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The Vietnamese State and Administrative Co-Management of Nature Reserves

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Abstract: The Vietnamese government has introduced co-management in its national system of special-use forests (SUFs) to improve the effectiveness of nature and biodiversity conservation. One of the major challenges is to allow flexibility and local adaptability of co-management coordinated by SUF management boards within the overall still-rigid structure of vertical state networks. Using a critical institutional perspective, this paper examines the influence of the vertical and horizontal linkages that underline the form and function of SUF co-management. Data is presented from a nation-wide survey of 113 SUFs, 22 random in-depth interviews, and four in-depth case studies of SUFs. The results show that the success of co-management in centralized states like Vietnam depends on the greater devolution of allocative power from central to district governments to facilitate horizontal networked collaboration with local communities. Yet the results also indicate that the central state maintains an important role in setting the conditions that allow for the success of these networked collaborations. Based on these findings the conclusions reflect on the need to further develop a critical institutional approach for understanding the purpose, interests, and resources of co-management in the context of centralized states.

Keywords: co-management; networks; nature conservation; protected areas; Vietnam

1. Introduction

Special-use forests (SUFs) are natural protected areas established to conserve the nature and biodiversity of Vietnam. Although the number of SUFs in Vietnam has increased over the years, biodiversity and forest density continues to decline [1,2]. The Special-Use Forest system of protected area management has been implemented in accordance with ideas of wilderness areas and no-use regimes [1,3,4], and strongly relies on the capacity of state agencies, forest rangers, the military, and police. The state-based preservation of natural resources and biodiversity in SUF areas has been variously evaluated as deficient in a number of areas, including managing conflict between multiple user groups [1,4–6]. To overcome these deficiencies, Vietnam has piloted co-management approaches in many SUFs since 2001, and as of 2003 included co-management in its official national strategy for SUF management [7,8].

Unlike other countries in Southeast Asia (e.g., [9,10]), direct collective action and self-representation outside mass-organization groups or people's committees is not politically feasible in Vietnam (e.g., [6,11]). So, while numerous actors are involved in co-managing SUFs in Vietnam, the state administration hold most allocative decision-making power relating to SUF management and constrains the capacity of management boards to fulfil their mandated functions of conservation, research, and coordinating the maintenance of ecosystem services. As argued by KimDung *et al.* [12],

Vietnamese implementation of co-management in SUFs is, therefore, best defined as "administrative"; reflecting the stronger role of the central state, and their collaboration with government-sponsored agencies that "represent" communities and facilitate their involvement. However, the state is far from monolithic in this administrative role. As outlined by Ratner *et al.* [10], state actors are internally differentiated, and enable to constrain one another in a variety of ways, which ultimately affects how the state performs cooperative forms of natural resource management.

This paper explores how, in spite of the constraints presented by an administrative form of co-management, state entities such as SUF management boards attempt to fulfil their mandate and collaborate with local communities. Based on in-depth case-study research we explore the internal dynamics within the Vietnamese SUF system, examining how the relative role and influence of vertically-related state agencies connect to the management boards of Special-Use Forests and horizontal networks of non-state actors in the development of collaborative SUF management. Building on Ratner *et al.* [10], we adopt a critical institutional perspective to co-management, thereby extending the existing co-management literature in Vietnam and beyond, to focus on the internal dynamics of state interaction, the effect on community cooperation, and the impact on natural resource management.

The following section introduces our critical institutional perspective used to analyze our case studies and reflects on the role of state and non-state actors in administrative forms of co-management. We then present the results of the national SUFs survey before presenting the four case studies. The national survey serves as an exploration of the strategic interactions within the Vietnamese SUF governance system, while the four case studies help diagnose how different co-management arrangements perform (comparatively) when confronted with similar environmental challenges (see [13]). Sections Four and Five then analyze the role of different state actors in implementing administrative management arrangements and the extent to which they facilitate collaborative decision-making processes in SUFs in terms of the capabilities and responsibilities of governmental organizations.

2. A critical Institutional Perspective of Co-Management

Co-management is fundamentally about the multiple linkages, power relations, and social relationships between actors that enable problem solving (linking to wider notions of adaptive learning and flexible decision-making) for natural resource management [14–16]. This distinguishes co-management from state centric forms of resource management by emphasizing the interdependencies between public and private actors at different levels and scales, and the degree of cooperation in practical real-life arrangements to solve these problems [10,17–20]. Given the complexity of these interdependencies, co-management is increasingly conceptualized as a "governance network" with varying interactions among the state, communities, NGOs, international organizations, and other public and private interests [18,21]. The notion of a network implies a degree of decentralization and democratization in problem solving—more so, it is thought, than uni-dimensional co-management typologies (e.g., [22,23]). However, returning to KimDung *et al.* [12], when these co-management networks are controlled by a centralized state questions emerge about the extent to which effective problem solving can be achieved.

In addressing such questions, social science research on co-management has shifted from more proximate issues related to establishing co-management, including capacity-building and regulatory change, to what Ratner *et al.* [10] have labeled a second generation of questions focused on the conditions and politics that facilitate the formation of co-management arrangements. In response to a growing critical literature related to co-management in Southeast Asia [24–26]. Ratner *et al.* [10] argue that questions related to the institutional design of co-management need to focus on politics and changing power relations, resource competition across sectors and scales, the capacity of institutions to promote adaptive learning and reconcile multiple values and goals. Taking these questions into account we are able to focus specifically on what Vatn [27] refers to as the "normative" aspects of

natural resource institutions, including the political and social context within which co-management is constructed.

