Chapter 9

Towards an integrated multi-stakeholder landscape approach to reconciling values and enhancing synergies: a case study in Taiwan

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Abstract

The case study analyzes the collaborative planning and management processes of the 'Forest-River-Village-Sea (森–川–里–海) Ecoagriculture Initiative' from 2016 to 2017 in Xinshe Village, Hualien County, Taiwan. Two indigenous ethnic groups – the Kavalan Xinshe tribe and the Amis Dipit tribe – and their farmlands are located in the same watershed between the national forests of the Coastal Mountain Range and the Pacific Ocean. Resource conflicts over water usage, hunting and fishing rights have happened from time to time between the tribes. In the past, different government agencies worked separately with each settlement based on their sectoral goals. An integrated multi-stakeholder landscape approach and cross-sector collaborative governance were required to reconcile different values and enhance synergies.

To analyze the planning and management processes of the Initiative between October 2016 and December 2017, the research framework was comprised of two task loops: evaluation of existing institutional capacity and development of new institutional capacity. Classification of multiple values of nature MVN under the IPBES and 'Ecoagriculture Stool' landscape objectives were applied to examine stakeholders' value priorities. Healey's theory of collaborative planning and the ODA's method of stakeholder analysis were adopted for the institutional capacity evaluation.

With potential risk factors and suggestions to their resolution outlined, this study demonstrates how a synthesis of 'intellectual', 'social' and 'political' capitals is capable of bridging values of various stakeholders to, on the one hand, forge a cross-border connectivity among the inhabitants, and on the other hand, encourage a cross-sector coherence among the government agencies engaged in the area.

Keywords: Socio-ecological production landscapes and seascapes (SEPLS); Multiple values of nature; Collaborative planning; Multi-Stakeholder Platform; Synergy

List of Abbreviations:
COA: Taiwan Council of Agriculture
EBAFA: Eastern Region Branch Agriculture and Food Agency, Council of Agriculture
HBSWC: Hualien Branch, Soil and Water Conservation Bureau, Council of Agriculture
HDARES: Hualien District Agricultural Research and Extension Station, Council of Agriculture
HFDOFB: Hualien Forest District Office, Forestry Bureau, Council of Agriculture
IPBES: The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services
NDHU: National Dong Hwa University
ODA: Overseas Development Administration

Country	Chinese Taipei (Taiwan)
Province	Hualien County
District	Xinshe Village, Fengbin Township
Size of geographical area [1]	1,460 hectares
Number of indirect beneficiaries [2]	700 persons
Dominant ethnicity	Indigenous (Kavalan, Amis)

