

THREE ASPECTS, ONE CONCEPT: AGROECOLOGY

Agroecological practices and human interactions for a new approach for science An example at the University of Liege

Séverin HATT¹, Sidonie ARTRU¹, Fanny BOERAEVE², David BREDART¹, Bernard BODSON³, Marc DUFRENE², Frédéric FRANCIS⁴, Ludivine LASSOIS⁵, Arnaud MONTY², Pierre STASSART⁶, Eric HAUBRUGE⁴

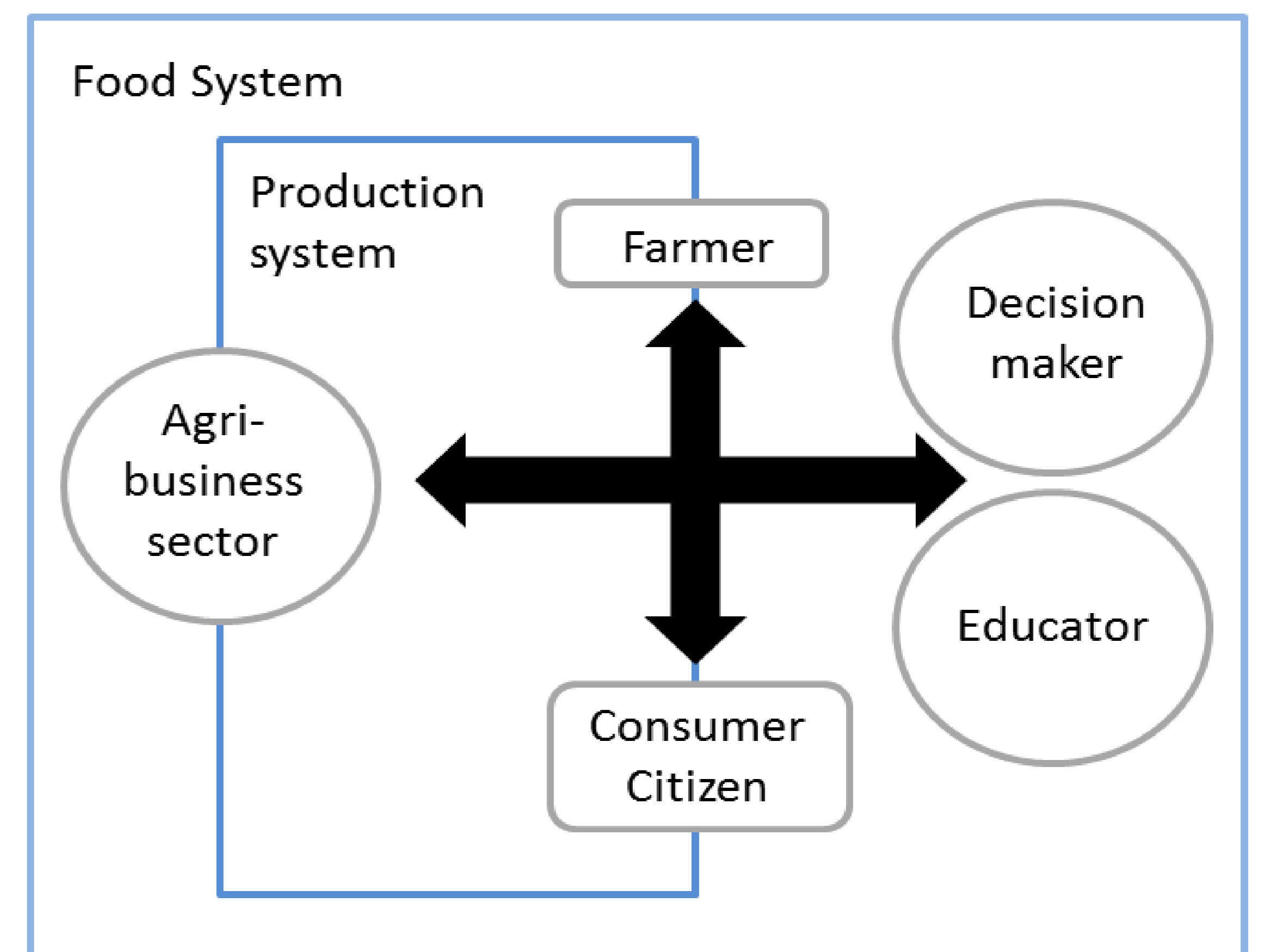
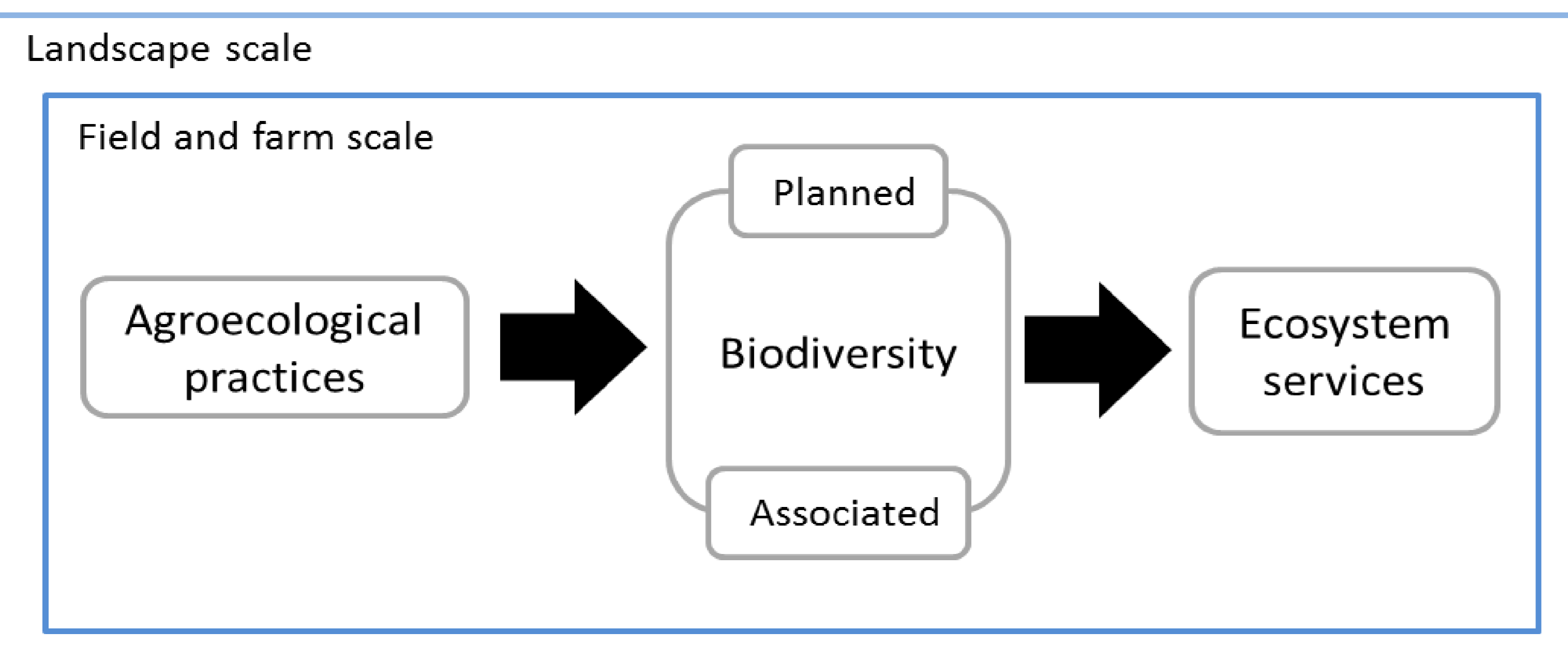
¹ AgricultureIsLife.be, University of Liege, Gembloux Agro-Biotech, Passage des déportés 2, 5030 Gembloux, Belgium ; ² Biodiversity and Landscape Unit, University of Liege, Gembloux Agro Bio-Tech, Passage des déportés 2, 5030 Gembloux, Belgium ; ³ Crop Science Unit and Experimental Farm, University of Liege, Gembloux Agro Bio-Tech, Passage des déportés 2, 5030 Gembloux, Belgium ; ⁴ Functional and Evolutionary Entomology Unit, University of Liege, Gembloux Agro Bio-Tech, Passage des déportés 2, 5030 Gembloux, Belgium ; ⁵ Forest, Nature and Landscape Department, University of Liege, Gembloux Agro Bio-Tech, Passage des déportés 2, 5030 Gembloux, Belgium ; ⁶ Socio-economy, Ecology and Development Unit, University of Liege, Campus of Arlon, Avenue de Longwy 185, 6700 Arlon, Belgium

