

Capacities to scale innovations for sustainable development

Reconciling scaling to sustainable development

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This presentation

1. To start: scaling innovations makes sense
2. ... for sustainable development
3. A collective-capabilities perspective
4. The capacities for scaling innovation (C4SI) approach
5. Key take away messages

1. Scaling innovations makes sense

- Constructively critical about various approaches to scaling

However,

- We don't want to see everyone invent the wheel over and over again
- Some things only work/are affordable if applied at scale
- Etc.

So scaling as such makes sense, but that still leaves many questions open as regards what makes for a good way of approaching this and putting it into practice.

There is a continuous tension between scaling (issues of diversity, dependency, etc.) and (agro)ecological principles

2. ... for sustainable development

- Scaling any innovation/technology can never be a purpose in itself - but inadvertently, it often becomes just that
- The question should always remain: if this is applied more widely, how will it affect sustainability (at system level)
- This should be about broad-based sustainability, not just within one domain (trade-offs)
- The framing of innovations/technologies as “solutions” is misleading
- A solution only becomes a solution once it has solved a particular issue for someone (some group) somewhere
- Hence the need to closely monitor what happens as something is getting applied/used more and more widely

Briefly illustrating from the context of sustainability transitions

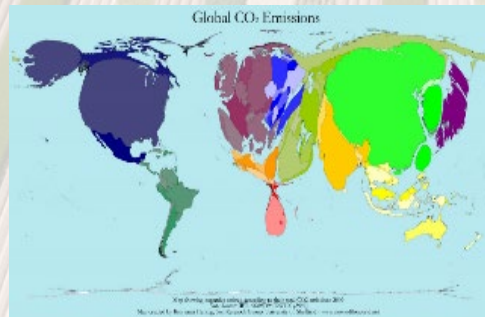
- Sustainability transitions are about complex change processes;
- There is a strong tendency to reduce these processes to scaling a selection of so-called 'solutions';
- And after some time, the whole sustainability transition is replaced by the focus on scaling those 'solutions'.
- Scaling those 'solutions' becomes a marketing strategy and vested interests will seek to secure that 1) the 'solutions' keep that status, and 2) the demand for them remains high.
- What started as a sustainability transitions, is reduced to simply scaling the selected 'solutions'.

Illustration of distortions and mismatches that may happen because of scaling “solutions”

Selective scaling: getting more of the same and losing diversity



Asymmetric scaling: pulling things out of proper proportions



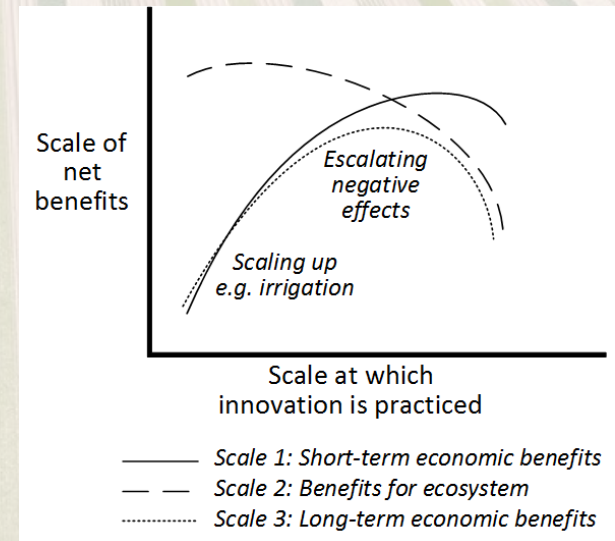
Excessive scaling: depleting resources



Source: Wigboldus, 2018

Short-term security vs long-term security

- “If you want to go fast, go alone; if you want to go far, go together”;
- Dependence on just a few crops and within that a limited number of varieties and the associated focus on efficiency has led to fast increases in food security;
- Scaling should not be about quick wins (technology fixes), but about what contributes to long-term sustainability;
- Financiers have a role to play to create opportunities for this.



Learning from nature – towards an ecology perspective on scaling processes

- Moving towards balance, proportionality, equilibrium
- In nature, there are no solutions, but there are responses
- Do we approach scaling processes from business thinking or from (ecological) resilience thinking?



