually invokes relatively simple models of rolling-out and replicating a successful pilot. But it does not address the **'vertical' dimension of influencing the system** at different levels.

In various interviews, scaling practitioners (from companies as well as NGOs) raised the risk of a too narrow impact focus in judging the success of scaling processes. The use of scarce resources to reach large numbers of people within limited timeframes has often been to the detriment of meaningful work on the system and laying the basis for much larger scale. System work requires a longer-term investment and includes communicating about a proof of concept, engaging with actors, starting policy debates, and creating data and evidence. Such activities cost time and effort. In short, during scaling processes, there may be **trade-offs between ambitions for direct impact and medium term system changes**.

It is therefore relevant to gain a more **refined understanding of success in different stages** of the scaling process beyond simple numbers. This may look, for example, as follows:

²⁸ Interview Bakker & Grim; interview McMahan ²⁹ FSG 2017 ³⁰ PPPLab 2016a; PPPLab 2017a ³¹ Adapted from NewForesight 2018 ³² While this is of course a simplification of reality, and many other distinctions are possible, we have often used this model in practice to clarify where cases are, and concluded that it is rather useful in discussing timelines and stages of scaling. ³³ PPPLab 2016

Figure 4.1: The four stages of sector transformation (adapted from NewForesight 2018) and definitions of success (own findings)



³⁴ Note that pilots can also take place in the previous early or inception stage.

It is clear from the above that simply **increasing impact numbers do not serve as a proxy for successful progress in scaling**. On the contrary, such numbers may be gained with temporary project efforts and outside support which do not necessarily build sustainability or ownership (or even may undermine it). A serious discussion of scaling progress would rather look at the range of elements presented in the table above and consider the progress in key results, technical and organizational achievements, information and knowledge, and outreach. It is better for scaling initiatives to make a serious effort to define and frame their own progress and success for each stage, so that a meaningful exchange with donors and evaluators can take place. It is also important to note here that the four stages are not necessarily linear; they may overlap, and elements from different stages may run in parallel. For example: certain products will begin to address critical regulatory issues (the 'institutionalization' stage), even though they are still in the 'first movers' stage in terms of on-the-ground operations.

C3. Realism about progress

It is crucial to be **realistic about time limitations**. Many projects seem to stumble on unrealistic expectations of what can happen in a limited number of years³⁵. These are either created by the project initiators themselves or caused by external expectations - and particularly by donor pressure. Although setting short time frames for intermediate milestones can be helpful, it becomes problematic when initiatives and donors overestimate their progress towards real scaling.

Once the initial proof-of-concept and first mover stage is reached, proper attention is required for what it takes to move towards the critical mass and institutionalization stage. This specific transitional challenge is mentioned by many authors in reference to numerous cases. Deiglmeier and Greco (2018) labelled this point the '**stagnation chasm**'. This is where the focus shifts from incubation, pilots, relatively closed partnerships, and controlled environments to working in a more deliberate way with the wider system for crowding-

in, building constituencies, gaining critical mass, and working towards institutionalization. This requires different skills, different financing and, most of all, a different type of leadership that can position the scaling initiative in the larger system. Three specific challenges can be distinguished with respect to this transition: adequate funding arrangements (initiatives falling into the gap between grant and market finance), fragmented ecosystems (initiatives failing to position themselves in the ecosystem and to develop the right relations) and a talent gap (a lack of the different type of skills needed to tackle the subsequent growth steps). Deiglmeier and Greco (2018) argue for more awareness and better support systems to tackle these issues (see also 'graduation of finance' under F2, Chapter 5).

³⁵ While scaling is often seen as a process that leads to quick turnarounds in addressing the world's pressing problems, we see in practice that most scaling efforts rather follow an incremental process of steps that allows for innovating, learning, and adjusting to the system

5. Working with the system: public and private engagement, finance, actors

The need to sufficiently understand the system within which one is seeking to scale has been discussed in the previous chapter. But how can these system dynamics be addressed for an effective scaling process? Not only does the private sector need to be engaged (to drive the business case, to build value chain linkages, and to develop a market for services) - public-sector engagement is also crucial (for government support, enabling policies, regulations, and public funding), as is collaboration with a wider range of stakeholders. Three critical areas of attention are dealt with below: dealing with public and private domains, graduating from public to private finance, and collaborating with actors beyond the scaling partnership.

D. Working with public and private domains

When sustainably scaling solutions in the agriculture and water sectors (as in many areas), it is necessary to deal with both private-sector and public-sector dimensions. Yet effectively integrating such engagement is a complicated challenge. Three essential areas that need attention for scaling processes arise:

- **Private-sector engagement for sustainability and scale**
- **Public-sector engagement for support and enabling environment**
- **Bridging private and public dynamics**

D1. Private-sector engagement for sustainability and scale

While there has been much discussion of the effectiveness and efficiency of PPPs, there is considerable consensus that private-sector engagement can introduce **market-driven ways to achieve scale and build financial and operational sustainability**. Most cases reviewed for this study have pursued this logic, and business cases are a driving element of their approaches to scale, as the following quotes show: “For change to be sustainable, it must be led by market players”³⁶, “For-profit organizations tend to be more successful

in achieving scaling targets”³⁷, and “Commercial pathways to scale are taken as a starting point”³⁸. Although building individual business cases is important (see E1), it is not enough. A broader **value chain and market analysis** provides insights into the current dynamics of the market system and the real competitive position of the proposition. It also helps to identify value-chain linkages that need to be strengthened³⁹ and other aspects of value-chain governance that need attention. While initial ambitions to scale are usually driven by one firm⁴⁰, the connection to value-chain actors, and in particular the engagement of local firms, is essential to reach scale in a sustainable way. Another critical point of attention must be if people living in poverty can be served by the businesses that are engaged (also see E1).

