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Evaluating participatory research: Framework, methods and implementation results

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ABSTRACT

This paper describes a structured participatory process and associated evaluation protocol developed to detect systems learning by decision makers involved in the management of natural resources. A series of facilitated participatory workshops were conducted to investigate learning when decision makers and influencers were confronted with the multiple, complex interactions arising from decisions concerned with the nexus of water, food and energy security. The participatory process and evaluation of learning were trialled in the Greater Mekong Subregion (GMS), where integrated scientific evidence was systematically presented to challenge existing beliefs concerned with the effectiveness of proposed policy actions and development investments. Consistent with theoretical propositions, individually held values, beliefs and attitudes were deployed as the primary factors (and psychometrics) that underpin and influence environmental management decision making. Observed and statistically significant changes in the three psychometrics expressed by decision makers in response to the facilitated presentation of scientific evidence during the participatory process, provided supportive evidence of systems learning and the evaluation protocol.

1. Introduction

The outcomes of participatory research and participatory modelling in particular are increasingly scrutinised to assess their influence on decision making processes (Chess, 2000; Jones et al., 2009; Kellert et al., 2000; Perez et al., 2011; Plummer and Armitage, 2007). This paper describes a structured participatory process and protocol developed to facilitate and evaluate systems learning by decision makers concerned with the management of environmental resources. The system investigated focussed on policy initiatives and development investments affecting, and affected by, the nexus of national water, food and energy security (Smajgl and Ward, 2013a, b). The evaluation protocol relies on the Challenge and Reconstruct Learning (ChaRL) Framework (Smajgl and Ward, 2013a; see Fig. 3) and was trialled during a series of facilitated workshops attended by decision makers and influencers from government agencies, civil society, NGO's and the private sector operating in the Greater Mekong Subregion (GMS). The participatory process and evaluation utilised a mixed method approach to facilitate a formalised learning process for GMS decision makers. Decision maker learning was detected and evaluated via observed changes in individually held values, beliefs and attitudes, amended in response to the systematic presentation of scientific evidence. Scientific evidence, generated as part of the research, was integrated as an agent based simulation and used as a modelling device to challenge existing beliefs concerned with the effectiveness of proposed policy actions and development investments.

We first summarise literature based insights on the status of participatory evaluation. We then describe the Greater Mekong Subregion, followed by a description of the research goals, process and theoretical underpinning as the three pillars necessary to design an effective research evaluation. A detailed explanation of the monitoring and evaluation methodology follows and the paper concludes with a discussion of the observed results.

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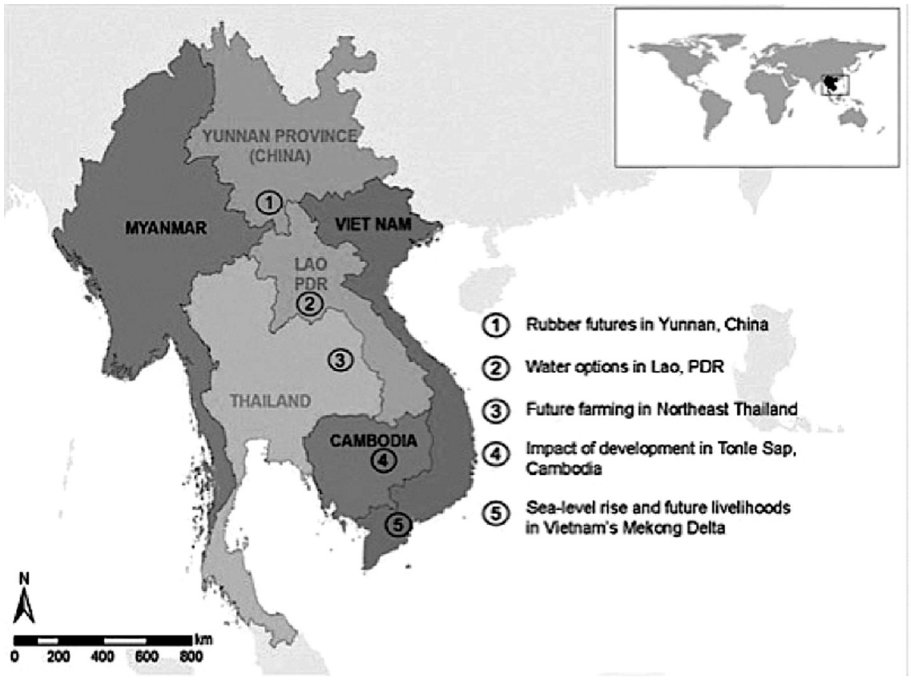

Fig. 1. The wider Mekong region and the five local study areas.

