Chapter

Institutionalizing Co-Management for a Sustainable Future of Protected Areas: The Case of Xuan Thuy National Park, Vietnam

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Abstract

To conserve nature and biodiversity, Vietnam has established 164 protected areas, comprising of 30 national parks, 58 nature conservation areas, 10 species and habitat reserves, 46 land/seascape protected areas, and 20 scientific and experimental forest areas. Like many other developing countries, Vietnam has been facing many institutional challenges to govern the system. Insufficiencies of human and financial resources, conflicts over customary and statutory laws, overlaps of land use rights, and deficiencies in legitimate rights and responsibilities are those complicate the situation. To overcome the obstacles, the state needs supports from multilevel government, community, and international, private, and civil societies. Co-management has been suggested and implemented as a form of governance that can help mobilize the engagement of diversified stakeholders as well as harmonize conflicts over the areas. However, transformation from a centralized governance like Vietnam to a co-management requires time and effort; it reveals a promising process for a sustainable future of the Vietnamese protected areas through some initial achievement.

Keywords: protected areas, nature conservation, institution, co-management, Vietnam

1. Introduction

Located within the Indo-Burma Biodiversity Hotspot (IBBH), Vietnam is ranked as the 16th most biodiversity-rich country in the world. It hosts 110 Key Biodiversity Areas [1] and 62 Important Bird Areas [2]. The country also claims two World Natural Heritage sites, eight Ramsar wetlands, eight United Nations Education, Scientific and Cultural Organization (UNESCO) biosphere reserves, and two Association of Southeast Asian Nations (ASEAN) heritage parks. Underlying this list of conservation governance arrangements is the country's high level of species endemism. It is estimated that 10% of Vietnam's plants are endemic to the country [3], while 12 known species of mammals, 7 species of birds, 48 species of reptiles, 33 species of amphibians, and 80 species of freshwater fish are endemic to Vietnam [4].

To conserve nature and biodiversity, Vietnam has established 164 protected areas, comprising of 30 national parks, 58 nature conservation areas, 10 species and

habitat reserves, 46 land/seascape protected areas, and 20 scientific and experimental forest areas [5, 6]. The legal basis of the protected system is the restriction of resource exploitation which can adversely affect biodiversity, natural and cultural landscapes, and scientific resources (Decree 117/2010/ND-CP). Under the rigid set of policies and law enforcement, the protected area system has been evaluated as not supportive of local livelihoods [7–10], although about 80% of the protected areas are inhabited [11]. This leads to the exclusion of the people out of the system since its establishment [12] and degrading relations between local people and the protected areas [13, 14].

To manage the system, the government plays the sole role. At the national level, the Vietnam Forestry Administration (VFA), within the Ministry of Agricultural and Rural Development (MARD), is primarily responsible for coordinating the national protected area system, including the direct administration of six inter-provincial national parks [15, 16]. Where other habitats and resources involved, protected area management can also involve other branches of the government. For instance, wetlands are divided between the Ministry of Natural Resources and Environment (MONRE) and MARD [17]. MARD remains the main authority responsible for marine protected areas [18]. But if cultural or landscape protection is involved in a protected area, then the Ministry of Culture, Sports and Tourism is also involved.

At the provincial level, the Provincial People's Committees (PPCs) are responsible for the administration of all other protected areas [12]. Based on the size and importance of forests, PPCs might assign district governments to manage and develop activities such as tourism [19]. But the majority of Vietnam's protected areas is managed by the provincial Departments of Agriculture and Rural Development (DARDs), in collaboration with the provincial Forest Protection Department of Culture, Sports, and Tourism (DOCST) which fall directly under the control of the PPCs [16, 20]. Protected areas that are small in size and not managed by the district-level Forest Protection Department report directly to PPCs. At the operational level, management boards of protected areas are staffed by officials assigned by provincial DARDs and responsible for management and protection [21]. Due to this fragmentation of institutional arrangement, it requires a lot of efforts placed on the coordination for achieving the effectiveness in protected area management [22]. As acknowledged by the Vietnamese government itself, the coordination between the authorities is plagued by overlapping legislation and a lack of clear division between institutional mandates for management by the various authorities involved [4, 5, 16].