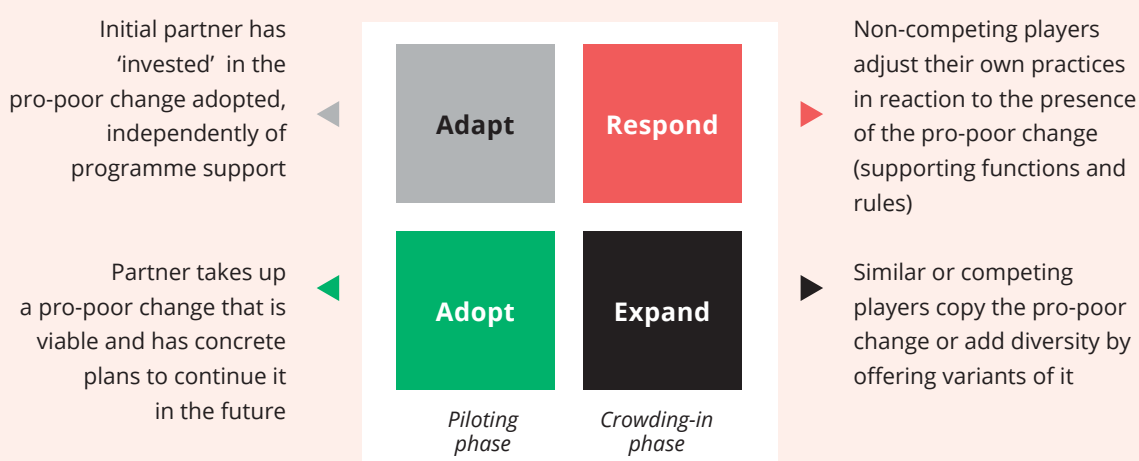
The AAER⁴¹ framework is helpful in distinguishing various dimensions through which a scaling process can shift a market system (see the box below). From our review of cases, **crowding-in appears to be a particular challenge**. Scaling initiatives often (and understandably) start with one or a limited number of firms in the lead. But to change the market system, crowding-in of others will be essential to eventually reach a critical mass. Yet lead firms may be inclined to protect their business interests. Remarkably, crowding-in has been given only minor attention in literature and program formulations.

³⁶ The Springfield Centre 2015 ³⁷ Interview McMahan ³⁸ USAID 2017 ³⁹ USAID 2017 ⁴⁰ USAID 2017 ⁴¹ The Springfield Centre 2015

Box 5.1: The Adopt, Adapt, Expand, and Respond (AAER) Framework

The Adopt, Adapt, Expand, and Respond (AAER) framework was created by the Springfield Centre (2014) to deal with different stages of scaling and market system change, while pointing out that these processes can happen simultaneously, rather than in a strict sequence. The Adapt and Adopt quadrants describe the processes where lead firms grow the innovation. The Respond quadrant points out responses from other noncompeting actors (such as changes in regulation). However, it is the Expand quadrant that is the most challenging for scaling initiatives, as this is marked by the entry of other competing market players who copy (elements of) the business case. This may be threatening for the lead firms, but is essential to reach real scale and market transformation.

Figure 5.1: The AAER Framework (Springfield Centre 2014: 6)



D2. Public-sector engagement for support and enabling environment

The engagement of the public sector is vividly debated in the literature on scaling. There seems to be a general agreement that public-sector engagement is key for creating an enabling environment⁴², both generally (e.g., in a policy supporting food security) and specifically for the actual program or innovation (e.g., subsidies for certain commodities or technologies). **Assessment of the policy and the regulatory environment is deemed a precondition for good design of a program with scaling ambitions⁴³.** This includes the identification of political and regulatory openings that can provide opportunities for breakthroughs and scale⁴⁴. At the same time, various sources have observed that the public-sector capacity to deliver services in practice - for

example, through agricultural extensions - is often limited due to a lack of resources and capacity. This is a key reason for favouring commercial pathways to scale.

The importance of government funding and subsidies across the many cases reviewed is remarkable. While many projects are donor-funded, several studies have also cited the importance of **in-country public finance as a driver for scaling processes**. For example, in India, a policy on subsidies for specific social programs has driven scaling of access to sanitation through private-sector construction⁴⁶. In the cases reviewed by USAID (2017), all of which were driven by private-sector actors, subsidies played an important role in facilitating early adoption of agricultural innovations - even though in some cases, the subsidies also created market distortions.

⁴² USAID 2017; ⁴³ FSG 2017 ⁴⁴ USAID 2017 ⁴⁵ FSG 2017 ⁴⁶ For example USAID 2017 ⁴⁶ WASTE 2009

Finally **public-sector engagement is key in the institutionalization** of innovative practices in policies, regulations, and financing mechanisms. If such embedding is lacking, projects remain parallel institutions separated from local public-sector structures and will wither as soon as the donors pull out⁴⁷. Thus, public-sector engagement is not only key for reaching scale, but also for sustaining the (growing) impact.

D3. Bridging private and public dynamics

There is a clear rationale for both private-sector and public-sector engagement in scaling processes. At the same time, many interviewees point to **the practical challenges of combining the different dynamics of the private and public sectors**. Private-sector actors indicate they find it difficult to work with the government, as the style of operation is very different (work speed, decision-making logic, consensus orientation, ability to keep commitments). From the government side, on the other hand, engaging with private sector may resemble collusion with specific interests. Many programs have therefore indicated that they find it easier to engage the in-country government as a supporter, or via certain coordination mechanisms (including sector platforms), rather than with the use of PPP contracts.

The **deliberate timing of public engagement** is also a point of attention. From the perspective of lead firms, engaging the public sector is thought to be particularly challenging in the early stages of a program. In the beginning, the program has not yet proven its value proposition, which makes it difficult for the government to officially support it. The initiators may also fear intervention from vested interests who benefit from maintaining the status quo. In most cases, scaling initiatives are inclined to first reach a proof of concept before they start engaging more with the government, for example on regulatory issues which are necessary to reach next stages.

As public-private engagement is challenging, an **honest assessment of the initiative's capabilities** is required. Does the initiative have sufficient relationships and trust with the necessary public and private actors? Is the leadership of the

scaling process able to combine, balance, and negotiate the interests of both sides? A sufficient balance of ambition and realism is needed to answer these questions, for both implementers and financiers. Local presence and the (analytical and relational) capacity of local partners are vital to this (see also F below).

⁴⁷ Interview Hartmann; interview Rankin

E. Graduation of finance

Most scaling processes are started with forms of subsidy⁴⁸, after which the market picks it up when commercial viability becomes clearer. The transition towards market finance⁴⁹ is a critical element of any scaling ambition in the agriculture and water sectors. Because for sustainable change, ongoing resource flows are essential⁵⁰. However, many donor-funded scaling initiatives have difficulties continuing when their project finance ends. Three points of attention are important here:

- **The clarity and ownership of business cases**
- **A clear vision of long-term sustainable finance**
- **Flexible finance**

Local ownership of the business case(s) is a final key consideration. It is in local markets, where local needs are addressed, that the final success of reaching larger numbers of end users is achieved. In many cases, not the lead firm of the partnership but the local SMEs and intermediaries eventually become essential to achieve scaling. Who the actual champions are in those local settings can be different from what was anticipated in the design of the program - as illustrated in the box below.

E1. Locally owned business cases

At the start of any scaling ambition, a **sound demand and business case for the innovation** must be clear (or projected with sufficient realism): are people willing and able to pay for the innovation (see also Section A1)? And does this allow viable business cases for all actors directly engaged in the realising the innovation in practice? Clear benefits and acceptable levels of risks must be available for all actors along the chain if they are to shift from the present practice to a new one⁵².

