Scaling of Agricultural Innovations

The What, Why and How of Scaling or,

coming to terms with scaling in the context of CIMMYT/CGIAR

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Presentation plan

- Meaningful scaling
- The Scaling Scan
- Q&A (20-30 min)

Scaling:
Interpretations- current use

Popularity of “scaling” not matched with clarity on the concept

- Risk of superficial use, disillusionment and doing more harm than good

In agric dev projects often used as “maximize adoption during project”

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Scaling: interpretations- current use

Common use in agric. Dev. projects: “maximize adoption during project”

“Pilots never fail. Pilots never scale”

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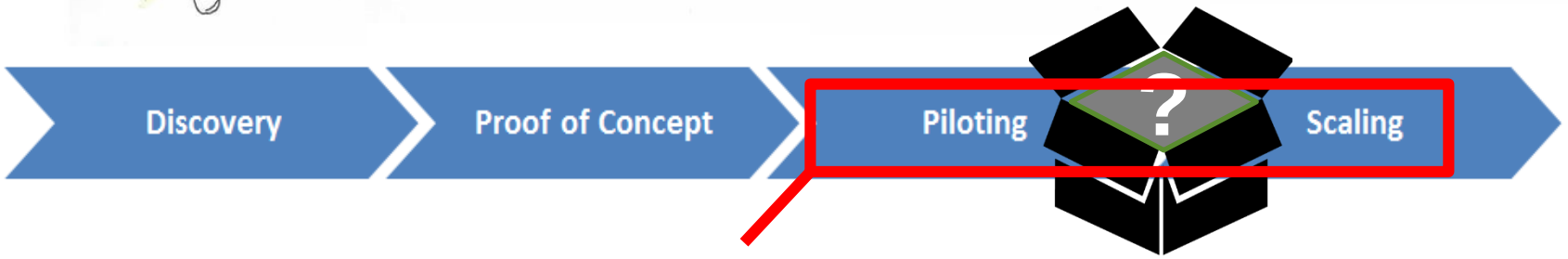
Scaling: interpretations- two major problems

Common use in agric. Dev. projects: "maximize adoption during project"

The world needs sustainable systems change, not x adopters on 31st of December



Pilots happen in very controlled environment while scale happens in the real world

"Pilots never fail. Pilots never scale"

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Scaling up vs Going down to earth

- Most pilot projects operate in **controlled environments**
  - **Forceful leadership**, often managed by **external experts**, in **parallel to local systems**
  - Heavy support for **"partnerships"** and **value chain actors**
  - Expensive and intensive **capacity strengthening**
  - Relying on **unsustainable grants** over a **fixed start and end date**
  - **Shielded from politics, market forces, etc**

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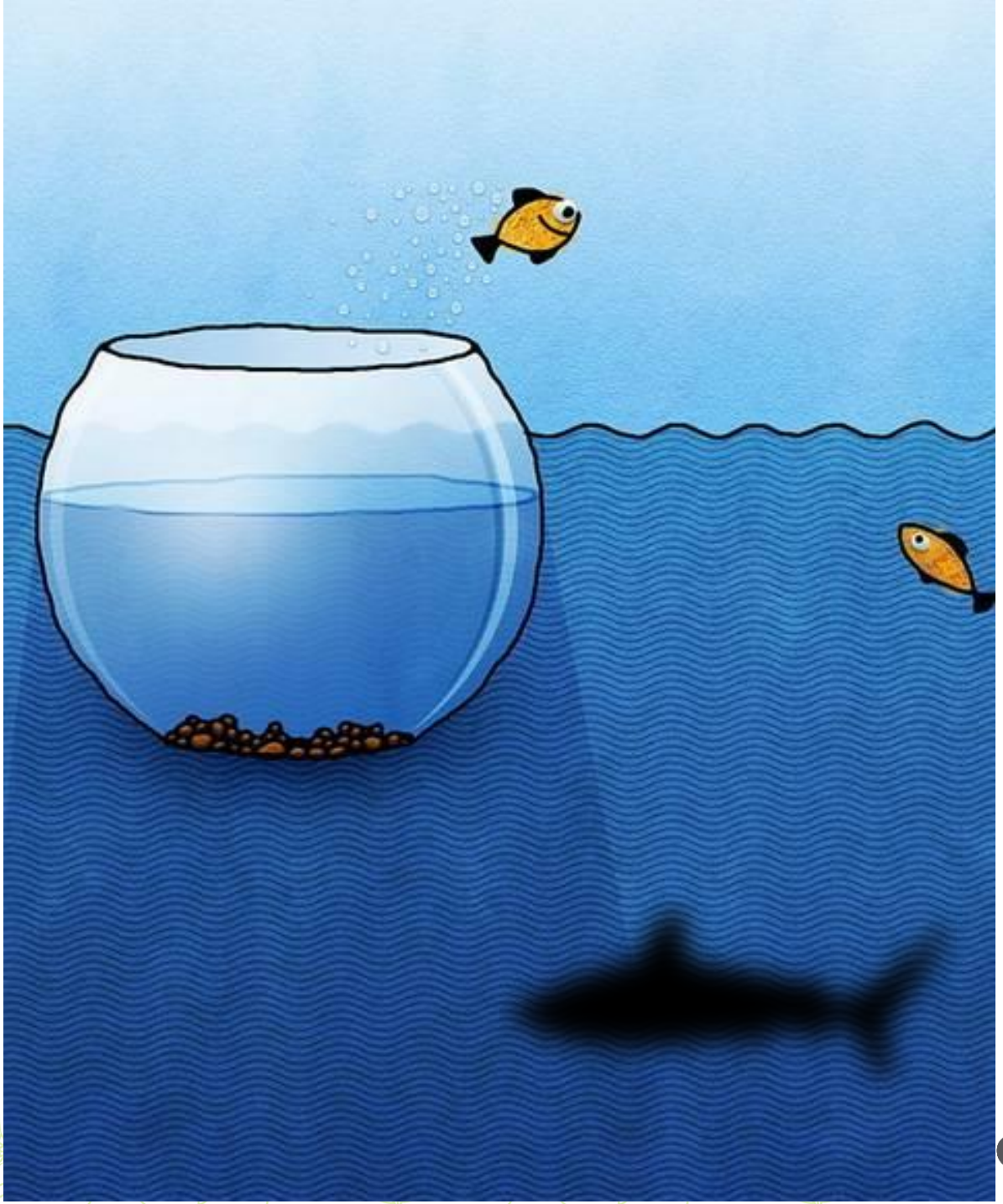