Although the relative large number of protected areas has been established, there is a continuous decrease in quality of forests, biodiversity, and wildlife habitats because the government faces shortages in human and financial resources to carry out the management [12]. Beside deficiencies in institutions, it has been dealing with big challenges in nature conservation when there are millions of people still directly or indirectly depending on these protected areas for their livelihoods [23]. According to the Government (2014), about 20 million people in Vietnam have main or partial income from aquatic resources and 20–50% of income of 25 million people from non-timber forest products [24]. This is fueled with the issues of population growth putting more pressures on resource exploitation and socioeconomic development, threatening Vietnam's natural resources. Moreover, overlapping land use rights is another central issue when 49% of protected areas remain dealing with conflicts over the ambiguities that arise over access to both land and forest resources. Relations between managers, rangers, and local communities still struggled over livelihood and conservation and between statutory and customary laws ([25], p. 11). Conflicts between local users and authorities responsible for nature conservation commonly happen when the former have been forcefully excluded from protected areas [26].

A combination of poor surveillance and weak active engagement with local communities depending on the resources causes problems for protected areas. McElwee [27] argued that extending the protected network areas is not feasible in the case of Vietnam because of the limited capacity of institutions. In recognition of the same issues, the Vietnamese government has attempted through a variety of programs to improve community collaboration in the protected area system and improve the protection of forest habitat and biodiversity [28]. Co-management approach has strong potentials to resolve the issues as suggested by international scholars when it is supposed to provide a meaningful participation through joint decision-making [29–31], a means of conflict resolution [32], and a reduction in resource management cost with more locally relevant management plans for poverty reduction through diversifying economic activities [33, 34]. And thus it is exactly going to contribute to the sustainable development of Vietnam by ways of integrating nature conservation and development.

2. Concepts of sustainable development and natural resource co-management

2.1 Sustainable development

Sustainability originated with the 1980 World Conservation Strategy of the International Union for Conservation of Nature (IUCN). It is considered as a strategic approach to the integration of conservation and development consistent with the objectives of ecosystem maintenance, the preservation of genetic diversity, and the sustainable utilization of resources. In general, "sustainable development is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Today, sustainable development remains a controversial topic with different philosophies ranging from resource conservation to socioeconomic equality through environmental justice [35]. Although it views a holistic approach to the relationship between man and the environment, various actors emphasize differing facets of sustainable development depending on their needs. Moreover, cultural and economic differences also lead to different perceptions of sustainable development [35].

Recently, sustainable development is understood and related to four key aspects, comprising of environment, development, society, and linkages, among poverty, inequality, and environmental degradation. The environment composing of nature with biophysical domains and human with socio-economic-political settings constitutes an interdependent global environment and world ecology. By considering the physical-biological basis, the development should not exceed the ability of the environment to natural resources and services. The development is not just as an economic activity but as a process of qualitative and equitable growth. In process of development, sustainability should be positioned in political-institutional arrangements to restructure public power and create social decision-making. For social development, it is important to focus on the well-being of communities, creating jobs, and considering income distribution. By considering society as an interdependent and a world community, global economic growth cannot succeed with an uneven distribution of wealth. And it is worth remembering that environmental problems do not know territorial or economic barriers, national or international, and thus institutional arrangements of development will not just affect the quality of life of some nations. In the process of development, cultural values and beliefs also need to be recognized and considered time by time to guide and justify anthropic actions. Altogether these four key aspects direct the development toward sustainability.

Nature conservation is closely linked to sustainable development, particularly in the developing countries. It is evident that nature conservation is not possible without sustainable development which is aiming at both societal welfare and environmental protection [36–38]. In Vietnam as elsewhere of the developing world, protected areas do not receive the support of the people because they do not have a positive impact on people's livelihoods and do not support the development of cultural, social, political, natural, and human resources. People do not appreciate the management processes around the reserves [14]. And nature conservation only improves when relations between protected areas and communities are improved through the improvements of management processes and conservation and socioeconomic outcomes [38]. Therefore, in the 2030 Agenda for Sustainable Development, nature conservation is highly embedded across most of the Sustainable Development Goals [39]. Many protected areas around the world have already combined approaches to biodiversity conservation and sustainable development in which they facilitate sustainable economic activities in both aspects of environmental ecology and means of livelihood for communities [36, 40].