Resilience characteristics as reference

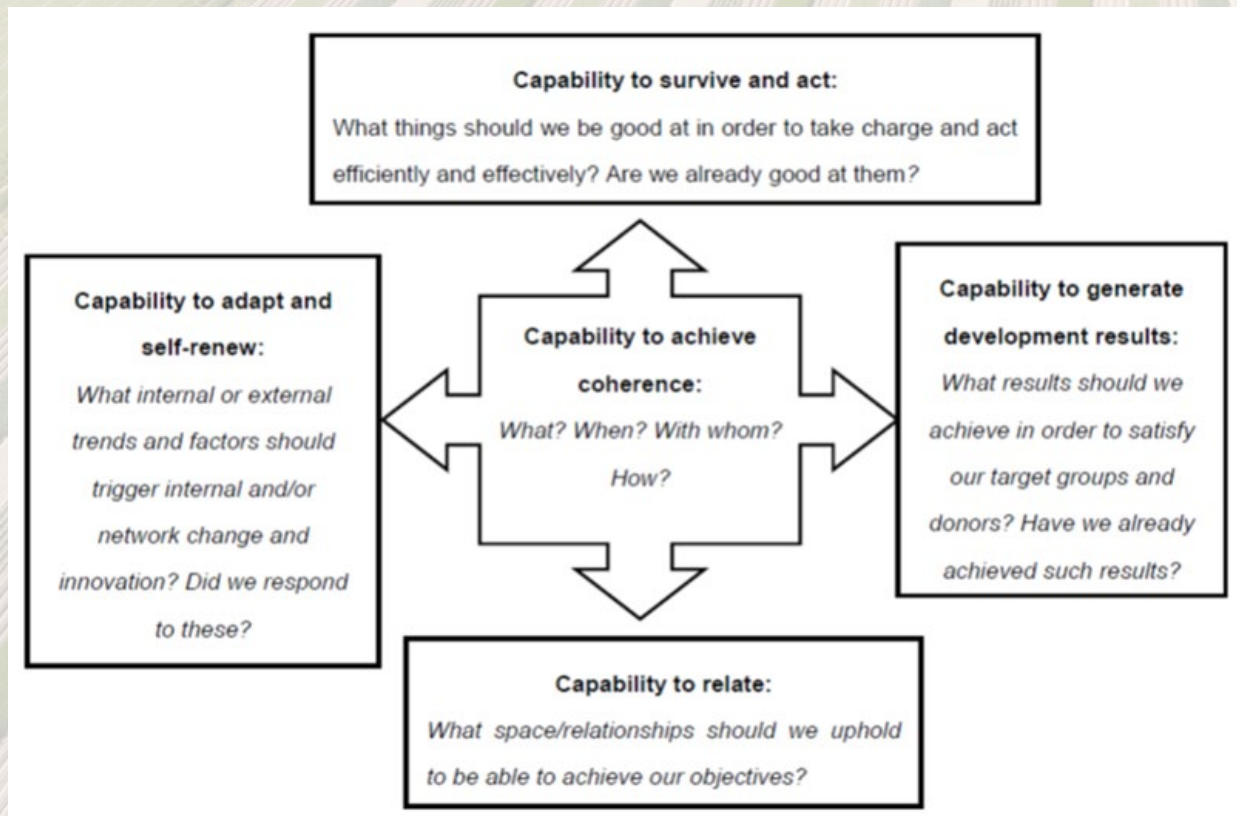
- What happens to *diversity* (of e.g. cropping systems)?
- What happens to *redundancy/buffers* (of e.g. capacity to handle shocks/stress)?
- What happens to *flexibility* (of e.g. cropping/farming methods and the possibility of adjusting choices regarding crops, varieties, seasonality, harvesting, storage, etc.)?
- What happens to *robustness* (ability to continue reaping a harvest under shocks/stress)
- What happens to *connectedness/networking* (of farmers) to pool resources, get needed information, get support from outside when needed
- Etc. In other words, does it help to make (in this case) farmers/farms more vulnerable in any way, or more resilient?

More broadly

- What does it do to sufficiency, proportionality, circularity, security, functionality, inclusiveness, affordability, (aesthetic) appeal, legitimacy, appropriateness, reliability? And all of these simultaneously.
- Principle-oriented scaling (not just goal/target oriented).
- And for who, creating security for who, legitimate according to what legal framework, etc.
- Too much to expand on here, but pointing to a need to consider effects of scaling from a variety of angles.