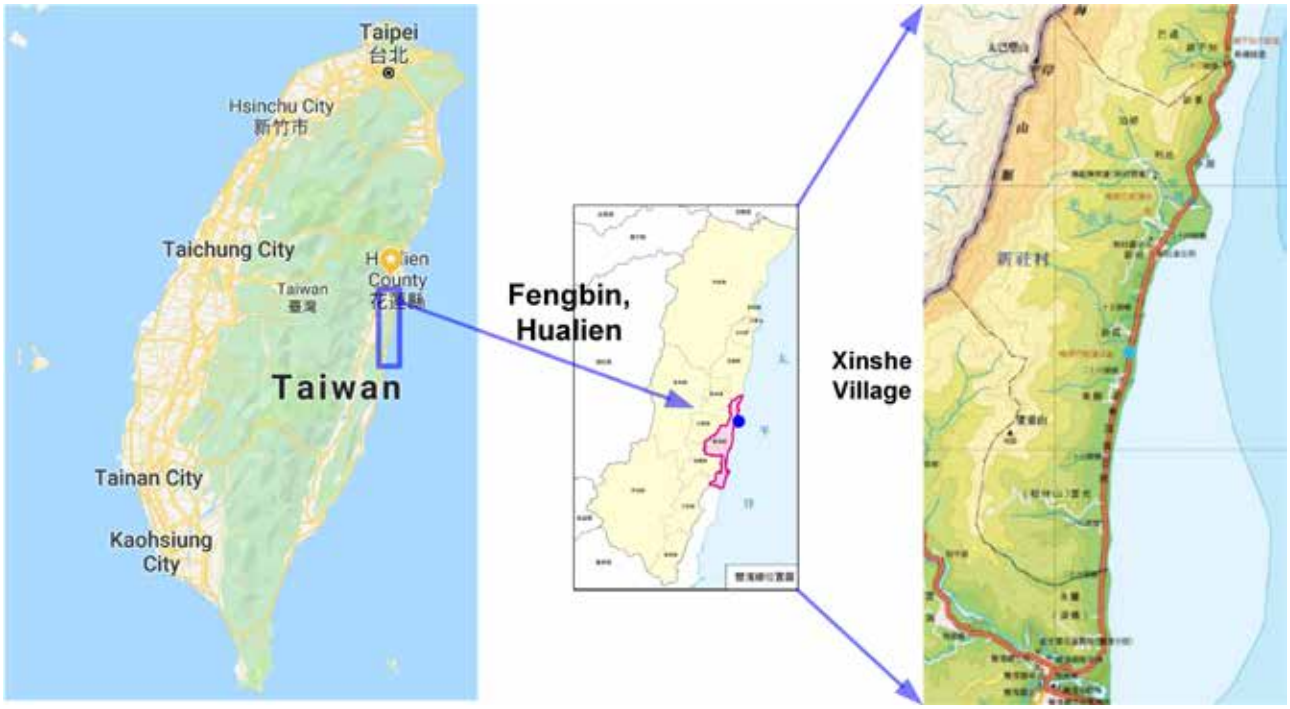


Figure 1. Map of the case study region, Xinshe Village, Fengbin Township, Hualien County, Taiwan

Size of case study/project area [1]	600 hectares
Number of direct beneficiaries [2]	250 persons
Geographic coordinates (longitude and latitude)	23°39'20.8"N 121°32'21.8"E
Dominant ethnicity	Indigenous (Kavalan, Amis)