Additionally, convention on biological diversity (CBD) recognizes communities to play a huge role in biodiversity conservation and preserve traditional cultural values. Commitment to recognize and institutionalize community protected areas has been promoted globally and included in the regulation of the convention on indigenous peoples, local knowledge, and traditional resource use according to the customary law. In the context of CBD implementation, the contents of community protected areas are identified in Aichi Objective 11 on ensuring specific numbers of the area worldwide and Objective 18 with respect to knowledge, indigenous traditional initiatives, and practices in conservation and sustainable use of biodiversity. In order to implement the international agreements and treaties, many countries have promoted the institutionalization of protected areas managed and registered by communities in the global data system. The leading countries in this work include India, Nepal, China, Taiwan, Philippines, Malaysia, Indonesia, Thailand, Benin, Australia, Canada, Bolivia, and Madagascar, of which many neighbor Vietnam [41]. Therefore, this can be seen as opportunities for co-management to engage indigenous communities in arrangements, contributing to the cultural diversity and the emergence of sustainable societies across the world and so Vietnam alike.

2.2 Natural resource co-management

Co-management has been adopted internationally in response to the perceived failure of centralized management in natural resources [12, 33, 42–45]. It is a process of solving-problem management in which actors at different levels and scales interact to adjust their positions, roles, and activities to harmonize with emerging contexts and circumstances surrounding a natural resource [29]. In this process, power is a result, leading to modifications on the rule of the game and creating win-win solutions [46]. Today, it is defined as an arrangement where responsibility and right for resource management are shared between the government and user groups [44, 47], acknowledging the important role of the people who are living around the resources and impacting on resource uses and management [46]. Therefore, co-management arrangement often includes the devolution of responsibilities associated with day-to-day management of natural resources and in some cases a transfer of power and authority from national government agencies to communities and subnational governments [29, 48, 49]. In terms of participation, co-management arrangement engages local community groups or resource users in decision-making, implementation, and enforcement [50–52]. In order to ensure the participation,

co-management focuses on developing effective local institutions and an enabling environment for sustainable management [37]. According to Jentoft, co-management may be the best available solution to the legitimacy problem because the center to the implementation of co-management is the design of new structure legitimized to bring together stakeholders for decision-making and implementation [53]. This design can be built up on existing arrangements at site levels or supported by donor funding and directed by central government in a top-down manner [54].

Based on the exercise of co-management at locals or on-site levels, adaptive governance evolved. It is a novel type of environmental governance that has arisen in systems characterized by large degrees of dynamism, complexity, and uncertainty [55, 56]. It combines learning, knowledge generation, and problem-solving of the adaptive management with the stakeholder power-sharing and conflict resolution of co-management [55, 57]. Folke et al. ([55], p. 8) broadly define adaptive co-management as "a process by which institutional arrangements and ecological knowledge are tested and revised in a dynamic, ongoing, self-organized process of trial-and-error," which is known to evolve through stages [58]. In context of conservation conflicts, adaptive co-management is evidenced supporting conflict solving by providing collaborative decision-making processes which involve all stakeholders equitably, trial innovative ideas, and include evaluation to provide learning [56, 59]. It also promotes local sustainability through capacity development and trust building, particularly as if protected area authorities become bridging organizations [57].