2. Current evaluations of participatory processes

Evaluations of participatory processes are essential to assess either the effectiveness of a specific participatory technique or to compare the relative effectiveness of methodological variants. However, the effectiveness of participatory processes is reliant on a positive, existing attitude towards learning among stakeholders. In most cases of participatory research multiple methods are combined to conduct the assessment defined by stakeholders (Jones et al., 2009), creating difficulties in attributing impact to a particular methodological element. The experimental testing of specific participatory protocols requires isolating all other influences and effects of a participatory process with a control group. But in reality deliberative participation does not provide these two conditions, which prohibits a formal comparison of outcomes with and without participatory research. Resolution requires an *ex ante* design for monitoring and evaluating research impacts. Most existing participatory research evaluation frameworks employ an *ex post* approach (Connick and Innes, 2003; Larson et al., 2010; Petts, 2001; Plummer and Armitage, 2007). Non-participatory research is generally characterised by less stakeholder interactions allowing for a more controlled monitoring.

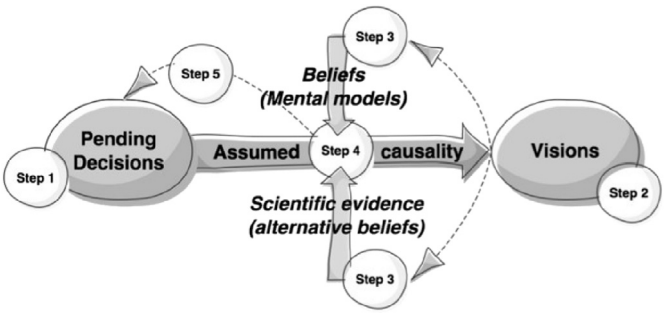

Fig. 2. The Challenge and Reconstruct Learning (ChaRL) framework (Smajgl et al., in press).

In addition to (a) research goals, evaluation methods also depend on (b) the type of research process and (c) the underpinning theory, highlighted by the evaluation protocol described in Jones et al. (2009) and Perez et al. (2011). For instance, observation-based techniques, central to the work presented in this paper, require participatory processes and could not be carried out in a more traditional, non-participatory science processes. Theoretical underpinnings provide a third perspective for designing the monitoring approach by defining the target variables. For instance, if the underpinnings include specific theories on human cognition and the research goal is to facilitate learning among decision makers, theory identifies the measurement of values, beliefs and attitudes as critical for evaluating research impacts (Schwartz, 1992; Schwartz and Bilsky, 1987; Stern et al., 1999, 1998).

In a meta study Boaz et al. (2008) reviewed 156 research publications finding examples of 17 categories of applied data gathering methods. In order of ranking, ex-post tracing (101 cases) was found to be the most commonly applied method to elicit data, followed by semi-structured exit interviews (57), case study analysis (56), documentary analysis (45), publication-related analysis (37), and surveys (30). Research impacts and data interpretation were evaluated according to 14 different types of frameworks. The most common framework relied on economic metrics. Kristjanson and Thornton (2004) focused on studies undertaken by the International Livestock Research Institute and found a similar array of 12 evaluation methods. In the domain of social simulation, semi-structured interviews are often at the core of evaluation methods (Jones et al., 2009; Perez et al., 2011). However, a generic evaluation approach across all cases of participatory research or modelling may not readily correspond with the wide array of research foci and objectives of participatory research (Barreteau et al., 2010; Voinov and Bousquet, 2010). Research objectives can provide guidance for determining evaluation indicators, but according to Nagel and Aenis (2002) are not the only relevant dimension for designing evaluation.