Contact: Séverin HATT (severin.hatt@ulg.ac.be)

Biodiversity, the cornerstone for agroecological practices

Farmer's socio-economic environment influences its practices at the field scale. Actors of the territory are asked to design practices at the landscape scale. Human interactions are central to develop a sustainable agriculture (1).

An up-scaled system based on human interactions



→ promote

Promoting ecosystem services asks for multidisciplinary as well as participatory and action-oriented approaches. Indeed, they are numerous and diverse (4). It involves the understanding of ecosystem functioning via biodiversity as well as foreseeing practices impacts on the natural and socio-economic environment (5).

Participatory and action-oriented approaches (2, 3) are novel research methods. They give the opportunity to integrate the multiplicity of stakeholders involved in the food system when innovating in agriculture.

New approach for science

Challenge traditional scientific research

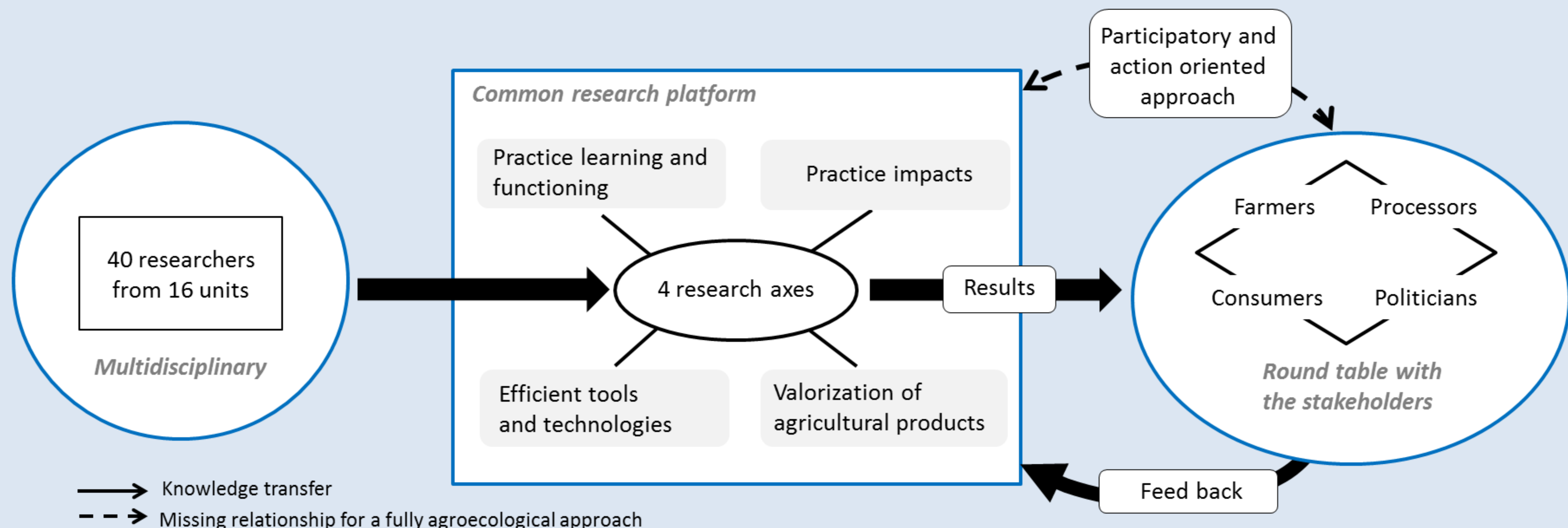
Multidisciplinary approaches

Participatory and action-oriented approaches

Innovative educational programs in universities

HOW RESEARCH PROJECTS ARE POSITIONNED IN THE FIELD OF AGROECOLOGY: WHAT DO THEY DO OR NOT ?

AgricultureIsLife: an agroecological research platform ?



→ Knowledge transfer
--> Missing relationship for a fully agroecological approach

(1) Francis, C., Lieblein, G., Gliessman, S., Breland, T. A., Creamer, N., Harwood, R., Salomonsson, L., Helenius, D., Rickerl, D., Salvador, R., Wiedenhoft, M., Simmons, S., Allene, P., Altieri, M., Floram, C., Poincelot, R. (2003). Agroecology: the ecology of food systems. *Journal of sustainable agriculture*, 22(3), 99-118.
(2) Hatchuel A. (2000). Research, Intervention and the production of knowledge. In LEARN Group (Eds), « Cow Up a Tree: Knowing and Learning for change in Agriculture », Paris, Inra Edition, coll. *Science Update*, p. 55-68.
(3) Méndez, V. E., Bacon, C. M., Cohen, R. (2012). Agroecology as a Transdisciplinary, Participatory, and Action-Oriented Approach. *Agroecology and Sustainable Food Systems*, 37(1), 3-18.
(4) Millenium Ecosystem Assessment (2005). *Ecosystems and human well-being*. Washington, DC : Island Press.
(5) Wezel, A., Casagrande, M., Celette, F., Vian, J. F., Ferrer, A., Peigné, J. (2013). Agroecological practices for sustainable agriculture. A review. *Agronomy for Sustainable Development*, 1-20.