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Context is King

- Both in pilot environment as well as in the real world environment

Scaling is complex

- Successful scaling of **technological** innovations (e.g., crop varieties, management practices) requires that at least as much attention is paid to the **complementary non-technological requirements** (access to credit, markets, knowledge and services) (adapted from Sartas et al., 2017))
- They need to scale as well in a **sufficiently coherent and interrelated.**
- This can be even to a ratio of 10% technology, to 90% non-technological (personal comm. Larry Cooley, 2017)

Example: Complementary innovations

Electric vehicles

- Technological in
  (battery strengt
- Infrastructural innovation (charging stations)
- Market innovation (promotions, incentives)
- Policy innovation (subsidies for clean vehicles)
- Value chain innovation (availability of spare parts)
- Design innovation (electric cars are 'cool' and sexy)
- Educational innovation (training of new mechanics)
- Political innovation ('manage' fossil fuel lobby?)

(based on Marc Schut (IITA), 2017)

....All these innovations need to scale in parallel to the technological innovation...takes time and resources...

SCALING OF INNOVATIONS: 3 DIMENSIONS

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Scaling is the process of promoting beneficial technologies and practices to impact large numbers of people. The impact, represented by the volume of the pyramid, is likely to lead to a sustainable change when efforts to scale up, out and deep are combined. CIMMYT facilitates other actors to contribute to the construction of a stable and growing pyramid.

HOW SCALING INCREASES THE IMPACT OF OUR WORK

CIMMYT offices in **15 countries**

Working with **300+ partners**

Allowing us to **reach more than 18,000,000 farmers**

SCALING UP

refers to **transforming institutional conditions** (policies, strategic partnerships, value chain development) **to allow efficient scaling out.**

SCALING DEEP

refers to changing minds, values and cultural practices, **making the use of the innovation a new routine** for people through awareness raising and capacity building.

SCALING OUT

refers to **reaching more people with an innovation** through multiplication, dissemination, extension, etc.

Going from a pilot project to a scaling project requires CIMMYT to transform its role from a builder to an architect, supporting partners to do further building themselves.

Why Scaling?

- CGIAR set up in 60s to have development impact
- As opposed to a company focused on expanding operational scale and growing market share (commercial success)…
- we focus on social impact and public good (SDGs!)

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Why Scaling?

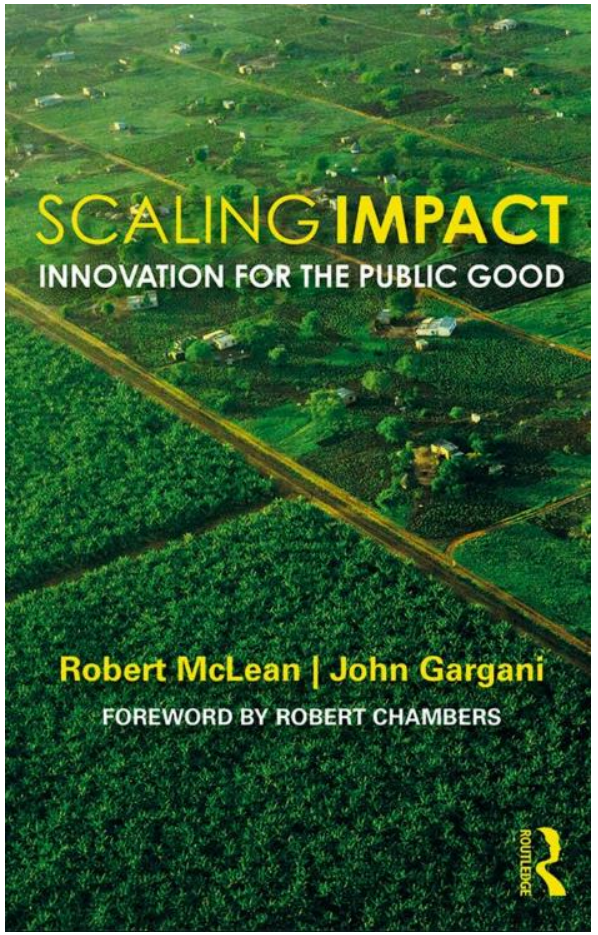
An organization like CIMMYT wants to optimally (responsibly) scale the impacts of innovation.