We build on Ratner *et al.* "second generation" perspective by introducing what we call a critical institutional perspective to co-management. By applying this critical approach we analyze how administrative co-management is constructed as well as how its deficiencies might be overcome. We do this by looking at administrative co-management as a networked form of co-management, and in doing so analyze the type of collaboration between multiple public and private organizations and the central state. From this critical perspective we see co-management networks as constructed (and contested) through processes of competition and learning, and embody divergent interests, values, and goals of their constituent public and private actors. The type of collaboration between these actors is then determined by the relative power and allocative authority of each actor, which regulates strategic interactions between actors, the distribution of resources, and the degree of deliberation over (conservation) rules [28]. By focusing on the purpose, interests, and resources of actors, and their effect on the actions, performance, and collaboration, we can critically analyze how co-management networks form. Consequently, we can also observe and analyze how they create inter-dependencies between actors that represent the power relations that underlie administrative co-management embedded within the political and social context of Vietnam.

In developing a network approach for understanding the norms, rules and relationships that make up co-management arrangements we adopt a sociological understanding of institutions—in contrast with the bounded rationality of, for example, Ostrom's Institutional Analysis and Development Framework [29]. In doing so, based on Plummer and FitzGibbon [30] and others [31–34], we define constituent sets of vertical and horizontal linkages in co-management networks that identify linked but separate sets of actors and institutions, how and where these intersect, and what effect they have on the distribution of control and distribution of resources.

Vertical linkages relate to relationships between (more) central state agencies and authorities and place-based natural resource users/managers. Such linkages are vertical in that they refer to more directive modes of policy and control—reflecting the one party, centrally-planned political system of Vietnam, but also natural resource and conservation regimes in other countries in Southeast Asia and beyond [35,36]. Authority in these vertical linkages is most directly related to state policy and legislation, supported by judicial enforcement [37,38]. The often cited challenge for the state actors (departments and agencies) involved in this vertical dimension is to establish systems of control that are able to adapt to the deficiencies of state bureaucracy while maintaining the capacity to co-condition and "steer" on-site co-management strategies and outcomes [10,38,39]. Drawing on the wider co-management literature [22], these vertical linkages structure the capability of resource users to contribute to the formulation of rules and management arrangements.

Horizontal linkages refer to the collaboration and interactions of different—state, non-state and hybrid—actors at the site of natural resource management. They differ to vertical linkages in that the actors involved are not steered directly by the central state, but instead seek varying kinds of partnerships with actors with similar norms, levels of civic engagement and rule setting capabilities [30, 32]. Membership to these horizontal networks is also (more) voluntary and decisions are commonly regarded as (more) deliberative than vertical linkages steered by the state, and are (better) able to deal with locally specific conflicts [30,40]. Horizontal interactions expose the ways in which "second generation" co-management functions –moving beyond a single sector. At the center of these two networks is often a formalized management organization that coordinates the actors involved and provides an institutional bridge between state law and community-level rules over resource access and use [34,40]. In the centralized SUF system of Vietnam this is the so called "management board".

Co-management networks, made up these two separate but interrelated parts, therefore, help to identify sites within which we can understand the relational dynamics of resource control that often occur far from, but still subject to state power [38]. In the case of the Vietnamese SUF system, the form and function of co-management remains contested, with different expectations and goals of

actors within both vertical and horizontal networks. However, despite this contestation, administrative control remains with the state, and operationalized through SUF management boards. The tensions between horizontal and vertical networks is then central to understanding: (1) how decentralized and devolved responsibilities to lower levels of government (commune, district, provincial) are put in place; and (2) the extent to which horizontal actors are included in decision making, including their interdependencies and interactions with SUF management boards.

3. Methodology

In order to understand strategic interactions of actors in vertical and horizontal networks a two-tiered methodology was adopted for this research. The first tier is at the national level to observe patterns of SUF co-management across at the national level. The second tier focuses on contrasting case studies, designed to draw out diverse local contexts and conditions while allowing for comparison [41]. We divide the research into these two tiers in order to draw out patterns which can be generalized by reflecting on their relevance and similarity to the theoretically abstracted notions of co-management networks.

Primary data was collected from four rounds field research. First, a nation-wide survey on the role and collaboration of management boards of 113 of the 161 Vietnamese SUFs (see [12]). A subset of data were used for our analysis, focused on constraints, and expectations of SUF management to fulfil a cooperative function in their management of SUFs. Second, in-depth interviews were completed with 22 randomly-selected SUF management board members to clarify how management boards cooperate with other state actors. Third, after reflecting on the national survey data, in–depth case study analysis was conducted in four SUFs, represent different categories of SUF: Nui Chua national park (Ninh Thuan province), Khau Ca species and habitat reserve (Ha Giang province), Cu Lao Cham landscape protected area (Quang Nam province), and Xuan Thuy national park (Nam Dinh province). Data for these cases was collected through interviews with the Provincial People's Committees (PPCs), District People's Committees (DPCs), Commune People Committees (CPCs), international non-government organizations (NGOs), and local resource users. Fourth, secondary data was collected from national and local governmental documents to supplement empirical field results.

4. SUFs Administrative Co-Management Arrangements

4.1. Emergence of Co-Management in Vietnam

From 1962 to 1986, forest conservation in Vietnam was based on a system of "prohibited forests", comprised of 87 areas classified as national parks, nature reserves, and cultural, historical, and environmental areas [42]. As part of the wider political-economic reforms (*Đổi Mới*) at the end of 1986, the Vietnam's Ministry of Forestry decreed the reclassification of these lands into "special-use forests", defined as national forests established to protect and conserve forest habitats, flora and fauna genes, landscapes, and cultural and historic values, and to facilitate scientific research and education [43]. After a further round of reforms in 2010, 161 SUFs were established (covering 2,198,744 ha), classified as national parks (30), nature reserves (55), species and habitat reserves (11), and landscape protected areas (45), and experimental research forests (20) (which are excluded in our research due not to exist in the classification of the Vietnam Biodiversity Law—see [12] for further detail). According to Sam and Trung [44], government policy have shifted the sector from being reliant on central planning and subsidies to engaging multiple non-state actors [44] and covering a diverse range of issues such as investment, research, protection, enrichment, and management. More recent attention has been given to policies encouraging grass-roots participation in the highly contentious processes of land and concession allocation [45].

