



Research article

Evaluating the success of public participation in integrated catchment management

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ABSTRACT

Recognition of the need to manage the water environment in more holistic ways has resulted in the global growth of Integrated Catchment Management (ICM). ICM is characterised by horizontal integration, encouraging interdisciplinary working between traditionally disparate management sectors, alongside vertical integration, characterised by the engagement of communities; central is the promotion of participatory governance and management decision-making. ICM has been translated into policy through, for example, the EU Water Framework Directive and at a national level by policies such as the Catchment Based Approach in England. Research exploring the implementation of these policies has reported success at a catchment level, but further research is required to explore practices of management at local level within catchments. This paper presents the findings of participatory research undertaken with a catchment partnership in the northeast of England to explore the integration of top-down policy translation with how local communities interact with management agencies at sub-catchment scale (a bottom-up perspective). The research found that supra-catchment scale drivers dominate the vertical interplay between management systems at more local levels. These drivers embed traditional practices of management, which establishes public participation as a barrier to delivery of top-down management objectives, resulting in practices that exclude communities and participatory movements at the local level. Although collaboration between agencies at the partnership scale offers a potential solution to overcoming these obstacles, the paper recommends changes to supra-catchment governance structures to encourage flexibility in developing local participatory movements as assets. Further research is necessary to develop new practices of management to integrate local people more effectively into the management process.

1. Introduction

The past two decades have seen increasing global efforts to adopt more holistic and integrated approaches to manage water environments (Watson and Howe, 2006), for example in Australia (Bellamy et al., 2002), Africa (Dungumaro and Madulu, 2003), the USA (Ballweber, 2006), and across the EU (Mouratiadou and Moran, 2007). Commonly referred to as Integrated Catchment Management (ICM) (Lerner and Zheng, 2011), these approaches use hydrological catchments as natural organising units for interventions in the landscape and natural processes (Fenemor et al., 2011). They are typified by the replacement of often fragmented and sectorally distinct approaches (Butterworth et al., 2010; Watson et al., 2009) with new, integrated land-water practices grounded in participation, shared knowledge, and social learning (Allen et al., 2011; Mitchell and Hollick, 1993; Watson and Howe, 2006).

As ICM approaches have become more widely adopted (Rouillard

and Spray, 2017), studies have reported success in implementing ICM principles (Collins et al., 2007; Cook et al., 2013a). However, current research is focused predominantly on the supra-, or large catchment scale, and has typically adopted a top-down perspective (Sabatier, 1986) to assessing how effectively policy has been implemented (Watson, 2014). This has resulted in a gap in our understanding of ICM implementation at the local, or sub-catchment, scale (Mees et al., 2017), where issues have been raised about how meaningful and extensive ICM-based participation is (Mouratiadou and Moran, 2007), and whether participatory policies can overcome traditional practices of management (Cook et al., 2013b; Watson, 2014).

The purpose of this paper is to address this existing research gap by exploring the nature of integrated management practices at the local scale. In particular we look to determine how supra-catchment drivers of participation are translated into local participatory practices, and how these practices impact on communities within the catchment area.

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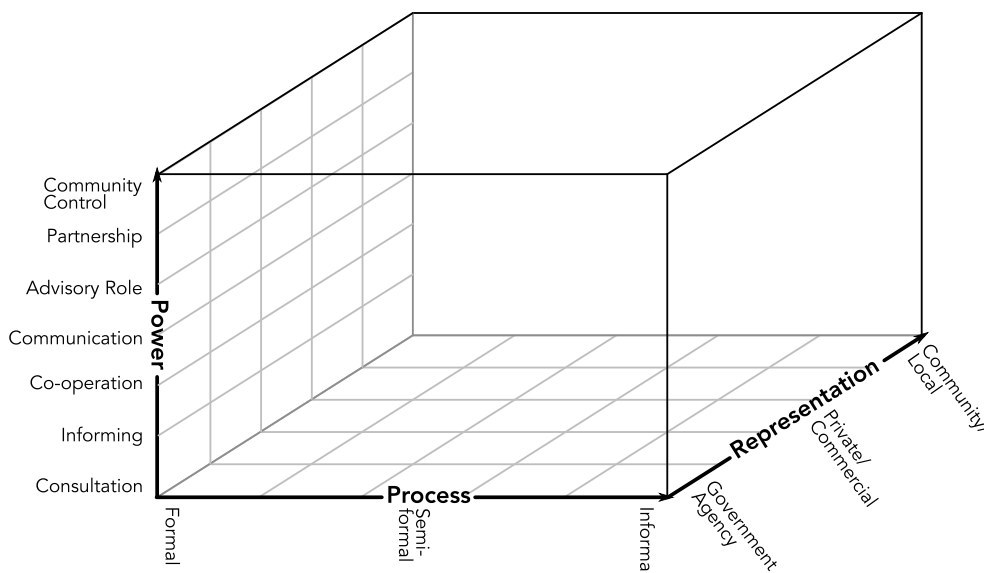


