

Tailoring technical options: case studies of intangible and tangible supports in advisory approaches in West Africa

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Transition of agricultural systems

Environmental, social and economic sustainability = need for **contextualisation of generic scientific knowledge** to local circumstances (Descheemaeker et al. 2019, Duru et al. 2015)

- Farmers need localized adaptation of agroecological principles to their own pedo-climatic and socio-economic constraints
- but uncertainties associated to the performances of agroecological practices

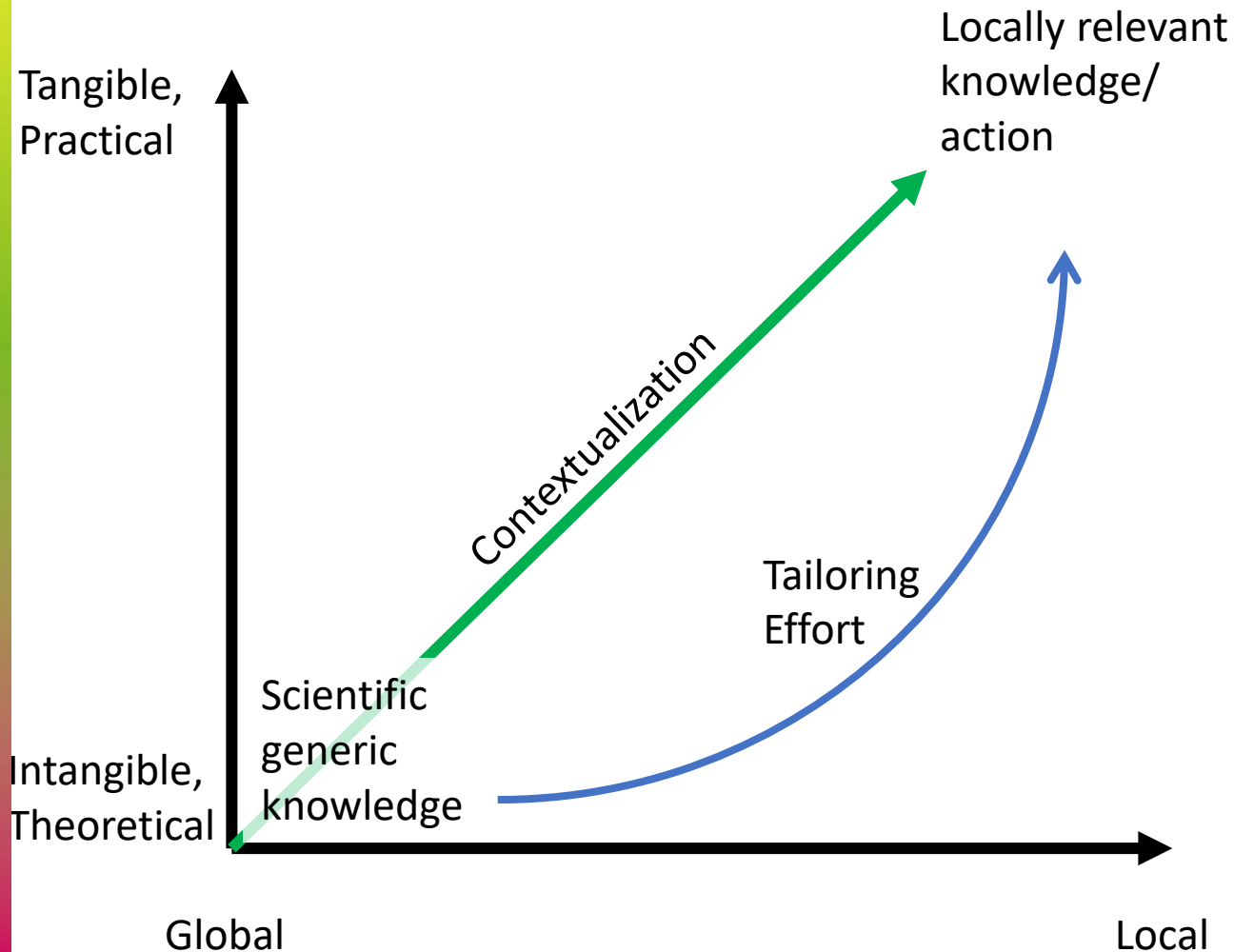
➔ Calls for new ways to accompany locally relevant agricultural innovations