- not the innovation,
- not the innovation program,
- not the sales of the product developed,
- not the coverage of the policy created, etc

because these **may not correlate** with to good change that people endorse.

What matters when scaling is **the positive impact the innovation creates** for people and the environment

(adapted from McLean and Gargani, 2019. https://www.idrc.ca/en/book/scaling-impact-innovation-public-good)



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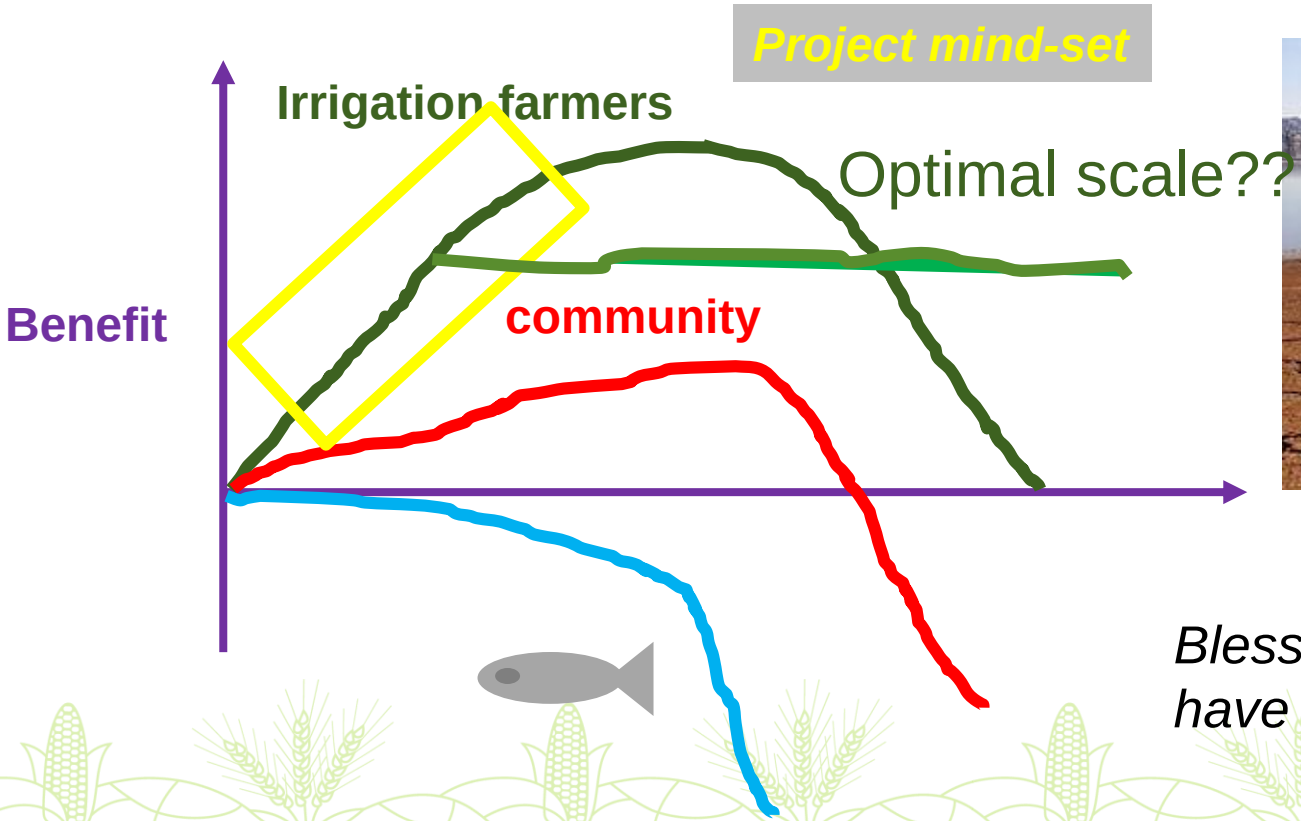
Responsible Scaling

Trade-offs and negative consequences beyond your target population



Blessing in disguise that we have been poor at scaling??