To combine nature conservation and sustainable development, many countries have shifted the modes of protected area management from centralized and non-participatory ones to co-management in order to benefit from co-management arrangement and exercise adaptive governance. In order to do so, it requires at least three factors, including the presence of institutional entrepreneurs, a dense central core of network actors, and the prevalence of horizontal ties and vertical linkages held by the community-based organizations responsible for the management of the resource [52]. Lawmakers can set up legislation for co-management in which it can shape decentralized management by recognizing and devolving responsibility to community-based management systems [60, 61]. And this is a necessary ingredient in co-management arrangement [53]. And in the case of Vietnam, although institutionalizing co-management in nature conservation is a must to achieve both ecological protection and sustainable development, it takes time to promote step by step to become legitimized.

3. Institutionalizing co-management in Vietnam protected areas for sustainable development: the case of Xuan Thuy National Park

To overcome deficiencies in the protected area management, Vietnam has piloted co-management in many protected areas since 2001 through a number of foreign-funded projects [62, 63]. To some extent, the pilots have not led to institutional reforms in protected area management arrangement, but the concept of co-management step-by-step has been included in official documents such as national strategy protected area management in 2003 because of its high potentials [20, 63]. However, in case of Xuan Thuy National Park, co-management has been applied and formed institutions for nature conservation and sustainable development. Based on in-depth interviews with the park management board and literature reviews, the case will be narrative in order to prevail the process of co-management installation in Xuan Thuy National Park and how it supports to overcome shortcomings emerged from the park's centralized management.

Xuan Thuy National Park was established in January 2003 and administered by the Nam Dinh DARD [64]. In 1988, 15 years prior to 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 [65]. Before 2006, the institutions of Vietnam on natural conservation management strictly prohibited the use of natural resources in the core zone of protected areas. But at Xuan Thuy national park, in order to solve management problems to meet the requirements of local livelihood, the park has conducted interventions to implement policies to wisely use aquatic resources with the principle "Only allowing to exploit common aquatic species which are able to recover well, and absolutely prohibiting activities that lead to mangrove deforestation, depletion of natural resources, landscape changes and environmental pollution" .

The legal grounds for the interventions were not based on national regulations at that time but on Ramsar convention recommendations, advising wise and sustainable uses of wetland resources to meet local community needs for short-term benefits and for latterly long-term national and international benefits. On March 7, 2006, MARD issued an official document 511/BNN-KL expressing its agreement on permitting local community to exploit natural resource of mollusks (*Meretrix lusoria* and *Meretrix lyrata*) in Core Zone of Xuan Thuy National Park in conditions that DARD, who directly administrates the management board of Xuan Thuy National Park, was required to construct a feasible proposal on the exploitation management for MARD assessment before being ratified by Nam Dinh PPC. The feasible proposal had been finally completed after being discussed and consulted with state and local specialists. It was ratified by Nam Dinh PPC in the decree of *1951/QD-UBND dated August 24, 2006.* In the proposal, "applying co-management to sustainably use aquaculture resources in the area would harmonize integrated targets of nature conservation and development, simultaneously implementing Ramsar convention recommendations and International Biosphere Reserve criterions, and creating healthy environments for human and nature harmoniously living together" [64]. The effective implementation of the intervention was hoped to bring about sustainable development of local socio-economy because it would create incomes for local people, ensuring security and targets of natural resource protection. Local people became the main forces who would proactively and committedly carry out responsibilities toward nature conservation and sustainable development to maintain mutual benefits.

In this co-management arrangement, Giao Thuy DPC assigns agencies under its administration to collaborate with Xuan Thuy National Park to decide plans and methods for activities toward the mollusk exploitation. Nam Dinh PPC also delegates its authority to Giao Thuy DPC to decree the establishment of a management board of the aquaculture resource exploitation in Red River delta within Xuan Thuy National Park. The management board of the mollusk exploitation has been established and comprised of representatives from Giao Thuy DPC; Xuan Thuy National Park; the district divisions of fishery, natural resources and environment, finance planning, and taxes; Commune People's Committees of Giao An and Giao Thien; security forces of military and police, Giao Thuy District Station of Fishery Inspection; and Forest Protection Bureau of Xuan Thuy National Park. They are in charge of responsibilities relating to (1) planning the exploitation; (2) coordinating activities toward the exploitation; (3) collaborating with fishery branch to construct and manage the area sustainably; (4) checking, monitoring, and collaborating with functional agencies to ensure public security in the location; (5) implementing water surface allocations to households and collecting fees from the allocations and other contributions from households; (6) directing and supporting self-organization groups to implement their responsibilities in the

exploitation area; (7) organizing dissemination and education activities toward Xuan Thuy National Park protection to communities; (8) enhancing scientific research and advanced technology exchanges to apply into sustainable exploitation; and (9) periodically reporting and monthly meeting to discuss plans, measurements, and responsibilities of self-organization groups.

