

Maryline DARMAUN
mdarmaun@gmail.com
Research
Agroecology Scientific Day 2024
Workshop n°2, Session n°3

Title: Assessing a diversity of agroecosystems undergoing an agroecological transition. Results of the use of a co-designed assessment method in four use situations in France and in Senegal.

Abstract:

Agroecology is practiced and promoted in various forms adapted to the local context by many farmers and other stakeholders the food system around the world. Agroecology is often vaunted as one of the most promising approaches to achieve sustainable agriculture. An objective assessment of the development conditions and the social, economic and environmental performance of the diversity of agroecosystems undergoing an agroecological transition is crucial to improve our understanding of their advantages and limitations. However, such an assessment faces a tremendous methodological challenge because of the temporal dynamics of agroecosystems undergoing an agroecological transition, the diversity of their modalities and starting points, the need to take into account the multidimensional nature of the transition towards sustainability and the multiple scales of change that it implies.

We co-designed an assessment method, using the prototyping method, to overcome the challenges faced by the assessment of agroecosystems undergoing an agroecological transition and answer researchers', non-governmental organization representatives' and farmers' needs. We then tested the assessment method in four diverse use situations in Senegal and in France. Results were both methodological and operational. A four chronological-steps assessment method was co-designed. The first three steps provided an overall diagnosis of the functioning of the agroecosystem being assessed, the system of stakeholders with which it interacted, its degree of progress in the agroecological transition, and the conditions that allowed its development. The fourth step involved a multi-criteria evaluation of the economic, environmental and social performance of the agroecosystem resulting from the agroecological transition, at three levels. The results of the tests of the method highlighted its adaptability to a diversity of agroecosystems undergoing an agroecological transition. The assessment results revealed similar trends despite very different contexts ad agroecosystems, such as a good territorial anchorage, a high level of biodiversity and existing trade-offs between the performance, particularly between the environmental and economic dimensions. Assessment results divulged strong links between the progress in the transition trajectories, the level of advancement in the agroecological transition and the performance levels.

This work opens the way for future, deeper evaluation work in order to gain further insight into the advantages and limitations of agroecosystems undergoing agroecological transition in other geographical, political or social contexts, and at other scales.

Bibliographic references

- Baret P, Antier C (2022) Penser la diversité des trajectoires de transition. In: Coexistence et confrontation des modèles agricoles et alimentaires: Un nouveau paradigme du développement territorial, Éditions Quae. pp 289–303
- Barrios E, Gemmill-Herren B, Bicksler A, et al (2020) The 10 Elements of Agroecology: enabling transitions towards sustainable agriculture and food systems through visual narratives. *Ecosyst People* 16:230–247. <https://doi.org/10.1080/26395916.2020.1808705>
- Bricas N (2021) Les limites des systèmes alimentaires industrialisés. In: Bricas N, Conaré D, Walser M (eds) Une écologie de l'alimentation. éditions Quae
- Côte FX, Poirier-Magona E, Perret S, et al (2019) La transition agro-écologique des agricultures du Sud. In: Libr. Quae. <https://www.quae.com/produit/1546/9782759228232/la-transition-agro-ecologique-des-agricultures-du-sud>. Accessed 14 Aug 2020
- Darmaun M (2023) Évaluation d'agroécosystèmes en transition agroécologique. Conception et mise en situation d'un prototype de méthode dans quatre situations d'usage en France et au Sénégal. <https://doi.org/10.13140/RG.2.2.12514.09923>
- Darmaun M, Chevallier T, Hossard L, et al (2023a) Multidimensional and multiscale assessment of agroecological transitions. A review. *Int J Agric Sustain* 21:2193028. <https://doi.org/10.1080/14735903.2023.2193028>
- Darmaun M, Hossard L, De Tourdonnet S, et al (2023b) Co-designing a method to assess agroecological transitions: results of a case study in Senegal. *Ital J Agron*. <https://doi.org/10.4081/ija.2023.2195>
- De Schutter O (2011) Agroecology and the right to food: report presented at the 16th session of the United Nations human rights council. United Nations Human Rights Council, Geneva, Switzerland
- De Schutter O, Vanloqueren G (2011) The New Green Revolution: How Twenty-First-Century Science Can Feed the World. *Solutions* 2:
- Duru M, Therond O, Fares M (2015) Designing agroecological transitions; A review. *Agron Sustain Dev* 35:1237–1257. <https://doi.org/10.1007/s13593-015-0318-x>
- HLPE (2019) Agroecological and other innovative approaches for sustainable agriculture and food systems that enhance food security and nutrition
- IAASTD (2009) International assessment of agricultural knowledge, science and technology for development : global report. Island Press, Washington, DC
- Leippert F, Darmaun M, Bernoux M, Mpheshea M (2020) The potential of agroecology to build climate-resilient livelihoods and food systems
- Wezel A, Herren BG, Kerr RB, et al (2020) Agroecological principles and elements and their implications for transitioning to sustainable food systems. A review. *Agron Sustain Dev* 40:40. <https://doi.org/10.1007/s13593-020-00646-z>