The **trade-off between pro-poorness and business viability** needs to be considered here. Whether in agriculture or in water, the market does not automatically serve the poorer, more distant, or marginalized segments of the population, as this often raises challenges in terms of profitability.

For this reason, delivery models for people living in poverty have gained specific attention in international development. Public funding could address this trade-off between viability of business cases and pro-poor outreach when such funding is used for maturing market-based approaches to scale.

Box 5.2: An example of dealing with the trade-off between pro-poor outreach and business viability

“Commercially focused farmers adopt innovations more easily than smaller, less commercial ones, which also correlates with population density and proximity to input and output markets. The business case for adopters, input suppliers, and downstream buyers is often sensitive to transaction costs, usually transport. Even if the eventual goal is to reach small, less commercial farmers in more remote areas, initially focusing on emerging, commercial farmers to drive adoption therefore makes strategic sense” (USAID 2017: V).

Box 5.3: Finding the right partners for a scalable business case

Geodata for Agriculture and Water (G4AW) is a PPP financing window of the Dutch government that focuses on making geodata available to large numbers of small farmers. The initial model under many G4AW-funded projects was to sell advice (on the basis of geodata) directly to farmers, through local SMS services and internet platforms. In practice, however, these business cases did not work very well, as farmers shied away from paying for something as intangible as information. However, seed and fertilizer companies began to express interest in the localized information, which could give them a competitive edge. These companies have now become the drivers of many G4AW programs as they integrate the data (and its costs) into the seed and fertilizer packages they supply to farmers (Interview Bakker & Grim).

⁴⁸ This is not limited to the development sector. It is also true in Northern economies that many social and economic innovations getting through their initial development stages with the support of significant volumes of public finance. ⁴⁹ Including sustainable payments for services from users or governments. ⁵⁰ See Box 4.2 under B2, which names ‘Resource Flows’ as one of six key elements for system change. ⁵¹ Business case principles can also be applied to non-commercial propositions, implying that the cost-benefit-risk balance must be interesting for end users and that all parties need to realize the proposition. ⁵² Checklists and other tools for assessing demand and business cases are available from various sources; see the Annexes of the Scaling Scan (<https://ppplab.org/2017/11/3223/>). A specific application assessing business cases for PPPs (the PPPCanvas) can be found at <https://ppplab.org/2017/11/pppcanvas/>

E2. A vision of long-term sustainable finance

At present, a considerable number of donor financing windows apply the requirement of matching their subsidies with own financing (often on a 50–50 basis). This is done first of all as a proxy for demonstrating that the applicant has broader commercial interests, and as an indication of further sustainability. While contributing own financial contribution is meaningful, it says little about having a real long-term financing strategy. For successful scaling, one should **consider financial sustainability from the beginning**. Solid ideas should be developed regarding how resources will be mobilized for operating the new model on an expanded scale.

Planning for financial graduation is key to achieving that financial sustainability: detailing the graduation necessary to move from the initial subsidy project to real commercial finance. Development actors can improve in this respect by applying some of the scrutiny that commercial investors would use in projecting the future to their present financing decisions. This requires going beyond the basic question of the viability of the business case. It concerns projecting the concrete shifts in types of finance necessary to move from the initial project funding to broad adoption in the market, as well as identifying exit strategies for the different funders and investors.

A specific question here is whether the future finance needs of scaling can be addressed through payments from end users and the regular business model of the providers, or that **external investment sources (loans and investments)** will be required. In that case, the availability of finance, engagement with financial providers, and compliance with the specific requirements of market finance will have to receive attention in the scaling strategy. In agriculture, this is a particular challenge, as it is considered a risky sector by financial institutions, especially regarding smallholders. The early engagement of finance partners can form a driver behind successful scaling processes and will usually help address the challenge of a longer-term financing strategy⁵³.

E3. Flexible finance

A central message from our review is that **effective scaling processes need flexible finance**. Several dimensions of flexibility can be distinguished. FSG (2017) describes the need for the flexible finance that innovation processes require:

Box 5.4: Supporting innovators through flexible finance

“It is important to structure support of innovators in a manner that provides the greatest degree of flexibility to adapt to changing conditions. Innovators will inevitably face setbacks that may not only delay when they achieve milestones, but require the milestones themselves to be revised. Traditional contracts with predetermined outputs, activities, and timelines are unlikely to be suitable in these situations. Rather, flexible grants are likely to serve both parties much better. These grants are based on a shared understanding of objectives, but keep specific work plans, activities, and outputs as only indicative, with a clear understanding that they will evolve over time” (FSG 2017: 47-48).

We do see an increasing number of financing instruments (mostly multi-donor funds) experimenting with more flexible (components of) funding windows. See also box 5.6 below

Even if the need for flexible finance is addressed, it remains important that **public finance is used for the right purposes**. Grants and subsidies are relevant for stages of early incubation, R&D, and proof of concept, as this allows promising ideas to go through the ‘valley of death’⁵⁴, where commercial investors are reluctant to invest as the business case is not yet profitable. But what exactly is subsidized is an essential question, as there are considerable risks when projects begin to use subsidies for structural operational and capital costs⁵⁵. This is why certain market facilitation programs only finance the facilitation of innovation and scaling processes (and not core business processes), including temporary assistance to

⁵³ Interview Mulder ⁵⁴ PPPLab 2016b ⁵⁵ A relevant observation here is that (also) using non-grant instruments is not only less market distorting, but also helps to bring financial discipline and build a track record that allows to attract follow-up commercial funding (interview Mulder).

improve scaling capacities^{56 57}. Surprisingly, investment in hardware is popular with certain PPP financing windows, but long-term economic sustainability will be hampered when such structural investments are covered by subsidies.

Box 5.5: Using subsidies in a responsible way to really support scale

USAID (2017: vi) provides two recommendations on the use of subsidies for scaling:

- Use subsidies and incentives judiciously early in the process in order to mitigate risk for both private-sector partners and adopters, and on the basis of an explicit strategy for phasing them out;
- Support scaling strategies that include risk mitigation for early adopters and first movers in the value chain, but do not “buy” large numbers of adopters. Ensure that subsidies or other incentives are phased out in a timely way, unless there is certainty that the public or private sector is willing to assume them from the beginning, or upon withdrawal of the donor.

One final remark is that numerous PPP cases that we have reviewed faced major **transition challenges at the end of project finance**. The first comment here should be that, when initiating a project, a finance strategy should already have been developed (if only in rough terms) for stages following the initial project. This is rarely done. Secondly, project funding should preferably be planned with slow fading-in and fading-out stages (instead of full budgets for three or five years with unsubtle entry and exit strategies). Lessons can be learned from instruments involved in SME financing which apply finance logics that resemble market finance, even if they are subsidized by donors. In the box below, we see that AECF is seriously dealing with such challenges to increase the scaling effects of its supports.