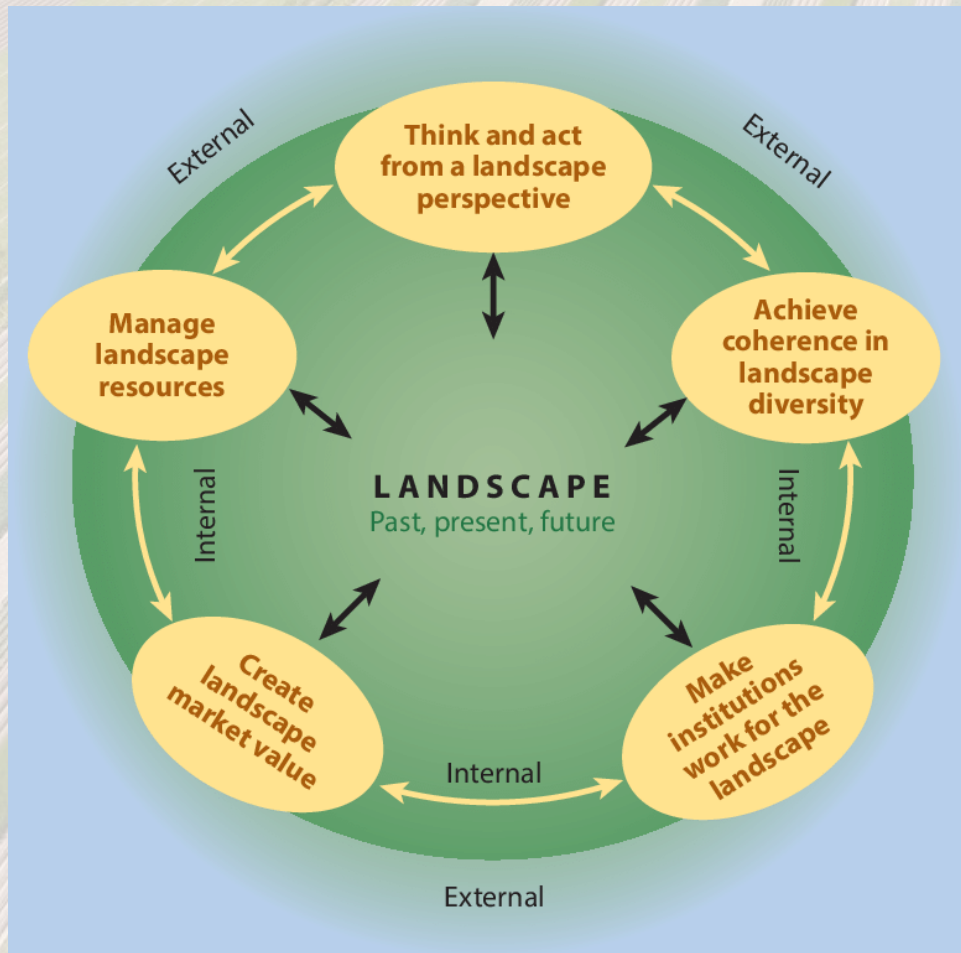
4. A **collective**-capabilities perspective

