Perceived barriers to effective multilevel governance of human-natural systems: an analysis of Marine Protected Areas in Vietnam

Thu Van Trung Ho, Alison Cottrell, Peter Valentine & Simon Woodley[1]
James Cook University, Australia

1. Introduction

Understanding the relationships between natural and human systems has become an essential step for natural resource management and biodiversity conservation. Increasingly, the functional interdependencies of these systems have been recognized by scientists. Humans, especially local communities, are perceived as direct users of natural resources, and immediately affected by environmental degradation. Humans are the root of both causes and solutions for these problems (Bulkeley and Mol 2003). Furthermore, there is an assumption that local communities may possess more substantive knowledge than other actors about the resources and areas where they live. Hence communities could be the best managers of resources or at the least they must be actively involved in resource management (Western and Wright 1994, Sponsel *et al.* 1996). Community participation, together with other actors, is deemed to be crucial for any environmental governance program (Kapoor 2001; Layzer 2002; Bulkeley and Mol 2003).

There is an extensive literature on the shift from an administrative state to a collaborative state (Koontz and Thomas 2006) and from hierarchical government to multilevel governance of environmental issues (Rhodes 1997; Dwyer 1998; Davis and Rhodes 2000; Pierre and Peters 2000; Considine 2001; Peters and Pierre 2001; Banner 2002; Newman *et al.* 2004). This is especially so for protected areas where there are a range of actors and stakeholders across different levels and scales possessing various, but often conflicting, powers and interests (Brown *et al.* 2001). Over the past decade, the human or social dimension, including organisations, institutions, human behaviour, social capital and social interactions between actors has been studied to further understand the nature of grassroots causes of environmental issues (Janssen and Jager 2001; Pretty and Ward 2001; Lansing 2003; Pretty and Smith 2004). Studies have been undertaken of the participation and collaboration of civil society and other stakeholders, and their values and characteristics in environmental governance. Some solutions have been found for uncertainties and changes of complex human-natural systems (Lee 1993; Grumbine 1994; Dietz *et al.* 2003). A number of barriers have been studied to participation and collaboration in governance of these systems, but are not sufficiently understood. This circumstance is also recognized in Vietnam.

Vietnam has a coastline of 3,260 km stretching over 13 degrees of latitude with a variety of biogeographic features. A large range of geographic characteristics has partially contributed to a high diversity in species composition and ecosystems for the marine and coastal areas. These encompass not only typical tropical ecosystems, such as coral reefs, seagrass beds, and mangroves, but also other coastal ecosystems with high bio-productivity, for example, tidal marshes, lagoons, river mouths, tidal mudflats, wetlands and up-welling currents (Hoi *et al.* 2000). In addition, marine dependent industries have significantly contributed to the GDP of Vietnam. A rapid increase in population because of a high labour demand in coastal communities has also been recorded. This has created major challenges for the management and governance of marine resources and sustainable development. An initiative to establish a national Marine Protected Area (MPA) network was one significant action addressed in the Biodiversity Action Plans for achieving Vietnam's Agenda 21 commitments. In 1998, fifteen Marine Protected Areas were introduced to form a national MPA network (Hoi *et al.* 1998; Ministry of Fisheries 2006) and were officially approved by the Prime Minister in 2010.[2] Various factors, however, have been perceived as barriers to effective governance of individual MPAs, and the MPA network.

This article presents the barriers to multilevel govenance processes of Marine Protected Areas established in Vietnam. Con Dao, Halong and Nha Trang MPAs, part of the national MPA network, were selected as case studies to examine these issues. We begin with an overview of multilevel environmental governance as a contemporary approach to natural resource management and biodiversity conservation. We use institutional, organizational and behavioural concepts to describe and interpret complex social interactions between actors, and perceived barriers to these interactions. A multilevel organizational structure and socio-economic, institutional and other contextual conditions related to MPA governance in

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[1] Thu Van Trung Ho and co-authors, School of Earth and Environmental Sciences, James Cook University, Townsville QLD 4811, Australia. thu_hovantrung "at" yahoo.com or van.ho "at" my.jcu.edu.au. Thankyou to three referees.

[2] Decision No. 742/QD-TTg on May 26, 2010, approving the Plan for establishment of a national Marine Protected Area network.

Vietnam are briefly summarized in the next sections. Research findings can contribute to increased effective management of human-natural systems in general, and Marine Protected Areas in particular, at the study sites and other locations with similar socio-political contexts.

2. Multilevel environmental governance, and the importance of interactions between actors embedded in the process

From a traditional political viewpoint, nation-states have been conceived of as the dominant actors in making decisions to maintain public order and to facilitate generic services (Stoker 1998; Banner 2002; Eckerberg and Joas 2004). Yet since the 1990s local communities and other social organizations have been recognized world-wide as practical alternatives to nation-states for solving social issues that require more inter-sectoral cooperation (Esman 1991; Lee 2003; Kooiman and Bavinck 2005). More recently, other less formal settings at transnational and international levels, such as the Association of South East Asian Nations (ASEAN) and the European Union (EU), have been formed to promote collective interests and to resolve policy problems (Pierre and Peters 2000) or other interrelated issues, such as climate change (Rabe 2007). The focus has shifted from 'government' with a hierarchical structure or command-and-control operational style to 'governance' with the participation of other actors than the nation-states, for decision making with more-flexible operational styles, especially in the context of natural resource management and biodiversity conservation (Dwyer 1998; Davis and Rhodes 2000; Considine 2001; Peters and Pierre 2001; Banner 2002; Newman *et al.* 2004). These additional actors can be non-government organizations, local people or social networks. The participation of different types of actors across levels and sectors in decision making has indeed become a core value of governance.

Governance is an awkward concept. This article takes governance to be the interactions among state and non-state actors to exercise power and responsibility and make decisions for solving societal problems and create societal opportunities (Graham *et al.* 2003; Kooiman and Bavinck 2005). Yet it has different meanings for different people (Stoker 1998; Kooiman and Bavinck 2005) and is applied in various ways by practitioners and managers (Stoker 1998). Governance can be viewed as a social coordination mechanism (Lee 2003) or the generation of conditions for ordered rules and collective actions (Stoker 1998). In other ways, it can be considered as a process whereby individuals or institutions exercise their powers in order to achieve desired objectives (Pierre and Peters 2000; Graham *et al.* 2003). This process of exercising power has been defined in conjunction with the roles, responsibilities, power, relationships and accountability of embedded actors (Borrini-Feyerabend 2003; Graham *et al.* 2003). It can be undertaken in part by civil society or non-state actors through applying informal rules, such as customary regulations, taboos, and social norms or shared strategic behaviour. In addition, state actors and organizations embedded in the political structure also employ formal rules, for example political laws, contracts and agreements. In some cases, roles and responsibilities of these actor groups can be exchanged with each other. For example, where the concept of co-management is applied, the resource users or appropriators can be involved and take part in a decision-making process (Pomeroy 1995; Berkes 2005).

In a diverse, dynamic and complex world characterised by various influential factors, no single actor can legitimately and effectively govern societal problems alone (Kooiman 2003; Berkes 2006; Armitage 2008). Stakeholders possess different perspectives and abilities to view different aspects of a problem, so they can help each other to explore the differences and seek more comprehensive solutions to collective problems (Gray 1989; Imperial 2005). Thus, multilevel governance that is operated by various embedded actors and institutions across levels and scales, to solve social problems with appropriate responses to uncertainties and changes, is essential (Hardy and Phillips 1998; Ostrom 2005). But the structure of multilevel governance is another consideration for researchers.