Box 5.6: A donor approach to sustainable finance

The African Enterprise Challenge Fund (AECF) is a funding vehicle supported by multiple donors that provides grants, soft loans, and technical assistance to businesses to innovate, create jobs, and leverage markets in an effort to create resilience and sustainable incomes in rural and marginalized communities in Africa. As a funder with significant technical assistance facilities, AECF aims to develop the following elements in the coming years:

- Matchmaking: supporting companies in accessing commercial money (investors and loans) after AECF funding ends, to boost scaling of innovative propositions;
- More careful and slower entry and exit phases in its financial support, so the finance becomes less of a project and more a deliberate means of supporting a gradual and longer scaling process;
- A move towards smaller companies and replication of their models (rather than only focusing on single, big lead firms);
- A more deliberate program approach towards the agriculture and energy sectors, including engagement with the wider ecosystem and policy conversations in these sectors. (Interview Hague)

⁵⁶ An example is the 2Scale program (www.2scale.org). In some cases, temporary subsidies to kick-start new organizational arrangements are also allowed, but only for 1–2 years, and with an assurance that structural costs will be taken over in operational budgets. ⁵⁷ It must be noted that the downside of flexible funding is the relatively high transaction costs: structuring each deal differently is a costly exercise (Interview Mulder)

F. Dealing with actor dynamics in the system

Scaling is a change process and, like any change process, it will have supporters while also meeting resistance from those who do not have an interest in change. Three key elements of dealing with actor dynamics are highlighted:

- **Connecting actors, drivers, and accountabilities**
- **Vertical linkages**
- **Building constituencies and local ownership**

F1. Connecting actors, drivers, and accountability

A broad array of actors play a role in innovation in market systems, including not only entrepreneurs and technologists but also community organizers, leaders of social movements, academic researchers, political leaders, and civil servants⁵⁸. FSG (2017) argues **that networks of and collaboration with private, public, and civil society actors are key to achieving scale**. This means that a major risk for any scaling ambition is when innovators are not sufficiently connected to networks of different types of stakeholders.

Hartmann & Linn (2008), based on their review of 15 cases, stress the importance of **working with incentives**, as well as accountability for successful scaling. In commercial activities, incentives are built into the functioning of the market system, since the profits drive entrepreneurs to scale. In the non-commercial world this is more often organized around basic values (such as that scaling impact matters), so bureaucratic incentives and political accountability need to substitute for market forces. For scaling, incentives are a key ingredient of leadership, political support, and institutional capacity.

Accountability between actors is necessary so that incentives align between actors, organizations, and society to produce certain results. The accountability of public bureaucracies is a particular challenge, and it is therefore important to plan for incremental steps with early results. Accountability is more difficult in large-scale programs (because measurement and attribution are both more difficult), but at the same time more important

(as scaling up often leads to an increase of power). Hartmann & Linn (2008) also note that accountability is often organized upwards and outwards (donors) and focused on inputs, but that downward accountability towards users is essential to keep scaling ambitions effective ('accountability compacts').

Box 5.7: Three types of incentives of actors in market systems

The M4P approach of the Springfield Center (2015) distinguishes three types of incentives for actors in market systems:

- **Material-oriented:** based on a desire to get or retain something - e.g., food, money, market share, property, or freedom;
- **Social-oriented:** based on the need to belong to, or not be rejected by, a wider collective - e.g., being accepted into a group of peers with shared values;
- **Purpose-oriented:** based on trying to achieve a goal, which may be individual (e.g., becoming village head or running a marathon) or collective (e.g. supporting a political cause).

F2. Vertical linkages

Vertical linkages, with **sufficient resonance between local level innovations or practices and macro-level frameworks and forces**, turns out to be another key determinant of successful scaling processes. When innovations scale up, policy frameworks, regulations, and norms need to be supportive⁵⁹. Vice versa, policy reforms need to be underpinned by programs and projects that lead to effective implementation. In other words, an enabling environment is essential for local changes to happen, continue, and scale.

In its analysis of cases, FSG (2017) also notes the importance of **resonance between local initiatives and national and international developments**. In Gujarat, India, new forms of dairy producers' organizations combined with a national balance of payments crisis allowed for the

⁵⁸ FSG 2017: 14 ⁵⁹ Hartmann & Linn 2008

development of production capacity and a market for domestic butter⁶⁰. Thus, scaling that really leads to changes in the system is usually the result of a combination of developments “at the local level and from within” with important forces from the “macro level and outside”. The M4P approach also refers to the importance of external developments, such as policy reforms, institutional or technological innovations, critical incidents, shifts in alliances between key players, and new investors or market entrants⁶¹.

The **degree of (de)centralization of the delivery model** is also an essential concern in scaling. Several questions play a role here, such as: What is the transaction intensity and the degree of discretion required for the innovation to be delivered (see Section A3)? What organizations have the institutional and human capacity to deliver? How can one ensure an appropriate degree of accountability to foster quality delivery? For reasons of client intimacy, tailoring of services and downward accountability, decentralized organizational replication will often be preferred over a centralized service delivery by a single agency⁶². However, with modern ICT arrangements, centralized systems may also provide effective answers to quality, reliability, and customer satisfaction.⁶³

F3. Developing constituencies and local ownership

Power relations are an essential factor in change, as there are usually vested interests that will seek to maintain the status quo. While power is often difficult to directly address, legitimacy and building constituencies are accepted framings for dealing with issues of influence and interests. MSI (2006: 29) points out that **building legitimacy** for the change is time consuming, but essential, and that for change to be realized and sustained, it is important to mobilize a wide range of stakeholders and build a (diverse) constituency.

Hartman & Linn (2008) point to the importance of (managing) **political constituencies** in particular, as an effective demand through the political system is a (possible) main driver for scaling and change. Constituencies do not emerge by themselves; they need to be created and nurtured. Far too often, development practitioners believe that the ‘message’ of good programs will be sufficient to secure support. Yet political and other constituencies need to be actively engaged in the process. Donors can be supportive in this by considering the creation of ‘political space’ as an important component of the projects they finance. But one should be cautious of scaling for purely political or bureaucratic reasons, rather than on the basis of the need of the end users⁶⁴.