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Scaling interpretations- proposal

Need to reflect better the transformational agenda of the SDGs: from “reaching many” to sustainable systems change at scale.

https://www.sciencedirect.com/science/article/pii/S0308521X18314392

ELSEVIER

Agricultural Systems
Volume 176, November 2019, 102652

Scaling – from “reaching many” to sustainable systems change at scale: A critical shift in mindset

Woltering, L. [a], Fehlenberg, K. [b], Gerard, B. [c], Ubels, J. [d], Cooley, L. [e]

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https://doi.org/10.1016/j.agsy.2019.102652

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Sustainability

- Reaching scale ≠ sustainability (e.g. hand out seeds)
- The reward for a successful project, is doing another project?

- Change that perpetuates itself as the new normal sustained by local actors beyond the project
- individual projects are **building blocks** to achieve **mid/long term impact** (it takes **time** to scale)

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System change

- Introducing a technological innovation to a farmer requires the whole system to operate differently

→ system : household, supply chains, policies, agri-food system, etc need to accommodate this change

- Change happens when different development from distinct sources “meet” to gradually shape a new configuratior

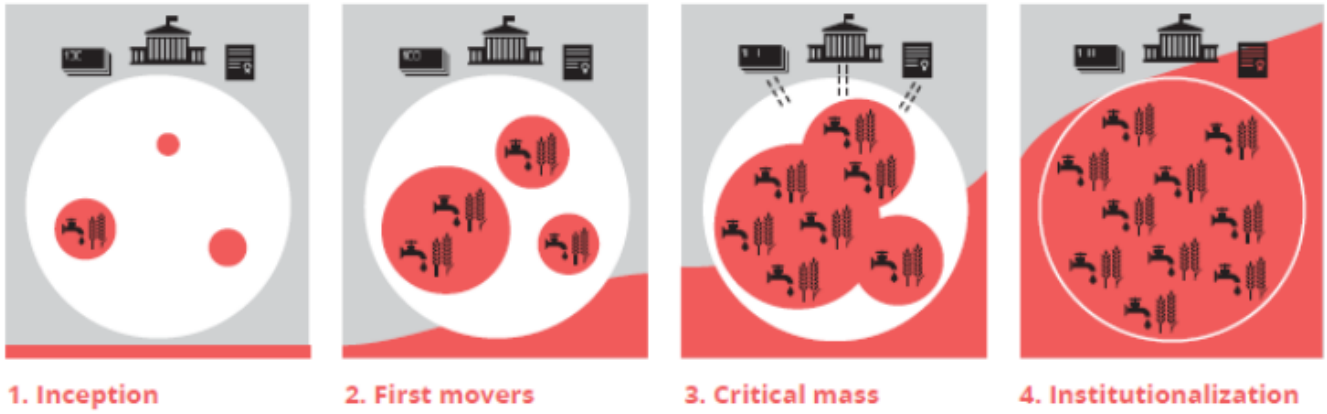

Figure 1: Sector transformation framework: From single innovations to a “new normal” (from Ubels and Jacobs, 2018 adapted from NewForesight, 2016 and Simons, 2014)

ear process


HONK IF YOU LIKE CURRY
JASON'S CHEAPO CHARTERS
JUST THINK HOW BUSY WE'D BE IF WE CHARGED A LITTLE LESS
proudly hosted on photobucket
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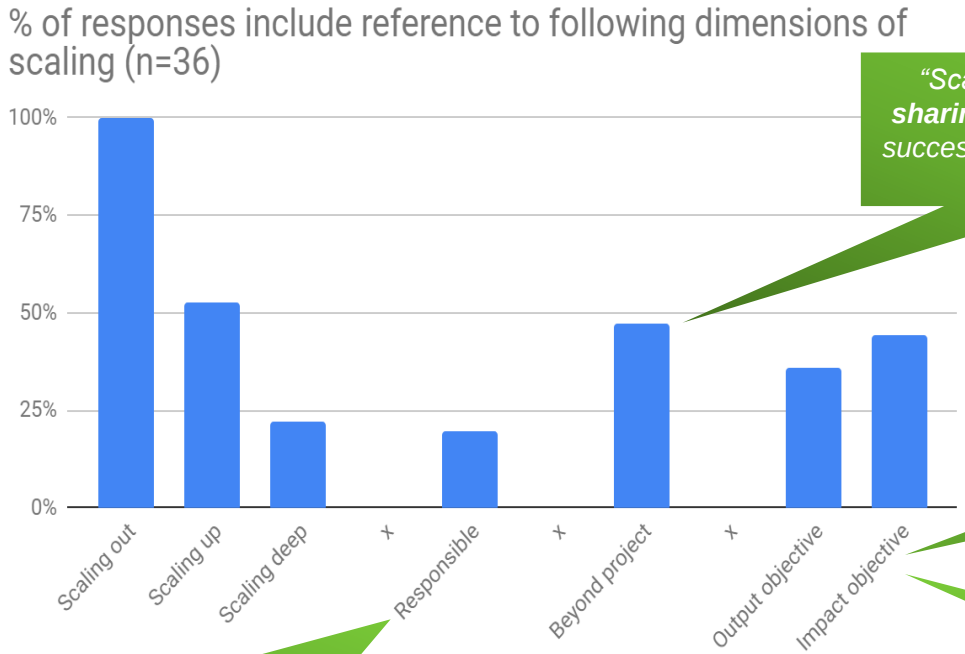
RJ04 P0988