Hooghe and Marks (2003) have reviewed two major types of multilevel governance structures based on vertical or horizontal power diffusion between the embedded actors and institutions. Type I –vertical multilevel governance - contains actors and institutions operating across levels, such as international, national, regional, and down to local communities, based on human or territorial communities. The state usually plays leading roles in decision making for this type of governance structure (Eckerberg and Joas 2004). Meanwhile, type II multilevel governance inter-connects its embodied actors or institutions through a more lean and flexible structure based on functional demands of the governance process (Hooghe and Marks 2003). Within this type, responsibilities can be horizontally devolved from formal governmental to non-governmental actors or institutions. This can occur at all social levels (Eckerberg and Joas 2004). Although these types of multilevel governance are operated by different procedures, type II is ordinarily embedded within type I (Hooghe and Marks 2003). The interactions between the actors and institutions across levels, even if structured under any of these types, are a focus of a multilevel governance process. The effectiveness of this process can be improved or negated depending on the results of the participation of the actors and institutions and their collaborative interactions.

3. Understanding a multilevel organizational structure related to Marine Protected Area governance in Vietnam

In Vietnam, there are three constitutional components of government - legislative, executive and judicial. The National Assembly is a legislative body that has the highest powers and approves the Constitution, Resolutions and all laws. The Judiciary consists of agencies or bodies responsible for enforcing the laws of Vietnam to solve conflicts or disputes. The executive component consists of administrative agencies designated as a hierarchical system (see Figures 1 and 2). These agencies issue legal documents that guide implementation of the constitution, resolutions and laws approved by the National Assembly. At national level, while the government has power to promulgate decrees and decisions coming into effect over the country, sectoral ministries have power to issue circulars and decisions that are applied for its particular sector. At the local level, agencies, such as provincial, district or commune Peoples' committees, approve and sign legal documents, which are used for day-to-day management and governance activities.

The organizational structure of the Vietnam Government can be divided into two nested sub-structures based on geopolitical allocation: (i) the National administrative sub-structure: includes government offices, Ministries and other national-level offices responsible for administratively steering implementation of all aspects of socio-economic development, and for the execution of legal documents, over the whole country. (ii) The local administrative sub-structure: consists of Peoples' Committees at province, district and commune levels. Sectoral agencies at these levels are responsible for administrative processes to ensure that socio-economic activities are developed as planned at the equivalent geopolitical scale. In addition, governmental agencies at each level can be designated either as an administrative management agency, government enterprise or government business enterprise (Figure 1). They have different mandates and legal rights and are constrained by specific regulations. While administrative management agencies consult Peoples' committees in the execution of formal regulations, other functional departments and enterprises assist the Peoples' Committees in implementing and delivering socio-economic activities and services.

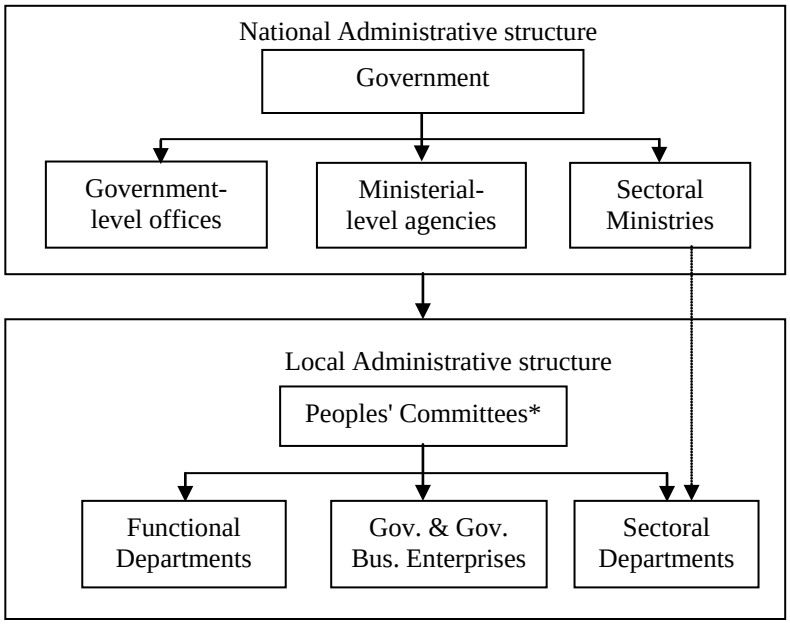

Figure 1: The organizational structure of the Vietnam Government based on geopolitical allocation (adapted from National Administrative Institute, 2008). * Peoples' Committees exist at three different levels – province, district and commune.

Taking another view, Figure 2 illustrates the vertical hierarchical system among responsible jurisdictions. The Government and Peoples' Committees, from provincial to commune level, are administrative agencies and responsible for general jurisdictions of certain locations. Other agencies, such as the Ministry of Agriculture and Rural Development, Ministry of Natural Resources and Environment, and similar Departments at provincial, district and commune levels, are sectoral agencies and responsible for specific technical jurisdictions of that particular sector over the assigned scale.

As indicated in Figure 2, a sectoral Provincial agency that integrates administrative management mandates and technical functions, is responsible to two entities: (i) the Provincial Peoples' Committee for general administrative management; and (ii) the sectoral Ministry for technical supervision. For example, a

sectoral agency, as the Provincial Department of Agriculture and Rural Development, is administratively managed by a responsible Provincial Peoples' Committee (*e.g.* for staffing, salaries) and steered at the Ministerial level (*e.g.* the Ministry of Agriculture and Rural Development) to oversee strategic development and to implement sectoral legal documents at the provincial level, with technical instructions from this sectoral agency. The same structure is repeated at district level. However, at commune level, the Commune Peoples' Committees are mainly responsible for administrative management. Sectoral tasks, such as fisheries and agriculture, are included into mass organisations like the Farmer Association, because of the limited number of staff provided, and a significant number of demands at this level (Figure 2).