Sub-Saharan Africa : large diversity of individual situations

- Concept of **socioecological niches** : agro-ecological, socio-cultural, economic and institutional factors --> tailor technical options to a given context (Descheemaeker et al. 2019, Oijem et al. 2006)
- Challenges for agricultural innovation systems (Klerkx et al. 2012) in Sub-Saharan Africa (Faure et al 2011)

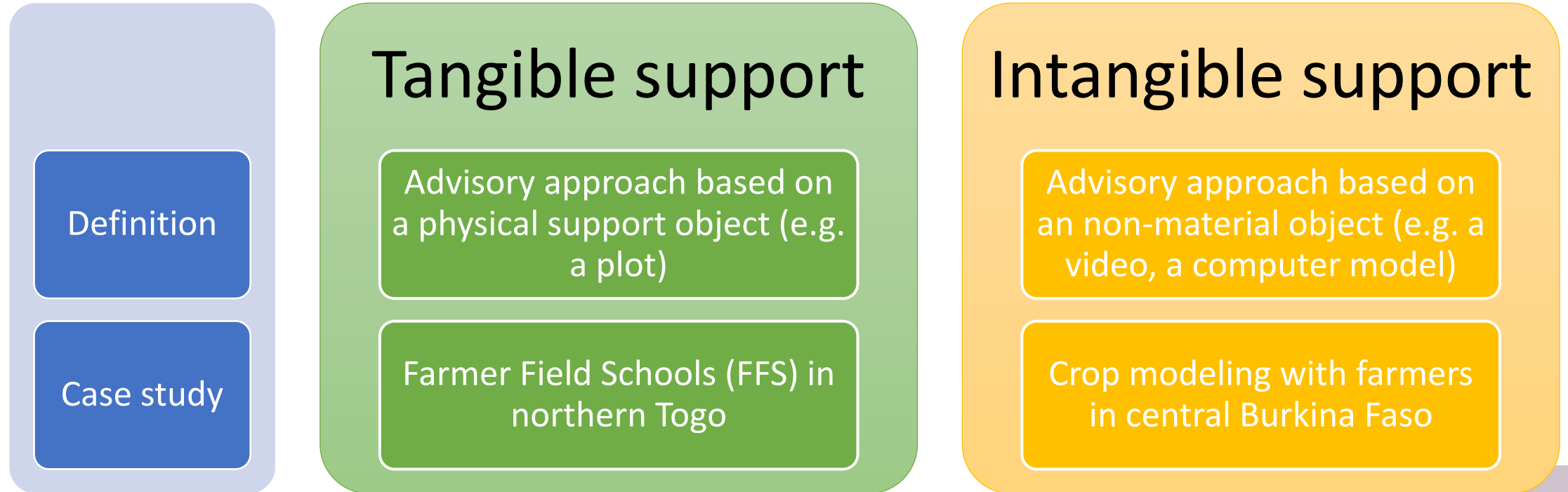
➔ Which approaches are relevant to support farmers in the tailoring of technical options to their own farm systems?

Contextualisation of generic scientific knowledge

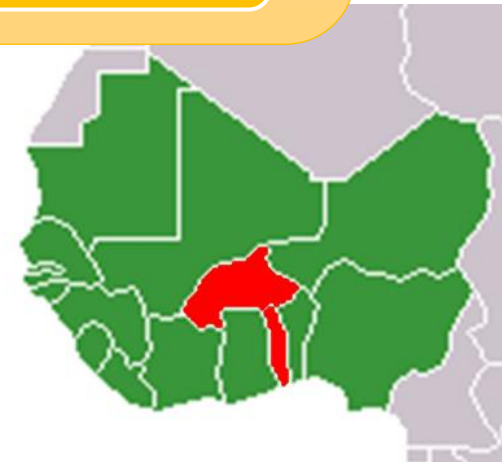


- **Tailoring effort:** the mental and communication efforts required for the clarification of the objectives and assessment criteria, the translation of generic scientific knowledge into relevant technical options, and the extraction of information, allowing the “customization” to individual needs and constraints.
- On whom relies the tailoring effort in an advisory intervention?

