

Understanding ‘Anchoring’ of Crop Diversification Initiatives: What do DiverIMPACTS CS experiences tell us?

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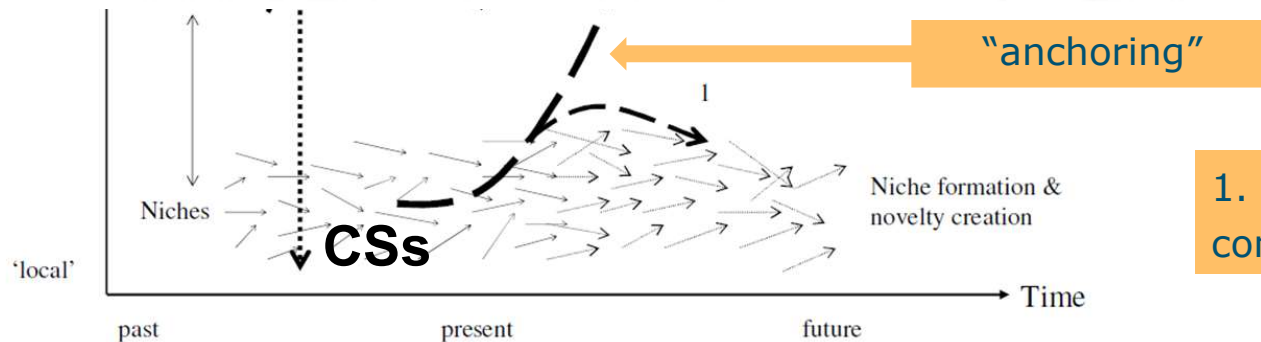
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Multi-level perspective and the DiverIMPACTS CSs



3. Evolution of landscape

2. Shape of regime changed by novelty



1. Niche novelty becomes connected (or not) to regime



Geels, 2002;
Roep and Wiskerke, 2004;
Elzen et al., 2012

Three forms of anchoring

Technological (describes what it is that anchors)

- When the technical characteristics of a novelty become defined by the actors involved and, hence, become more specific to them.

Network (describes with whom the novelty anchors)

- When the network of actors that support the novelty changes, for instance through expansion of the network.

Institutional (describes what it is that anchors)

- **Cognitive:** Development of shared beliefs, visions, and problem views to which actors orient their actions.
- **Normative:** Development of new rules that govern the further development and uptake of the novelty.
- **Economic:** Arrangements that govern markets and economic activities (e.g. contracts, business networks)

Initial anchoring theory conceptualized in terms of context, mechanisms, and outcomes (CMO)