The term "special use" was a deliberate attempt to distinguish tenure arrangements based on varying access arrangements to state owned land. More specifically, "special use" distinguishes these areas from protected forest, largely used in watershed protection, and household level production

arrangements under either "red book" 50 year transferrable leases or "green book" 20 year leases with specified conservation easements (see [46,47]). The specification of clear tenure arrangements in and around SUFs remains an important issue given that 80% are estimated to be inhabited [48,49], and 30% have to deal with historical conflicts over land rights [50]. Benefit-sharing mechanisms have been put in place to mitigate the effects of acute conflicts, such as encroachment in poorly defined buffer zone areas (e.g., [49,51]). Overall, however, SUFs are governed as state property aimed at maintaining ecosystem functions, biodiversity, historical, and cultural landscapes, and resources for scientific research [52–54].

To engage local stakeholders in and around SUFs the Vietnamese government shifted to their own form of "collaborative approaches" under the premise of protected area management and improve the protection of forest habitat and biodiversity [55]. This shift towards co-management within SUFs was formalized by the 2003 Management Strategy for Protected Area System and the 2004 Land Law set legal rights and responsibilities of local resource user involvement, and subsequently strengthened by the governments obligations under the Convention on Biological Diversity Program of Work on Protected Areas [56], a number of foreign-funded pilot SUF co-management projects [7,57], and reforms to the policies related to state management and local authority capacity [58]. Vietnamese collaborative management has, therefore, emerged as an administratively decentralized but centrally-controlled form of management, rather than based on collection action.

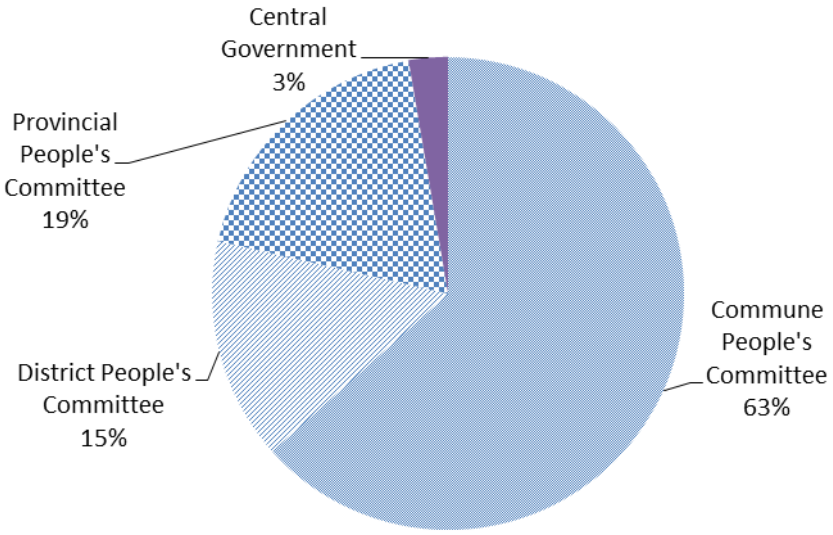
4.2. Vertical Collaboration

The overall responsibility for SUFs lies with MARD, who regulates almost all aspects of SUF management at both national and local levels (through Decree 117/2010/ND-CP). MARD plays a direct role in the administration of six national parks of special importance or inter-provincial transboundary parks. Within MARD, the Forest Protection Department (FPD) plays a key role in monitoring and managing the SUF network [49,58]. The management of other protected areas is shared between MARD, who takes administrative control, and more specialist Ministries related to the resource at hand. For example, wetland conservation and protection and land use management is in partnership with the Ministry of Natural Resource and Environment (MONRE), and marine conservation (also incorporated into the SUF system) is shared with MARD [49].

Implementation and administration of the SUFs comes under the direct responsibility of the People's Committee at both provincial and district levels. The Provincial People's Committees (PPCs) either take direct control or delegates to the provincial or district Departments of Agriculture and Rural Development (DARD), depending on the scale and complexity of the management task [59]. In the case of national parks, which have a higher status than the other SUFs, management boards responsible for day-to-day operations report directly to PPCs [8]. These management boards are made up of officials appointed by the provincial DARDs [60]. Where management boards have not been established, the line of responsibility is less systematic; with a variety of government departments responsible for operational decisions, such as the District FPDs, Provincial Departments of Agriculture and Rural Development, or Provincial Departments of Culture, Sport, and Tourism.

The state has the legal responsibility to provide management boards with the necessary institutional conditions to fulfill three key functions [61]. First, they have to protect, conserve, and develop the natural value of forests, conserve bio- and genetic diversity, and preserve historical and cultural landscape values. Second, they have to coordinate scientific research, and third, provide environmental services relating to the SUFs, such as ecotourism, services of land protection, water provision, carbon absorption and storage, greenhouse gas emission reduction. However, the effectiveness of SUFs to fulfil these functions, set out by the administrative branch of the government, is strongly dependent on their relationship with the political branch, represented by the PPCs and CPCs. This central importance of PPCs was clearly perceived by the management boards interviewed. SUF managers emphasized the power and authority of PPC within a provincial boundary and prioritize stronger collaboration with them (Figure 1). The majority of managers also want improved collaboration with CPCs, which engage local people through civil organizations, such as Women Union and Youth

Union. In doing so they hope to offer alternative livelihood strategies to local people involved in nature conservation projects. However, CPCs are also not assigned any state budget for nature conservation, nor for collaboration with SUF management boards. This places management boards in a precarious position; on the one hand seeking permissions and resources from the more powerful PPCs (also see in [62]) while channeling these funds to CPCs in the form of livelihood improvement and awareness raising projects.



Hình 1. Priority of SUF management boards in furthering governmental cooperation (n = 112).