Building constituencies is also about creating **local ownership** with people who will eventually run the agenda. Scaling successes usually depend to a large extent on local driving forces. These visionaries and champions may not always be engaged from the start, but it is necessary to actively engage them. At the same time, building constituencies is also about building a critical ‘audience’ that will stand up if something is not going in the desired direction. A combination of constituencies is often needed. This can include the usual suspects, such as NGOs, governments, and lead businesses, as well as actors like village leaders, religious associations, and professional associations that can be key in changing norms and practices. Part of building local ownership is dealing with resistance, which is usually a sign that you are really changing the status quo. If unpacked and treated well, resistance can be a source of learning and program improvements.

⁶⁰ FSG 2017: 6–14 ⁶¹ The Springfield Centre 2015 ⁶² Hartmann & Linn 2008 ⁶³ A good example is the Kenya Biogas Program by SNV, Hivos and local partners (see <http://www.snv.org/project/africa-biogas-partnership-programme-abpp>), where decentralized services provided by certified providers and construction companies are combined with a centralized customer support service for the farmers who buy or lease biogas digesters. This centralized online and telephone system provides a backbone for client questions and complaints, quality monitoring, and feedback to service providers. As such, it also provides market intelligence that feeds the evolution of program priorities and strategies. ⁶⁴ Hartmann & Linn 2008

6. Implementation capability: leadership, adaptive capacity, and partnerships

Previous chapters have shown that promoting, facilitating and leading scaling processes is a challenging endeavour. Notwithstanding the variations across the sectors and contexts that determine scaling processes, those who implement or lead programs with a scaling ambition will need to deploy specific competencies and skills that go beyond those necessary for piloting innovations. Below, two points of attention are discussed: the capacities and skills required by those implementing scaling strategies and the deliberate use of partnerships.

G. Capabilities of implementers

In previous chapters, we have briefly touched upon the necessary competencies for *getting the basics right and working with the system*. In this chapter, we will focus on the implementation skills required to effectively lead initial propositions to large-scale impact:

- **Connective leadership and adaptive capacity**
- **Information, learning, and evaluation**
- **Responsible scaling**

G1. Connective leadership and adaptive capacity

In looking at numerous cases, we have seen that success in scaling can often be attributed to **'champions': entrepreneurs, directors, or managers within organizations who have a strong intrinsic motivation to perform**⁶⁵. Yet in practice, such leaders do not operate alone. Over time, it is the creation of supportive constituencies (see F3) and coalitions of change that drive the process. Scaling thus requires **organizational leadership that is able to connect**. In the literature, a range of capabilities required for successful scaling are named:

- Clear vision and ambition⁶⁶;
- Flexibility and the ability to apply an adaptive approach for emergent strategies⁶⁷;
- A combination of technical knowledge and socio-political networks⁶⁸;
- Deep embeddedness in the societies concerned⁶⁹;

- The ability to connect issues, opportunities, and levels⁷⁰;
- The ability to perceive and understand changes in the system and to adapt work accordingly, not only focusing on what is happening (outputs), but also on why things are or aren't changing (for example, look at changing relationships between actors)⁷¹.

The need for a **flexible and adaptive approach** is evident from a wide range of cases. This raises particular challenges with regard to traditional project management models that often call for strict planning and predefined targets. These do not allow for the level of flexibility needed to adapt to changing realities, especially when transitioning to next phases. Rather, FSG (2017) argues for using an emergent strategy, which "gives rise to constantly evolving solutions that are uniquely suited to the time, place and participants involved". This does not mean that one should have no strategy at all; rather, a strategy functions as a compass with a clear end point in mind, while recognizing that specific pathways cannot be foretold with precision. The more successful cases used an iterative, adaptive approach that recognized the complexity of working with systemic change.

Box 6.1: Basic recommendations for an adaptive approach

On basis of their cases, USAID (2017) provide a number of concrete recommendations for an adaptive approach in practice:

- Flexibility in initial design and scope of work, focusing on outcomes rather than activities.
- Continuous interaction between implementers and financiers to foster adaptive management
- Building in intermediate targets and recognizing that these will need to be adapted, as current knowledge and methodologies for identifying these milestones are limited.
- Work plans need to be negotiated annually based on events to date and should be revisited over the course of the year.

⁶⁵ Hartmann & Linn 2008 ⁶⁶ Hartmann & Linn 2008 ⁶⁷ FSG 2017, MSI 2008; the Springfield Centre 2015 ⁶⁸ FSG 2017 FSG 2017 ⁶⁹ Hartmann & Linn 2008 ⁷⁰ FSG 2017, see also Section B ⁷¹ FSG 2017: 50

Notwithstanding the complexities of scaling processes and the need for adaptation, the need for 'keeping processes simple, goals manageable, and accountabilities clear'⁷³ keeps popping up in the scaling literature. But considering the tendency in the development sector of working with fixed strategies and log frames, it might be necessary **to train donor staff and implementers in the type of flexibility and adaptive management needed** to successfully scale. Using an adaptive approach also implies that a certain tolerance of risk is necessary, which conflicts with the organizational culture of most donors⁷⁴. Clearly, a mind shift is necessary to really allow for adaptive management and leadership.

G2. Information, learning, and evaluation

In complex multi-actor processes like scaling, there is a great need to **share information** in order to foster concerted action⁷⁵ and to create buy-in and political support⁷⁶. Scaling initiatives need to realize that more than just information on their innovation is needed to convince their environment. Other data necessary for successful scaling processes include hard data on the actual benefits of the innovation under practical working conditions, comparative data with other practices, data on trends in the market system, and data on the use of the innovation at other levels of scale. From our interviews, we found that these data are often weak or absent. This reflects a project and technology focus, rather than a system and real-life use focus.

Data and information are vital not only for monitoring progress - they should also enable effective **learning**. FSG (2017) stresses that data and evidence should serve the ability to understand changes in the system and to adapt the work accordingly. The focus should thus be not only on what is happening (outputs and so on), but also on why things are or are not changing. This implies that information should be gathered not only to fill in log frames, but that broader system dynamics (such as actor relations) should also be monitored⁷⁷.

A final element that recurs in several reviews is that the **evaluation** of projects and programs usually does not address scale (or system dynamics). The development sector has a tendency to focus on direct impact alone. MSI (2006) argues that effective M&E of scaling begins with making a descriptive list of stages or milestone events in the scaling process, while defining only a limited number of expected outcomes (like the examples proposed under C2). Also, rather than using fixed intervals for evaluation, scaling might also require a more continual stream of information to inform strategic decisions^{78 79}.

G3. Responsible scaling

Given the complexity of working in a system, one cannot (entirely) predict what outcomes a scaling process might have. Any scaling initiative should be aware that scaling requires an understanding of how scaling works in such interconnectedness⁸⁰, as cause and effect are not always linear. Working with a complex system means that **a certain level of uncertainty and limited control over the scaling process must be accepted**.