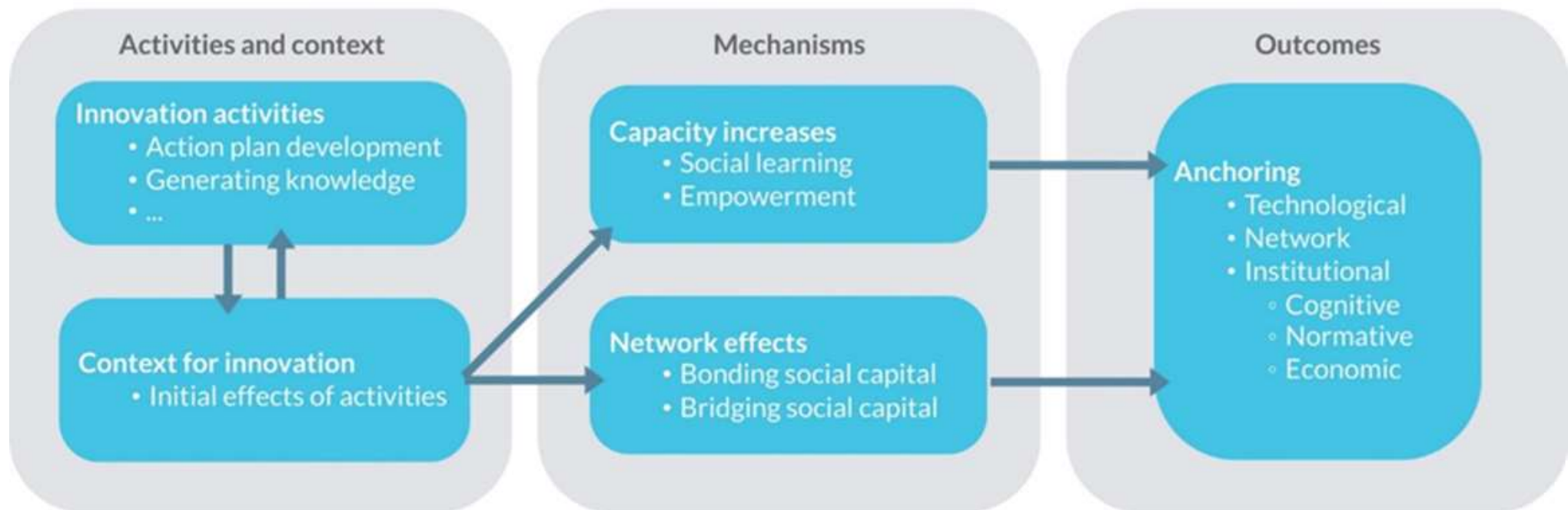


Fig. 1. Anchoring as the result of activities that affect the CS context and trigger mechanisms (adapted from Hoffecker, 2021).

Mechanisms leading to anchoring outcomes

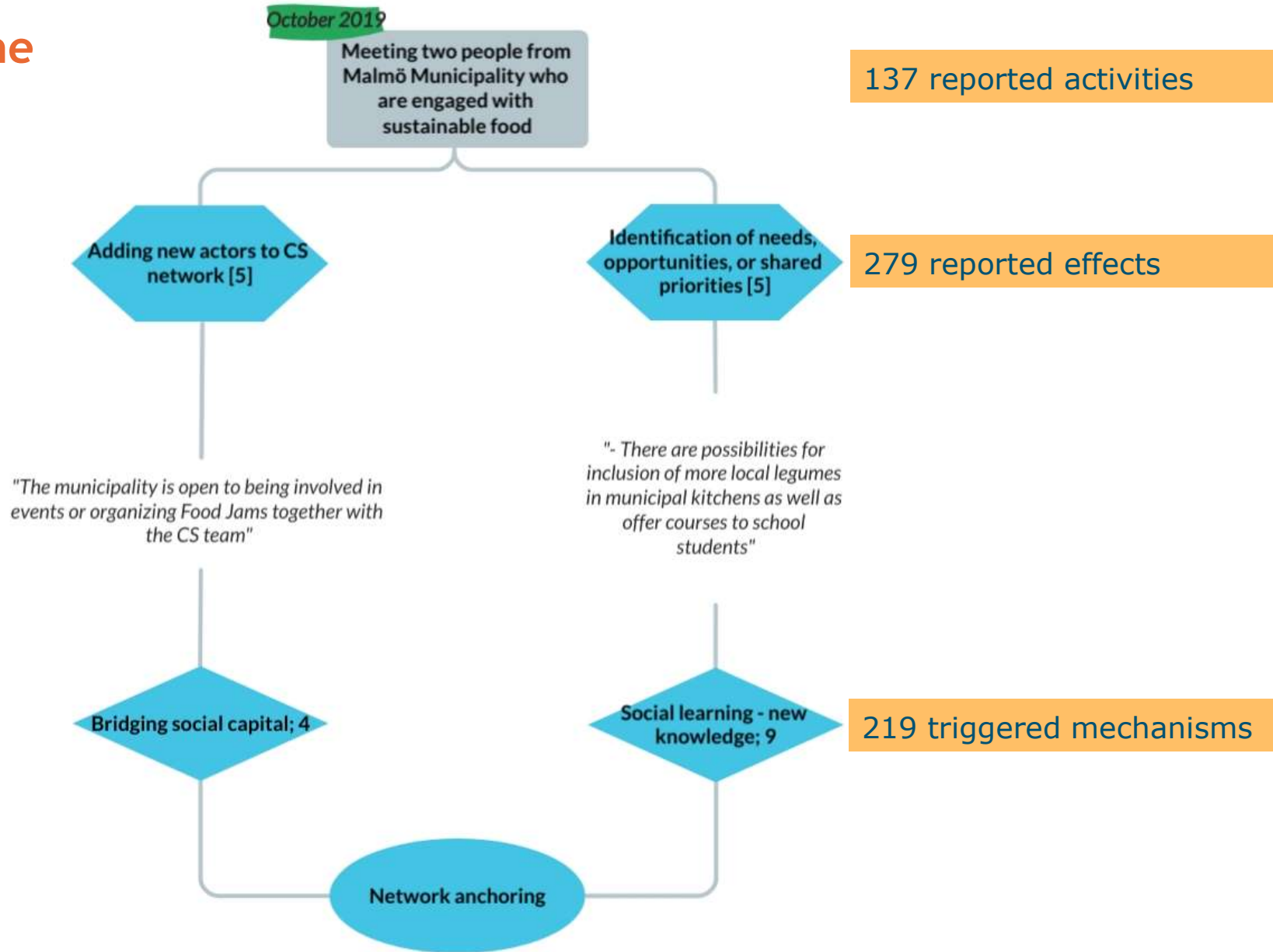
Mechanism	Aspects composing the mechanism
<i>Social learning</i>	<ol style="list-style-type: none"> 1. New skills 2. New knowledge 3. Changes values, assumptions, perceptions
<i>Empowerment</i>	<ol style="list-style-type: none"> 1. Growing intrinsic task motivation: feeling of a) choice, b) competence, c) meaningfulness, d) impact 2. Decision-making power gains 3. Resource control gains 4. Changes in local structures 5. Development of new resources
<i>Social capital</i>	<ol style="list-style-type: none"> 1. Bonding amongst people in the CS: strengthening a) structural social capital, b) cognitive social capital, c) relational social capital 2. Bridging to people outside the CS