4.3. Horizontal Collaboration

With their limited resources SUF management boards are strongly dependent on a range of horizontal collaborations with groups outside the immediate government hierarchy within which SUFs are located. These include the military and police, international organizations, universities/institutes, companies, and local communities. Over time these groups have become centrally important to fulfil the legislated requirements of conservation, conducting research, and coordinating ecosystem services.

Conservation is interpreted by most management boards interviewed in terms of patrolling and policing of land encroachment, illegal forestry, and wildlife poaching. Two key public partners who provide enforcement capacity in support of the forest rangers in protected areas and buffer zones are the police and military. However, despite the perceived importance of this collaboration, the services of both the police and military are gradually becoming formalized and monetized and, albeit indirectly, controlled by the PPC through their budget oversight (Table 1). Budgets for planned cooperation, such as petrol for patrolling marine and land areas, are in place, unscheduled support to rangers in patrolling the area are not budgeted. As a consequence, collaboration is limited to monitoring past violations rather than proactive policing and enforcement.

Bảng 1. Current and priority for future horizontal collaboration of SUF management boards.

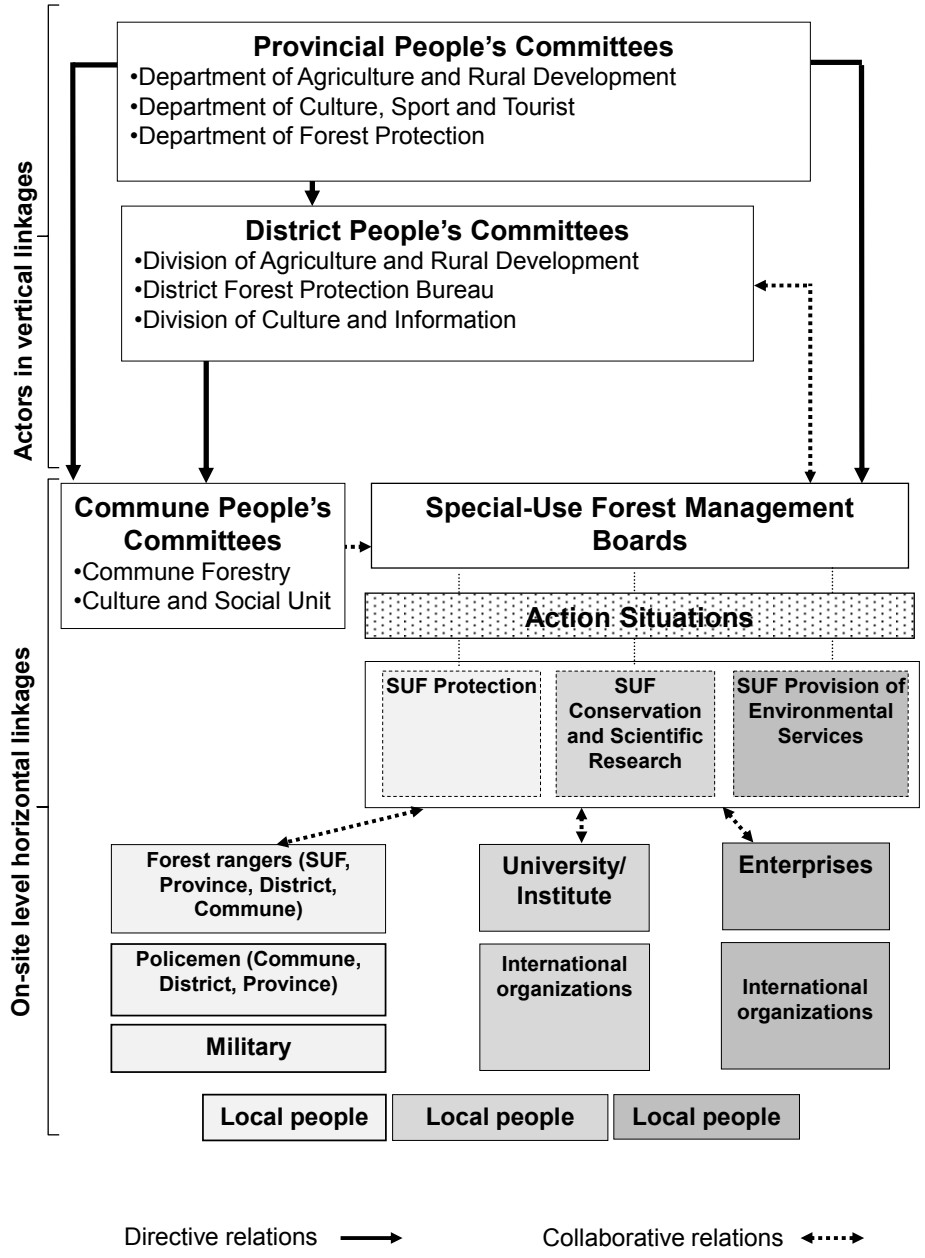
No.	Actors in Horizontal Networks	Current Collaboration (n = 113)	Priority for Further Future Collaboration (n = 113)
1	Local people	96%	71%
2	International organizations	34%	11%
3	Research and education institutes	28%	8%
4	Police	54%	4%
5	Military	47%	1%
6	Civil organizations	32%	1%
7	Private companies	21%	1%
8	State-owner companies	15%	1%

Research coordination is conducted in collaboration with more than 23 international organizations working SUF management boards across a range of broadly related activities such as awareness raising, capacity building, environmental education, and nature conservation research. International organizations such as IUCN and WWF focus collaboration on national parks and nature reserves. However, 66% (n = 113; Table 1) of the SUFs reported that they had no international cooperation, and few management boards (11%; n = 113) give high priority to more international collaboration. If they do give priority it is especially to overcome budget and staff capacity constraints in implementing nature conservation and research. Similarly, management boards also wish to strengthen collaboration with domestic scientific institutes in order to apply for national and international research funding.