Methodology



- Interviews with key stakeholders from the interventions and with participant farmers.



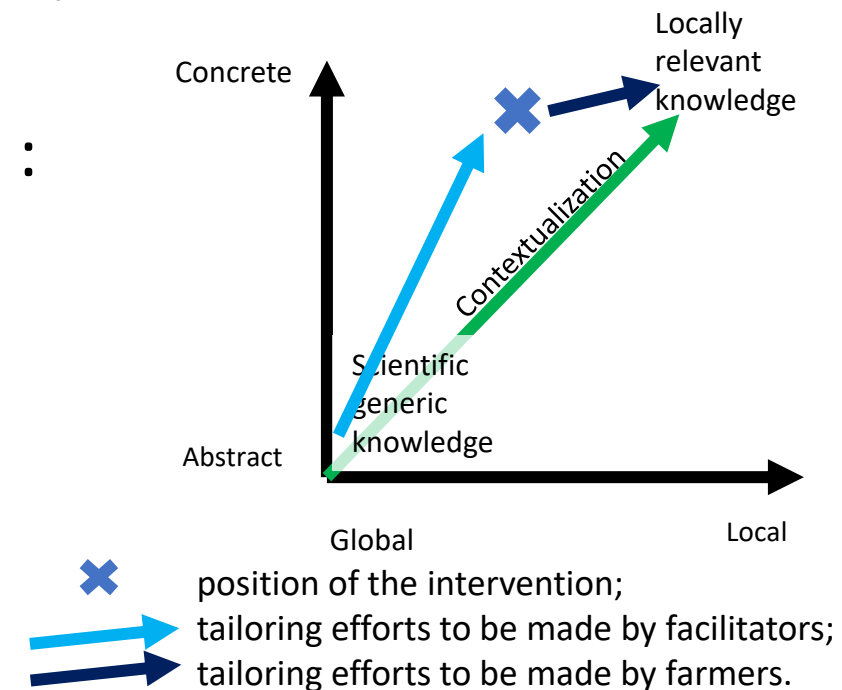
Collaborative FFS - northern Togo

(Bakker et al, 2021)

- FFS
 - Field-based advisory approach with collaborative participation of farmers
 - Intensive, season-long program in the **FFS field**
 - Collective experimentation and learning about technical options
 - Facilitator (technician or farmer)
- Mechanisms for contextualizing generic knowledge :
 - examples from the FFS sub-plots
 - facilitation during the FFS cycle
 - information on the most suitable options in their context
 - the facilitator's role is to include all farmers
 - discuss farmers' criteria on the technical options



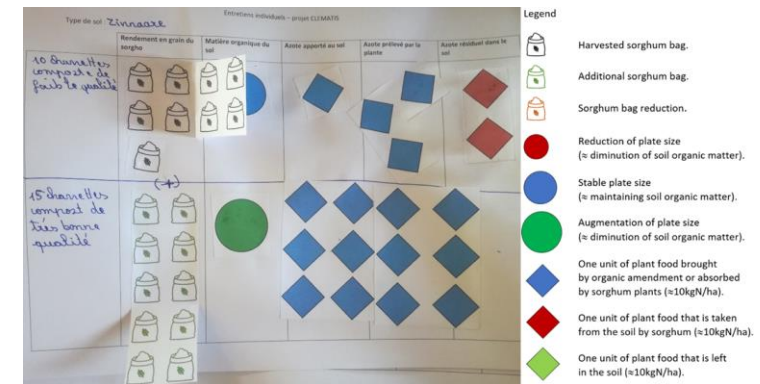
Repiquage de l'oignon en ligne (© T. Bakker)