Box 6.2: Political capture

Political capture refers to situations where politicians take over the scaling process and try to claim its success. While this is not necessarily something to be considered negative (and might even be good for sustainability reasons), at the same time the continuity of the scaling process might then become dependent on the specific politician and his or her agenda and next electoral cycles. (Interview Hartmann)

This also means that there is a risk of **unexpected or unwanted outcomes of scaling processes**. As mentioned, innovations are often tested in relatively controlled environments, but it is hard to predict the side effects of the innovation at scale during the early design process. Examples of unwanted outcomes that we have seen include

⁷³ Hartmann & Linn 2008: 39 ⁷⁴ USAID 2017 ⁷⁵ MSI 2008 ⁷⁶ Hartmann & Linn 2008 ⁷⁷ See also B1 ⁷⁸ FSG 2017 ⁷⁹ Both FSG (2017) and the Springfield Centre (2015) acknowledge the challenges of measuring (market) system change and provide some initial suggestions and guidance (such as the AAER framework in Box 5.1 under D1). ⁸⁰ Wigboldus & Brouwers 2016

negative environmental results, certain groups feeling excluded as they have not been targeted by the scaling-up process, and political capture.

Many researchers and thought leaders⁸¹ have thus called for responsible scaling. They stress that scaling is a means to an end, but that the donor world has the tendency to treat scaling as an end in itself. From the beginning of innovation projects, the **design needs to have future scaling-up in mind - including in terms of anticipating possible implications of the scaling-up process.** Responsible scaling is not necessarily about ruling out all risks - as this is impossible - but rather deals with better informed decision-making processes⁸² and applying responsive approaches that facilitate the continued adaptation of the scaling process to (unwanted) developments in the system.

H. Deliberate use of partnerships

Promoters, facilitators, and leaders of scaling processes need to deal consciously and effectively with partnerships for scaling success. In Chapter 5, we highlighted the need for engaging both public and private actors in scaling processes. Below we will pay particular attention to public-private partnerships as an essential form of collaboration for reaching impact at scale. We highlight three critical points of attention:

- **Choice of roles and types of PPPs**
- **Evolving partnership needs in different stages**
- **Balancing commitment and flexibility**

H1. Choice of roles and types of PPPs

Sections D1 and D2 have described the rationale for engaging with both private and public actors in scaling efforts, even if it may be difficult in practice to bridge the different dynamics of the two domains (D3). In recent years, many donors have started to use public-private partnerships (PPPs) to drive innovations to scale. This is based on the premise that they bring together complementary skills and resources, and that collaborating creates more effective and more powerful scaling strategies. Earlier PPPLab work pointed out why

and how **PPPs can play important roles in scaling.** In particular, PPPs can⁸³

- Make new solutions operational (incubation, proof of concept, and proof of market) - for example, technology firms design the innovation, while the public sector or an NGO creates demand among low-income populations to develop the market;
- Build rich scaling strategies that smartly use the various competencies, skills, methods, and assets of different actors to create breakthroughs and transition to next stages;
- Join forces for vertical scaling and system change, using the convening and influencing power of business, civil society, academia, and (local) government;
- Develop adequate and effective financing mixes and solutions - for example, donor governments can provide grants, giving a company the opportunity to build a profitable business case for the specific innovation, which later attracts finance from commercial investors, thus enabling scale.

While some PPP financing instruments require strong formalization of partnerships, it is important to recognize that PPPs come in many forms and varying degrees of formality depending on the objectives. In scaling processes, we also see **different types of partnerships.** In early stages, “research and innovation PPPs” are prominent; these PPPs consist of technical firms and knowledge institutes that focus on the technical development and quality of the innovation itself. Later on, these often evolve into “development PPPs”, where NGOs play a more prominent role next to the private sector. NGOs often play a role in adjusting the innovation to the needs of the (low-income) target groups, organizing outreach and concrete scaling under real-life conditions. These PPPs are often set up to provide proof of market and reach initial scaling targets. Further on in the scaling process, we see more flexible collaborations of public and private actors in sector platforms, creating the right enabling environment and stimulating crowding-in of others. Interestingly, such evolution of partnerships seems to be contradictory to the tendency of some donors to

⁸¹ E.g., Wigboldus & Brouwers 2016 ⁸² Wigboldus & Brouwers 2016 ⁸³ PPPLab 2017: 39

mandate partnerships with specific actors from the outset⁸⁴.

One key factor in successful scaling is that there are **always local partners involved** in such partnerships - namely, those who are embedded in the societies where scaling is pursued, including the government. These actors are not only crucial to effectively influencing, building constituencies, and mobilizing other actors, but including local partners is also essential for ensuring sustainability of the interventions. We have seen that scaling and systemic change takes many years, so it is necessary to create ownership with actors that will remain involved over the long run⁸⁶ - that is, ownership not only of the end results, but also of the scaling and change process itself. It is only local actors that should, and can, 'run the show'.

H2. Evolving partnership needs in different stages

The different types (and evolution) of partnerships over time that have been sketched in the previous section also illustrate that **different types of actors play essential roles in different phases**. While (technical) researchers and entrepreneurs play a leading role during inception and pilot phases, we see that NGOs, political leaders, civil servants, community leadership, and so on become more prominent during later stages⁸⁷. The variety of actors mentioned for later stages bring along the array of skills needed for real scaling, such as political and mobilization skills, rather than the focus on technical skills that is necessary to reach a proof of concept earlier on.

This implies that partnerships should not necessarily be carved in stone from the outset of a scaling strategy; rather, **successful efforts are led by partnerships that evolve over time**. This does not only mean shifting composition and forms of partnerships - it can also represent a shift in leadership.

Box 6.3: An evolution in types of lead actors in partnerships over time

Geodata for Agriculture and Water (G4AW) is a PPP financing window of the Dutch government that focuses on making geodata available to large numbers of small farmers (see also Box 5.3). Through three subsequent calls, the portfolio of G4AW projects has evolved significantly.

- In the first call, technology firms were often lead actors for the financed PPPs, as they still focused on developing the technical interfaces for their relatively new technology to deliver the data;
- By the second call, the playing field had evolved to PPPs in which the lead actors were local data providers (such as mobile telephone companies) and NGOs, both of which aimed to create an effective outreach to small farmers as users of the data services;
- After further evolution, the third call saw an increasing number of input providers (such as fertilizer and seed companies), which acted as project leaders once they began to see that geodata delivery enriched their business and gave them a competitive edge.

As projects reach first traction, they tend towards stronger engagement of governments and multi-stakeholder platforms, with the aim of creating more conducive enabling environments and regulation for the data services sector (Interview Bakker & Grim)

While the above gives examples of relatively short-term, technology-driven partnerships, the evolution of collaborative mechanisms and leadership over time has also been reported in reviews that looked at innovation and system change processes over longer periods, such as Hartmann & Linn (2008) on social innovations and FSG (2017) on market innovations.