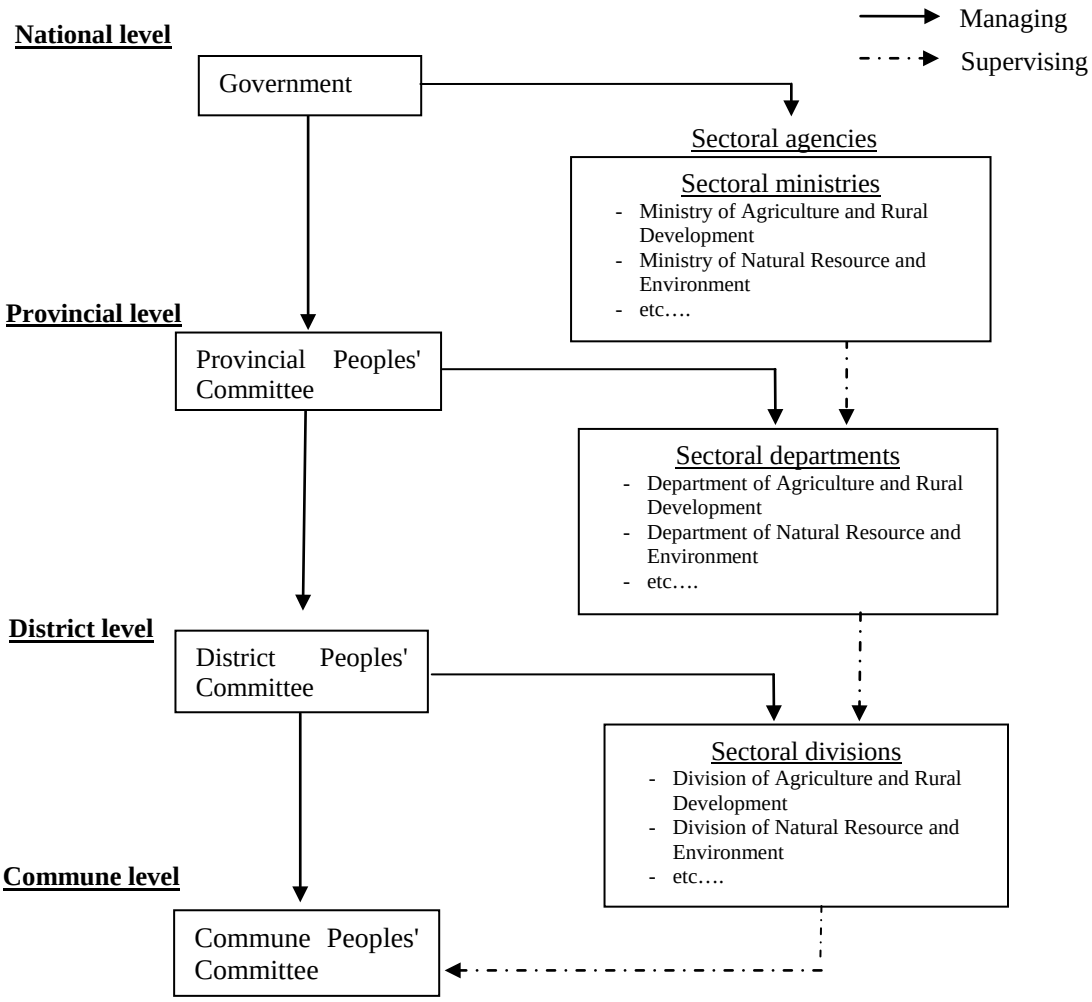

Figure 2: The Vietnam government organizational structure based on the mandates of agencies (adapted from National Administrative Institute, 2008).

In brief, when a Marine Protected Area is established, its management authority can be located at national, provincial or lower levels and designated as an administrative management agency, government enterprise or government business enterprise. A MPA authority is typically established under one agency, such as a Peoples' Committee for general administrative management, and another sectoral agency for technical guidance and regulations.

4. The research sites

This study was undertaken to understand what factors can actually impede the participation and collaborative interactions between the actors to make decisions under this form of multilevel governance.

This was investigated through collective case studies at three marine conservation sites in Vietnam. These are Halong Bay, Nha Trang Bay MPA and Con Dao, located in three regions of Vietnam in the Northern, Central and Southern regions respectively (Figure 3). Each of these sites are marked by different colours and shapes in Figure 3. Some distinctive geographic, biological and cultural characteristics, and the institutional arrangements in these areas are described more details in the next sections and summarized in Table 1.

Figure 3: Locations of case studies and other proposed MPAs in Vietnam.

Halong Bay World Heritage Area

Halong Bay is situated to the Northeast of Vietnam, in Quang Ninh province. It was recognized as a Historical & Cultural Relict and National Scenic Spot in 1962, by Decision No. 313/VH of the Ministry of Culture and Information. Halong Bay spans an area of 155,300 ha including 1,969 of islands and islets, of which 989 are named (United Nations Environmental Program and World Conservation Monitoring Center, 2008). The site was inscribed as a World Heritage Area (WHA) by the UNESCO World Heritage Commission for its landscapes and geology (1994), and geomorphology (2000).[3] In 1995, Halong Bay, along with adjoining Cat Ba island, was proposed as a Marine Protected Area by Hai Phong Institute of Oceanography (Nguyen Huy Yet & Vo Si Tuan 1995, cited by BirdLife International in Indochina and Ministry of Agricuture and Rural Development 2004).

The Halong Bay Management Authority was established in 1995. It is under the administrative jurisdiction of the Quang Ninh Provincial Peoples' Committee and technically supervised by the Culture,

[3] Information supplied by Halong Bay Management Authority.

Sport and Tourism Ministry and UNESCO Vietnam. Its primary functions are to manage and conserve the area of Halong Bay inscribed by UNESCO as a World Heritage Area and to maintain and develop its values.

There are four fishing communities of over 1,600 people residing in the Halong Bay WHA. They are Cua Van, Cong Tai, Vong Vieng and Ba Hang villages, belonging to Hung Thang Ward, Halong City. The local people live on bamboo rafts and houseboats. Their main livelihoods are fishing and aquaculture.[4] Some local people have recently become involved in tourist-service activities. Tourism is a rapidly growing industry in the Halong Bay WHA. The number of visitors has increased more than 5 times over almost a decade. There were approximately 236,000 visitors in 1996, reaching 1.5-1.8 million in 2005.[5] Maritime transport and mining are also important economic activities. In the past, Halong Bay was a significant port on the trade routes between China, Japan and other Southeast Asian countries. It is now a major centre of industrial and residential transport, and includes coal mines as well as tourism (United Nations Environmental Program and World Conservation Monitoring Center, 2008). These rapid socio-economic developments also threaten the management of the Bay's values.

Nha Trang Bay Marine Protected Area

In 2001, the first comprehensive Marine Protected Area in Vietnam was launched at Nha Trang City, Khanh Hoa Province by the Ministry of Fisheries (as it was called at that time), The World Conservation Union (IUCN) and Khanh Hoa Provincial Peoples' Committee (PPC). This MPA covers approximately 16,000 ha, of which 3,800 ha is land and the surrounding area of water is 12,200 ha (Ministry of Fisheries, 2006). Hon Mun Marine protected area Management Authority was formed under Decision 2471/QĐ-UB of Khanh Hoa PPC. In 2004, when Nha Trang Bay was adopted as one of the 29 most beautiful bays of the world the MPA Authority changed its name to Nha Trang Bay MPA Management Authority by Khanh Hoa PPC (Decision No. 40/2004/QD-UBND). This Authority aims to collaborate with other Provincial Departments, Vinh Nguyen Commune and local communities to effectively protect and manage the marine biodiversity at the MPA and improve livelihoods of island communities using a co-management approach.

Nha Trang Bay MPA encompasses nine islands, three of which are inhabited by approximately 5,300 people, clustered in 5 villages. Approximately 79 percent of local people live from fishing or fisheries-related activities. This results in high pressure on the marine resources of the MPA.[6] Furthermore, this area is a tourism site for domestic and foreign visitors. Tourism has taken off in and close to Nha Trang Bay MPA, especially resorts and marine-related recreational activities. These developments have negatively affected local marine resources and habitats. For example, tourism development on Hon Tre Island, located inside the MPA, was identified as a likely reason for the major loss of a significant seagrass bed (at Dam Gia site). Infrastructure developments on islands and along the beach and port dredging have both been marked as major contributors to silt buildup on coral reefs around near-shore islands (Hon Mieu, Hon Tam).[7] In addition, lobster-cage aquaculture development within the MPA has decreased water quality and marine resources. Specifically, almost all lobster juveniles supplied for lobster-cage aquaculture have been collected from the wild. Trash fish, including molluscs, small fish, crabs and other by-catch marine organisms have been used as food for cultured lobsters. The uneaten feed and aquaculture detritus and effluent have been discharged directly to the surrounding waters.[8] Oil spills are also potential threats to water quality because there is a large range of boats and ships operating at this area. These include tourism boats and cruise ships, fishing boats, maritime transport and port activities. These socio-economic activities operated by local people and outsiders have been identified as challenges for the management of the MPA.