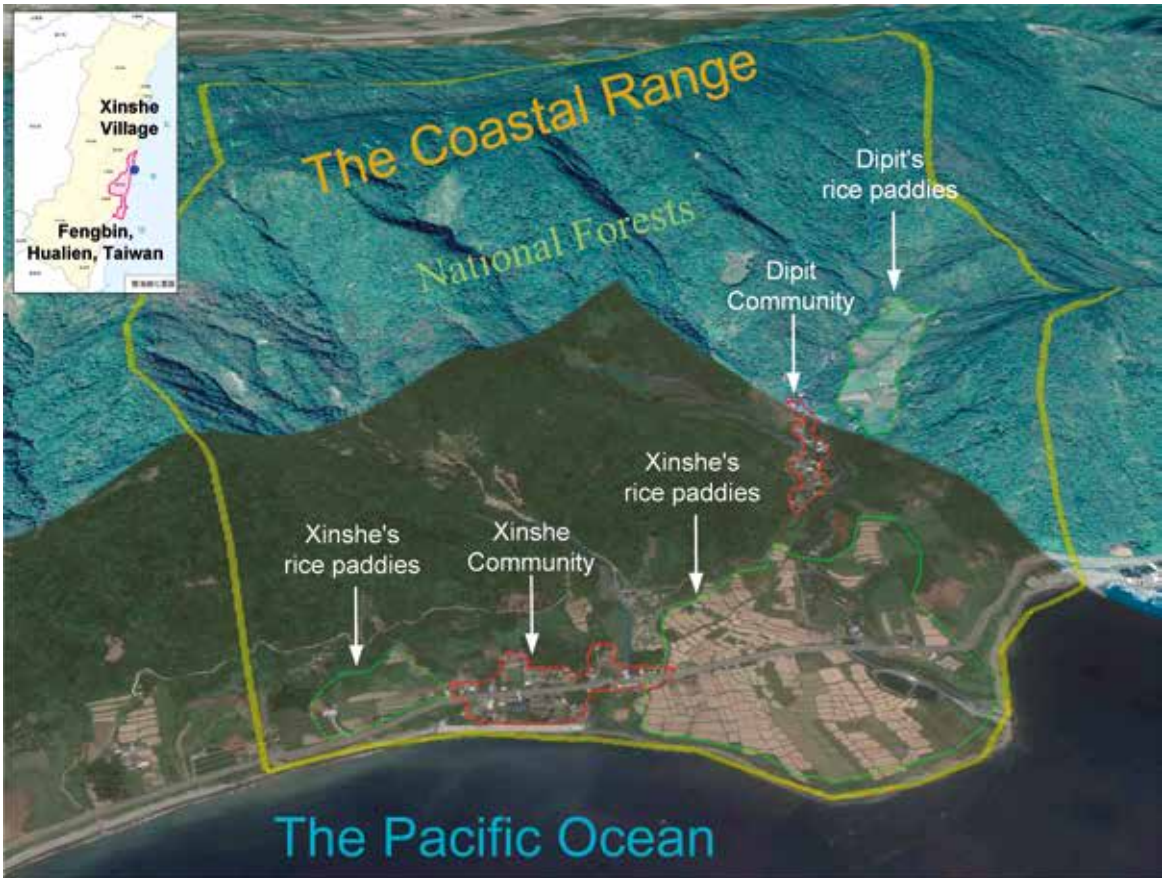


Figure 2. Land use and land cover map of the case study site

1. Introduction

'Societies living in harmony with nature' as the core vision of the Satoyama Initiative makes one take a pause and ponder upon the most suitable ways of achieving such harmony. In the context where revitalization of socio-ecological production landscapes and seascapes (SEPLS) depends on different, and at times conflicting, value priorities and decisions made by various stakeholders, it is crucial to ensure the existence of a multi-stakeholder dialogue. Presented in this study is an attempt to analyze a multi-stakeholder landscape approach in Xinshe Village, Hualien County, Taiwan, from the standpoint of multiple values of nature under IPBES (Diaz et al. 2015). While background conditions, composition of stakeholders and many other factors are unique to each SEPLS case study area around the world and may impact the *pathways* to achieving socio-ecological harmony, at the same time, local experiences, like the ones of the Xinshe SEPLS, may provide a valuable piece of knowledge to be shared on both regional and global levels.

1.1 Background

Taiwan is a small island with a high population density of average 649 people/km^2 (World Population Review, 2019). 80% of the population is concentrated in urban areas which cover only 13% of Taiwan's total land, while natural and rural areas take up 58% and 29% respectively (Lee, 2016). Rural and urban areas are mainly located in the middle and lower reaches of the island. In the past, the livelihoods of local and indigenous communities in rural areas depended on

environmentally friendly agriculture, forestry, fishery, and livestock farming. However, in recent decades, pressured by urbanization, conventional farming, and climate change, rural areas have been suffering from such problems as aging population, deterioration of production landscape, economic depression, and disappearance of traditional ethics and culture.

Due to the significant change in resource use in rural areas, which is associated with a reduced collection of firewood and the decreasing and aging population of locals able to manage forests and farmlands, SEPLS are no longer being maintained as they once were. Consequently, species that live specifically in SEPLS and have been maintained by human intervention, such as the African grass owl, leopard cat, Chinese box turtle, John's frog, paradise fish, crab-eating mongoose, greater painted-snipe and pangolin, are now in danger of extinction (Forestry Bureau 2018). In contrast, populations of wild boars and monkeys have been rapidly expanding, causing adverse effects on ecosystems, severe damages to agricultural and forestry activities, and substantial impacts on the livelihoods of rural communities.

Thus, integrity and connectedness among forests, rivers, human settlements, and seas in natural and rural areas of Taiwan are in need for an integrated landscape approach to conservation, revitalization, and sustainability. Moreover, a cross-communicative and participatory nature to this approach is required and should incorporate, on the one hand, cross-border connectivity among inhabitants of the area, and on the other hand, cross-sector coherence within government agencies engaged in the area. Also, conservation and revitalization of SEPLS call for a comprehensive assessment of values possessed by each of the stakeholders and their reconciliation and inclusion within planning activities. However, to date, there has been a lack of empirical research to develop such a kind of approach.

