



Two steps forward, two steps back: The role of innovation in transforming towards community-based marine resource management in Solomon Islands



K.E. Abernethy^{a,*}, Ö. Bodin^b, P. Olsson^b, Z. Hilly^c, A. Schwarz^c

^a Environment and Sustainability Institute, University of Exeter, Penryn, Cornwall TR10 9FE, UK

^b Stockholm Resilience Centre, Stockholm University, SE-106 91 Stockholm, Sweden

^c WorldFish, P.O. Box 438, Honiara, Solomon Islands

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ABSTRACT

In many coastal nations, community-based arrangements for marine resource management (CBRM) are promoted by government, advocated for by non-government actors, and are seen by both as one of the most promising options to achieve sustainable use and secure inshore fisheries and aquatic resources. Although there is an abundant literature on what makes CBRM effective, it is less clear how CBRM is introduced or develops as an idea in a community, and the process of how the idea leads to the adoption of a new resource management approach with supporting institutions. Here we aim to address this gap by applying an explicit process-based approach drawing on innovation history methodology by mapping and analysing the initiation and emergence of CBRM in five fishing-dependent communities in Solomon Islands. We use insights from the literatures on diffusion of innovation and transformability to define phases of the process and help guide the inductive analysis of qualitative data. We show the CBRM institutionalisation processes were non-linear, required specific strategies to move from one phase to the next, and key elements facilitated or hindered movement. Building active support for CBRM within communities depended on the types of events that happened at the beginning of the process and actions taken to sustain this. Matching CBRM to known resource management ideas or other social problems in the community, developing legitimate institutions and decision-making processes, strong continual interactions between key actors and the rest of the community (not necessarily NGO actors), and community members witnessing benefits of CBRM, all contributed to the emergence and diffusion of CBRM in the communities, and helped to overcome barriers to transformative change.

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1. Introduction

For tropical developing coastal nations, which are typically characterised by poverty and high dependence on often declining and disturbed marine resources, the need to radically transform towards more sustainable trajectories is urgent (Béné, 2009; Burke et al., 2012). This includes developing new governance regimes that support integrated approaches to the management of marine resources and ecosystems, such as ecosystem-based management which pays attention to both social and ecological dimensions of

resource management, and interactions between humans and the environment (see for example, Christensen et al., 1996).

For marine systems and particularly at local and regional scales, polycentric governance and decentralised management approaches that draw on a diversity of sources of knowledge can be more appropriate for integrated resource management than conventional centralised approaches (Armitage et al., 2008). This is particularly true for nations with limited financial and human resources to enforce legislation, and with difficult-to-access remote rural communities. Decentralised approaches which embrace community-led initiatives, can be tailored to place and situation, as well as be flexible and adaptive (Armitage et al., 2008; Folke et al., 2005; Olsson et al., 2004). As a result, legislation and policy designed to empower communities to manage (or co-manage with other actors) their local marine resources are prominent in many tropical developing countries, and community-led approaches often dominate environmental non-government

* Corresponding author. Tel.: +44 1326259490.

E-mail addresses: k.abernethy@exeter.ac.uk (K.E. Abernethy), orjan.bodin@stockholmresilience.su.se (Ö. Bodin), per.olsson@stockholmresilience.su.se (P. Olsson), Z.Hilly@cgiar.org (Z. Hilly), a.schwarz@cgiar.org (A. Schwarz).

organisation's activities (Berkes, 2006; Blaikie, 2006; Evans et al., 2011).

There is a vast literature on community-based resource management (hereafter CBRM). Many studies look at what makes CBRM successful or not, and focus on institutional dimensions and adaptive capacity (Armitage, 2005; Berkes, 2006; Brown, 2002; Leach et al., 1999; Pollnac et al., 2001). However, what is less clear is how CBRM is introduced or develops as an idea in a community, and the process of how an idea leads to the adoption of a new resource management approach, with supporting institutions. This is often an emergent process that requires transformative capacity, defined here as “the capacity to create a fundamentally new system when ecological, economic, or social, including political, conditions make the existing system untenable” (Walker et al., 2004). Ideas around transformative capacity have emerged at the forefront of governance research to understand how transformative processes are initiated and navigated (Folke et al., 2010; Smith and Kern, 2009). Building transformative capacity is not an easy task, and often calls for innovative ways to “unlock” rigid and resistant institutional structures in order to pave the way for new ways of conducting business (Westley et al., 2013). However, most of the knowledge on the process of the introduction and uptake of CBRM is anecdotal. Here we aim to address this gap by applying an explicitly process-based approach, mapping out and analysing the emergence and institutionalisation of CBRM in communities. We use a comparative case study approach to gather and analyse data from five fishing-dependent communities in Solomon Islands on how CBRM in communities has emerged over time. This includes the specific activities and events that underpinned the process, and how these moved the initiation and institutionalisation processes forward and sometimes backward. We specifically seek to understand the barriers and bridges, and the strategies for moving an idea from the fringe to the mainstream in a community, and how the idea of CBRM garners support and is institutionalised.