Con Dao National Park

Con Dao National Park is located in the South of Vietnam, approximately 185 km east from the mainland and centered around Côn Sơn island, the location of a former penal colony until 1975. This site is part of Ba Ria - Vung Tau Province. In 1984, the Chairman of the Council of Ministers (Decision No. 85/HDBT) approved a Special-use forest covering 5,400 ha, and a marine buffer zone up to 4km from the shore. This site underwent a name change to a National Park in 1993, based on Decision No. 135/TTg by the Prime Minister. The area was recently enlarged to 15,400 ha, including 6,400 ha land and 9,000 ha marine area (Ministry of Fisheries 2006). In 1998, this National Park was approved by Ba Ria - Vung Tau Provincial Peoples' Committee to be enlarged again to 19,998 ha through a revised investment plan. It is comprised of 5,998 ha land and approximately 14,000 ha of marine area (Anon. 1997 cited by BirdLife

[4] Information supplied by Halong Bay Management Authority.

[5] Information supplied by Halong Bay Management Authority.

[6] Socio-Economic Assessment Report 2002 – Hon Mun MPA pilot project – IUCN Vietnam.

[7] Source: Biodiversity Reassessment Report 2002-2005 – Hon Mun MPA pilot project – IUCN Vietnam, News on Khanh Hoa Television and local Newspapers.

[8] Water quality monitoring report and Biodiversity Assessment report 2002-2005 – IUCN Hon Mun MPA pilot project.

International in Indochina and Ministry of Agricuture and Rural Development, 2004). There is also a surrounding marine buffer zone area of 20,500 ha.[9] The Con Dao National Park Management Authority was formed in 1993 to conserve and recover ecosystems and their values (coral was collected by the former penal colony to be made into lime), and rare fauna and flora species of the islands and marine areas within the Park. This Authority is under the jurisdiction of Ba Ria - Vung Tau Provincial Peoples' Committee and professionally instructed by Ministry of Agriculture and Rural Development.

This National Park encompasses 16 islands and islets. There are approximately 5,610 inhabitants - 1,348 households residing on the largest island, Côn Sơn. Of these, 4,162 people are registered as permanent residents, the remainders are temporary. A high yearly population growth rate of 6.36% has been recorded for this area compared with the average rate of 1.2% for Vietnam.[10] There is some tourist activity. The major contribution to this population increase is migration from other areas (5.27%), with only 1.09% natural population increase.[11] The rapid growth in population has been perceived as an underlying cause of other socio-economic problems for local people on this island.[12]

5. Research methods

A deductive approach was used to carry out this investigation using qualitative data collection instruments, including focus-group discussions, semi-structured and open-ended interviews. A total of 172 participants from governmental agencies, local authorities, communities and MPA authorities were involved (including 9 group discussions totalling 90 participants). A 'backsolving' approach (Edwards and Steins 1999) was applied to collect in-depth information on the research issues. Questions were posed relating to the outcomes and consequences of participation in each MPA, and with multilevel governance institutions. The causes and effects of these outcomes and their consequences were provided by the participants, based on their knowledge and experience. Finally, perceived barriers to effective multilevel governance were identified.

The data collected were organized on the basis of themes emerging from documentation, institutional analysis (Pido *et al.* 1997; Bellamy *et al.* 1999; Imperial 1999a; Imperial 1999b; Pretty and Ward 2001; Rudd *et al.* 2003) and effective governance performance (Graham *et al.* 2003; Folke *et al.* 2005). These themes were classified into categories corresponding to the research objectives. The data organizing system is hierarchical and contains data categories, themes and information segments. It was used as guidance for analyzing data. The textual transcriptions from the interviews were scanned, identified, refined and placed into the system gradually, following Tesch (1990). The software package NVivo (version 8) was used to facilitate the analysis. This study also used organizational theories, social learning and behavioural approaches as fundamental theories and concepts for data interpretation. A triangulation process was undertaken through various data sources, personal observations, communications and plenary discussion at workshops to reduce personal and method biases (Decrop 1999).

Letters were used as participants' identifiers. The participants' identifiers were coded over the levels from national to local community levels. In particular, "N" was for participants from the national level. Similarly, "P", "C" and "L" were for provincial, communal and local community levels, respectively. "GD" was for focus group discussions.

[9] Socio-economic Assessment Report 2007 – Con Dao National Park.

[10] A population growth rate of Vietnam for a period 1999-2009 is about 1.2%/year. Source: A comprehensive housing and population census report - General Statistic Office of Vietnam, 2009.

[11] Con Dao District Annual Report 2006 cited by Socio-economic Report 2007 – Con Dao National Park.

[12] Socio-economic Report 2007 – Con Dao National Park.

Table 1: General characteristics of three study sites

Characteristics	Con Dao National Park	Nha Trang Marine protected area	Halong Bay World Heritage Area
Geographical location	$8^0$34' - $8^0$49' N, 106^0 31' - $106^0$43' E	$12^0$09' - $12^0$15' N, $109^0$13' - $109^0$22' E	$20^0$43' – $21^0$09' N $106^0$56' -$107^0$37' E
Covered area	15,400 ha (6,400 ha land and 9,000 ha marine area).	16,000 ha (3,800 ha land and 12,200 ha marine area).	155,300 ha (including 1,969 islands and islets).
Designated as	National Park	Marine Protected Area	World Heritage Area
Objectives	To conserve and recover ecosystems and their values, and rare fauna and flora species of the islands and marine areas within the Park	To collaborate with other agencies and local communities to effectively protect and manage the marine biodiversity at the MPA and improve livelihoods of island communities.	To manage and conserve the area of Halong Bay inscribed by UNESCO as a World Heritage Area and to maintain and develop its values
Establishment history	1984: established as a Special-use forest site, approved by the Chairman of the Council of Ministers (Decision No. 85/HDBT) 1993: adopted as a National Park, approved by the Prime Minister (Decision No. 135/TTg).	2001: Hon Mun MPA, approved by Khanh Hoa PPC (Decision 2471/QĐ-UB). 2004: changed its name to Nha Trang bay MPA, approved by Khanh Hoa PPC (Decision No. 40/2004/QD-UBND).	1962: approved as a Historical & Cultural Relict and National Scenic Spot, by Ministry of Culture and Information (Decision No. 313/VH). 1994 and 2000: inscribed as a World Heritage Area (WHA) by the UNESCO World Heritage Commission for its universal values of landscapes and geology, respectively.
Administrative management by	Ba Ria – Vung Tau Provincial Peoples' Committee	Khanh Hoa Provincial Peoples' Committee	Quang Ninh Provincial Peoples' Committee
Professional supervision by	Ministry of Agriculture and Rural Development (MARD)	Ministry of Agriculture and Rural Development (by Ministry of Fisheries prior to a merge of this Ministry into MARD in 2007)	Ministry of Culture, Sports and Tourism and UNESCO Vietnam

6. Results and discussion

We identified six dominant barriers to the participation and collaboration of state and non-state actors in MPA governance in Vietnam. Awareness of local communities, economics and social capital are barriers to the participation of local communities in multilevel governance processes of the MPAs. Meanwhile, differences in organizational types, power conflicts, and a lack of incentive sharing mechanisms among participating agencies, are underlying obstacles to the collaboration between state-actors across sectoral departments for MPA governance. These are elaborated as follows.