⁸⁴ Note that in this paper, we use a broad definition of 'public-private partnerships' in order to also include multi-stakeholder platforms and informal strategic collaborations between public and private actors. When more narrow definitions of partnerships are used (where the collaboration uses joint working targets, shared resources, and day-to-day management), it is sometimes argued that these are only transitional or catalytic vehicles to reach a next phase (Interview Rankin). ⁸⁵ FSG 2017 ⁸⁶ Interview Hartmann; Interview Rankin ⁸⁷ Interview Hartmann

H3. Balancing commitment and flexibility

A key dilemma regarding partnerships for scaling⁸⁸ is the **balance between commitment and flexibility**. The evolving needs during a scaling process (due to external dynamics, ongoing learning, and progress towards subsequent stages) require a flexible approach to collaboration and partnerships. At the same time, given the long time span needed for scaling and system change, long-term commitment is also key. The dilemma can be further compounded by the tendency to formalize project collaboration among the partners, which is often stimulated by donor requirements.

Commitment is usually strengthened by **transparent and efficient governance structures** for the partnership⁸⁹. Since coordination takes time, and participating in a partnership entails a loss of autonomy by each partner, there must be clear perceived benefits that outweigh the costs of partnering, if commitment is to be ensured. Some have argued for putting in place mechanisms that incorporate tangible incentives for working together and reaching goals. Projects where such governance has not been arranged well often suffer from informal power dynamics, where one or two key partners make the decisions and others are often used as a supplier of specific services or to beef-up credibility.

The combination of commitment with flexibility can be facilitated by **formulating clear milestones or deliverables that the partnership should achieve, while at the same time not fixing the pathway for getting there**⁹¹. In many cases, partnerships have struggled with fixed budgets and activity plans (often imposed by the donor or funder), making it impossible to adapt responsibilities to a change in the context or lessons learned during implementation. To enable adaptive management, funders could distinguish essential deliverables and decision making moments beforehand, while trusting the implementing partners in getting there. It will also be important to create a culture in the partnership where the higher goal is indeed respected as a guiding principle above the individual interests of

the partners (while respecting that these do exist and need to be taken into account to a reasonable degree). Establishing such a balance between commitment and flexibility will give the partnership the ability to do what is needed, rather than simply what has been agreed.

⁸⁸ There is ample material available on partnership design and management, including guiding principles and tools for assessing the quality of a partnership. We will not go into such general partnership management here. ⁸⁹ MSI 2006 ⁹⁰ MSI 2006; Interview Hartman; Interview Nijk ⁹¹ Interview Bakker & Grim

7. Concluding lessons for more effective scaling processes

Urgent global issues such as poverty and climate change require changes at scale. On the basis of a large number of studies, cases, and interviews, we have collected insights from real-life experiences on what can make scaling processes more successful and effective.

What is clear from the previous chapters is that scaling is a multifaceted endeavour. A fundamental risk is that ambitions to achieve impact at scale (on the part of both funders and implementers) can lead to an overestimation of what can be overseen and planned. At the same time, our review shows that scaling is not an elusive concept. A wealth of lessons have been delineated on the basis of the rich material used for this study. As a conclusion, from the range of success factors treated in this document, we propose the following seven overarching lessons.

1. Adopt a systems perspective early in the process

While many initiatives start from a technology or end-user perspective, adopting a systems perspective early on helps in addressing questions that are essential for developing a successful scaling strategy, such as: What is the competitive advantage of the innovation? Why has the innovation not already been developed and adopted? What power dynamics and interests are at play? What financing options are available? What are the relevant 'rules of the game' and the underlying mental models? An early grip on these dimensions will allow the viability of the proposition to be assessed, permit it to be better tailored to its context, and allow the intelligence necessary to transition towards next stages of scaling to be gained.

2. Start with an exit strategy in mind - and look several stages ahead

A major challenge for those leading scaling processes is the understandable focus on overcoming the immediate challenges of the stage they are presently in - such as the technical development of an innovation and arranging financing for the immediate work. Although this is logical, many projects find it difficult to transition to the next stages because they do not look ahead early enough. The interviews and reviews revealed

numerous examples of scaling initiatives that did not anticipate the relations and networks needed, were not able to shift the type of leadership and partners required to move on to the next stage, or did not sufficiently foresee the changes in financing required. It is crucial to look ahead to the requirements of the next stages, but one must even start with an exit strategy in mind. This holds for scaling leadership, but also for financiers. The entry strategy of financiers and PPP projects should be informed by their projected exit strategy. How can they play a temporary role and eventually pull out in a way that enables the scaling initiative to continue? So it is important to prepare in a timely manner for what you can basically anticipate is coming and for which the ground can be better prepared - often with modest foresight and efforts.

3. Be wired - connections are vital

Scaling of an innovation is never carried out by a single actor. Even a simple agricultural practice needs technology suppliers, agreement with buyers, financial arrangements, and more if it is to scale. Markets and sectors cannot be changed alone. In particular, a wider change coalition - champions and political support - is needed to really develop a critical mass and introduce a 'new normal'. For those seeking to lead scaling processes, the challenging task is to develop a network of different types of stakeholders, build bridges between them, and make vertical connections (such as those between actors with operational and 'higher' policy roles). Actor mapping, political economy analysis, and developing one's capacity to connect with different actors are thus key pillars of any scaling initiative⁹². An honest review of strengths and weaknesses in this respect will help initiatives to become more effective and to develop the constituencies required for ongoing scaling and sustainability.

4. Take up the challenge of engaging public and private actors - it is crucial

In the cases feeding into this study, the challenge - but also the importance - of engaging both private and public domains clearly comes to the fore. In private-sector driven initiatives, the importance

⁹² See also PPPLab 2017c

of public support and subsidies to really reach scale emerged clearly. The other way around, the contribution of a private-sector drive to scale public and social services was also evident and regularly stressed. Yet the engagement of both domains in one scaling initiative is challenging, due to diverging interests, incentives, work styles, decision-making processes, and financing logics. Nevertheless it is clear that effective engagement of both public and private sectors is essential for many, if not almost all, scaling ambitions. Those that lead the scaling initiatives must have the relational ability and resources to do so. In-country actors and NGOs often can and must play essential roles here, as they are able to bring the local network and intelligence required.