Table. 1. Aspects composing the three mechanisms (adapted from Schöpke et al., 2017).

Selected case studies

Country	Diversification farming strategy	Value chain	Agriculture type	CS Cluster
Germany	Temporal	Commodity market	Including conventional	Searching a way out of a wicked situation
Netherlands	Temporal	Local	Only organic	Fostering co-learning between farmers
Italy	Spatial	Local	Including conventional	Creating niches and removing barriers to support the introduction of novel diversifying crops
Belgium	Spatial	Arrangement between farmers	Including conventional	Enhancing arable and livestock farmer cooperation
Belgium	With intercrop	Commodity market	Including conventional	Aligning actors in value chains to enhance grain legume production
Sweden	With intercrop	Local	Only organic	Fostering locally integrated food systems for legumes and vegetables

Event timeline Swedish CS



Event timeline Belgian CS

N.A.
Industrial sieving optimization to separate the grains of pea and wheat from the mixture

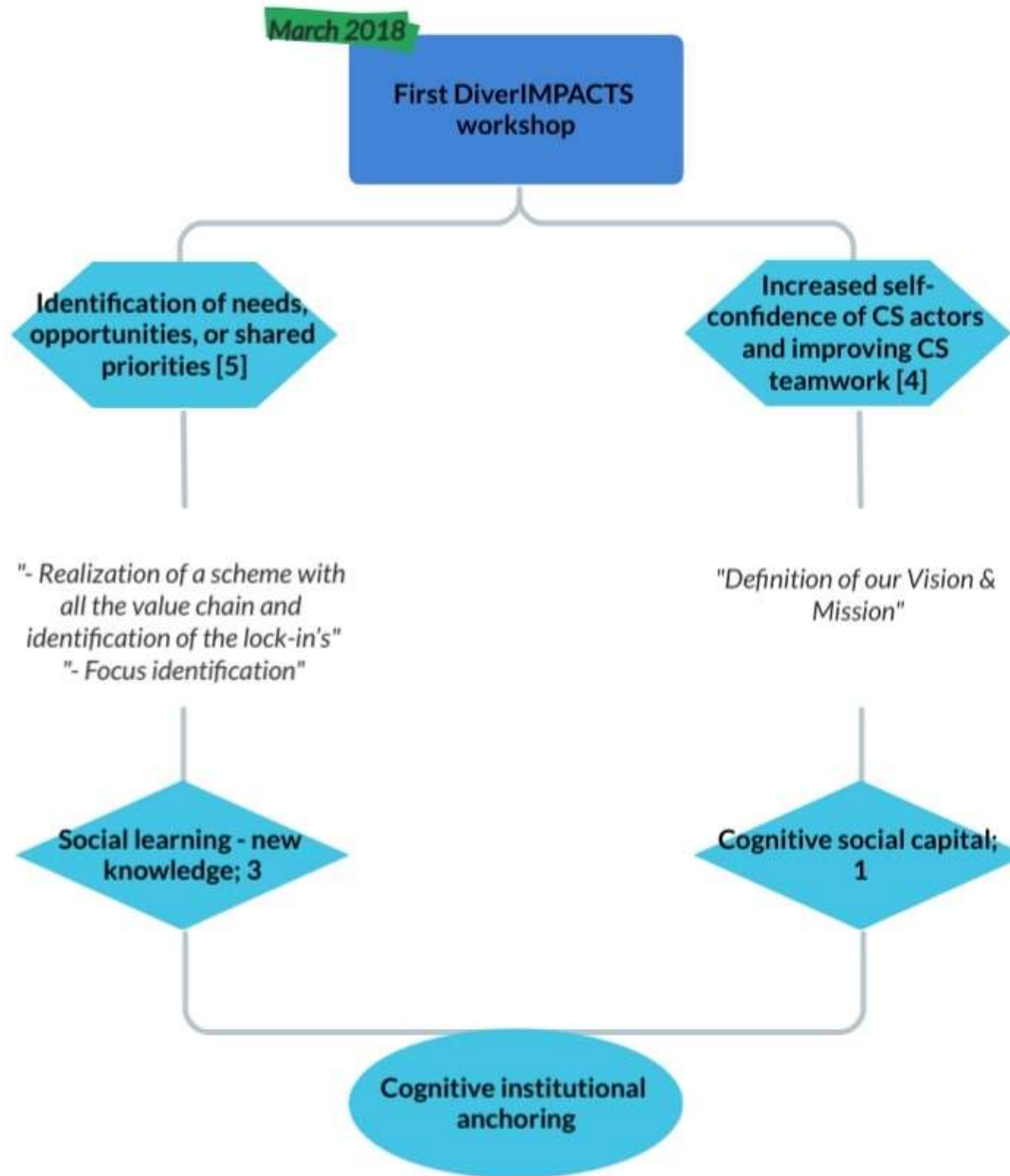
Identification of needs, opportunities, or shared priorities [5]