Self-organization groups mentioned above are local people involved in the mollusk exploitation and selected by local people to represent them in the management board. The head of a group is a prestige person in a community, and the deputy head of a group is a commune security officer. Responsibilities of self-organization groups are also set up, including (1) protecting natural resource, environment, and security in the area; (2) checking activities in the area and its adjacent areas; (3) following the supervisions of the management board of the mollusk exploitation; (4) collaborating with the national park, military, police, and CPCs to implement their responsibilities; (5) mediating conflicts; (6) discovering and holding violations of regulations on nature resource management; (7) reporting violations to authorities to be measured; (8) weekly meeting to check activities and suggest coming activities; (9) weekly reporting to the management board; and (10) collecting information and reflecting aspirations of community to the management board or authorities to have suitable responses (**Figure 1**).

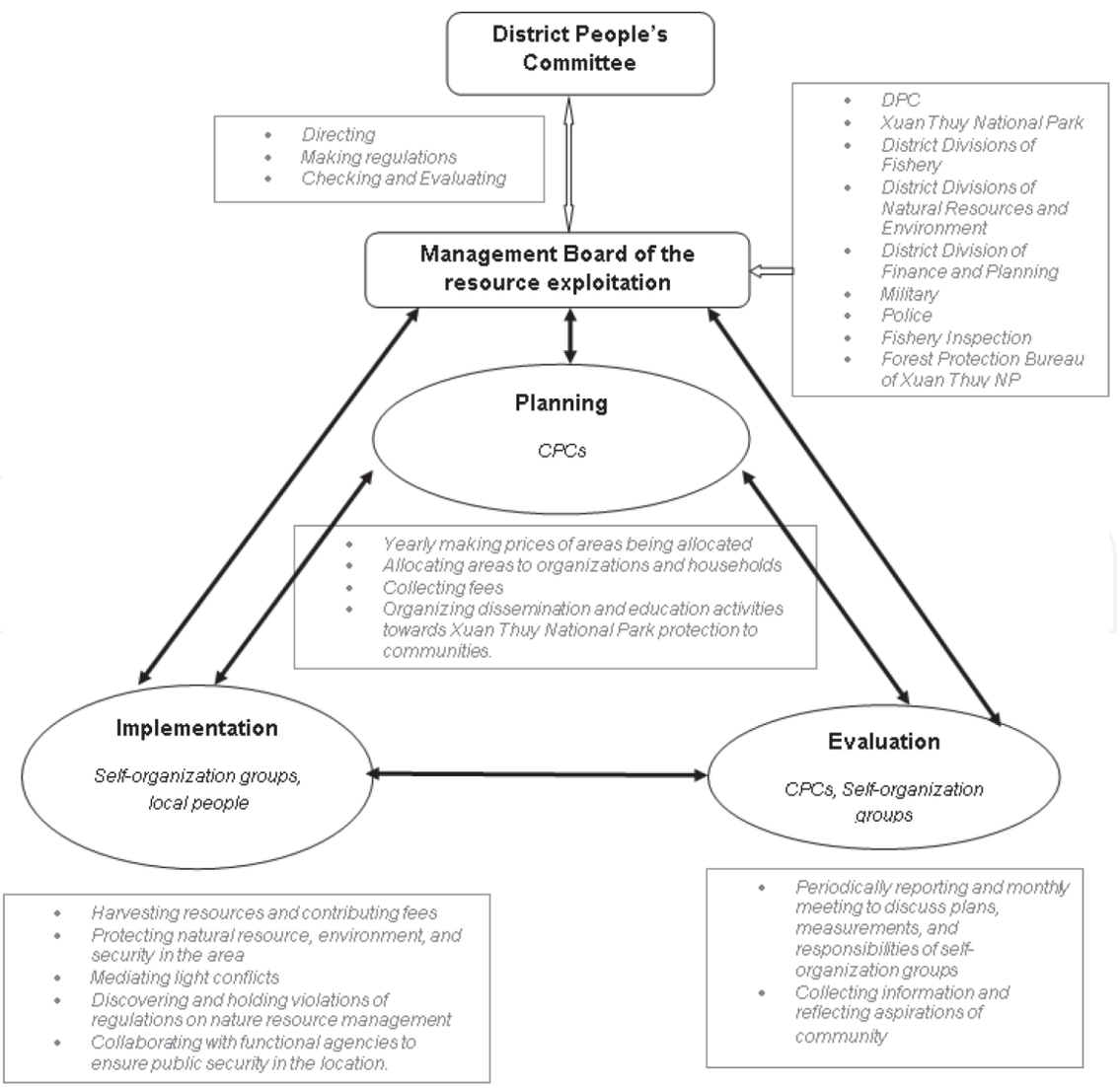

Figure 1.
Co-management arrangement in mollusk resource exploitation of Xuan Thuy National Park, Vietnam.

As a result, the park has received consensus agreement and supports of the local community. Resources targeted at nature conservation such as mangroves, birds, and wildlife together with ensuring the balance of aquatic resources and environmental protection in the area have been maintained. The local community has a stable income from the exploitation of aquatic resources. The average daily income from this activity is from VND 50 to 100 million. The income from extensive mollusk and shrimp farming models is about VND 200 billion/year. Sharing the above legitimate and reasonable benefits has enticed the local community to participate in nature conservation management of the park through many useful practical activities of the community, including the key mass organization sponsored by the park such as bird conservation club, mollusk farming association, community tourism management board, beekeeping club, and mushroom cooperatives [66]. This pilot project of co-management and the wise use of natural resources at Xuan Thuy National Park have been implemented from 2006 up to now.

