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Empowering marginalized communities in water resources management: Addressing inequitable practices in Participatory Model Building

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ABSTRACT

Within the field of water resource management, Group Model Building (GMB) is a growing method used to engage stakeholders in the development of models that describe environmental and socioeconomic systems to create and test policy alternatives. While there is significant focus on improving stakeholder engagement, there is a lack of studies specifically looking at the experiences of marginalized communities and the barriers that prevent their fuller participation in the decision-making process. This paper explores the common issues and presents recommended improved practices, based on anti-oppression, related to the stages of problem framing, stakeholder identification and selection, workshop preparation, and workshop facilitation. For problem defining and stakeholder selection, the major recommendations are to engage diverse stakeholder communities from the earliest stages and give them control over framing the project scope. With regards to planning the model building workshops, it is recommended that the facilitation team work closely with marginalized stakeholders to highlight and address barriers that would prevent their inclusion. With the actual facilitation of the workshops, it is best to employ activities that allow stakeholders to provide knowledge and input in mediums that are most comfortable to them; additionally, the facilitation team needs to be able to challenge problematic interpersonal interactions as they manifest within conversations. This article focuses on building comfortability with political language so that the systemic oppression in which existing participatory processes occur can be understood, thus allowing GMB practitioners to engage in social justice efforts.

1. Introduction

Significant threats to water resources around the world, and challenges in their sustainable management, are increasing due to numerous factors including population growth, agricultural pollution, urbanization, climate change, and unsustainable water resources management practices, among many other things (Campisi et al., 2012; Adamowski et al., 2009). Stakeholder engagement and participation is increasingly recognized as a critical aspect of sustainable water resources management (Inam et al., 2015; Halbe et al., 2014; Straith et al., 2014; Medema et al., 2014; Adamowski et al., 2012; Saadat et al., 2011). Involving the public in the decision-making process has many potential benefits that can improve the policy solutions put forward, though it does come at the expense of requiring more time and effort put towards facilitating and supporting stakeholders through the entire process. However, the way stakeholders are identified, prioritized, and engaged with throughout the management process significantly impacts what results and policy decisions are produced. The composition chosen between government agencies, industry representatives, and community groups affects the discussions held throughout the process, resulting in different outcome goals and methods for achieving them (Moore and Koontz, 2010). As such, many different guiding principles, frameworks, and methods have been developed to determine which groups count as stakeholders and what their participation should be. The result is numerous methods that highlight and identify different kinds of stakeholder groups (Glicken, 2000; Prell et al., 2009; Hämäläinen et al., 2001; Mitchell et al., 1997).

While stakeholder participation can lead to more innovative and equitable solutions, equity is not necessarily promoted through processes of stakeholder participation. Taylor (2007), Williams

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(2004), and Hickey and Mohan (2005) have made important contributions to critical discourses around participatory processes and development. A number of different factors in the stakeholder selection and engagement stages can lead to the disenfranchisement of stakeholders in the decision-making, and this paper seeks to highlight and address those factors. Researchers and organizations using participatory decision-making processes must be cognizant of local and global histories of conflict and oppression, and consider how the processes are embedded within those histories.

Participatory Model Building (PMB) is an increasingly popular form of stakeholder engagement within water resource management. PMB refers to forms of resource management that are rooted in the incorporation of stakeholder input to guide the process and outcomes (Andersen et al., 2007). The level of stakeholder participation varies depending on the methods chosen. Group Model Building (GMB) is one subset of PMB, whereby stakeholders are involved in the development, testing, and implementation of the model. It is a participatory method that gives stakeholders a high level of control over the created model and the interventions and policy solutions that are proposed, tested, and ideally implemented. System dynamics modelling is a GMB method wherein stakeholders develop conceptual models of environmental and socioeconomic systems based on feedback loops, which are then quantified to test scenarios (Renger et al., 2008). Within this method, the group learning and experience sharing between stakeholders throughout the process is more heavily valued than other PMB processes (Voinov and Bousquet, 2010). We are focussing our attention in this article on GMB via system dynamics modelling because of the high degree of stakeholder participation in the process. We are also focussing on the field of water resource management because of the particularly complex and broad environmental and sociopolitical systems that are encompassed within the field. Not only does this allow the decision-making process to be made more accessible by addressing more barriers to participation, it also allows the critiques made to be more transferable to other forms of stakeholder engagement that share various aspects with GMB via system dynamics modelling.

