

# COMPANION MODELLING TO FACILITATE COLLECTIVE LAND MANAGEMENT BY AKHA VILLAGERS IN UPPER NORTHERN THAILAND

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## ABSTRACT

In the highlands of northern Thailand, ethnic minorities are accused by lowlanders of aggravating the risk of soil erosion on steep slopes through recent land use changes. Government authorities have threatened to further restrict their access to farm land. But whether this risk is increasing or not, and how to prevent this problem are complex questions. In the recent past, an impressive amount of research efforts to control soil erosion led to limited success and highlighted the need for more integrated approaches to deal with this problem. Soil and water conservation is embedded in complex eco-socio systems, with numerous interacting ecological and social dynamics, and an increasing number of stakeholders with different interests and perceptions. Companion Modelling (ComMod) is an emerging approach designed to facilitate collective learning in such complex systems. By combining tools such as Multi-Agent Systems and Role Playing Games, it aims at developing simulation models integrating different

stakeholders' perceptions to use them within the context of platforms for collective learning. A ComMod process has been tested since 2002 in an Akha village of upper northern Thailand to examine collectively the interactions between soil and water conservation, agricultural diversification, and social equity. The objective of this paper is to present the way a shared representation and understanding of the problem and its key dynamics is achieved, and how it can be used to support collective learning. It describes the concrete use of the ComMod approach with Akha villagers and illustrates how farmers' interest shifts along the learning process from agronomic concerns (soil erosion) to socioeconomic mechanisms (allocation of rural credit to invest in non-erosive perennial crops). The flexibility and adaptive characteristics of the approach are highlighted as they fit with the evolving nature of collective learning processes. The paper ends with suggestions on how to improve the ComMod process by establishing a dialogue with higher levels of organization to sustain the dynamics emerging at the village level.