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Co-design agricultural systems combining gaming and backcasting methods in smallholder coffee agroforestry systems

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In Central America, smallholder coffee farmers rely on low input agroforestry systems (AFS) while experiencing increased pressure from climate change and social inequality. In order to increase the sustainability of these systems and to guide farmers along agroecological transition pathways, participatory approaches are needed. However, methods for the co-design process of such complex AFS are still scarce. Here, we present a practical approach based on game sessions and backcasting for the development of sustainable farming systems, together with the smallholder communities. We organized five game sessions and one backcasting workshop with farmer communities, technicians, researchers and municipality officials in La Dalia, Nicaragua. Through the game sessions we managed to highlight the key factors that allow or impede successful coordination among farmers to diversify their systems and develop organic and/or low input agriculture. Furthermore, using backcasting, we shared the outcomes from the game sessions among the communities and co-designed new farming systems highlighting major economic, social and environmental benefits and barriers. Through combining game and backcasting sessions, we were able to describe the current system and co-construct a desirable future vision towards agrological transition. We envision a wide range of relevant applications of this method in agriculture and beyond to facilitate stakeholders to collaboratively initiate processes of change.

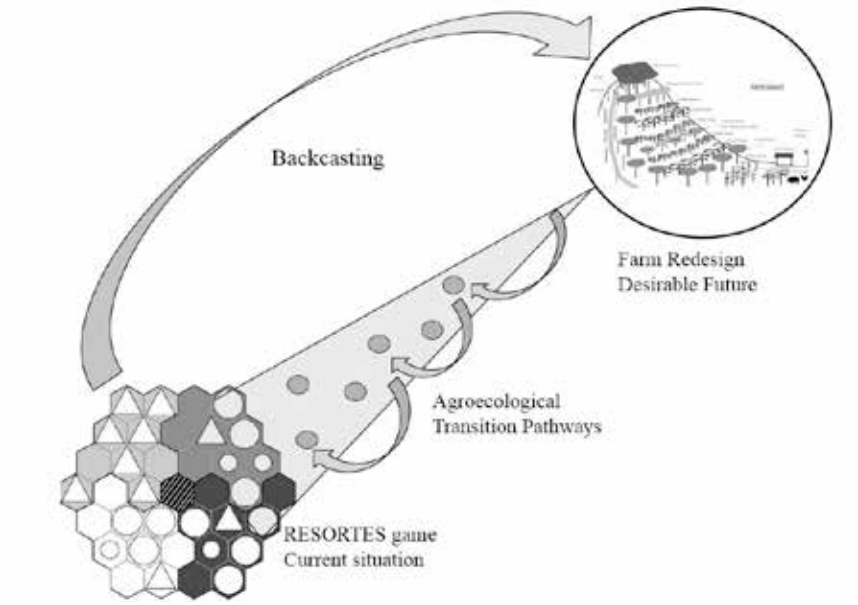

Illustration that combine RESORTES game sessions describing current situation and backcasting approach, showing how targets are chosen and pathways are then subsequently developed for achieving those targets.

Keywords: Agroecology, Action research, Land-use change, Nicaragua, Coffea Arabica.

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