Participatory 3-D Landscape Modeling
Towards a “common spatial language” among researchers and local stakeholders

In the mountains, the spatial organization of crop-livestock interactions is a key component of sustainability of the village agroecosystems. Promoting changes in the spatial management of natural resources requires a good understanding of the underlying social organization of the community, as well as its historical evolution and response to policy and institutional changes. We present a research tool that we tested in Phieng Lieng village (Ngoc Phai commune, Bac Kan province) to facilitate such a collective learning process.

Why 3D modeling?
- Farmers are great sources of local knowledge.
- How to collect most effectively spatial information from farmers?
- In seminars on innovation diffusion, and land-use planning… it is necessary to have a “common spatial language” among managers, stakeholders, and scientists.
- 3 Dimension images enable users to capture and understand village agro-ecosystems more easily than 2 Dimension images.

How it works?
- A 3-D landscape model is created based on a topographic map. It is cut out from carton paper.
- Information is collected from group discussion to document the model.
- Color paints are applied to present different spatial uses (considered as an information layer).
- Geographic information is transferred from the 3-D models into a Geographic Information System (GIS).

A case study in Phieng Lieng
- Participatory mapping of past and current land cover/use and other themes (e.g. livestock movements, land tenure, conflict areas).
- A common language is used for consensus building among various stakeholders in order to prioritize development issues, and facilitate collective process of problem solving.
- A stage in the continuum from research to action: the 3D model is used as a mediation tool to insure compatibility between individual practices and the common good in natural resource management at the village level.