Around one third of the management boards surveyed engage with businesses, often in relation to eco-tourism. It is unclear rules for benefit sharing, responsibilities and commitments also lead to conflict, and management boards are not eager to extend these collaborations (Table 1). Many management boards complain that tourist activities threaten SUFs through environmental pollution, forest fires, and road and resort constructions. Companies often refuse to pay for the environmental services they profit from and hardly contribute financially to SUF management, creating tensions between management boards and tourist enterprises. The tourist enterprises usually have close relations with PPCs and obtain PPC licenses for tourist business, making it extremely difficult for management boards to refuse ecotourism activities in their SUFs.

Community partnerships have been strongly influenced by the continued perception that communities surrounding SUFs are unlikely to be effective conservation partners. Nearly three quarters of SUFs managers held this position. The dominant partnership with communities is through direct employment as forest patrols (83% of SUFs, n = 113) and in wider information dissemination activities (62% of SUFs). Slightly less than one quarter of all SUFs develop partnerships or provide support for harvesting non-timber forest products (23% of SUFs) (see also [63]), largely because of central government control over access to key natural resources. Instead, livelihood activities that focus on "resource substitution" are more common, such as providing loans for livestock to protected areas-affected populations and livelihood allocation.

For all three key functions that management boards have to fulfil it is ultimately the PPCs that manage their staff allocation, decide their operational budgets and hand out licenses for NGO and private sector collaboration (Figure 2). Although some input comes from the Department of Planning and Investment (DOPI) and the Department of Finance (DOF), the horizontal collaborations outlined above strongly influence their management effectiveness, as well as their capacity to develop co-management arrangements with local resource users. The only alternative funding available is through the centrally government's Program 661, a fund providing (albeit very low levels of) compensation to people whose have been heavily affected by exclusion from SUFs [4,6,38]. According to one SUF manager interviews, that this leaves very few resources to establish meaningful co-management relationships with these communities.



Hình 2. SUF management board in administrative co-management networks. Note: directive relations indicate authority of one actor over another. Collaborative relations involve communications and negotiations to gain co-operation.

5. Four Cases of Administrative Co-Management Arrangements

SUF management boards are assigned ambitious functions and tasks, but have limited authority and resources, and are confronted with severe pressure on natural resources. This constitutes a major challenge for co-management of SUFs. In this section, four cases are analyzed to better understand how collaborations between management boards and vertical and horizontally related actors influence their capacity to fulfil their mandated management functions.

5.1. Cu Lao Cham Landscape Protected Area

The Cu Lao Cham marine protected area (MPA) is considered a highly collaborative case of SUF management in Vietnam. The park was established in 2006 and recognized as a World Biosphere

Reserve in 2009 based on its distinguished values of forest, marine biodiversity, history and culture. The Cu Lao Cham management board falls directly under Quang Nam DARD and is responsible for protecting marine biodiversity, sustainable use of marine ecosystems, and preserving historic-cultural values (in support of the nearby UNESCO city of Hoi An). The MPA is divided into a protection zone and an ecological rehabilitation zone both designed for conservation, and a controlled development zone designed to allow income generating activities, such as ecotourism and fishing.

The Cu Lao Cham MPA was established in 2000 as part of a donor funded nationwide marine protected area network. MARD (previously the Ministry of Fisheries) was given responsibility to support the MPAs, while the Ministry of Planning and Investment (MOPI), in collaboration with international organizations such as IUCN and WWF, participated in designing the parks management system. The Global Environmental Facility and UNESCO sponsored also funded conservation and tourism planning with local authorities and communities.

Despite the wide network of actors involved in the establishment of the MPA, the Quang Nam PPC maintains authority over all planning and regulation; although regulations relating to local communities requires consultation with local government before being approved by the PPC. The PPC's executive departments (e.g., DARD, DOST, DONRE, and DOCST) cooperate with the management board to implement activities, while the police and military patrol violations. Both the DPC and CPC participate in the design and implementation of community relations the management board puts in place. The Hoi An Town People's Committee (equivalent to a DPC) has supported livelihood programs, and provided budget for solid waste systems and species protection, while the CPC has been active in organizing community level conservation activities.

Community engagement has been firmly state-led, through consultations by the management board around zoning, planning and alternative livelihood activities in the MPA. According to the park managers, many local groups have also supported the SUF management board and have actively joined patrols by forest rangers and the military. However, it appears there have been trade-offs to this involvement, with concessions granted for modified, less-exploitative livelihood activities within the park. The board has also worked with scientific institutions and enterprises to offer training courses on nature conservation, as well as skills related to the emerging tourist business, such as English language and business development courses.

Perhaps the most importantly the park has shifted its funding away from a dependency on Danish assistance (lasting from 2006 to 2010) to income generation from tourist fees, service incomes and taxes on joint ventures. All of the funds generated support the Cu Lao Cham management board, two military posts and the Tan Hiep CPC. This means that despite the ongoing control by the PPC the management board has established enough financial independence to allow it to fulfil its statutory functions and actively involve local communities into a well-functioning administrative co-management system.

5.2. Khau Ca Species and Habitat Reserve

Khau Ca Species and Habitat Reserve was established in August 2008 by the Ha Giang PPC to protect the critically-endangered Tonkin snub-nosed monkey (*Rhinopithecus avunculus*), one of the 25 most endangered primates in the world. The decision led to the establishment of the Khau Ca management board by the Provincial Forest Protection Department (PFPD), but because no budget was allocated to the reserve, the board sought funding from domestic and international sponsors. Their success is seen in the reserve's current support base, including Fauna and Flora International (FFI), the San Diego Zoo (USA), the Denver Zoo (USA), and the University of Colorado (Boulder, USA). Both the zoos and FFI provide scientific support; building on FFI's initial discovery of the snub-nosed monkey in 2002. In addition, PanNature, a Vietnamese NGO, cooperates with Khau Ca to implement educational programs on monkey conservation in local schools.