1.2 Socioeconomic and environmental characteristics of the area

This chapter presents a case study of Xinshe Village, Fengbin Township, Hualien County, located on the east coast of Taiwan, bordered by the national forests of the Coastal Mountain Range on its western side, extending eastward and descending into a watershed of about 600 hectares of land surrounded by the Pacific Ocean (see Fig. 1 and 2). There are two indigenous settlements in the Xinshe SEPLS. These are the Dipit tribe, an Amis settlement of 77 residents on farmland in the middle reaches of the watershed, and the Xinshe tribe, a Kavalan settlement of 366 residents (Household Registration Office 2019) on farmland located in the lower reaches of the valley down to the coastal terrace.

Geographically the Dipit and Xinshe tribes are both situated inside one watershed, which connects the communities along the 'Forest-River-Village-Sea' axis (see Fig. 3). Over time, this connectedness stimulated inhabitants of the two tribes to develop versatile land use skills, ranging from hunting wild boar and gathering wild edible plants in the forests to farming terraced rice paddy fields and fishing in the ocean. At the same time, the overall ecosystem health of the Xinshe SEPLS largely depends on the practices taking place all the way from upstream to downstream. For instance, agricultural and household activities of the settlements may lead to nutrient runoff and leaching into surface waters and groundwater, resulting in nutrient (N and P) discharge into the ocean. A hypoxic and/or eutrophic environment may

Figure 3. SEPLS of Xinshe Village (Photo: Vision Way Communication Co., LTD, Taiwan)

potentially impact the ecosystems of coastal coral reefs, and, in turn, affect the fishery resources of both tribes.

1.3 Objective and rationale

Despite a seemingly intrinsic connection between the settlements and similar perceptions towards MVN, there has never been a sufficient cross-settlement dialogue mechanism for the co-management of common resources. On the contrary, resource-related conflicts over water usage, hunting and fishing rights have occurred from time to time between the Dipit and Xinshe tribes. In the past, various government agencies worked separately on different community affairs for either one of the settlements, while their plans and actions lacked coherence. Thus, potential collaboration pathways needed to be sought.

Starting in October 2016, the case study area has been recognized and managed with the help of 'other effective area-based conservation measures' (OECMs; Jonas et al. 2018) by means of a multi-stakeholder cross-sector platform (see below as Multi-Stakeholder Platform) for promoting the 'Forest-River-Village-Sea (森–川–里–海) Ecoagriculture Initiative'. It was designed to set up and collectively implement an Action Plan for the area to enhance ecosystem services for both communities. In other words, the vision of the Multi-Stakeholder Platform was to stimulate *cross-border* and *cross-sector* cooperation to help Amis and Kavalan communities live in harmony with nature through the revitalization of the SEPLS (see Fig. 4).

This study aims to analyze the processes and outcomes of the Initiative in the period from October 2016 to December 2017 and to demonstrate how the Action Plan, based on the socio-ecological value perceptions of multi-interest stakeholders, can be collectively developed to form a new cross-border and cross-sector institutional capacity. The overarching goal of the study is to provide relevant government authorities, rural communities, and other interested stakeholders with a reference for development of a collaborative, community-based landscape approach to revitalization of rural areas.

2. Methodology and framework

1.1 Research framework

For the purpose of developing and evaluating participatory forums for the 'Forest-River-Village-Sea Ecoagriculture Initiative', two questions needed to be addressed. Firstly, is there any existing participation mechanism fit for bridging diverse values and building up partnership among various stakeholders in the area (current status review)? Secondly, if there is no such mechanism, then how should a Multi-Stakeholder Platform and an Action Plan be designed and implemented to reconcile diverse values and enhance collaborative governance among stakeholders (new forum/action plan design and implementation)?

