



Institutional barriers in adapting to climate change: A case study in Sri Lanka



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ABSTRACT

Uncertainty and unpredictability characterising complex socio-ecological systems challenge conventional hierarchical governance regimes seen in South Asian developing countries such as Sri Lanka. Though experimental interventions that seek to engage communities have been implemented in a number of regions, most of these interventions stall after the experimental stage. This research utilised opportunities provided by a landmark intervention on Special Area Management in Negombo, Sri Lanka, to draw lessons for community-based interventions for climate change adaptation.

Short term policy interventions can lead to irrevocable changes within complex socio-ecological systems, disintegrating identities and functions. Such systems become artificial, empty shells, losing their former richness and serenity. Tight social networks and bonds, which prevailed through centuries disappear, taking away the ability of communities to engage in collective action that allowed sustainable use of their common resource base. The resulting degradation of the natural resource base that form the livelihood of communities leads to further breaking down of the social network, driving this vicious cycle.

It is clear that the Special Area Management (SAM) intervention in Negombo, Sri Lanka needs further improvement if it were to further the adaptive co-management approach, though the project that funded the intervention clearly expected to utilise this approach. The current national and provincial level institutional set up is not conducive for effective adaptive co-management. This is mainly due to conventional institutions adhering to governance regimes that are rigid and inflexible, and as such are not prepared to be adaptive through policy learning. It is also due to the fact that existing systems are not serious about community empowerment in the governance process. It is clear that any breakthrough allowing for an adaptive co-management kind of approach needs policy and institutional change.

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1. Introduction

Climate change impacts are becoming increasingly visible and appear to be more serious than earlier predictions (Ackerman et al., 2009; Ball, 2009; IPCC, 2014). While climate change has become a looming threat for developing countries, the uncertainty attached to the nature of impact as well as its spatial and temporal scale poses serious challenges for policy makers (Hulme, 2010). Furthermore, climate change has become a serious issue because it creates new inequities and exacerbates existing ones, thereby increasing and deepening vulnerabilities (Thomas and Twyman, 2005). Through experiences gained over centuries of changing climates, communities have inbuilt capacities to adapt to climatic

conditions. However, challenges of climate change and variation have become too overwhelming, unpredictable and uncertain for communities to cope (Füssel, 2007).

This situation has serious implications for coastal communities in Sri Lanka, who are dependent on the wealth of resources provided by coastal ecosystems for their living (Füssel, 2007). The Negombo Lagoon, situated in the Western Province of Sri Lanka is one of the most ecologically, economically, historically, culturally and socially significant ecosystems in Sri Lanka. It is highly productive with an exceptionally high fish production supported by extensive seagrass beds covering over 22% of the lagoon. This brackish water lagoon is inhabited by economically important fish and shell fish, and supports centuries old traditional livelihoods for the surrounding communities (Silva et al., 2013). The lagoon area is supported by a mangrove cover of over 305 Ha, which is of high importance for the socio-ecological system.

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The complex socio-ecological system of the Negombo lagoon is seriously threatened by climate change impacts. Climate impacts have posed serious threats to humankind, but especially to communities who are categorised as highly vulnerable to these impacts, due to their natural resource-based lifestyles (Ford et al., 2010). These high-risk, low-return livelihoods seen especially in developing countries are highly vulnerable to climate change impacts, and this situation demands immediate policy effort that can mitigate hazards and risks to lives and livelihoods (Smit and Pilifosova, 2003). Climate change adaptation policy refers to actions taken by governments including legislation, regulations and incentives that facilitate changes in socio-economic systems aimed at reducing vulnerability to climate change.

This paper focuses on the Special Area Management project implemented by the Coast Conservation Department and other government agencies with the assistance of USAID in and around 1991, and seeks to contribute to a felt need for more case studies, especially in the context of developing countries in the South Asian region (Allan and Curtis, 2005). As Lowry et al. (1999) provide an excellent review of the project from its initiation, this paper does not attempt to repeat the same. The objective of this paper is to examine characteristics of the governance approach forwarded by the project and review its suitability for adapting to climate change impacts. For this purpose, it will overview the nature of policy learning and collaborative action enabled through the project. Policy lessons drawn from this case study could be used in future interventions that focus on enhancing adaptive capacity of resource-based communities in Sri Lanka as well as in other developing countries.