- Partners in scaling, rather than scaling partners



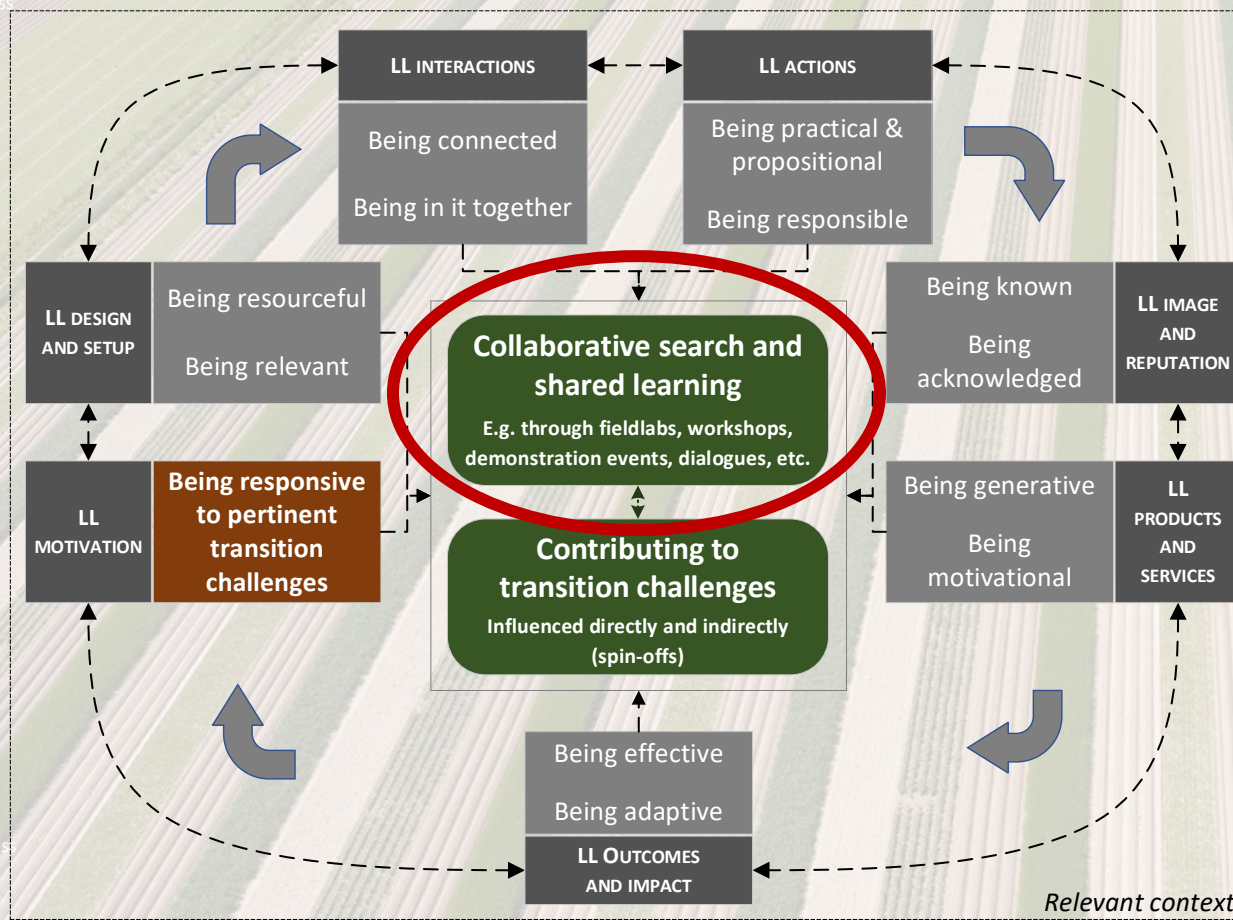
- Based on Baser & Morgan, 2008

Already applied earlier in the context of landscape governance (van Oosten et al.2021)



This perspective was further explored in:
Van Oosten et al. 2021. Capable to govern landscape restoration? Exploring landscape governance capabilities, based on literature and stakeholder perceptions. Land Use Policy 104, 104020.

Currently being applied (in a different way) in the context of living labs (Bouma et al. forthcoming)



Legend

LL = Living Lab

LL design and setup Interacting performance areas of a living lab

Being practical & propositional
Being responsible Associated collective capabilities of partners in the living lab

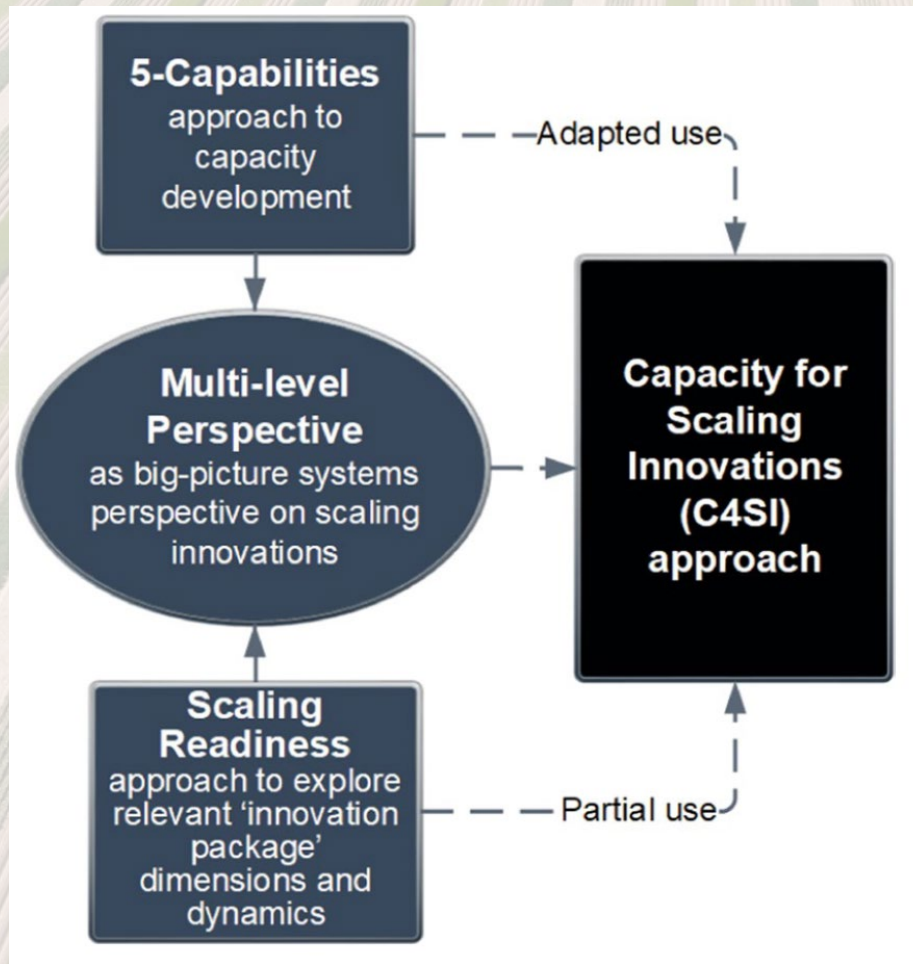
↔ Iterative process of performing functions