Barrier 1: Awareness of local communities

The participation of local communities in MPA governance depends on whether or not they understand the objectives and outcomes of these governance activities, especially as these activities positively or negatively affect their living conditions. *"Someone who understands the activities well actively participates in the activities. Some others [who] have not yet understood ignore the activities"* (L21). This point was also confirmed by participants in a group discussion (GD2). For those who *"have a limited awareness, they care more about their personal benefits. They just participate in activities that bring direct benefits to them"* (P35). However, others may *"actively participate in the conservation activities because they are aware of a serious pollution at this area [the MPA] and they think they should protect the environment"* (L14).

The improvement of awareness and perception of local people helps strengthen the relationships between the communities and MPA staff. Local people become more willing and active for participation in MPA governance activities thanks to enhanced perception:

> *At the outset of the MPA establishment, the people thought that this MPA is established to prevent fishing activities and creates obstacles related to economic incomes for local communities (C7). "They were angry when they saw the MPA authority's boats parking at the village because they hate the enforcement team, who confiscated their boats or others because of their illegal exploitation. But no more conflict now. They are very happy and open-hearted when meeting MPA staff" (C5). "They have perceived more, day by day, that conservation is for all the people. They all have agreed to conserve coral reefs and want to protect them more strictly.* (C5, L14, L21)

As a result, local people have had more positive perceptions of MPA authorities:

> *The MPA [authority] just helps local communities and tries to use local resources to assist local communities. It differs from other development projects that generated big problems, in terms of resettlement and livelihoods, for local communities.* (L21)

According to Burke (2001), an increase in awareness and perception of local communities about environmental problems, ecosystem resilience and the potential impacts of environmental degradation on resource users and the society is vital for implementing environmental education and consensus-building programmes. It has been perceived by actors including resource scientists and managers that the increase in awareness and perception will promote better understanding and appreciation of the environment, and to have environmentally-responsible behaviour (Gunderson *et al.* 2000). At the study sites, local communities have increased their perception and awareness about environmental issues and resource degradation after becoming involved in environmental education and activities organized by the MPA authorities. They have changed their behaviour to support environmental protection and resource conservation. However, they have not totally committed to, nor has there been an agreed consensus towards, environmentally-responsible behaviour because of their own economic constraints and existing subsistence needs.

Barrier 2: Economics

A number of participants in Nha Trang and Con Dao responded in interviews that they felt the establishment of the MPAs has negatively affected their livelihoods, especially the families who usually fished in the area now used as a core zone of the MPAs (areas now excluded from fishing). Fishers who have bigger boats and diverse fishing gear, can go further and have been less affected (L28, L14):

> *Hon Mun (HM) island is a very familiar area to us. We have fished at this area for a long time. This is a good-condition and closed area, so it is very important for local people here. It has been a major fishing ground for fishing gear like ours, but we cannot fish there anymore since this area has (sic.) been prohibited for MPA establishment. I think the local people, in general, always tolerate difficulties. They have to comply with the law and regulations. Their boats are small, so they cannot go to fish beyond the HM area. We lost about 60% of income.* (L14)

> *In the past, I could come to fish at HM in the rough season and [go] to further offshore areas in the calm season. I am, however, not allowed to come to there anymore, so I have to stay at home in the rough season. I have lost much income from the zoning of the MPA.* (L18)

Difficult economic conditions have significantly influenced the participation of local communities in MPA governance activities. Most of the local people have been living on islands for a long time. Fishing is perceived as a unique livelihood and integral to culture (L28, P7, L15). Practitioners are largely dependent on fishing-related activities. The loss of fishing activities has affected the governance capacity of the villages (L21). The local communities can get involved in MPA governance activities only if they benefit from economic conditions (L15, L24).

> *I think environmental education is important, but we still need practical and realistic activities, especially, economic support to ensure the people can have other alternative incomes when stopping fishing at the protected areas. All the information delivered through papers or talks is vague and non-practical.* (L28)

> *I agree that conservation is for future and for next generations, but the local people, at present, want to have finance for upgrading boats or investing other economic activities and supplies of vocational support for young people, who can get other jobs instead of fishing.* (L14)

> Moreover, women should be concerned much in economic supportive programme;…..*At these fisheries villages, the men are working as fishers and the women are mainly housewives and look after their family. So they just rely upon fishing incomes [from the men]. They really need some marine-independent activities to support their family.* (L28)

It appears that economic constraints have directly influenced the participation of local communities in conservation and governance activities at the study sites, as found in another study (Brown 2011). Economic difficulties may threaten the efforts of the MPA authorities because local people may fish illegally at forbidden areas when they have no income from their fishing activities. Gibson and Marks (1995) argue that many wildlife conservation programmes in Africa have failed because they cannot supply sufficient economic incentives to local people who lived on hunting activities and depended on wildlife in protected areas for subsistence. This is especially so when the benefits are not derived from conservation outcomes and the sharing mechanism of these benefits is inequitable.

Similar to policy initiatives found in integrated conservation and development programs, the MPA authorities have conducted various alternative livelihood supportive programs for local communities, for example aquaculture of environmentally-friendly species, handicrafts, and small credit schemes. The local communities have appreciated the benefits from development support, for example improvement of the social welfare system for the benefit of the whole community. However, most of these economic benefits have been supplied by external sources, including international and government agencies, instead of stemming from local conservation efforts. Local people still have not yet clearly recognized direct economic benefits derived from conservation outputs and outcomes for individuals or their households, such as increases in fish yields or incomes from environmental tourism services. In other words, the MPA authorities have not yet demonstrated a positive correlation between conservation programs of the MPAs and socioeconomic improvements (Brown 2011). In this case, the local communities may become aid recipients from development support (Newmark and Hough 2000), rather than collaborators or partners in long-term governance of the MPAs.

McNeely and Scherr (2003) confirm that increasing incomes returned from conservation outcomes has transformed local communities' attitudes about biodiversity and made them more appreciative and better engaged in biodiversity conservation. Similarly, Pretty and Smith (2004) argue that some protected areas have been successful thanks to social programmes conducted within these areas from which local people can receive wild-resource-related incomes. They have then in turn been more involved for the long-term management of resources through increased collective incentives. The MPA authorities at the study sites should consider linking conservation efforts of local communities with development benefits. It means that local communities can receive benefits which originate from their conservation efforts to ensure their long-term commitment for active participation in this process.

Economic benefits can be a driving force for immediate, but not consistent, participation by local people in MPA governance. In the long term, social capital is needed to foster environmentally-responsible behaviour in local communities. Regulations and economic incentives may help change local communities' attitudes towards environmentally-friendly behaviour and practices, but may not change their personal attitudes (Gardner and Stern 1996, cited by Pretty 2003). Consequently, people can return to their old ways when incentives terminate or regulations lose their effects. A long-term governance mechanism should rely on a combination of economic incentives, regulations and social capital.

Barrier 3: Social capital

Respondents identified several areas related to social capital that can affect the engagement of local communities in MPA governance. These include (i) the origin of local people, (ii) blood relationships and (iii) traditional cultural norms and taboos. We discuss these three issues in turn.