Therefore, an action research framework for the evaluation and development of institutional capacity, based on Healey's theory of collaborative planning (1998, 2002), was constructed for addressing each of the questions. The framework itself is comprised of two task loops (see Fig. 5). The first task loop is the evaluation of existing institutional capacity, while the second task loop is the development of new institutional capacity.

Figure 4. A typical landscape of Taiwan's East Coast (Photo: Hualien District Agricultural Research and Extension Station, Taiwan)

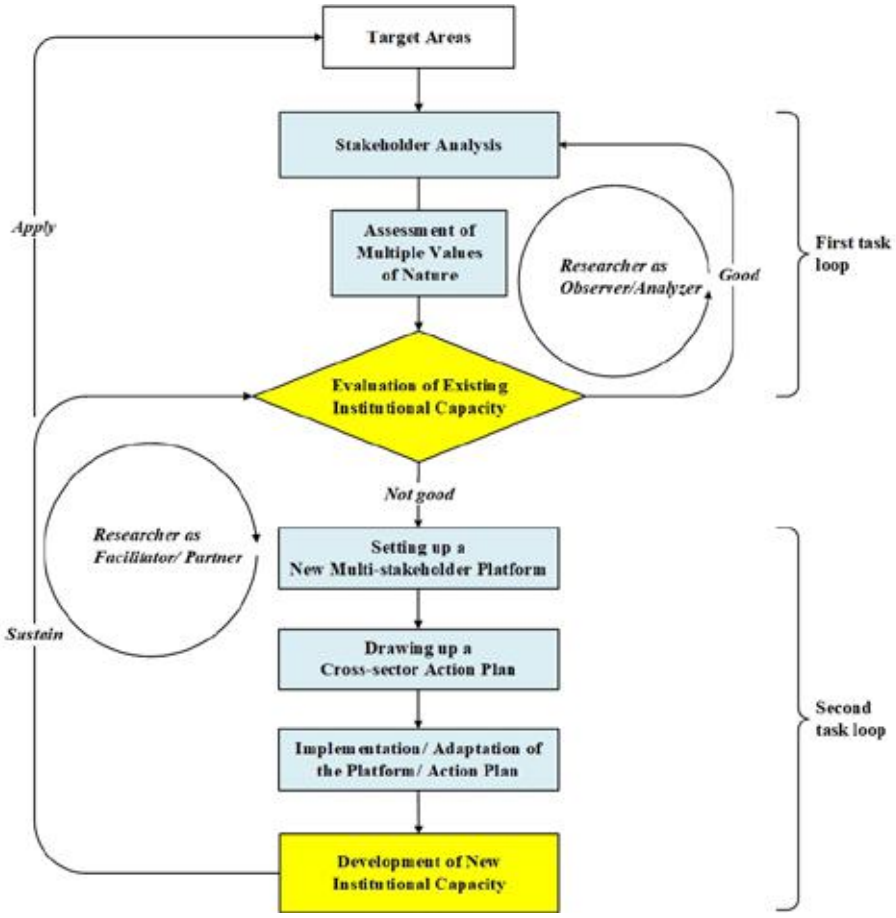


Figure 5. An action research framework for the evaluation and development of institutional capacity

Within this study, the term 'ecoagriculture' was initially visualized as a 'three-legged stool' (Scherr et al. 2014). The 'stool' concept represents an integrated landscape management that involves collaboration among different groups of stakeholders (supportive institutions) to solve shared problems and strengthen synergies among three landscape objectives (three 'legs' of the 'stool') such as viable local livelihoods, biodiversity conservation, and agricultural production (see Fig. 6). It may be observed that the three landscape objectives of ecoagriculture and three types of MVN (Diaz et al 2015) similarly point out such categories as nature in its intrinsic sense, the utilitarian function of nature, and its socio-relational function. Thus, within this case study analysis, the value aspect was regarded from the point of both approaches.