↻ Ideal-typical continuous flow of learning and implementation processes

Collaborative search and shared learning
E.g. through fieldlabs, workshops, demonstration events, dialogues, etc. Key role/purpose of the living lab

Contributing to transition challenges
Influenced directly and indirectly (spin-offs)

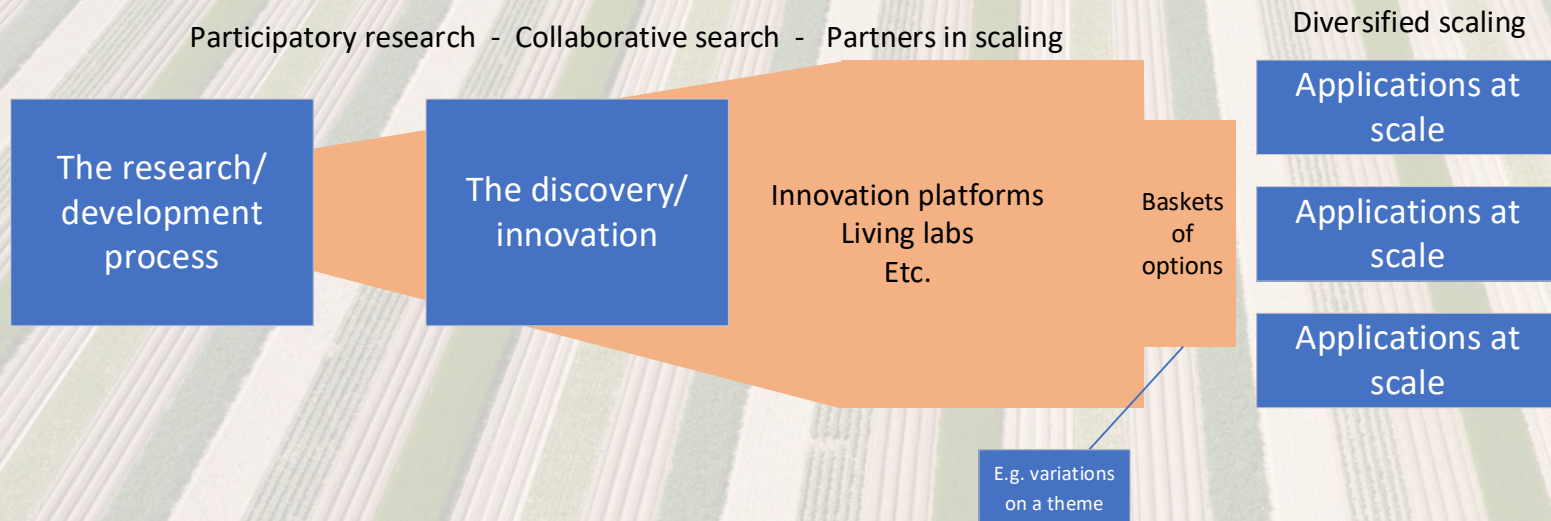
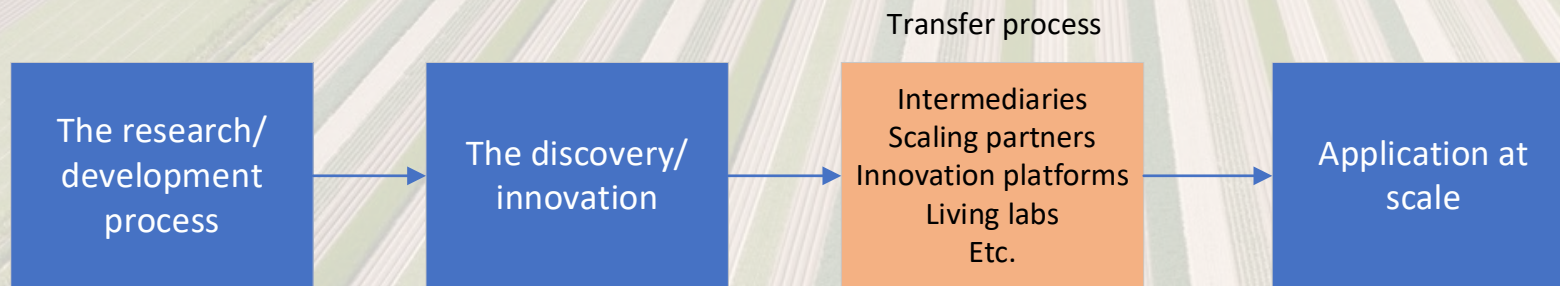
5. The capacities for scaling innovation (C4SI) approach