(i) Local people with diverse origins

Participants stated that local people residing in fishing villages come from different areas. Most people migrated to these villages from elsewhere in Vietnam to seek better livelihoods (L14, L21, L1), to receive support from the government (L8, L9) or to avoid conflict (L24). The different origins of resident groups have influenced social connectedness of the fisheries communities:

> *Our village was just reformed [with people from other areas] and has been here for more than 10 years... Currently, they [local fishers] are strongly competing with each others... Each family just cares [for] themselves. 'Your lamp lights up only for your own family' [den nha ai nay sang]. For example, we have four boats of our relatives like my brothers, sisters, grand-mother, staying nearby together. We just communicate each other. We don't care [about] others. The neighbours here do not protect each other... There is a discrimination for HT people [people from the mainland], particularly for those who are temporary residents.* (L10)

> *The more temporary residents come here, the more services and works the islanders can provide to and get involved. However, there is no traditional culture or typical feature at this community because most of residents are from different places.* (L6)

(ii) Blood relationships

Blood relationships have been noted as being important for fisheries communities on islands, especially 'old' communities like Bich Dam at the Nha Trang site. Blood relationships have been formed in the course of the establishment of the village. Some individual families of fishermen initially moved to these areas and then developed into a community of family groups, that normally live together and have close blood relationships. These relationships are long-standing and have created different social classes in the communities:

> *Truong Family is the oldest... He [an ancestor of Truong family] was a founder of the village... All the heads of the Village-festival Board [over time] have been only from Truong Family... because the local people think they are the younger generations of the village founder.* (L25)

> Meanwhile, *…the Vo and Nguyen Families, who are the next oldest ones, have served as assistants to the heads of the Board [Truong Family] for a long time.* (L25)

> *Originally, this village was established by Truong Family, so this family wants to lead the village even though they are not enough capable to take leading roles. It does not mean that the Truong Family forbid other families to take over the leading roles from them, but other families don't dare to take this duty due to their perception and the relationship between the original family and others.* (L21)

Blood relationships have also affected decision making in the village:

> *The village MPA committee's members, sometimes, did not make good decisions. They are not transparent or dare to strictly declare or solve problems related to their relatives. They select person(s) or activities that may not be mostly suitable for conservation programmes because of the blood relationships.* (P22)

(iii) Traditional culture, norms and taboos:

Most traditional culture, norms, and taboos at the study sites have existed in fisheries communities for a long time. However, their origins are largely unknown by local people today. The Whale Festival is recognized as important to local people because most of them are fishermen and women (L13):

> *Annually, Whale Festival and other traditional ceremonies are still organized following a complex traditional procedure. The Whale Festival is organized for three days. In relation to fishing activities ... the fishermen are not allowed to fish whale, dolphin and one species of sea-turtle having three bands on its carapace. All of these animals are worshiped at this village. For social relationships,... if local people meet any on-sea incidents, other boats or fishers must actively rescue and help each other even they have conflicts or do not like each other in the mainland.* (L25)

These traditional cultural norms or taboos have helped connect the local communities and reduce fishing pressure on some marine species, including whale, dolphin, and turtle. However, traditional customs have become blurred over time because of their perceived irrelevance to the modernized lifestyles of the younger generation (L25, L21, L8, and L20). The gradual disappearance of the traditional culture and norms has also created constraints on administrative management of communities, recognized by village heads (L21, L20).

We argue that the social capital of local communities, their bonds of trust and reciprocal support, has been diminished because of the specific features and historical changes experienced by these communities. Connectedness between individuals exists, but only between those who are blood relations, or who come from the same fishing-gear communities, or who have the same origins - namely, a **bonding linkage** (Grafton 2005; Pretty and Ward 2001; Pretty 2003). The links between other community members is weak, as is the **social linkage** (or **bridging linkage** after Pretty and Ward 2001) amongst local communities and other stakeholders, particularly with government actors. A strong bonding linkage coupled with a weak social linkage has led to high transaction costs for governance processes because of low mutual trust among local people, poor information and knowledge-exchange between local communities, government actors and other stakeholders (Grafton 2005). Poor social capital weakens social linkages, which in turn affects the achievement of general consensus at the local community level, and reduces the effectiveness of governance.

In addition to the three barriers identified above, multilevel governance of the MPAs is impeded by other barriers to the collaboration between state actors and their agencies. These are, (i) differences in organizational types, (ii) power conflicts, and (iii) a lack of incentive sharing mechanisms among participating agencies.

Barrier 4: Differences in organizational types among agencies

According to administrative management regulations of Vietnam, a government agency can be designated as one of three types - an administrative management agency, a government enterprise or a government business enterprise. Each of these comes with specific mandates and legal rights, and is constrained by legal documentation. While the MPA authorities studied are designated as government business enterprises, other sectoral agencies at provincial and district levels are formed as 'administrative management agencies'. Some difficulties have emerged because of this difference.

> *Some MPA authorities (e.g. Nha Trang Bay and Culaocham MPA) have developed an inter-agency collaborative regulation submitted to provincial Peoples' committee (PPC) - an in-line management agency at provincial level, for an approval. However, the regulation is stuck at an Interior Department, who consults the PPC to approve legislative documents related to the administrative management of the province.* (P34, P35, P22).

> Moreover, *…there is no legislative guideline related to [collaborative governance of] MPAs, so it is hard for responsible agencies to consult the PPC to approve the regulation.* (P9)

> *The MPA authority just collaborates with other agencies by inviting them based on activities or issues.* (P9, P34, P35, P22, P5)

As a government business enterprise, the MPA authority does not have a strong legal mandate to complete tasks related to administrative management of the MPA (P34). Other provincial sectoral departments can ignore the activities of the MPA authority because they do not want to support this type of government business enterprise (P30). They are reluctant to get involved in the activities conducted by the MPA authority (P35) and just assign low-level staff or officers, who do not have much influence on the decision making process for collaborative activities. Hence they cannot effectively support collaborative activities after attending management workshops or meetings (P34, P35). Furthermore, the MPA authority does not benefit from information-sharing about situations or activities operated within and nearby the MPA by the provincial Peoples' committee and other related agencies (P34), because it is excluded from inter-agency meetings (P21). In this case, the influence of the authority on general governance processes at the Province level, even for activities operated within the MPA, is weak. The lack of information sharing and communication is one of the most important factors that increase transaction costs and slow down effective governance processes (Challen 2000). In contrast, if the MPA authority was designated as an administrative management agency, the finance and power for management and governance of the site would have to be shared among the authority and other agencies. This would result in competition for financial allocation and conflicts in management powers between the agencies [P35].

Barrier 5: Conflicts for power among agencies

The power of an agency in decision making is proscribed by degrees of responsibility and the mandates approved by responsible agencies. There are a number of stakeholders interested in resources use, and agencies involved in governing activities within the MPAs. Some difficulties have been

encountered in MPA governance across the three studies, when the stakeholders or actors conceived that their benefits or powers are encroached on by others.

> *There are many stakeholders interested in using MPAs' resources, so there are a lot of conflicts over power and benefits between the MPA authority and other stakeholders.* (P30)

> *There are about five types of activities operated within the MPA, such as Port, Tourism, Fisheries, Border Military and Environmental protection. The agencies responsible for these activities want to hold their own benefits and powers, so there are big conflicts between beneficiaries and agencies.* (P27)

> Furthermore, …*some serious difficulties have emerged in planning, zoning and managing the Bay due to conflicts over powers and benefits. Sometimes, these processes are not transparent.* (P27)

An asymmetric distribution of power to make decisions for resource control or uses has impeded interagency collaboration. A MPA authority like Nha Trang Bay Authority is a newly-established organisation with an insufficient institutional framework and limited resources. The voluntary sharing of power from existing agencies to a new one like the MPA authority is difficult. However, the 'level' of the MPA authority in the organisational structure can help enhance its power in the governance process. In the case of Con Dao National Park (NP), the local Authority cannot intervene in decision making for development activities operated within the NP boundary because the Con Dao NP was established by a decision of the Prime Minister and is regulated by a higher level and by specific legal documents for this sector (C1, P1). Similarly, a barrier to interagency collaboration arising from power conflicts can be overcome if there is oversight or intervention from a higher level. An approval from a provincial Peoples' committee (PPC) can significantly aid interagency collaborative governance because all the agencies and partners must abide by decisions of the PPC (P21, P29, P34, P35, P22). This barrier can be mitigated further if an interagency collaborative mechanism is institutionalized and prescribed through formal legal documents.