Despite the financial independence of Khau Ca, the Ha Giang PPC remains the most influential actor in overall management and is directly involved in facilitating international collaboration for the reserve management board. This is seen as a major advantage to management board staff given

the burden of finding and managing these relationships. Since the PPC took direct financial control of international collaboration the provincial Financial Department (one of the executive bodies that falls under the PPC) was excluded from operations at the behest of the management board, believing it would make financial management more complicated. To reduce costs the board streamlined the reserve organization by employing only four staff, including a leader of the PFPD; a move which was welcomed by managers given this body is responsible for mobilizing forest rangers from district forest protection units.

The board has not established a close relationship with the DPC because it found it more convenient to work directly with CPCs (with permission from the PPC). Both the DPC and CPC have no budget for nature conservation, but the CPCs are more supportive of activities that directly engage local people. The CPCs provide a platform for conflict resolution and are supportive of alternative livelihood activities. The three surrounding CPCs also nominate ten local people to patrol the forest, provide research support by monitoring the Tonkin snub-nosed monkey, and disseminate information about species conservation in partnership with the Youth Union and Women Union. These rangers in turn report violations to the board, who seek juridical support from the commune police and forestry unit.

In this case, greater collaboration with the CPCs is welcomed, but continues to be limited by the financial control the PPC maintains over the reserve. The central position of the board is supported by their success in attracting funding. But these funds and, hence, the activities of the board, remain under the control of the PPC to a large extent. Co-management remains administrative in nature, due to control over funding, but the management board has been able to negotiate more direct relations with local communities through their collaboration with international organizations.

5.3. Nui Chua National Park

Nui Chua National Park, comprised of an inland area of 22,513 ha and a marine area of 7532 ha, was established in July 2003. Ninh Thuan PPC has devolved administration of the park to the local DARD, which approves all activities and collaborations in the park.

The park is strongly divided on ethnic lines, with the minority Raglay people heavily dependent on the collection of firewood, medicinal plants, and forest fruits, as well as charcoal production and logging [64]. They also (illegally) practice swidden agriculture on the steep sloping areas within the park. The desire of the government to reduce these forest-based practices, coupled with the attention Ninh Thuan receives as one of the poorest provinces in the country, has led to a number of programs on "hunger eradication" and poverty alleviation focused mainly on the Raglay.

A number of international organizations support nature conservation in the park. WWF runs coral reef and sea turtle conservation projects as part of the same Danish project that supported the Cu Lao Cham MPA. In addition, the Vietnam Conservation Fund (VCF), with funding from GEF-TFF-EU, supports research on biodiversity. With funding from Program 661 VCF has developed community forest protection with two Raglay villages in the park buffer zone paid to undertake forest patrols, and two other communities have been paid for sea turtle conservation and coral reef protection, with additional support going to their children to study at Hoa Sua School of Tourism.

The conservation payment model has meant that the control of the Ninh Thuan PPC over nature conservation has been diminished. However, the PPC continues to control all other activities around the park, leaving what might be called a "sectoral divide" within the park. For example, while the PPC is solely responsible for road construction and tourist development, it does so without the participation of those involved in nature conservation, including the management board and the Ninh Hai DPC and CPC. The result has been poor coordination with communities, ongoing land encroachment, and conflicts over benefits and responsibilities between the management board, CPCs, and tourist enterprises.

The Nui Chua management board sees the value of collaborating with the DPC and CPC. However, due to the central position of the PPC, the DPC's involvement has been limited to minor projects,

such as organizing clean-ups of hatching sites of turtles involving the Youth Union, military, and other district-level executive agencies. Collaboration with the CPC has been more successful, with the implementation of alternative livelihood projects and participatory models for turtle conservation, coral reef protection, and forest protection. However, in practice, the management board has developed all the plans leaving the CPC to only assist in implementation.

Despite the strong vertical oversight of the park by DARD, the Nui Chua management board has been proactive in searching for funds and widening its horizontal relations. However, these relations, especially with the CPC and international organizations, is fragmented and where they are in place have only led to short-term interventions. Furthermore, the finalization of Program 661 in 2010 ended conservation payments for forest protection. As such, no long term co-management model has been established and the management board remains dependent on the PPC, while still regarding Raglay people as an ongoing threat to, rather than a partner for, conservation.

5.4. Xuan Thuy National Park

Xuan Thuy national park was established in January 2003 and is administered by the Nam Dinh DARD [65]. In 1988, 15 years prior its establishment, the park became the first Ramsar site of Vietnam, and in October 2004 it was also acknowledged as the core zone of the Red River Delta Biosphere Reserve by UNESCO [3].

The area is also long-time site of harvesting two clams, *Meretrix lusoria* and *Meretrix lyrata*, by local communities. As a Ramsar wetland, these harvesting activities were banned in the core area of the park, but a lucrative market for these species led to illegal exploitation. In 2005, communities protested the illegality of their harvesting activities and the Xuan Thuy management board asked for a new resource exploitation plan from the PPC. The PPC considered the case as beyond its authority and advised the management board to bring the issue to the Ministerial level. Two representatives of MARD, one from the Department of Policy and one from the Forestry Protection Department (FPD), visited the site to see the problems first hand, and subsequently asked the management board and PPC to prepare a proposal for conflict resolution. The result was the formulation of a pilot project on the "wise uses of *Meretrix lusoria* and *Meretrix lyrata* in core zone of Xuan Thuy National Park".

The project centered on improved collaboration between the management board with the DPC and CPC. Through the project, the Nam Dinh PPC delegated its authority to Giao Thuy DPC to establish a management board for clam exploitation in Red River delta within Xuan Thuy, with representatives from the Giao Thuy DPC; Xuan Thuy management board; executive District departments; local CPCs; military; police; Giao Thuy District Station of Fishery Inspection; and the Forest Protection Division of Xuan Thuy. The Giao Thuy DPC ordered district agencies under its administration to collaborate with the Xuan Thuy management board to plan conservation and management activities. In addition, the plan placed emphasis on local representation, with organized groups of clam pickers also sitting on the management board.