There are three objectives to the study. First and foremost, we aim to contribute to the understanding of the processes of initiation and emergence of CBRM. This involves a broad focus on what kind of activities and events that take place (or not) when a community undergoes change towards CBRM. Second, in order to bring about this understanding, we have developed a method that can be readily used to analyse and compare the often ‘difficult-to-pin-down’ processes of innovation and transformative capacity building in communities. In doing so, we draw from the literatures on social-ecological innovation and transformation (Moore and Westley, 2011; Olsson and Galaz, 2011), and diffusion of innovation (Rogers, 1962) to provide the overall theoretical framework for the study. The diffusion of innovation lens allowed us to examine how CBRM ideas are developed and spread within and possibly also between communities. In this study we focus on innovation diffusion from the perspective of organisations – in our case, communities. An organisational perspective emphasises how organisations typically go through several stages (phases) while adopting an innovation, and that this process as such can be complex, and involves learning and adjustment for an innovation to fit within the local context (cf. Chambers et al., 1989 “Farmer first”). We also draw from innovation and learning histories methodology literature (Douthwaite and Ashby, 2005; Roth and Kleiner, 1998), and use innovation histories to understand and reflect on the process of change and learning of groups of people associated with innovation. Finally, we identify common elements across the case study sites that could be used to help guide government or non-government agency plans for supporting and engaging in processes of co-creating solutions for managing marine resources in Solomon Islands and other coastal nations.

2. Theory and background: transformative capacity and innovations for CBRM in Solomon Islands

2.1. Community-based management in the Solomon Islands context

Inshore fisheries and marine resources play a critical and unique role in the rural economy and livelihoods of Solomon Islands communities, supplying daily protein and micronutrients, and serving as one of the few sources of cash income. More than 80% of people live in rural villages across a string of 990 remote islands. Communities rely primarily on root crops (e.g. cassava, sweet potato) or imported foods (mainly rice) for their subsistence, and inshore marine resources are the most common source of animal-based food in diets (Aswani, 2002; Bell et al., 2009). In recent years in some places, the need for cash has eroded local subsistence activities, but for the most part the rural economy is dependent on producing and marketing a small number of commodities including crops and fresh fruit, coconut, cocoa, timber, as well as fish and marine products (ARDS, 2007). Wage income through direct employment accounts for approximately 26% of the household income nationally, but the majority of employment is in the urban areas (GoSI, 2006). Although few recent data exist, in 2005/2006 the incidence of basic needs poverty in Solomon Islands was estimated at 23% for the country as a whole, and 19% in rural areas. However, incidence of food poverty is lower, estimated at 10.6% nationally, and 8.7% in rural areas (UNDP, 2008), and the high dependence on fish has been described as an indication of ‘subsistence affluence’ (Bell et al., 2009). There are clear indications that there are limits to the capacity of the domestic fisheries sector to support the nutritional requirements, particularly with respect to animal protein and micronutrients, of the people living in Solomon Islands (Bell et al., 2009; Weeratunge et al., 2011). Thus, sustaining inshore marine resources is central to the Solomon Islands government strategy to ensure food security in the face of rapid population growth, climate change and resource degradation. The Solomon Islands National Strategy for the Management of Inshore Fisheries and Marine Resources (2010) identified community-based adaptive resource co-management as central to achieving their ambition of “sustainable and secure inshore fisheries and aquatic resources by 2020”.

Solomon Islands communities have a customary tenure and governance system, where tribes and clans have ownership of the land and the sea, and communities are governed by a tribal chiefs or community leaders. Access to resources is granted to the wider community (to different degrees) by resource owners. There is widespread agreement among researchers that the tenure system and associated rules are socially motivated to reaffirm or assert power relationships and claims on resources, and did not develop as a result of resource scarcity or the need or intent to manage resources sustainably, which is recognised as a necessary prerequisite for CBRM (Aswani, 1998; Foale, 1998; Foale et al., 2011; Ruddie, 1998). For example, customary taboo areas that temporarily close coral reef areas to fishing have long been practiced in Solomon Islands. It is common practice to declare a taboo on a clan reef as a mark of respect for the death of a prominent clan member, to protect sacred sites, or to prepare for a feast by allowing the short-term replenishment of fish. CBRM strategies in the Pacific Islands tend to advocate embracing traditional institutions, especially taboos, to implement spatial management in particular (Govan, 2009a,b; Foale et al., 2011). However, several social factors make community-based spatial management difficult, such as vague and flexible tenure boundaries, the dynamic nature of community cooperation, and cultural importance of sharing wealth (Hviding, 1998; Foale and Manele, 2004). The CBRM system that is developed is often a hybrid model, based on customary sea tenure boundaries and traditional governance

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