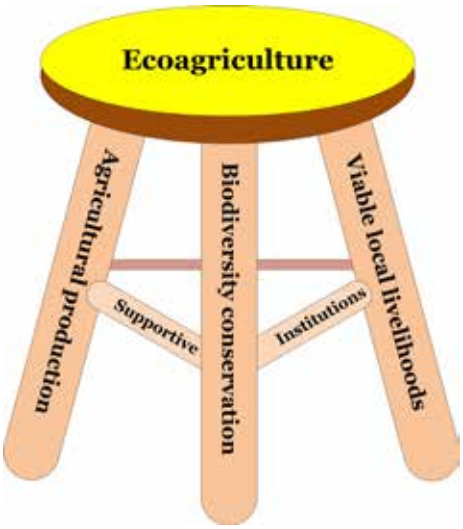
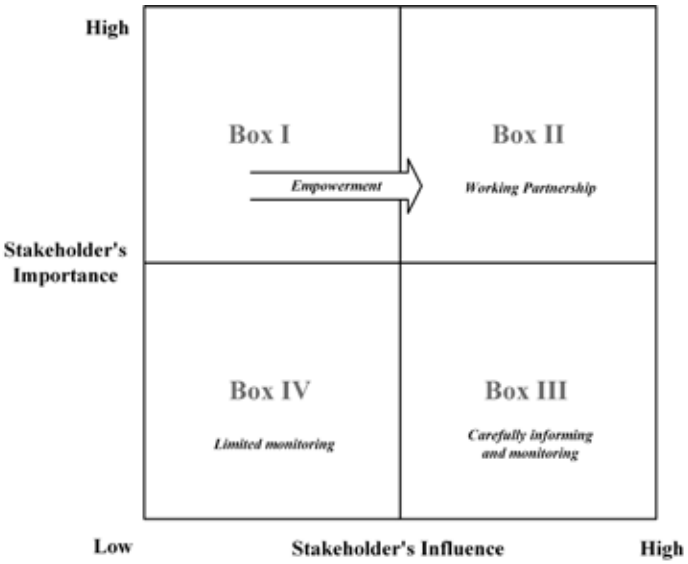


Figure 6. The ecoagriculture 'stool' (Scherr et al. 2014)

2.2 Evaluation of existing institutional capacity

Existing institutional capacity in the case study area was assessed within the first task loop by answering the first research question of 'whether or not there is an existing participation mechanism fit for bridging diverse values and building up partnership among various stakeholders in the area'. This study adopts ODA's (1995a, 1995b) method of stakeholder analysis by identifying key stakeholders and their interests, determining their importance and influence, making a prognosis of their associated cooperation or risk potential, as well as comparing appropriate and employed ways of stakeholder participation (see Fig. 7). In the first task loop, the researcher played an observer's role, while also



Explanatory note:

Box I: Stakeholders of high importance to the project, but with low influence. This implies that they will require special initiatives if their interests are to be protected.

Box II: Stakeholders with a high degree of influence on the project and a high importance for its success. This means that a good working relationship with these stakeholders is vital to ensure an effective coalition for support for the project.

Box III: Stakeholders with a high degree of influence on the project but a low importance for its success. It signals that these stakeholders may be a source of significant risk, and, therefore, might need to be carefully monitored and managed.

Box IV: Stakeholders in this box have a low influence on, or importance to, the project's objectives. They may require limited monitoring or evaluation and are of a low priority. They are unlikely to be a subject of project activities or management.

Figure 7. Stakeholder assessment matrix (ODA 1995a, 1995b)

trying to be an attentive listener to better learn from the stakeholders about local issues.

2.3 Development of a new platform/action plan for institutional capacity building

The second task loop was developed as a response to the findings of the first task loop based on the necessity of participatory forums and resources input for new institutional capacity building. Activities within this loop were aimed at answering the second research question: 'how should a Multi-Stakeholder Platform and an Action Plan be designed and implemented to reconcile diverse values and enhance collaborative governance among stakeholders'. Social capital (relational resources), intellectual capital (knowledge resources), and political capital (mobilization capacity) were the three criteria (Healey 1998) used within this task loop to evaluate the progress of institutional capacity building among the stakeholders. The whole process was facilitated and analyzed by the NDHU research team.