5. Navigate rather than plan - but do both!

In reality, any scaling process is too complicated to be captured by straightforward project planning and control. Instead, an iterative approach is much more appropriate. Opportunities and hurdles will arise due to external events and actor dynamics. A change in government, macroeconomic shifts, technological developments, new players entering the market, and other such occurrences may all change the playing field rapidly. This requires responsive and flexible project planning and allocation of resources. It is not an either-or situation, but rather a case of and-and. Having a clear sense of the system that you are operating in is needed to inform adequate short-term planning. However, the latter must be responsive and adaptive and the project procedures must allow this. It is like sailing: navigating works out better and more efficiently if you know where you want to end up, and have foreseen certain currents on the way. Depending on shifts in the wind, however, you may pass the currents in ways other than you planned.

6. Be ambitious but realistic about your progress in scaling

Global challenges, the availability of data, partnership ambitions, and demanding donor requirements all increase the risk of ending up with unrealistic scaling objectives. A key trade-off here is between the ambition of reaching high impact

numbers in short periods (often driven by donor-funded projects) and building change that is locally owned and lasts. It is clear that demonstrating a proof of concept, building a solid constituency, and changing the rules of the game within a 3–4 project period is usually impossible. In addition, scaling practitioners often overestimate their own progress, while underestimating what is required to transition to the next phase. In particular, crowding-in and institutionalization are often more difficult to achieve than anticipated. So real system change and sustainability require serious local ownership, replicability, and sustainability - rather than a rapid increase in outreach through project subsidies.

7. Address the key transition from 'first movers' to 'critical mass'

Transitioning from the 'first movers' stage to the 'critical mass' stage appears to be the most challenging transition in achieving scale⁹³. However, this has been weakly addressed in scaling models and analyses so far. At this transition, several important shifts in the scaling process happen. The focus shifts from incubation, pilots, and closed partnerships (often led by technical firms) and relatively controlled environments, towards working in a more open way with the broader system through networking, building constituencies, crowding-in, and working towards institutionalization. This requires different skills, different financing (moving from subsidies or grants towards more regular and market types of finance) and, most of all, a different type of leadership that can position the scaling initiative within the larger system⁹⁴. The task ahead is therefore for donors, financiers, businesses, NGOs and knowledge institutes, to develop better strategies and support mechanisms for making this vital transition to meaningful system change.

Taking these seven lessons to heart will help development professionals and organizations on both the implementation and the financing side to become better at scaling innovations in practice. This is urgently required to address our pressing global challenges of inclusive development and sustainability, whether in the agriculture sector, the water sector, or elsewhere.

⁹³ This is the transition from the second to the third stage as shown in Figure 1 in C1. ⁹⁴ This transition is called the 'stagnation chasm' by Deiglmeier and Greco (2018), as discussed in C3.

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Annex II: Interviews and sources

The interviews that form the basis of the analysis for this study were with the following people:

- Adri Bakker and Ruud Grim, Netherlands Space Office (June 2018)
- Anne-Katrien Denissen, Solidaridad (July 2018)
- Arntraud Hartmann, Brookings Institution (June 2018)
- Astrid Broekaart, Ella Lammers and Michiel Slotema, RVO (July 2018)
- Harvey Koh, FSG (July 2018)
- Janet Arthur, Embassy of the Kingdom of the Netherlands in Ghana (April 2018)
- Joke Baak, Pim van der Male and Marc Mazairac, Netherlands Ministry of Foreign Affairs (June 2018)
- Ku McMahan, Securing Water for Food (April 2018)
- Lennart Woltering, CIMMYT (April 2018)
- Lieke Nijk, Vitens Evides International (July 2018)
- Marlo Rankin and Costanza Rizzo, FAO (June 2018)
- Marnix Mulder, Triple Jump (June 2018)
- Mat Hague, AECF Africa (July 2018)
- Pamela Bundi, FINISH INK (February 2018)
- Phoebe Owuor, Flying Food (February 2018)
- Sanne Willems and Rose Makenzi, Embassy of the Kingdom of the Netherlands in Kenya (March 2018)
- Wouter van Vliet, Larive International (November 2017)

Earlier interviews and conversations with the following individuals, which took place for and on the basis of PPPLab's publications *Explorations #4: Scaling: From Simple Models to Rich Strategies* and *Insight Series #6: Scaling through PPPs*, also influenced this study:

- Adriaan Mels, Vitens Evides International (January 2016)
- Ammar Jiwaji, Quality Food Products Ltd., Tanzania (June 2016)
- Antoinette Kome, Bert van Nieuwenhuizen, Eelco Baan, André de Jager and Meike van Ginneken, SNV (2015-2018)
- Arno Maatman, 2Scale (May/June 2017)
- Dave Boselie, the Sustainable Trade Initiative (IDH) (July 2016)
- Femke Smeets, PharmAccess Foundation (June 2016)

- Jan Kees Vis, Unilever (May 2016)
- Johan van den Ban, De Heus (June 2016)
- Joost Guijt, James Mulkerrins, Matilda Rizopoulos (CDI-WUR), Sjeff Ernes, Astrid van Agthoven (A4A), Marieke de Wal, Stella Pfisterer and Marije Balt (PrC), PPPLab (2015-2018)
- Ken Caplan, University of Cambridge (March 2016)
- Lucas Simons, NewForesight & SCOPEinsight (July 2016)
- Nicholas Chevrollier, BoPInc (June 2016)
- Niek van Dijk, BoPInc, Inclusive Business Accelerator (February 2018)
- Peter Knorringa, ISS Faculty of Erasmus University Rotterdam (April 2016)
- Reinder van der Meer, SoilCares (June 2016)
- Rob van Tulder, Erasmus University Rotterdam (March 2016)
- Seerp Wigboldus, Wageningen University & Research Centre (multiple conversations since June 2016)
- Sietze Vellema, Wageningen University & Research Centre/Rotterdam University: Partnership Resource Centre (multiple conversations since December 2015)
- Sven Sielhorst, Solidaridad (December 2015)
- Tom Bouma, Medical Credit Fund (June 2016)
- Tom Durang, Wienco/IWAD (July 2016)
- Valentin Post, WASTE (December 2016)
- Wouter Kersten, Enviu & Delft University of Technology (April 2016)
- Wouter van Vliet, Larive (December 2015)
- Wouter Wolters, Laura Miguel Ayala and Lisanne Groothuis, Wageningen Environmental Research (Alterra) (August 2017)

Additionally, this paper was also influenced by lessons from several workshops testing *PPPLab's Scaling Scan*, especially:

- The Flying Food project in Kenya and Uganda (TNO, NGN Pro-Active, ICCO, BoPInc, November 2017)
- The Uduma Mali project (Aqua4All, SNV, Akvo, November 2017)
- Sustainable and Resilient Farming Systems Intensification (SRFSI) project in India (CIMMYT, January 2018)
- Kenya Market-Led Horticulture Programme (HortIMPACT) (SNV, Solidaridad, Hivos, Delphy, February 2018)



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