Geophysical Research Abstracts
Vol. 15, EGU2013-11272, 2013
EGU General Assembly 2013

Some considerations on the attractiveness of participatory processes for researchers from natural science

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Participatory modeling and participatory scenario development have become an essential part of environmental impact assessment and planning in the field of water resources management. But even if most people agree that participation is required to solve environmental problems in a way that satisfies both the environmental and societal needs, success stories are relatively rare, while many attempts to include stakeholders in the development of models are still reported to have failed. This paper proposes the hypothesis, that the lack of success in participatory modeling can partly be attributed to a lack of attractiveness of participatory approaches for researchers from natural sciences (subsequently called 'modelers'). It has to be pointed out that this discussion is mainly concerned with natural scientists in academia and not with modelers who develop models for commercial purposes or modelers employed by public agencies.

The involvement of modelers and stakeholders in participatory modeling has been intensively studied during recent years. However, such analysis is rarely made from the viewpoint of the modelers themselves. Modelers usually don't see participatory modeling and scenario development as scientific targets as such, because the theoretical foundations of such processes usually lie far outside their own area of expertise. Thus, participatory processes are seen mainly as a means to attract funding or to facilitate the access to data or (relatively rarely) as a way to develop a research model into a commercial product. The majority of modelers very likely do not spend too much time on reflecting whether or not their new tools are helpful to solve real world problems or if the results are understandable and acceptable for stakeholders. They consider their task completed when the model they developed satisfies the 'scientific requirements', which are essentially different from the requirements to satisfy a group of stakeholders. Funding often stops before a newly developed model can actually be tested in a stakeholder process. Therefore the gap between stakeholders and modelers persists or is even growing.

A main reason for this probably lies in the way that the work of scientists (modelers) is evaluated. What counts is the number of journal articles produced, while applicability or societal impact is still not a measure of scientific success. A good journal article on a model requires an exemplary validation but only very rarely would a reviewer ask if a model was accepted by stakeholders. So why should a scientist go through a tedious stakeholder process? The stakeholder process might be a requirement of the research grant, but whether this is taken seriously, can be questioned, as long as stakeholder dialogues do not lead to quantifiable scientific success. In particular for researchers in early career stages who undergo typical, publication-based evaluation processes, participatory research is hardly beneficial.

The discussion in this contribution is based on three pillars: (i) a comprehensive evaluation of the literature published on participatory modeling and scenario development, (ii) a case study involving the development of an integrated model for water and land use management including an intensive stakeholder process and (iii) unstructured, personal communication – with mainly young scientists – about the attractiveness of multidisciplinary, applied research.