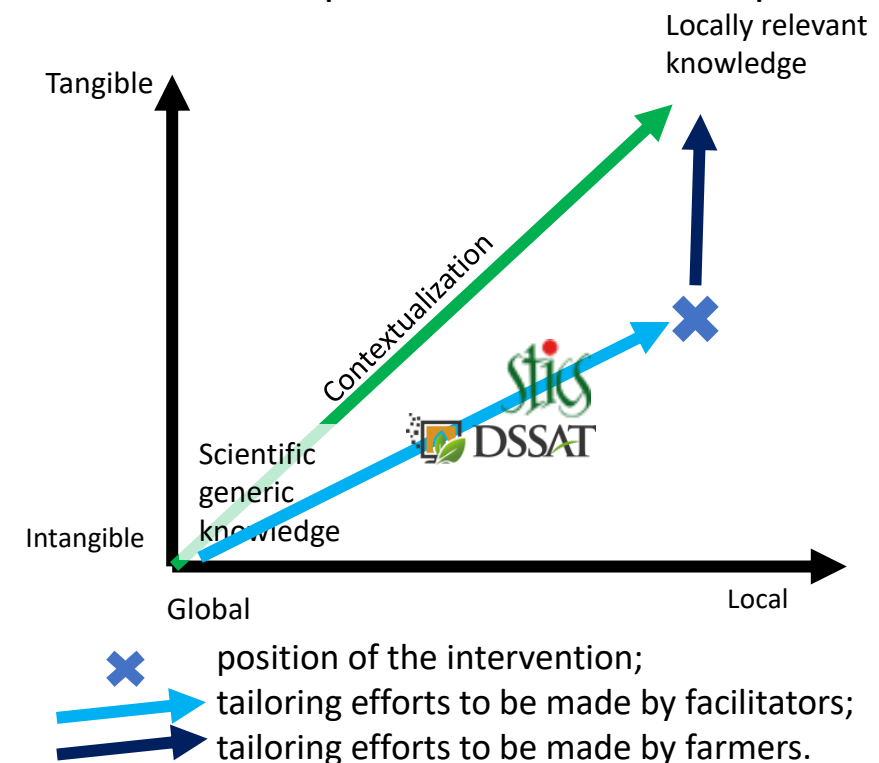
Crop Models in participatory approaches – Burkina Faso

(Cheriere et al., in prep)

- Crop models
 - Propose a diversity of options & adapt to farmers' demands
 - Explore “hidden” processes
- Modelling options as close as possible to farmers' context
- Mechanisms of contextualization
 - By design crop models use generic knowledge
 - Locally relevant inputs allows contextualization of the outputs
 - Facilitator's ability to answer farmers' questions
- Reducing the remaining contextualization effort
 - To help farmers with knowledge appropriation a communication tool recording the content of the discussions was handed to them.