The plan stipulated that the Nam Dinh PPC is responsible for issuing regulation and monitoring project implementation. The DPC is in charge of ensuring proper project implementation on-site, in accordance with the provincial regulations and assist CPCs in planning, land allocation, monitoring, enforcement, and conflict resolution in the designated exploitation zones. Clam pickers are able to buy exclusive harvesting rights through an auction system and are required to implement self-monitoring and enforcement. A meeting of the board with the provincial departments, and Chairmen of DPC and CPCs review and revise harvesting agreements, while at the local level monthly meetings are held between the board and the buffer zone CPCs to exchange information and experiences on management and local livelihood development.

An important, and perhaps unique feature of Xuan Thuy is the role that MARD plays in granting the PPC and management board permission to pilot co-management of sustainable resource use. However, the case is not a complete break from normal practice, as the PPC maintains decision-making control relating to park management. The key difference is that the management board maintains

the authority to communicate with MARD and the DPC, and the Nam Dinh PPC is required to contribute 15% of revenues raised from clam harvesting directly to the management board and marine conservation activities [3], while 70% of taxes from clam cultivation licenses are transferred to the DPC budget. The system has been effective in resolving conflicts between communities in the park and nature conservation goals [3]. These communities have also taken up a direct self-enforcement role, replacing state forest rangers, as they benefit financially from monitoring natural resource exploitation, engaging in nature conservation clubs, and building relations with the management board.

6. Comparative Analysis and Discussion

The results illustrate a range of networked relations, in both vertical and horizontal dimensions that constitute co-management in Vietnamese SUFs. These linkages highlight a diversity of local contexts and conditions that influence the make-up of these co-management arrangements, as well as the degree to which locally-embedded actors are able to engage and draw upon the resources and influence of national and international actors and organizations [30]. Reflecting the work of Ratner *et al.* [10], our analysis also highlights the need for a more critical institutional perspective to co-management which can not only identify these networked relations, but also focus on the internal dynamics of state interaction and how they affect the capability of communities to engage in cooperative forms of conservation in state run SUFs. We now turn to a comparison of the four SUF cases and draw what they show us in terms of dealing with and potentially overcoming the predominant "administrative" mode of SUF co-management in Vietnam.

Our first overall observation is that SUF management in Vietnam has not yet fully shifted from a (centralized) state-based model of management to an effective form of co-management at the site level. As we argue elsewhere, co-management remains administrative rather than participative in nature [12]. Although a diversity of actors are present their contribution to day-to-day management is limited because of an unequal division of political and fiscal control by the PPCs. Despite the promise of co-management in SUFs, management boards rely heavily on the allocative power of vertically "higher" actors [28] to organize and operationalize horizontal relations. Under these conditions, links to "horizontally" positioned actors are often stifled because on-site practices have not yet integrated participative mechanisms for sharing responsibilities, resource exploitation, and benefit-sharing.

Despite all four case studies being explicitly labelled as "co-management", we also observe clear differences in terms of how SUF management boards have countered the administrative control of PPCs (summaries in Table 2). Cu Lao Cham shows how the management board has managed to establish a degree of financial independence to the PPC which has allowed them to establish collaborative links with local communities through the CPC. This contrasts markedly to the management board in Khau Ca who, despite attracting considerable external funding, have not been able to establish an adequate level of administrative independence from the PPC, which has, in turn, limited the capacity of the board to establish meaningful community collaboration. In Nui Chua, the dependence on external partners rather than the PPC for funding conservation payments to marginalized communities has put the management board at risk of not being able to continue their engagement with local communities. Finally, in Xuan Thuy, the stronger vertical support by the MARD, in the context of national legislation related to Ramsar, has allowed the management board to largely bypass the control of the PPC in relation to their management activities.

Bảng 2. Comparing administrative co-management in four case studies.

Co-management characteristic	Networked relation	Khau Ca	Nui Chua	Cu Lao Cham	Xuan Thuy
Vertical network	MARD involvement	No	No	Yes	Yes
	Active and facilitating PPC	Yes	No	Yes	Yes
	Devolution to DPC	No	No	No	Yes
	Consulting and learning process among actors in vertical linkages and with local people	No	No	Yes	Yes
Horizontal network	Local people collaboration	Conflicts with local people	Limited collaboration	Good collaboration, but local people complain that outsiders exploit resources. Local people have no rights to stop outsiders.	Good collaboration. Local people have clam exploitation rights. They can prevent others from poaching their areas.
	International involvement	Limited	Limited	Strong financial and technical support	Strong financial and technical support
	Business	No	No	Yes	Yes
Cost and benefit sharing		No	No	Yes	Yes
Overcoming financial and human resource shortages		No	No	No	Yes

All four cases demonstrate that the limitations of "administrative" co-management can be overcome by diverting power and control away from the PPCs. The PPCs control decision-making and hold key financial resources and determine (in large part) the participation of other executive bodies. Any attempt to engage local communities by management boards are, therefore, strongly dependent on the coordinating, authoritative, and financial capacity of a PPC. If a PPC holds nature conservation as a priority, and is willing to devolve power to others in the co-management network, they enable a participative, problem-solving form of co-management (see Table 2). However, if the PPC does not prioritize conservation, or community engagement, their central role and power can block the involvement of other (vertical and horizontal) actors and undermining the resolution of common interests, benefit-sharing and joint decision-making. Reflecting the challenges of "second generation" co-management [10], it is these institutional dimensions of co-management that play a fundamental role in shaping the distribution of benefits and risks to those involved in SUF management.

