

112. Building a shared representation of the landscape as a socio-ecological system and visualizing the challenges of CSA

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Climate threats exacerbate issues of natural resource management in rural landscapes, namely water, forest and agricultural land. In order to consistently address these issues, we highlight the usefulness of a joint vision of the landscape where the actors share their knowledge on the mechanisms at work when considering the central problem that affect the landscape as well as the proposed solutions. On the basis of several case studies, we present and analyse participatory conceptual modelling as a process and a series of methods that allow building a shared understanding of the landscape as a socio-ecological system. The case study that better illustrates the diversity of suitable methods and necessary adjustments in the modelling process, is the Zapoco watershed in the Chiquitano Model Forest (Bolivia), characterized both by its natural richness and its economic poverty. In the framework of the research-action EcoAdapt project for community-based adaptation at the landscape level, we reviewed the modelling approaches which better served our purpose and ended in the articulation of tools belonging to different approaches. As a main result, we obtained graphical representations that the actors can easily understand and use to describe their context (Open Standards for the Practices of Conservation), their practices (Problem-Actors-Resources-Dynamics-Interactions) and their history (Resilience thinking). In a practical way, the models built address the complexity of the landscape and bring into focus needs for research (knowledge gaps, main uncertainties) and for action (coordination failures, unsustainable dynamics). From the perspective of companion modelling, we finally discuss the outreach of participatory conceptual modelling in the promotion of climate smart agriculture.