Scaling:
interpretations at CIMMYT



*"Scaling means **letting go and sharing success with others**, and success is defined by people making different choices"*

*"Most in scaling is **beyond our control**"*

*"There are **no blueprints for success**, always check if success factors in context A are relevant for context B"*

*"Scaling for CIMMYT is the road to reaching the impact we aim for in our **vision and mission**"*

*"Scaling is the moment you **move from research to development"***

*"Successful scaling means we **add value** to peoples lives and **create positive impact**, or at least ensure that we **do no harm**"*

*"Successful scaling is when you go beyond outputs, **shaping outcomes beyond a given intervention"***

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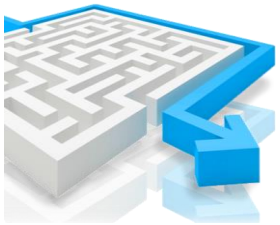
Simplify to guiding principles



- Scaling should be attractive
  - Business case and incentives for all value chain actors
- The entry strategy = the exit strategy
  - “what if we pull out tomorrow?”
- Go fast- go alone, go far- go together
  - Scaling out is much more efficient with support from other organizations
- Science of Scaling
  - Go beyond “what works” and understand the influence of the context
  - But realize scaling is also an art

So that as many people as possible (colleagues, collaborators, problem owners, etc) can add value to scaling processes. After all, scaling is done by local actors.

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Scaling Scan: Three steps

PPP LAB
FOOD & WATER

In cooperation with
CIMMYT
International Maize and Wheat Improvement Center

The Scaling Scan

A Practical Tool
to Determine the Pote

1. Define a realistic **scaling ambition**
(who, where, when, how much?)
+ Systems check
+ Responsibility check

2. Assess the status of the **10 critical scaling ingredients** for achieving your scaling ambition

3. Bottlenecks and opportunities for scaling that should be addressed in project implementation

https://ppplab.org/2017/11/3223/

Step 1- Define a realistic scaling ambition (or intervention goal)

It is a clear idea of what is the **desired impact**, who is involved and why it is relevant.

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Step 2 – Asses the 10 scaling ingredients

- Self-assessment of the 10 scaling ingredients; to what extent have we addressed each ingredient?
- Four questions per ingredient
- Assessment shows the extent to which the scaling ingredient hampers scaling of the innovation (weakest link) and which are strengths (leverage points).

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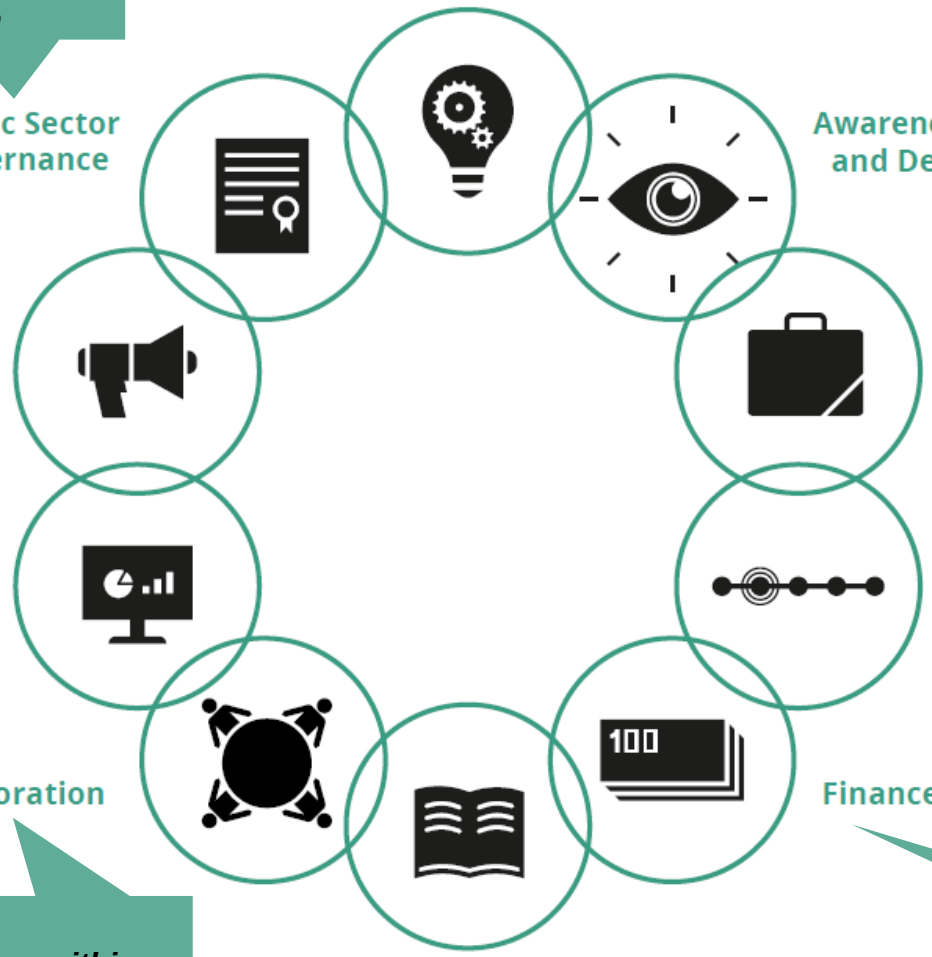