If the management boards can generate incomes for nature conservation and their own operation, they can become less dependent on PPCs. However, as illustrated in all four cases, any control levered back by management boards through alternative funding will remain partial given the control that PPCs exercise over land at the local level [61,66,67]. Such control does not only create a near complete reliance on the PPC for resources, it also affects the capacity of management boards collaborate with either alternative government bodies and/or local communities.

Although counter-intuitive to the goals of co-management (*cf*. [30]), a more effective means of leveraging control back from the PPC may, instead, be to develop stronger centralized ties to MARD. As shown in the case of Xuan Thuy, the PPC has been forced by MARD's involvement to devolve authority to the DPC to manage resources and to the CPC to implement resource protection. If MARD, as an administrative central government actor, has the power to counter the dominant role of the PPC, and reorient collaboration of the management boards to the DPCs and CPCs, it might well be able to facilitate greater community engagement within the parks. By placing more emphasis on the role of central actors in co-conditioning and steering co-management strategies and outcomes at the local level [19], the management board has gained greater authority and capacity to monitor operations of resource exploitation and protection in the area.

Although central control by MARD is unlikely for all SUFs, nor particularly desirable, the cases reflect the need for understanding how greater political control can be created at different levels of government to implement forest management agreements, "with suitable rewards and penalties and scope for revisions as needed" [55] (p. 2755). This indicates the ongoing need for a balanced interaction between the PPC and management boards. If divided, as seen in the case of Nui Chua, management decisions may contradict the conservation and livelihood goals of the SUFs in question—a problem extending to various cases of hydropower and infrastructure development supported by PPCs (e.g., [68]). Weak cross-accountability of these organizations is also not desirable given the complex political economy of illegal forestry activity [69]. In order to facilitate more meaningful community collaboration, and thereby break down the dominant administrative mode of co-management, greater awareness of the political dynamics of power and decision-making is required. As noted by Vasavakul [70], this is particularly important given the growing independence of provinces in many areas of central policy.

Despite Vietnam, in some ways, being an outlier in Southeast Asia—as one of only two remaining centralized single-party socialist states—our results do hold broader lessons for a wider critical institutional perspective of co-management. Reflecting on Ratner *et al.*'s "second generation co-management" [10] our findings also point to the need to consider institutional competition between government actors across multiple levels in the governance of co-management (see also [16,39]). Furthermore, we concur with their argument for also taking into account relations both between public and private actors and examining the extent to which these relations contribute the conditions under which co-management can be implemented [10]. By opening co-management to wider notions of networked governance relations it is then possible to go beyond the more standard analyses

of vertical linkages between states and resource users or managers. By adopting this networked approach, and critically investigating the norms, rules, and relations that constitute cooperation in these networks [10,17], we can better understand other horizontal linkages and (social) relations that enable resources and managers and users to improve the terms of their involvement in highly contested practices, such as conservation (*cf.* [6,35]). Again, reflecting the findings of Ratner *et al.*, this emphasizes the importance of taking into account the competition for resources that would not otherwise be considered in the more traditional perspective of a vertical state-community collaborative management models (e.g., [22]). Finally, while our results did not incorporate issues of adaptation and learning, we do acknowledge the importance of these characteristics on second-generation co-management. While other countries in Southeast Asia may be less centralized, and/or have more opportunity for collective action than communities in Vietnam, all exhibit a tension between central and de-central actors that either enable or hinder the implementation of co-management. A critical institutional perspective allows for a more in depth analysis of the relevance and potential for co-management in this context.

Second, the results reiterate the importance of understanding the benefits and risks associated with investing in co-management. After two decades of experimenting with decentralized natural resource management in Southeast Asia, evidence of the "tyranny" of policy discourses such as co-management is emerging (*cf.* [71]). As the language of co-management is mainstreamed, there is a growing risk that it is used as a means of justifying government involvement and ultimately re-centralization of resource control away from resource users (e.g., [72]). In Vietnam administrative co-management may be more about maintaining central control, but the institutional dynamics behind this process may open up similar cases in other political settings.

7. Conclusions

The results show that, far from enabling improved collaborative management of SUFs, the strong administrative intervention of the political branch of the Vietnamese government both facilitates and undermines the functions of management boards in performing their mandated duties. To be able to adapt and sustain the SUF management system to local and constantly changing conditions, SUF management boards need to continue to push for a mix of flexible and adaptable horizontal relations within the still rigid structure of vertical state control. Identifying how they can do this requires a more nuanced understanding of the purpose, interests, and resources of actors, as well as their performance in co-management.

From the range of strategies adopted by management boards to overcome these constraints, it appears that engagement with strong vertical networks of interrelated state authorities might be the most effective means of gaining enough independence to implement management activities and engage with local communities. In addition to this vertical strategy, the results also demonstrate that the capacity of management boards to perform their mandated functions improves when working with international organizations and when they introduce benefit-sharing mechanisms for local communities. The results also show that the limitations of administrative co-management can be overcome when multiple actors (both horizontally and vertically) are involved. However, their involvement does not necessarily equate to a weakening of state power. It is still the state, represented by the PPC, and its extended vertical networks that enable, facilitate, and condition these horizontal inter-linkages and collaborations. For SUF co-management to effectively move beyond its administrative character, and better facilitate horizontal network collaboration with local communities, allocative power has to be devolved from provincial and ministerial levels to commune and/or district governments.

Further research is needed to determine whether and how administrative forms of co-management are visible in other states exhibiting centralized state management of natural resources. In doing so attention should be given to the extent to which networked forms of co-management are able to overcome centralized control. Extending beyond the single case of Vietnam, a wider typology of how states facilitate the inclusion of actors that go beyond the traditional vertical relationships can lead to a

more informed understanding of co-management in political contexts that do not exhibit high levels of devolution and deliberative decision-making. By developing such a typology a more adaptable set of principles may emerge that allow for the design of co-management in contexts where it is appears least possible.

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