The above scheme is a new breakthrough in the policy of protected area management in Vietnam. The relationships of related parties and benefit sharing are clearly institutionalized to secure and protect natural resources. After 4 years of pilot implementation, the local government has collected more than VND 2 billion from leasing land to exploiting natural mollusk seeds. Local communities also get tens of billions of revenue from legal exploitation of the resources while maintaining the quality of the environment . From that, the sustainable exploitation of natural seasonal mollusks resolved conflicts of illegal exploitation. Up to now, with clear and effective management institutions, there is an effective participation of stakeholders. The budget is tied to the responsibilities of local authorities and spent on supporting public welfare and nature conservation. This is a new direction to ensure sustainable financial mechanism for protected area management in Vietnam. It also supports to overcome the shortages in human resource when local people are really engaged in resource use and management. Moreover, after the intervention of Xuan Thuy National Park, there has been a compatible policy shift at national level. The Decision No. 186/2006/QD-TTg dated August 14, 2006, of the prime minister on the promulgation of forest management regulations has recognized the wise use of natural resources in protected areas. This is an innovative approach in which some common species are allowed for harvesting and supporting community livelihood development and nature conservation of protected areas [66].

4. Initiatives in legitimizing co-management of Vietnam protected area

According to KimDung et al. [67], Vietnamese implementation of co-management in protected areas is best defined as "administrative," reflecting the stronger role of the central state over communities and others. The authors found that the existing Vietnam policy and legislation provides a foundation for the development of co-management through diversifying the type and number of actors involved in protected area management, matching with the expectations of co-management arrangement. However, the "administrative co-management" arrangement remains centralized and not yet based on the mobilization of actors' self-interests and economic motivation. The state maintains rights or ownership over protected areas and remains unclear about the notion of "community" in the policy, leading to constraining the practice of customary laws and community-based protected area management. Moreover, there is also a lack of legal and policy guidance on benefit sharing and reinvestment into protected area conservation, limiting the incorporation of economic actors in nature protected areas [67, 68].