An effective and efficient solution for the issue at stake

Government support to reach the scaling ambition

A wish and readiness for the consumer or producer to use the solution

Effective coordination and navigation of the scaling process

Attractive financial/ economic propositions for users and other actors to respond to the demand

Evidence and facts underpin and help gain support for the scaling ambition

Effective links between actors to pursue their business cases

Strategic collaboration within and beyond the sector to scale the innovation

Effective financing options for users and other value chain actors

Capacities at individual and institutional level to use, adapt and promote the innovation

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4 questions that represent the key drivers for scaling per ingredient

Score 1 (☹) to 5 (☺) to reflect your level of confidence you can reach your scaling ambition.

Value chain

Average: 3

Answers/analysis

4.1 Can the value chain provide/enable the technology/practice with the right quality, in the right quantity, and in a timely manner?

Considerations:
- *Quality may be assured through standards, certification or other agreements*
- *Supply can keep up with demand at all times*
- *The necessary enabling and complementary services are available, accessible and affordable for the technology/practice to work*

4.1 score: 5

4.2 Are relations between the various actors in the chain adequately developed?

Considerations:
- *There are adequate (business to business) relations and transactions between all actors (from inputs to retailers) in the value chain*
- *There is an adequate power balance between all actors in the value chain*
- *There is a form of overarching (in-) formal governance of the value chain*

4.2 score: 2

4.4 Is the overall performance of the value chain conducive to scaling?

Considerations:
- *The value chain has growth potential, it has a good reputation and is attractive to investors and job seekers (skilled and unskilled) for example*
- *The necessary (rural) infrastructure (e.g. roads and markets) is in place and expanding to meet future needs*
- *The development of the value chain is not limited by trade barriers, market distortions (e.g. large scale fraud) or other contextual factors*
- *The value chain is sufficiently efficient and competitive in comparison with other value chains (nationally and internationally as far as relevant)*

4.3 score: 3

4.4 Are the target group and other value chain actors adequately organized?

Considerations:
- *The target group is organized in formal and informal ways such as farmer organizations, cooperatives, business associations, etc.*
- *Through (formal and informal) organization of value chain actors, input provision, marketing, access to services and bargaining power are benefiting from 'economies of scale'*