Farmer's personal discussion report



Practical implications

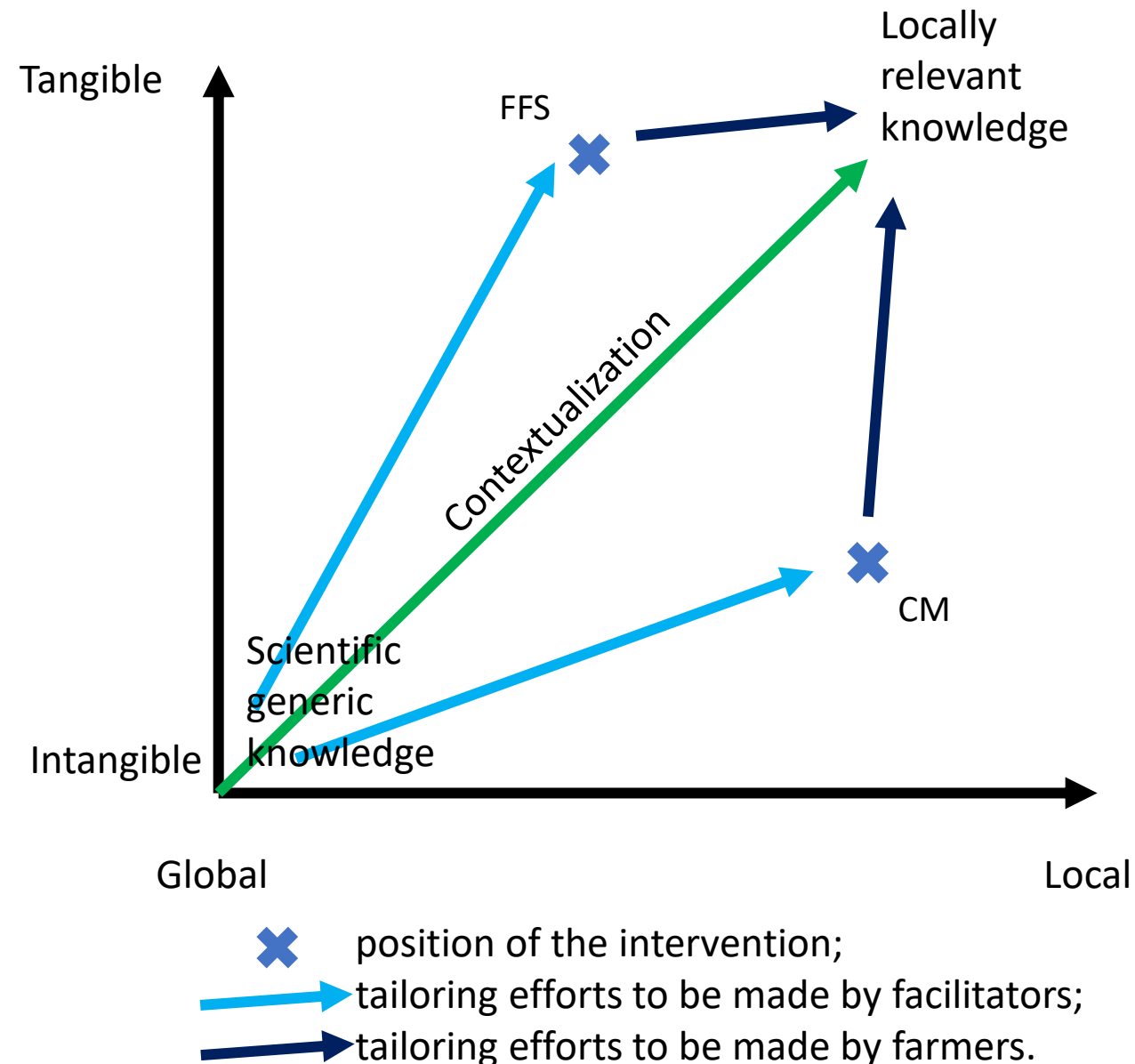
Two approaches = two different ways to contextualize knowledge
& share tailoring effort...

Choice depends on the objectives of the intervention

- Risky/New management option = FFS
- Finely tuning management options/exploring soil processes = CM

Depends on facilitator's ability to contextualize knowledge with the most appropriate method (mastering many approaches).