Because of these power conflicts present in the scheme of governance outlined in Figure 2, some respondents seriously challenged the level and organizational type of the MPA authority in the governance structure of the provinces. While some participants claimed that an MPA authority cannot be an administrative management agency (P28, P30), another complained that Provincial agencies do not want the MPA authority to hold too many powers (P34). It seems the agency's organizational type and the power conflict are related. Both influence the exercise of stakeholders' power to make decisions that relate to resources use and management within the MPA.

The initial design of a MPA authority, either an administrative management or government business enterprise, can affect its future ability to resolve power conflicts and financial issues. The more powerful agencies (the administrative management agencies) can exclude a new participant (a MPA authority) from the interagency governance network. Currently, most MPA authorities in Vietnam - as goverment business enterprises - may have a voice in discussing issues, but do not have authority and resources for making and implementing decisions. With regard to the power of an organisation in an inter-organizational network, as defined by Hardy and Phillips (1998), it can be said that MPA authorities in Vietnam have a discursive legitimacy, but no formal authority and lack critical resources. According to Jentoft (2007), the power of an organisation can be exercised in different ways, positive or negative, depending on the interests of those holding power. Powerful stakeholders or organisations may use their power to maximize their advantages by redefining issues or influencing the participation of other stakeholders or organisations in the network (Hardy and Phillips 1998). They may even drive negotiations or regimes that lie within the scope of multilateral organisations to meet their interests (Lemos and Agrawal 2006). It seems that the MPA authorities, with a particular designated organizational type and power within the particular institutional conditions of Vietnam, have weak or insignificant legal influence in effective inter-agency MPA governance. Another barrier is the lack of economic incentive sharing mechanisms for participating organisations.

Barrier 6: Lack of incentive sharing mechanisms among participating agencies

Participants mentioned, directly or indirectly, the realistic status of incentive-sharing between participating agencies for collaborative activities. The incentives here can be tangible benefits (*e.g.* economic allowances), or intangible ones (*e.g.* knowledge gained from training or education courses). Most participants expressed that incentive sharing is a necessity for participating bodies to be actively involved in collaborative activities. The lack of incentive sharing mechanisms is a substantial obstacle to the collaborative process. Participants stated:

> *I think each agency has its own duty. If we [MPA authority] need them for enforcement or other activities, we should have some incentives for them. That is fair.* (P1)

> *That is very hard for an international project to collaborate with other agencies [for enforcement activities] if providing no incentives [for them], while there are various incentives for participants who get involved in other activities, such as training or others.* (P9)

Although incentives are perceived as essential, they have not yet been shared in the MPAs studied, due to insufficient finance-related legal documents and their implementation:

> *There is a legal document signed by the Ministry of Fisheries [at the signing time], Ministry of Finance and Interior Ministry for inspectors working at seas for more than four hours. I suggested the Financial Department to apply this legal document to patrolling within the MPA. However, they allegedly asserted that the legal document is applicable only to inspectors of a Marine Resource Protection and Exploitation Branch, not for enforcement of MPA activities [even these activities are similar].* (P34)

> *The government has not yet approved legal documents to pay allowances, to share incentives or the likes [to collaborators from other agencies]. That is very difficult [for the collaborative process].* (P5, P34, P35)

The lack of economic incentives (e.g. payments for patrolling the MPAs) has been one of the most important impediments for promoting collaboration among responsible agencies. The MPA authorities cannot collaborate with other agencies for the collaborative process without incentives (P5, P34, P35, and P22). The agencies do not have the motivation to become involved in MPA activities when the MPA authorities send requests to them asking for collaboration. They may participate reluctantly for the first few times and then ignore invitation letters from the authorities afterwards (P34).

Economic incentives are crucial attributes of effective environmental institutions. These shape behaviour of an individual and group (Hanna 1998) and lead to success and effectiveness of institutional implementation (Swallow and Bromley 1995; Hanna 1998; Hilborn *et al.* 2005). Understanding economic incentives is important, but establishing incentive and reward mechanisms that direct resource users and managers to desired behaviour or to expected reactions is a challenge (Hanna 1998). The collaboration between state actors and different agencies has been hindered because no formal incentive sharing or benefit payment mechanism for partners is available in Vietnam for MPA governance. Irrespective of the type or number of property right regimes applied, natural resource management can be successful depending on the cultural, economic and biophysical context (Ostrom 1990) and also on whether environmental institutions can satisfy all basic functions including creating economic incentives (Hanna 1998). In other words, MPA governance at the study sites is unlikely to succeed if economic incentive sharing is not institutionalized through formal rules.

Although the six barriers identified above have obstructed the effective multi-level governance of the MPAs studied, their impacts may vary across sites depending on their political ecology – the different socio-economic, institutional contexts and the establisment history of particular MPAs. For example, the barrier related to the difference in agency's organizational type has been addressed more directly at Nha Trang MPA, but not in other protected areas, such as Con Dao and Halong Bay. The question arises as to why organisational type resulted in different effects at different marine conservation sites? The answers lie with the different external contexts.

First, Con Dao and Halong areas were established by the Prime Minister or adopted as areas of national significance, whereas Nha Trang and other later typical MPAs were established by the Provincial level. The influence of provincial Peoples' committee and other Provincial sectoral agencies seems to be of prime importance for collaborative governance of MPAs at this level. The MPAs with national significance (*e.g.* Con Dao, Halong Bay) can have interventions, support and influence from the national level, in addition to the Provincial level (see *Barrier 5* above). Therefore, these MPA authorities can collaborate with other agencies effectively, even though they have different organizational types, because of the influence from the national level.

Second, Con Dao National Park follows an institutional framework that started with special-use forests on small islands, while Halong Bay is a World Heritage site that follows an institutional framework dictated by international conventions. In addition, most MPAs in Vietnam were established prior to the establishment of relevant sets of rules. Indeed, there are no legal documents available to prescribe whether the MPA authority should be designated as an administrative management agency or another type, nor to guide other agencies in working with the authority. This means that institutional frameworks for Con Dao and Halong Bay sites are much more 'mature' than the newly-shaped institutions for typical MPAs as Nha Trang Bay. Therefore, government agencies better understand and accept how to work with or to collaborate with Con Dao and Halong Bay Authorities, than with typical MPA authorities such as Nha Trang MPA.

Third, these sites have different socio-economic conditions that partly influence the effects of the barriers to governance processes of these sites. Specifically, there are more diverse stakeholders' and related agencies' interests at Nha Trang MPA site, as opposed to Con Dao–which is an isolated island with emerging tourism activities. Hence, conflicts over resource use, and the power exercised at Nha

Trang MPA, is much more complicated than that at Con Dao. Halong Bay has very complex conflicts because of its various stakeholders and related agencies that are similar to Nha Trang MPA. The differences in the agency's organizational type at Halong Bay do not significantly impede governance processes because this site was adopted as internationally significant and there is a more 'mature' institutional framework operating.