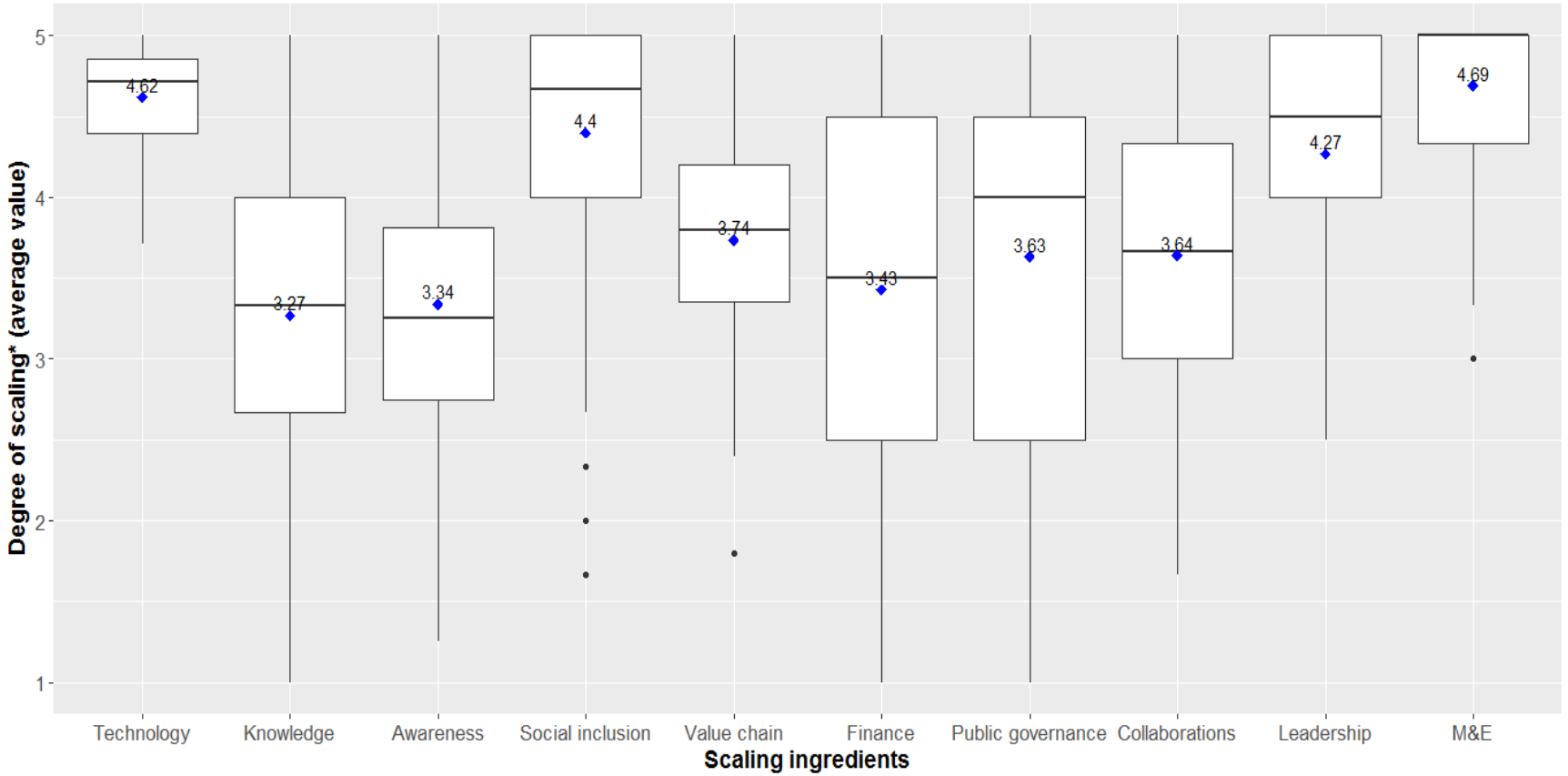
4.4 score: 2

Score referrals:

1 = No, this is very uncertain *OR* not enough information to answer
2 = Serious doubts
3 = Some doubts/unsure
4 = Quite confident
5 = Yes definitely, this is not an

Step 2- Assess the 10 scaling ingredients

Scaling ambition: *By 2021 we want to increase adoption of 4 and 2 WT Zero Tillage by 100,000 farming households in Rajshahi for improved livelihoods*



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Step 3 – Identify bottlenecks and opportunities

Understand outliers →

- Strong/ weak ingredients?
- Any **question** that was of particular interest to you?

Implications

- What can the project team do (sphere of control)
- What can collaborators do (sphere of influence)
- What can we not influence (sphere of interest)

Adapted from Sartas et al., 2017

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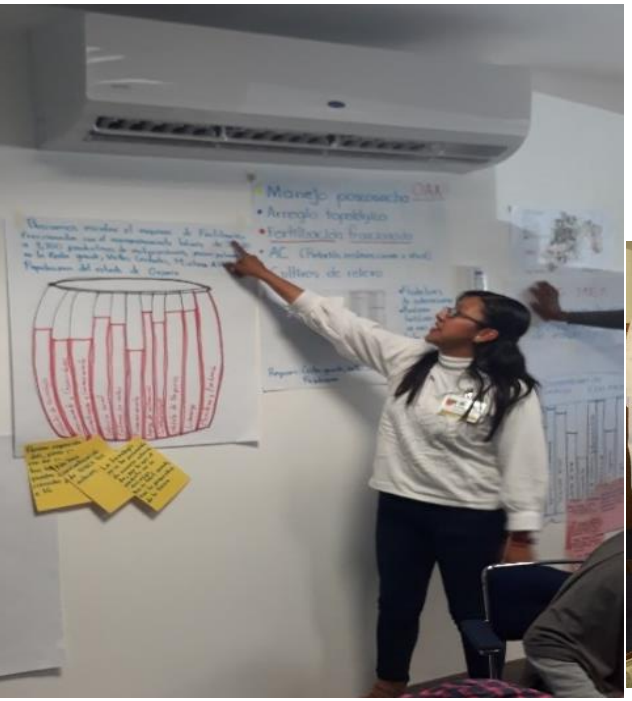
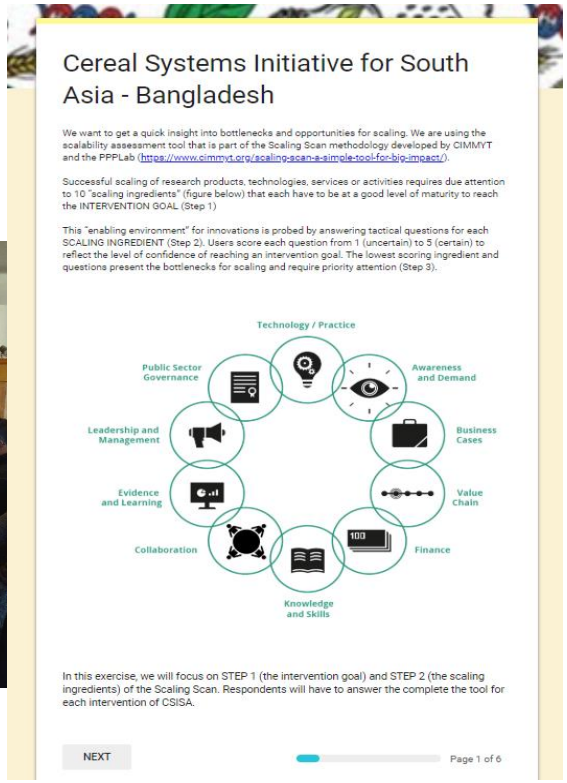
Common understanding on what scaling means and requires in context