Fig. 1. Plummer and FitzGibbon's (2004) conceptual model of co-operative management. The degree of participation is assessed dependent upon and the formal or informal nature of the processes adopted (x axis), the degree to which power is transferred between groups (y axis), and which groups achieve representation (z axis) (Adapted from Plummer and FitzGibbon, 2004; and Pomeroy and Berkes, 1997).

In contrast to previous research we adopt both a 'top-down' and 'bottom-up' approach to explore the governance arrangements and working practices of a catchment management partnership, and the knowledge, experiences, and aspirations of the communities living within the area. To undertake this analysis we use the case study of a sub-catchment scale management partnership in the Northeast of England. We adopt a pragmatic, mixed methods research approach grounded in the concepts of participatory research, intended to engage with and explore a range of differing perspectives on catchment management and participation. This aims to (i) examine how the catchment partnership functions and how catchment interventions are identified, planned, and implemented; (ii) explore how community participation is conceptualised, and how it is enacted through the practices of management demonstrated by the partnership; and (iii) explore how local communities and individuals conceptualise their environment and how it should be managed, and how this interfaces with the work of the partnership.

The research presented is some of the first to consider interactions between local communities and management agencies in the day-to-day management of the environment, and how more active community participation can contribute to more effective ICM. This research is therefore crucial to determining if aspirations for community engagement are being met, and what barriers and opportunities exist for integrating people and communities into ICM practices at the local scale.

In the next section we explore ICM, and public participation in management, in more detail.

2. Background to ICM

ICM as a term is often left purposefully generic, such as the definition adopted by Lerner and Zheng (2011) as "the fully integrated management of the land, water and human activities in [...] catchments" (p. 2638). This reflects the multiple objectives of ICM and the way in which it is operationalised (Butterworth et al., 2010). Taking a more detailed perspective, Kilvington et al. (2011) and Varis et al. (2014) argue that ICM represents two fundamental principles: horizontal integration, across and between management organisations from different disciplines, for example flood risk, spatial planning, or agriculture; and vertical integration between experts, policymakers, and the public. Here, we review the vertical integration component of ICM, exploring how traditional and ICM approaches to management differ in how they integrate public participation into environmental decision-making.

We acknowledge that public participation in environmental

decision making is not a new phenomenon, and did not emerge specifically with a proposed shift towards ICM approaches (Reed, 2008). However, the ways in which traditional catchment management and ICM integrate people into practices of management are distinctly different (Eden, 1996). Participatory activities in traditional management are characterised by hierarchical arrangements, the dominance of expert-led decision making, and asymmetrical power relationships between management agencies and the public (Lane, 2012; Watson et al., 2009). In these circumstances participation is often heavily controlled and choreographed, and usually intended to identify public preferences for, or to 'sell', a preferred option (Warner, 2011). In contrast, ICM is characterised by a philosophy of participation aimed at dispersing and localising decision-making power (Marshall et al., 2010; Mitchell and Hollick, 1993) and combining officially sanctioned, scientific knowledge with local knowledges and perspectives (Jemberu et al., 2018; Stringer and Reed, 2007). Participation in this context is not a mechanistic target to be achieved, but an ongoing process which represents a fundamental part of catchment management activities (Reed, 2008).

The participatory nature of catchment management is often evaluated using conceptual models, such as Arnstein's (1969) 'Ladder of Participation'. This model classifies participation on a continuum between manipulative non-participation through to total citizen control. However, Collins and Ison (2009) argue that the model represents an over-simplified, power-focused model of participation and hence fails to consider the complex, and often non-linear, interactions between agencies and communities over time (Tritter and McCallum, 2006). In this way failure is implied if total citizen control is not obtained, even though a model of total citizen control is not always desirable or achievable (Hayward et al., 2004).

Plummer and FitzGibbon (2004), drawing on Berkes (1994) and Pomeroy and Berkes (1997), proposed a multi-dimensional model of co-operative management (Fig. 1) which extends the original power-relationships concept by exploring the interrelationships between representation, power and process. This model also considers which bodies achieve representation and the nature of participatory processes. Assessing participatory activities against power, representation and process builds on criticisms of Arnstein's original ladder, acknowledging the additional complexity of who participates and how. In this paper, we use this model to assess the degree and nature of participation in ICM.

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