

Supporting agroecological transition: pathway and tools for farmers' collectives

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Fruit and grapevine productions historically rely on frequent pesticide applications, creating strong pressure to redesign cropping systems. The agroecological transition requires more than just replacing one input with another: it entails coordinated changes in farming techniques, learning dynamics and governance. Farmers' collectives play a crucial role in this transition by providing spaces for knowledge exchange, experimentation and mutual support. Yet advisors need specific methods and tools to support these groups plan ahead, evaluate trade-offs, and make informed choices.

The Vitarbae project addresses this challenge by developing a modular support pathway for farmers' collectives. This pathway includes a toolbox of serious games, multicriteria assessment tools and knowledge platforms to foster collective learning. The goal is to enable farmers to co-design farming systems combining agroecological practices that reduce pesticide use without shifting burdens to other environmental impacts or increasing costs. The project therefore aims to empower advisors to guide farmers in designing agroecological practices tailored to their local conditions and to integrate game-based learning with multicriteria assessments, helping farmers explore and compare different strategies before implementation. The project consists in three partially overlapping actions:

1. Inventory and needs analysis: survey of existing tools (serious games, environmental/economic assessment tools, knowledge platforms) and analysis of advisor practices to identify gaps and opportunities through a national online survey of advisors and qualitative interviews;
2. Toolbox development: assembly of a set of serious games and assessment tools, clarification of intended uses and interconnections, and provision of guidance;
3. Pathway co-development and testing: formalisation of its stages, feedback loops and decision points, and test of connections with the toolbox tools.

A centralised web platform will host all resources.

The needs analysis underlined requirements for accessibility, adaptability and clear sequencing of the pathway. We created a flexible six-step pathway, from the training of the farmers' collective and problem identification to system design and testing, with feedback loops for continuous improvement as understanding deepens. The resulting pathway allows advisors to tailor support to each group's specific needs, making it suitable for local transition initiatives and training programs. In parallel, co-development with partners has improved the operability of the tools, while linking the games to assessment tools allows farmers to evaluate strategies holistically, considering environmental, economic, and social impacts. Effective adoption, however, requires high-quality facilitation, advisor training and regular updates to maintain relevance.

The Vitarbae project provides a practical and scalable framework for supporting agroecological transitions in fruit and grapevine productions. It clarifies how serious games and assessment tools can be embedded within advisory sequences to couple social learning with multicriteria reasoning. It points to shifts in advisors' posture, from expert prescription to facilitation of peer-to-peer learning, fostering innovation within farmers' collectives. By equipping farmers and advisors with the appropriate tools and knowledge, it paves the way for more sustainable agriculture, while opening research avenues on how to adapt and transfer successful practices between different regions and production systems.

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<https://ueri.paca.hub.inrae.fr/thematiques-de-recherche/outils-et-accompagnement-a-l-agroecologie/projet-vitarbae>