As argued by KimDung et al., any amendments to co-management in Vietnam would remain in the hands of lawmakers, who maintain control over law enforcement and capacity building, mobilizing outside support, and creating mechanisms for information transparency [68]. The unique practice of Vietnamese co-management arrangement has been able to implement in Xuan Thuy National Park because it gained strong political supports from global to national and local levels (MARD, PPC, DPC, and CPCs surrounding the park), consequently harmonizing conflicts between the dynamics of local livelihoods, market demands, and nature conservation. In this model, roles of state forest rangers become blurred leading to a question whether they are the force in need as if the engagement of local people is provided. If policy modifications on protected area management are not taking place and innovated, conflicts on natural resources will increase, and the government might have lost their roles to control protected area resource in the context of economic dynamics in which demands on natural resource are highly increased, while the resource becomes short and rare. Recently, the 2017 Forest Law has marked an important milestone in recognizing communities as one of the seven types of forest owners (Article 8). The sacred forest of community is classified as a landscape protection forest under the protected forest system. The Law on Fisheries 2017 also recognizes the co-management model between state forest owners and related communities. In the coming time, the recognition of community conservation areas is advocated by an NGO, People and Nature Reconciliation (PanNature), to be considered and included in the revised Biodiversity Law, linked to the content of access to genetic resources, benefit sharing, and indigenous knowledge development in biodiversity conservation [41].

Additionally, both government agencies and NGOs can be bridging organizations who attempt to install co-management into protected areas. In the case of Xuan Thuy National Park, the strong 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 administration to not only solve conflicts over resource exploitation but also provide learning and introduce co-management of protected area in Vietnam. To some extent, it is regarded as an institutional entrepreneur for the very first co-management of natural resources and sustainable livelihood development in protected areas of Vietnam. It recognizes the mutual benefit and interdependencies between local people, the park management board, and commune governments, providing the connection between the actors at different levels and the cooperation in practical real-life arrangement to solve resource problems [69–71].

Moreover, in order to support the development of co-management, NGOs have developed capacities as bridging organizations between protected areas, communities, and government by coordinating collaboration across levels, sectors, and knowledge systems. People and Nature Reconciliation, the Centre for Marine Life Conservation and Community Development (MCD), Vietnam National Park and Protected Area Association (VNPPA), and Fauna and Flora International (FFI), among the NGOs working in Vietnam nature conservation and development, have attempted to foster information exchange and create a common vision of co-management across multiple levels [72]. Those are positive initiatives for co-management developed and brought benefits to communities of protected areas in Vietnam. Finally, to achieve both sustainable development and nature conservation, Vietnam keeps the process of institutionalizing co-management. Next steps should be focused on long-term agreements to ensure the rights to access and share benefits and practices of sacred forest protected areas. Opportunities for economizing the management of protected area and creating sustainable development mechanisms need to be prioritized through the scheme of co-management.

5. Conclusion

Co-management provides opportunities for the integration of nature conservation and sustainable development. Therefore, it is necessary to institutionalize this mechanism in the context of developing countries like Vietnam. In order to do so, the Vietnamese co-management arrangement needs more flexibility and adaptability to adjust actors' positions and roles, promoting more policy modifications in protected area management to harmonize practices in and around the areas. One of the most important recommendations is legitimizing the practices of using natural resources in a certain extent at protected areas. By doing so, the role of local people is adjusted to become resource users and responsible for the sustainable use of the resources while keeping their eyes on the other resources for nature conservation in the area of protected areas. The unique practice of this co-management arrangement in Xuan Thuy national park harmonizes conflicts between the dynamics of local livelihoods, market demands, and nature conservation. Although there are some initiatives in this long-run process, potentials reveal that it is worth to pursue for a better sustainable future in which communities truly benefit from protected areas. To do so, the government as lawmaker should lead to facilitate the process in line with the support from communities and civil society such as a force of NGOs.

Conflict of interest

The author declares that there is no conflict of interests in this work.

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