Why this approach?

- Experience in working with 'scaling partners'.
- Thinking in terms of 'scaling partners' basically uses them to achieve your own objectives rather than meaningfully partner with them for scaling (if they agree that is a good idea).
- Scaling Readiness points to the fact that many factors and many actors are/need to be involved in scaling even simple technologies. Hence the need to get to grips with understanding readiness of partners in scaling.
- A collective capabilities perspective can help in this. It can also inform a capacity strengthening process and a strategy for approaching/choice of partners.

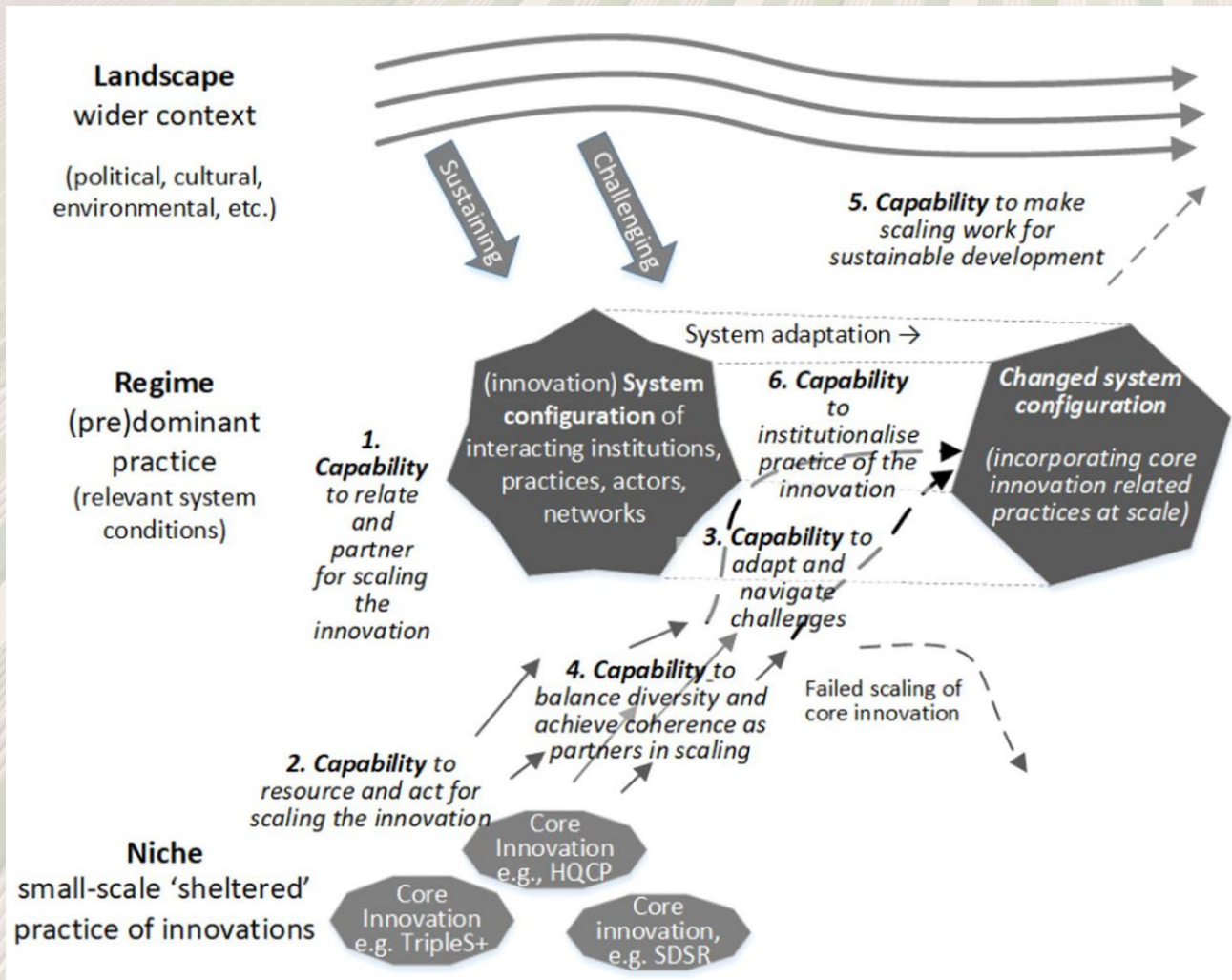
On the idea of partners in scaling



Collective capabilities defined for the context of partners in scaling

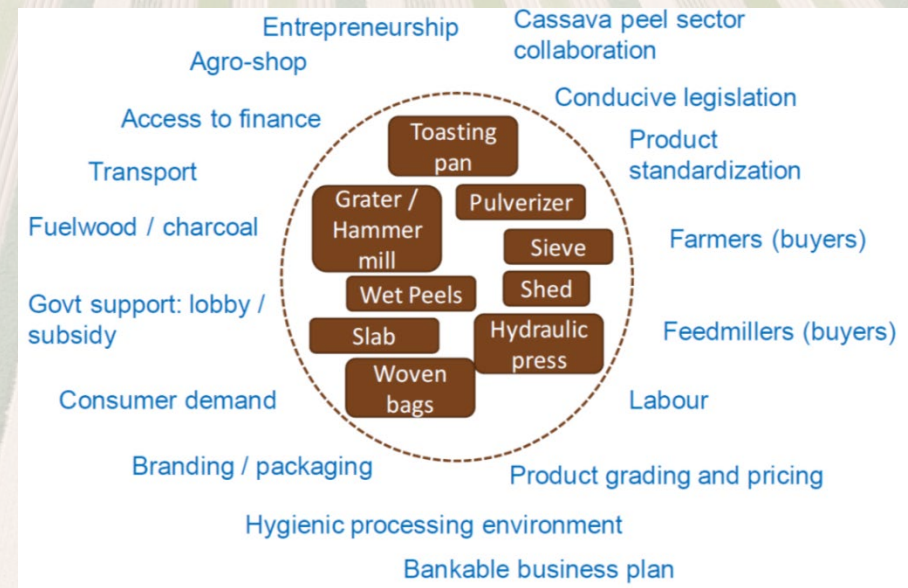
- Capability to **relate and partner** in scaling the innovation
- Capability to **resource and act** for scaling the innovation
- Capability to **adapt and navigate** challenges in scaling the innovation
- Capability to **balance diversity and coherence** among partners in scaling the innovation
- Capability to make scaling the innovation **work for development** results
- Capability to **anchor** the innovation **in institutions** for continued scaling

Collective capabilities (for scaling) in an MLP perspective



Scaling readiness to unpack the innovation and its application context

- Thinking in terms of an innovation package
 - The innovation itself
 - The application context (enabling context)
- Example for High-quality Cassava Peels (HQCP)
- So as to know what capabilities will be needed to navigate what conditions



Elaborating the capability angle methodologically

Capabilities in the domain of change and relevant innovation system This pertains to the partners in scaling (in terms of who should be part of it, not limited to who effectively is)	Key dimensions	Key indicators (variables)	Related "word pictures", rubrics			
			Totally not the case (none of the 7)	Somewhat the case (2-4 out of 7)	Mostly the case (5-6 out of 7)	Completely the case (all 7)
			1	2	3	4
E.g. Capability to relate and partner in scaling	7 dimensions indicated			Note down which ones do apply	Note down which one do not really apply	

Capability to relate and partner in scaling

Core success factor:

Shared values and interests

- Ability to connect and involve relevant actors
- Ability to agree among partners in scaling
- Ability to legitimise scaling efforts (social credibility and reputation)
- Ability to work in appropriately participatory ways
- Ability to align with relevant wider realities (e.g. policies)
- Ability to build and maintain good relationships

Capability to resource and act for scaling

Core success factor:

Shared commitment and effort, shared information, shared goals

- Ability to analyse and understand what is involved in and may be implications of scaling the innovation
- Ability to translate understanding into clear and concrete strategies and plans
- Ability to identify opportunities and threats and to anticipate futures
- Ability to reach consensus on implementation across levels (of e.g. government)
- Ability of partners in scaling to act in interest of all partners
- Ability to create and sustain motivation and ownership feeling across partners in scaling
- Ability to secure financial support
- Ability to engage appropriate human resources
- Ability to provide effective products and services
- Ability to have executive structures and processes in place

Capability to adapt and self-renew for scaling the innovation

Core success factor:

Shared M&E, shared learning,
shared adaption of core decisions

- Ability to identify options for adaptation of the innovation to foster benign scaling in different contexts
- Ability to map out a change path with related monitoring (information) needs
- Ability to timely pick up signals pointing to a need for adaptation of plan
- Ability to translate learning to needs for adaptive management
- Ability to reposition/reconfigure
- Ability to foster internal dialogue
- Ability to incorporate new ideas

So this is also about adaptive scaling – creating variations (in innovation packages) on the same theme so as to adjust to different application contexts

Capability to balance diversity and coherence among partners in scaling

Core success factor:

Shared vision amidst diversity, shared sense of purpose, shared concerns, shared/respected leadership

- Ability to respond appropriately to diversity and power asymmetries and leverage power relationships
- Ability to agree on core effort in relation to shared concern/pathways
- Ability to share credits for overall achievements
- Ability to communicate effectively
- Ability to manage diversity/productive disagreement (conflict management)
- Ability to provide situational leadership for multi-stakeholder collaboration
- Ability to manage paradox and tension

Capability to anchor the scaling in institutions

- Ability to recognise and capitalise on relevant institutions (incl. cultural)
- Ability to secure access rights to the innovation
- Ability to mobilize external support (information, finance, political, etc.)
- Ability to connect to policy coordination/ integration frameworks
- Ability to connect to enabling economic/market environment
- Ability to spread and anchor knowledge on and quality control of (the use of) the innovation across relevant institutions

Capability to make scaling work for development results

- Ability to agree on a clear purpose and vision for what scaling the innovation is meant to contribute to
 - Ability to consider scaling the innovation from a systems perspective
 - Ability to operate on the basis of a clear policy for and focus on development effects and impact resulting from the innovation at scale
 - Ability to achieve effective benefits for all livelihoods using the innovation
- Core success factor:
- Shared purpose and vision
- Ability to achieve balanced benefits in view of effects on other spheres of life/livelihood (responsible scaling)
 - Ability to effectively monitor (side-) effects of scaling the innovation throughout the scaling trajectory and across relevant spheres of life

Includes the capability to think critically about how scaling can, as well as how it will not contribute to sustainable development

Elaborating the MLP-based assessment

MLP based assessment	Description
Niche readiness	
How ready	
Related capacity needs	
Regime readiness	
How ready	
Related capacity needs	
Landscape readiness	
How ready	
Related capacity needs	

6. Concluding messages

- Capacity to scale innovations needs to be complemented by a perspective on, and operationalised toward what “for sustainable development” means.
- Be partners in scaling, rather than inviting ‘scaling partners’ to your party of scaling what you have developed/discovered. Hence, first address the questions: how can we be partners in scaling?
- First partnering with sustainable development in mind before partnering with scale in mind.
- Scaling to achieve fixed goals/targets vs. scaling **the application of principles** that need to guide practice on the way to these objectives
- Standard scaling tends to lead to getting more of the same, and losing (scaling down) diversity, proper proportions, etc., so there can be a **tension between scaling thinking and resilience thinking**

Do not scale what is easy to scale, but what needs to scale (thinking from a perspective of strengthening resilience)

- **Current** dominant agricultural **systems**, including the monoculture orientation, have been **optimised over many years**.
- Mindsets are oriented towards cheap food and (not responsible) technology fixes.
- Even if most people would agree that in principle diversified cropping systems would be better, it takes a long time before a similar level of optimisation can be achieved.
- -> also think about **making scaling work for system change**.

E.g. Mortensen DA and Smith RG (2020) Confronting Barriers to Cropping System Diversification. *Front. Sustain. Food Syst.* 4:564197.

*Pernicious feedback exists in which economic and **policy forces incentivize low diversity cropping systems** which **then become entrenched** due, in part, to a lack of research and policy aimed at enabling farming practices that support the diversification of cropping systems at larger spatial scales.*

Scaling the application of good principles

- Not all options for scaling need to be the very best in your view, because best-fit may be something that is second or third best in your view (think about game theory)
- Restoration principles (going back to what in the created order has already been provided for)

Thank you for your attention!