Opportunity of complementary use of FFS and CM



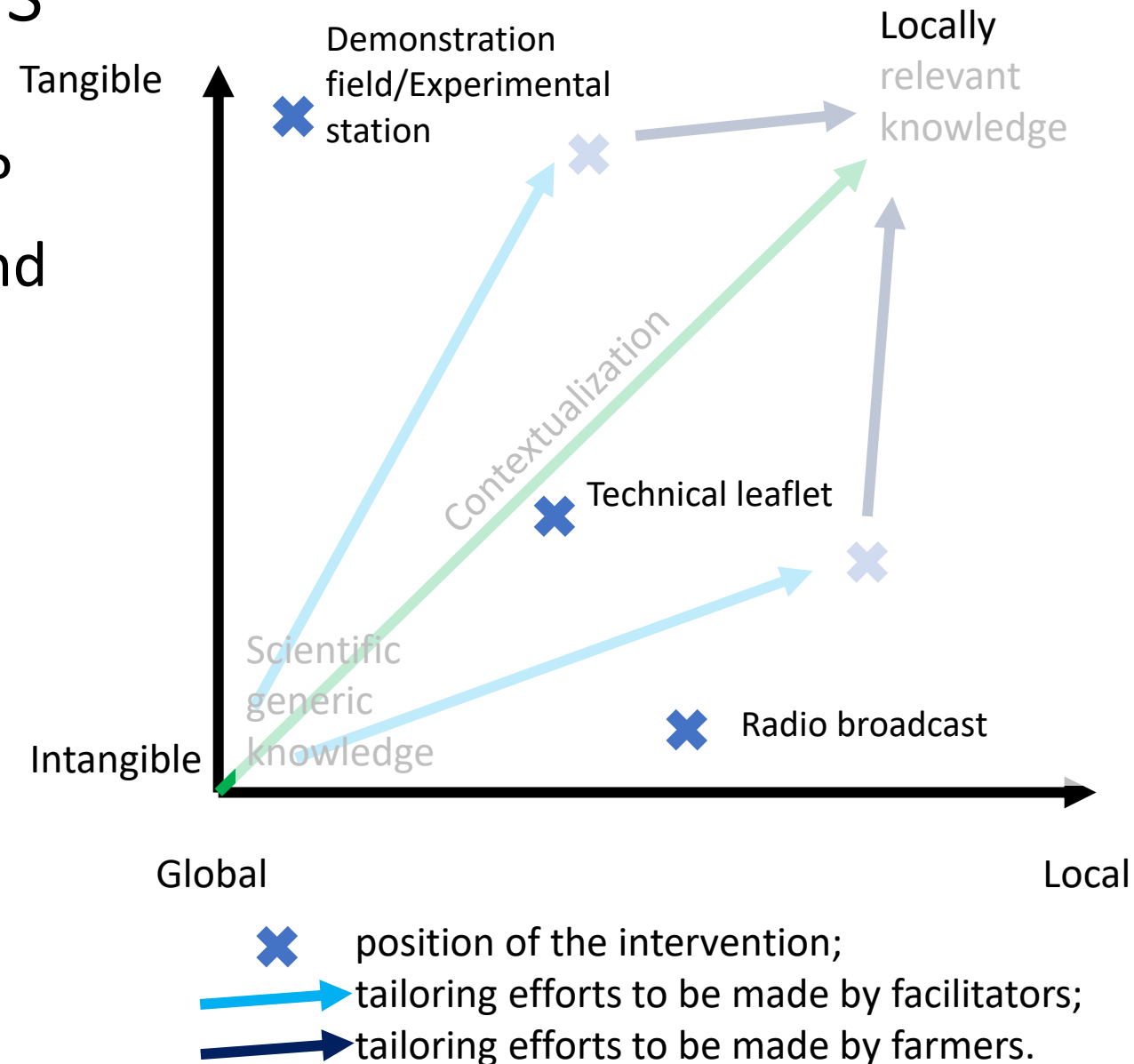
Theoretical implications

On whom relies the tailoring effort?

- Depends on the approach used and the intervention design
- Accompanying the remaining contextualization steps left to farmers