"- Demonstrate technical feasibility for making good pea quality. We are now able to valorise 2 different products from intercropping"
"- PoC premium pea quality"

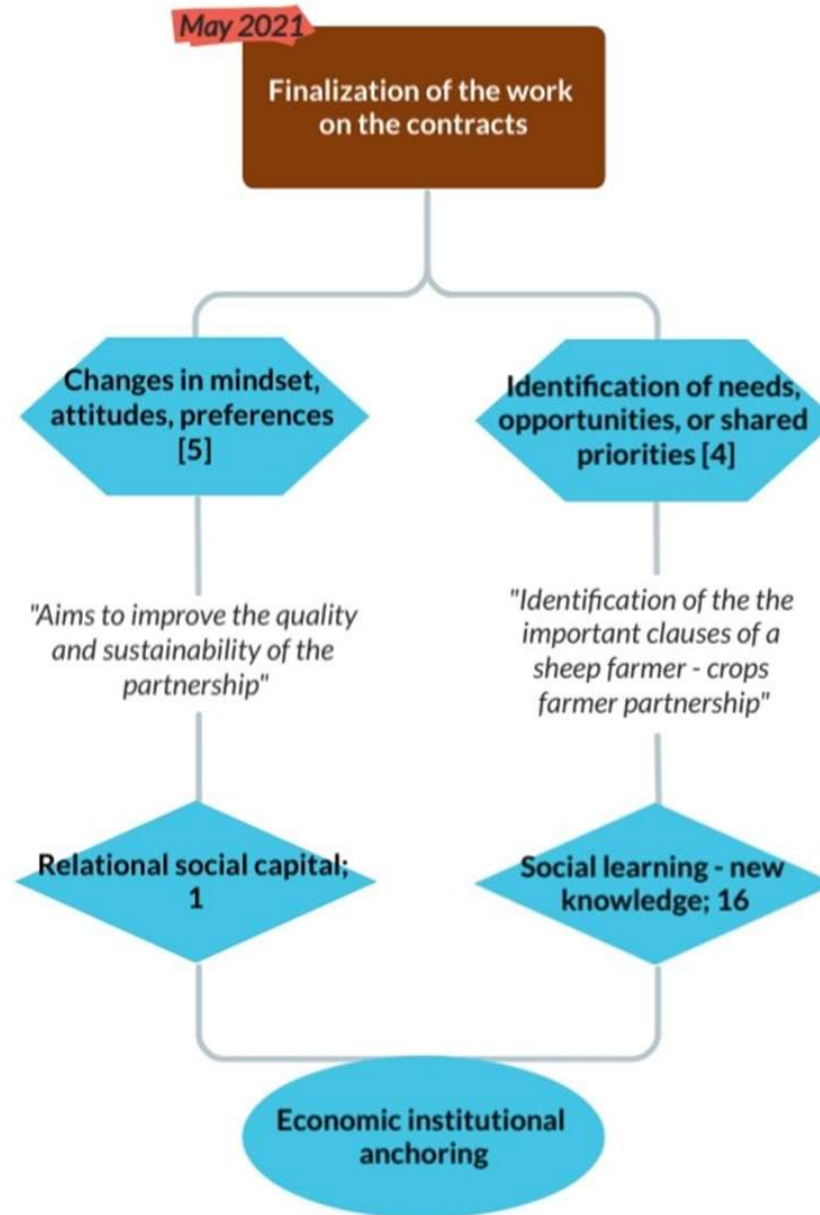
Social learning - new skills; 2

Technological anchoring

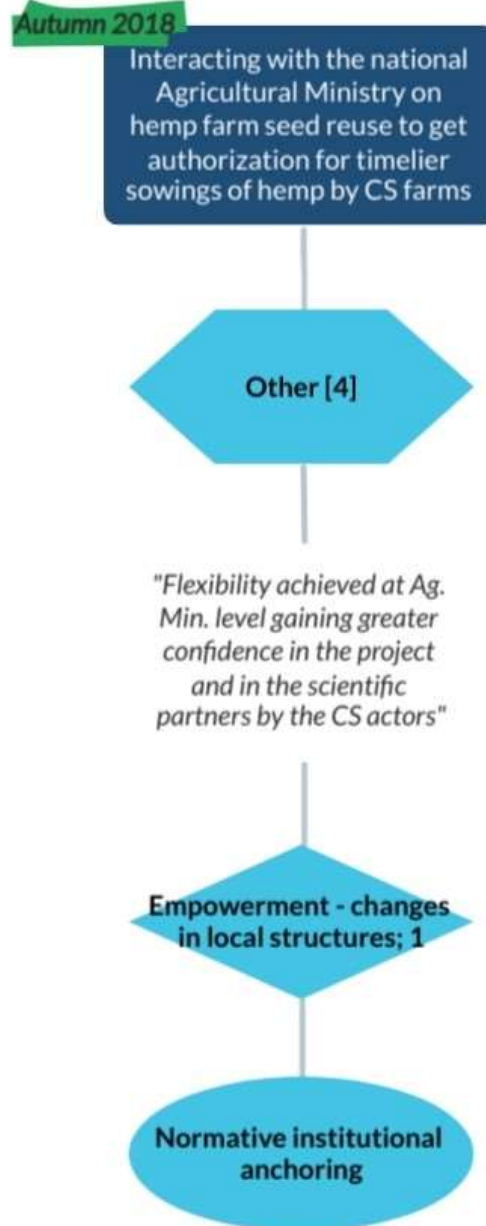
Event timeline Belgian CS



Event timeline Belgian CS



Event timeline Italian CS



Some conclusions on the middle-range theories (1/2)

- A realist approach to anchoring is useful.
- Network anchoring is the dominant outcome of the examined crop diversification initiatives.
 - Support learning about *how* networks are built and maintained in the context of transition.

Crop diversification initiatives are likely to result in **network anchoring** if they have strong *bridging social capital*. This mechanism may be triggered by the initial effects of *partnerships/alliances* activities and *generating knowledge* activities.

- Finding agreement among actors about how the novelty will work technically.

Crop diversification initiatives are likely to result in **technological anchoring** if they are *knowledgeable* about and *skillful* with the novelty. These mechanisms may be triggered by the initial effects of *generating knowledge* activities and *technical assistance* activities.

Some conclusions on the middle-range theories (2/2)

- Cognitive institutional anchoring functions as a critical means for the niche establishment process, creating space for niche actors to take mutually beneficial collective action.

Crop diversification initiatives are likely to result in **cognitive institutional anchoring** if they have strong *cognitive social capital*. This mechanism may be triggered by the initial effects of *action plan development* activities.

- Economic and normative institutional anchoring seem to be more relevant during later stages.

Crop diversification initiatives are likely to result in **economic institutional anchoring** if they are *knowledgeable* about the novelty, *feel competent*, and have strong *bridging* and *relational social capital*. These mechanisms may be triggered by the initial effects of *partnerships/alliances* activities and *increase quality or quantity of impact* activities.

...**normative institutional anchoring** if they successfully *change local structures*. This mechanism may be triggered by the initial effects of *direct advocacy and lobby* activities.