The major stages of GMB are presented in Fig. 1 below. The process is led by the facilitation team, which is usually comprised of researchers and governmental body representatives, such as watershed organizations. The process begins with establishing the problem to be addressed and defining the boundaries of the system in question; this includes things such as the geographical region and scale. Then the facilitation team identifies the relevant stakeholders and selects those that they wish to include in the model building. Ideally these first three stages should be iterative, with the problem and boundary definition re-evaluated with input from the chosen stakeholders. This allows the stakeholders to aid in ensuring the model-building will be more representative of their context. Following this, the workshops wherein the model will be developed are planned, and preparatory activities may be done with the stakeholders, followed by the workshop or series of workshops to actually create and test the model. It is possible for discussions in the workshops to result in the need to return to stage 1 and reassess the defined problem, but this is typically avoided through sufficient engagement of stakeholders from the beginning. Finally, once the model is completed and different solutions are tested, the selected solutions are then implemented; the developed model is then also incorporated into future governmental decision-making. This article looks at stages 1 through 5 and does not cover stage 6 (Fig. 1). The implementation and institutionalization of the solutions are much more dependent on the particular sociopolitical context the GMB is occurring within, and as such requires an article itself to properly explore the incorporation of anti-oppression.

Anti-oppressive practice was developed within the field of social work as a practice that is grounded in social justice, seeking to support the challenging and resisting of oppression and marginalization (Baines, 2011). Oppression is “the systematic, unfair, unjust treatment of individuals as a result of societal practices and norms” (Cudd, 2005 quoted in Dong and Temple, 2011). Marginalization is the “process through which persons are peripheralized on the basis of their identities, associations, experiences, and environments” (LeBlanc, 1997). Marginalization is experienced through having minimal access to resources, association to cultural norms, and representation (this includes cultural representation in things such as media, or decision-making bodies like governments, organizations, and corporations). Marginalization is closely tied to oppression, and on a societal level can be seen as the product of structural barriers. Structural barriers are spaces, policies, practices, and attitudes that diminish the autonomy and choices available to individuals and communities as a result of their particular identities and experiences (van Wormer and Besthorn, 2010). We seek to bring this anti-oppressive practice into water resource management as a means of opening up discourse in the field around the structural barriers present in current water resource practices. As such, we assert that viewing water resource management as a political endeavour is to acknowledge that “nothing is neutral, and everything involves an overt or covert struggle over power, resources, and affirming identities” (Baines, 2011). We therefore recognize that all decisions made about the access or allocation of water resources either perpetuate or challenge current oppressions.

Within the water resource field, there tends to be a lack of deep understanding in how these structural barriers impact resulting proposed solutions, as well as who is able to participate and which voices dominate the discussions (McEwan, 2003). These considerations are critical and the facilitation team needs to be just as thoughtful about them as they are with the modelling itself. However, the specific facilitation methods employed by model facilitation teams in group modelling projects is usually secondary to model development and results in research (Berard, 2010). As a result, the process's structural barriers to access are often not given

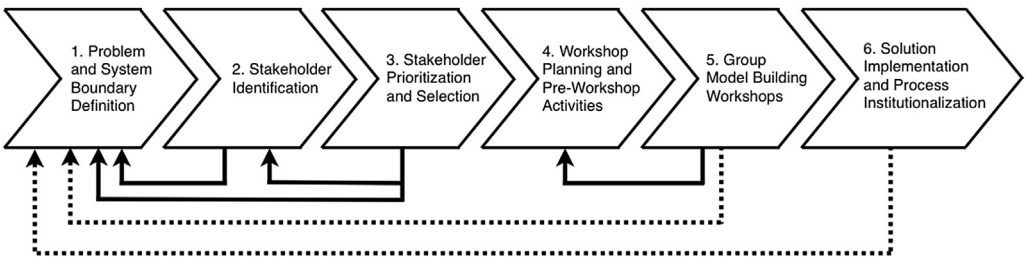

Fig. 1. The stages of the GMB process. Solid arrows represent cycles that happen on a more frequent basis. Dotted arrows represent cycles that rarely happen due to the greater difficulty.