Approach selection based on

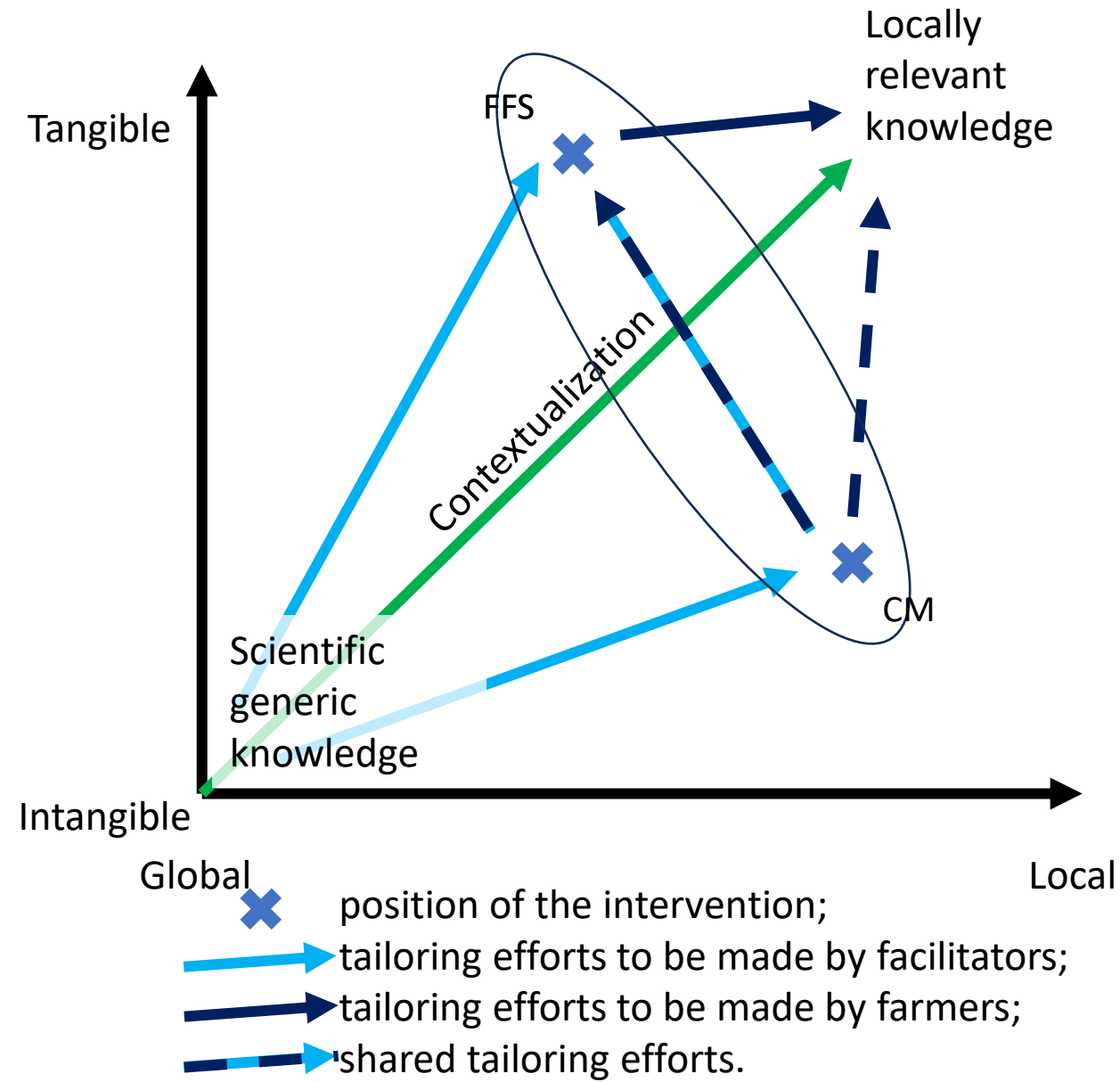
- Context
- Message/objectives of the project



Combining approaches...

Combining several advisory approaches

- Each action is a contextualization opportunity
- Need to accompany intermediary steps when researchers and farmers work in contextualizing knowledge
- What does it imply for the intervention design? For the facilitator's role?



Thank you!

Bibliography

- Bakker T, Dugué P, de Tourdonnet S (2021) Assessing the effects of Farmer Field Schools on farmers' trajectories of change in practices. *Agron Sustain Dev* 15. <https://doi.org/10.1007/s13593-021-00667-2>
- Descheemaeker K, Ronner E, Ollenburger M, et al (2019) Which options fit best? Operationalizing the socio-ecological niche concept. *Experimental Agriculture* 55:169–190. <https://doi.org/10.1017/S001447971600048X>
- Duru M, Therond O, Fares M (2015) Designing agroecological transitions; A review. *Agronomy for Sustainable Development* 35:1237–1257. <https://doi.org/10.1007/s13593-015-0318-x>
- Faure G, Rebuffel P, Violas D (2011) Systemic Evaluation of Advisory Services to Family Farms in West Africa. *The Journal of Agricultural Education and Extension* 17:325–339. <https://doi.org/10.1080/1389224X.2011.576821>
- Klerkx L, van Mierlo B, Leeuwis C (2012) Evolution of systems approaches to agricultural innovation: concepts, analysis and interventions. In: Darnhofer I, Gibbon D, Dedieu B (eds) *Farming Systems Research into the 21st Century: The New Dynamic*. Springer Netherlands, Dordrecht, pp 457–483
- Ojiem JO, de Ridder N, Vanlauwe B, Giller KE (2006) Socio-ecological niche: A conceptual framework for integration of legumes in smallholder farming systems. *International Journal of Agricultural Sustainability* 4:79–93. <https://doi.org/10.1080/14735903.2006.9686011>