2. Adaptive capacity through policy learning and collaboration

While climate change adaptation is seen mostly as responding and addressing felt or perceived impacts or vulnerabilities, a broader approach would attempt to enhance adaptive capacities of socio-ecological systems. Adaptive capacity can be defined as the ability of a socio-ecological system 'to move towards the kind of institutions, resource extraction practices and economic organizations that take advantage of new opportunities, mitigate worst impacts, and allow for the necessary learning and innovation to cope with climate change' (Berkes, 2007:287).

The concept of socio-ecological systems arises from the conviction that societies and ecosystems are dependent on each other, and that these systems are highly complex having properties such as emergence, irreducibility and a multiplicity of uncertainties (Schultz et al., 2011). In learning to live with change and uncertainty, policy learning as captured through social and ecological memories enables adaptive decision making (Folke et al., 2005). Highly adaptive socio-ecological systems are those that learn from past experience in order to transform in to better states, when climate change makes it irrational or impractical for these systems to remain in the present state (Agrawal, 2008). In other words, policy learning captures what is necessary for socio-ecological systems to renew and reorganize, based on aspirations of communities.

Achieving higher adaptive capacities within complex socio-ecological systems happens when learning, knowledges and understanding are not dependent merely on scientific knowledge bases. Locally appropriate solutions for unpredictable, uncertain events such as those driven through climate change impacts are based on non-linear, adaptive and long-term policy learning. Such policy learning can be captured through adaptive management, which supports non-linear learning that occurs within complex systems. Adaptive management can play a major role in addressing

the multiplicity of uncertainties associated with climate change impacts (Folke et al., 2005).

The cross-sectoral, inter-related nature of climate change impacts necessitates a multi-stakeholder approach in identifying policy problems, as well as in identifying solutions that prevent maladaptation. Maladaptations, which are unforeseen, unintended, undesirable impacts of one policy on other sectors or areas, arise when policies take a reductionist approach (Schipper, 2007). Conversely, if decision making processes are designed to tolerate multidimensional viewpoints, such processes can enable holistic approaches for effective and long-term decision making.

Climate change related problems need to be understood through the way in which benefits of development are achieved. Top-down developmental policies may not be geared to enable fair distribution of the proceeds of development (Ford et al., 2010). For instance it is necessary to find whether economic policies target growth at grass-roots level as against public policies that expect benefits to trickle-down to vulnerable groups (Arndt, 1983; Cannon and Muller-Mahn, 2010). Trickle-down economic growth inherently does not heed socio-ecological consequences and therefore such policies invariably lead to degradation of the natural and social resource base, adversely affecting the potential of systems to reduce vulnerabilities.

3. Methodology

The research uses a combination of in-depth interviews and documentary evidence to obtain information and insights into the approach followed during the project implementation. In-depth interviews were focused on obtaining information regarding the implementation of the project, its advantages and disadvantages and finally the present status of the SAM project in Negombo fifteen years after the project first initiated implementation. The rich information and discourses that came up were validated through the review of policy documents held by state and local institutions.

Project documentation and action plans of the Coast Conservation Department of Sri Lanka were used to explore facts about project initiation and implementation. A cross section of stakeholders including senior officials, project officials and members of community based organisations were interviewed and responses were tape recorded and transcribed. When it was not possible to have face to face interviews, telephone interviews were conducted.

4. Capacity of the SAM project to enable adaptive co-management

The Special Area Management (SAM) initiative of the Coast Conservation Department of Sri Lanka was initiated in 1994, in collaboration with the University of Rhode Island and the US Agency for International Development Coastal Resources Management Program. Lowry et al. (1999) provides comprehensive information on some initial SAM projects and hail these initiative as ones that would allow community participation in both planning and implementation to a scale that is not possible at central agency level, thus allowing for a more holistic approach.

The projects had five year implementation plans, which were largely based on livelihood issues (Lowry et al., 1999). In 1999, they felt that it was too early to determine the success of SAM initiatives since these projects started implementation only a year ago. Today after sixteen years, several officials at lead agencies were not aware of the project for the Negombo Lagoon, while some affirmed that the project is 'completed' and is now 'over'. Managers of the project were disappointed with the fate of the SAM project, which was a landmark in Sri Lanka on the co-management approach, and still felt that there is much promise in the approach as a basis for

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