

Negotiation support tools: linking science and policy

Betha Lusiana^{1,2}, Meine van Noordwijk² and Georg Cadisch¹

¹ Institute for Plant Production and Agroecology in the Tropics and Subtropics (380), Hohenheim University, Garbenstr. 13, Stuttgart, Germany; ² The World Agroforestry Centre - Southeast Asian Programme, Jl. CIFOR, Situ Gede, Bogor, Indonesia

Challenges

Agro-ecosystems involve tradeoffs between multiple functions related to food security, climate change, policy interventions and technological innovations. Integrated Natural Resource Management requires a dynamic and efficient approach to assess the various plausible options in managing the landscape.

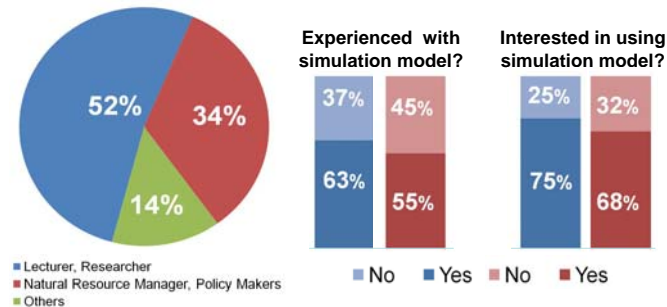
- Can envisioning tools such as simulation models and scenario analysis help decision makers and natural resource managers to explore plausible options effectively and efficiently?
- What are the essential factors for a simulation model or model results to be valuable for natural resource management and decision making?

Approach

A study addressing users' perceptions of simulation models was conducted with 115 respondents of potential model users in SE Asia and Africa questioned:

Saliency	relevance of simulation model results to model users
Credibility	the ability of simulation model to meet the technical and scientific standard
Legitimacy	model scenarios are perceived by users as unbiased and developed transparently

Respondents' Profile



Desirable simulation model: users' perspectives

Rank	Criteria	
1	Clear and understandable theory and processes underlying the model Model output is useful and applicable for managing natural resources	Saliency and Credibility
2	Model output has similar patterns to what is observed in the field Model is easy to use and parameterize	
3	Model output is attractive and easy to understand	Legitimacy
4	Model was developed by well known scientist	
5	Model has previously been used by policy makers	

Findings confirmed

- Model validity does not just depend on statistical test of observed vs predicted.
- Expectations of models to assist in decisions in complex systems is unrealistically high.

TUL-SEA

"Trees in multi-Use Landscapes in Southeast Asia (TUL-SEA): A negotiation support toolbox for Integrated Natural Resource Management' is a project that aims to promote and equip local resource managers with cost-effective, replicable tools and approaches to appraise the likely impacts of new technologies and changes in market access on multi-use landscape. The project, funded by BMZ/GTZ, runs in Southeast Asia countries: China, Indonesia, Philippines and Vietnam. The project strives for :

- bridging perception gaps between stakeholders (local, public/policy and scientific knowledge paradigms,
- providing quantification of tradeoffs between economic and environmental impacts at landscape level, and
- facilitating joint analysis of plausible scenarios based on available data and information as a basis for negotiation on contentious issues.

Example of appraisal and scenario tools

Agroforestry ~ Watershed Management Toolbox options

Initial appraisal of context	Watershed appraisal	Supportive Tools/ Simulation Models
<ul style="list-style-type: none"> • Landscape issues PALA • Drivers of land use change DriLUC • Rural poverty PAPPOLD • Agroforestry systems & technology RAFT • Market access RMA • Tenure Claim RaTA 	<ul style="list-style-type: none"> • Watershed functions RHA • Landslide risks RALMA • Spatial analysis of patterns and LUC RASA • Landscape scenario baselines FALLOW • Constraint analysis WNoTree 	<ul style="list-style-type: none"> • GenRiver & SpatRain: Hydrology • WaNuLCAS: Tree-soil-crop interactions • Tree*Site matching

NSS: Negotiation support process

Note: Words in Capital letters refer to abbreviation of respective tools

Users' expectation from a model

A model can

- ... help prospect the future
- ... efficiently and effectively support project/research work
- ... produce outputs that helps manage natural resources
- ... ease communication to stakeholders

What's next?