In other words, the same barriers can have different effects for different protected areas because of their different contextual conditions. These include (i) administrative level, (ii) the maturity and nature of institutional arrangements applied, and (iii) socio-economic conditions of the local population. Hence, contextual forces play a significant role in the collaborative governance processes of MPAs in Vietnam. These forces influence each other, and then affect governance. A particular barrier can have more impact on one site than others. Furthermore, the 'maturity' of institutions can advance governance processes. The actors can use available institutions to make the right decisions to overcome competition or other obstacles.

Lastly, what of the interactions between state and non-state actors in the multilevel governance of the MPAs? This study also detected that mutual trust, communication and reciprocity can help nurture and foster the collaboration and interactions between state and non-state actors in MPA multilevel governance. These also interact each other in governance processes.

> *The MPA staff can make a better relationship if they usually come to visit local fishers when the people have any problem or any event at the villages.* (P22)

> *There have been fewer meetings between the MPA staff and local people compared to that in the past, so the relationship is not as good as before.* (L24)

However, some public education materials may help strengthen mutual understanding, ...

> *I think the people (local communities and MPA officers) now have a better relationship and understand each other. We (MPA officers and village collaborators) have distributed leaflets and booklets to the (local) people. They may not read it all, but can share (information) with each other through meetings or chatting. I think we need to do more on public education and need more regular meetings and communication between the MPA authority and local communities.* (L15)

Interactive communication is a general process of deliberation wherein state and non-state actors can share considered issues and enhance mutual understanding to arrive at a high level of consensus on important decisions (Schusler *et al.* 2003; Pahl-Wostl and Hare 2004). Communication helps build mutual trust between participants through dialogue without domination and distortion (Yankelovich 1991; Hahn *et al.* 2006). Mutual trust can help participants 'leave personal agendas at home' to work together to achieve common-shared goals (Pretty and Smith 2004). When people trust each other, they can save time and money by confidently investing resources into collective activities, instead of monitoring each other. When mutual trust exists, resource managers, regulators and resource users can share their own knowledge and information, whether traditional or scientific (Grafton, 2005), to enhance the understanding of each other (Berman *et al.* 1999). Similarly, reciprocity also increases trust and contributes to the development of the long-term commitment and engagement of participants to achieve common environmental goals (Pretty, 2003; Pretty and Smith 2004). In brief, as part of social capital, mutual trust, communication and reciprocity interact with each other (Pretty and Ward 2001). These can lower the costs and enhance the relationship between the participants in collaborative governance processes.

7. Conclusions

This article has investigated perceived barriers to social interactions between state and non-state actors that influence multilevel governance of MPAs in Vietnam. A number of critical barriers related to socio-economic conditions, including (i) awareness of local communities, (ii) economics and (iii) social capital, were found to have significantly impeded the participation of local communities in MPA governance. Major barriers to the collaboration between state actors across sectoral departments for MPA governance processes include (iv) a distinction in an agency's organizational type, (v) power conflicts and (vi) a lack of incentive sharing mechanisms. Any possible intervention to resolve these barriers, whether individually or simultaneously, can improve effective governance and management of the MPAs.

The study has also revealed that mutual trust, communication and reciprocity can advance social interactions between the actors in multilevel governance of the MPAs. This should be considered at the outset of MPA establishment, in order to develop a solid foundation for later multilevel governance processes for MPAs. These findings are in accordance with previous research about the roles of social capital in natural resource management and conservation (Baland and Platteau 1996; Pretty and Ward 2001; Brown 2002; Olsson *et al.* 2004; Grafton, 2005).

We conclude that formal institutions, and the existing design of MPA authorities, have influenced collaborative governance processes within the socio-political context of Vietnam. These have not only

significantly obstructed the participation and collaboration of actors across levels and across areas of expertise, but also weakened the roles and functions of MPA authorities. This has resulted in decreased effectiveness of governance of these MPAs. Reforms of the MPA organizational structure and institutions are required to help accelerate the development of the national MPA network for Vietnam.

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Abstract

This study of multilevel governance in contemporary Marine Protected Areas (MPAs) in Vietnam used a qualitative methodology to identify the factors that cause fragmentation of governance structures, leading to ineffective management and governance of these MPAs. These factors relate to formal institutions, socio-economic conditions and social capital. The study reveals different barriers to effective governance at different levels. Socio-economic conditions affect the participation of local communities, whereas formal institutional arrangements are major barriers to the collaboration between state-actors across sectors. Mutual trust, communication and reciprocity may nurture and foster participation and collaboration by actors in the multilevel governance of MPAs. The article stresses the importance of social capital in multilevel governance of human-natural systems. It concludes that the existing institutional structure of MPAs may require reforms to achieve more effective governance and to meet the overall goals of the national MPA network.

Keywords: environmental governance, institutions, natural resource management, Marine Protected Areas, human-environment systems, Vietnam

Résumé

Une étude de la gouvernance multi-niveaux dans les aires marines protégées (AMP) au Vietnam a utilisé une méthodologie qualitative pour identifier les facteurs qui causent la fragmentation des structures de gouvernance, conduisant à une gestion inefficace et la gouvernance des AMP. Ces facteurs ont été liés à des institutions formelles, les conditions socio-économiques et le capital social (*social capital*). Différents obstacles à une gouvernance efficace ont été découverts à différents niveaux de gouvernance. Les conditions socio-économiques affectent la participation des communautés locales, tandis que les arrangements institutionnels formels sont des obstacles majeurs à la collaboration entre des acteurs étatiques dans tous les secteurs du gouvernement. Dans la gouvernance multi-niveaux des aires marines protégées, la confiance, la communication et de la réciprocité peut nourrir et encourager la participation et la collaboration. Nous soulignons l'importance du capital social de la gouvernance multi-niveaux de systèmes socialnatural. Nous concluons que la structure institutionnelle existante des aires marines protégées peut exiger des réformes pour atteindre une gouvernance plus efficace des AMP individuelles, et aussi pour répondre aux objectifs généraux du réseau national des AMP.

Mots-clés: gouvernance environnementale, institutions, gestion des ressources naturelles, aires marines protégées, systèmes socialnatural, Vietnam

Resumen

Este estudio sobre la gobernabilidad multinivel en Áreas Marinas Protegidas (AMPs) en Vietnam ha seguido una metodología cualitativa para identificar los factores que causan la fragmentación de estructuras de gobernabilidad, resultando en una gestión no efectiva de estas AMPs. Estos factores se relacionan con instituciones formales, condiciones socioeconómicas y capital social. El estudio revela la existencia de diversas barreras para una gobernabilidad multinivel efectiva. Las condiciones socioeconómicas afectan a la participación de las comunidades locales, mientras que disposiciones institucionales formales son una importante barrera para la colaboración entre partes interesadas a nivel estatal en distintos sectores. La confianza mutua, la comunicación y la reciprocidad pueden nutrir y fomentar la participación y la colaboración de diferentes actores en la gobernabilidad multinivel de las AMPs. El artículo enfatiza la importancia del capital social en la gobernabilidad multinivel de sistemas humanos-naturales. Concluye que la existente estructura institucional de los AMPs puede requerir de reformas para conseguir una gobernabilidad más efectiva y alcanzar los objetivos globales de la red nacional de AMPs.

Palabras clave: gobernabilidad medioambiental, instituciones, gestión de recursos naturales, Áreas Marinas Protegidas, sistemas de ambiente humano, Vietnam.