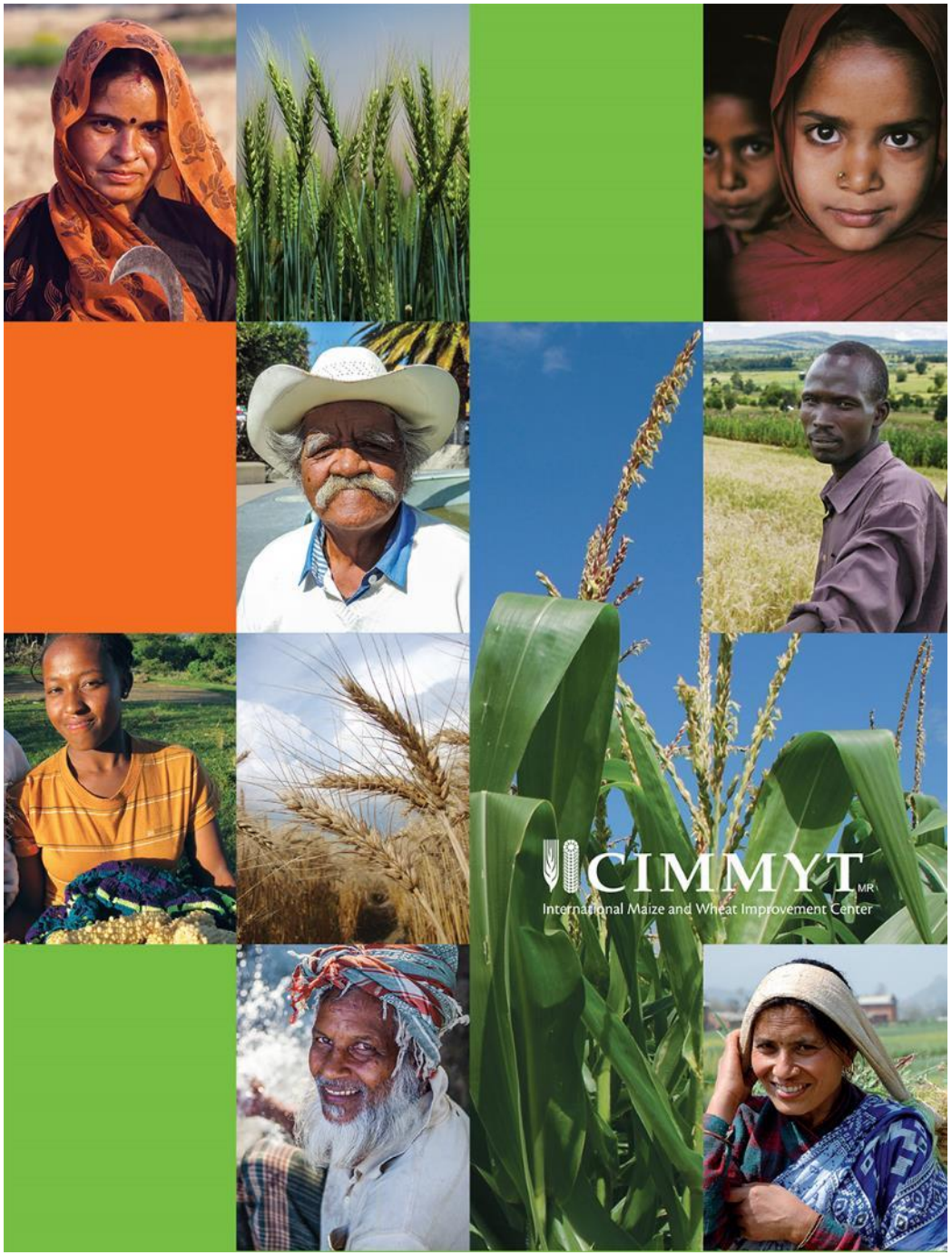
Scaling agricultural mechanization services in smallholder farming systems

Case studies from sub-Saharan Africa, South Asia, and Latin America

Jelle Van Loon[a*], Lennart Woltering[a], Timothy J. Krupnik[b], Frédéric Baudron[c], Maria Boa[a], and Bram Govaerts[a]

Discuss more?

- @MxBoa and @LennartWol
- CIMMYT website and blog http://www.cimmyt.org/project-profile/scaling/
- ResearchGate
- *https://www.sciencedirect.com/science/article/pii/S0308521X18314392*



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