2.4 Qualitative data collection methods

This study employed a qualitative research methodology based on the notion that qualitative methods can provide a more in-depth understanding of 'inner experiences', 'language', 'cultural meanings' or 'forms of social interaction' than purely quantitative data (Silverman 2000). A multiple-method approach alongside a range of various reference sources was applied to maximize the understanding of research questions (Flowerdew & Martin 1997). Methods included participant observation, individual interviews, and group discussions, while each method provided a particular perspective that was able to highlight a specific aspect of the researched phenomenon. The multiple-method approach further allowed for the findings to be validated or challenged by applying the triangulation process for comparing the data collected via different methods (Denscombe 1998).

3. Results and discussion

The 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative' was carried out from October 2016 to December 2017 in accordance with two task loops for institutional capacity building. Firstly, the research team evaluated existing institutional capacity by means of stakeholder analysis and assessment of MVN. Secondly, a new Platform and Action Plan for institutional capacity building were developed, while Healey's three-capital criteria were used for progress evaluation. The main processes and findings of the Initiative, within the given time period, are discussed in this section.

3.1 Evaluation of existing institutional capacity

Focused on various value priorities (intrinsic, instrumental or relational values of nature) as well as different landscape objectives of ecoagriculture (biodiversity conservation, agricultural production or viable local livelihoods), several government institutions were separately working with either the Dipit or Xinshe tribes up until the end of 2016 (see Table 1).

Table 1. Assessment of stakeholders' value priorities and landscape objectives

Stakeholder groups	Examples of stakeholders' priorities and/ or sectoral goals		Prioritized category of MVN*	Prioritized 'Ecoagriculture stool' landscape objectives*
Kavalan Xinshe tribe	**Priority or sectoral goal**	**Specific examples**	Good quality of life (relational value)	Viable local livelihoods
	Income and livelihood (esp. for young people)	Rice production, selling of local crafts, local restaurant/coffee shop, tribal tourism		
	Revitalization of SEPLS	Marine ecosystem (fishery, corals), organic rice farming		
	Indigenous (esp. elders') knowledge transfer and education	Local primary school/ place-based curriculum, educational albums/ pamphlets/ brochures about socio-ecological knowledge, role of shaman in tribal rituals		
Amis Dipit tribe	Income and livelihood (esp. for young people)	Millet, rice and indigenous quinoa production, selling of local crafts, tribal tourism (camping included)	Good quality of life (relational value)	Viable local livelihoods
	Revitalization of SEPLS	Riverine ecosystem of Jialang stream (shrimp and fish), biodiversity checks and monitoring of the national forest (indigenous plants and animals)		
	Indigenous (esp. elders') knowledge transfer and education	Local primary school/ place-based curriculum, educational albums/ pamphlets/ brochures about socio-ecological knowledge, weekly lunches for the elders (on Tuesdays), bonding role of church		
HDARES	Agricultural productivity and farmers' income Organic and environmentally-friendly farming technology Food and agricultural education	Creating vegetative buffer strips in Xinshe rice paddy fields, inventory and monitoring of agricultural crop diversity, replanting of fallow land with traditional crops, utilization of wild edible plants and household horticulture, assistance with composting technology, processing equipment and organic labelling schemes	Nature's benefits to people (instrumental value)	Agricultural production and marketing *Supportive institution*
HFDOFB	Biodiversity monitoring and conservation (e.g. wildlife, coral reefs) National forest protection Environmental education Ecotourism	Removing alien species, preventing species harmful to the crops (wild boars), stopping deforestation, inventory and monitoring of terrestrial/ riverine/ marine biota, forest economy, green labelling of produce, promoting landscape diversity through creative art events	Nature (intrinsic value)	Biodiversity conservation *Supportive institution*

Stakeholder groups	Examples of stakeholders' priorities and/ or sectoral goals		Prioritized category of MVN*	Prioritized 'Ecoagriculture stool' landscape objectives*
HBSWC	Rural settlement development Natural disaster risk reduction and mitigation Capacity building Environmental education Ecotourism	Monitoring and prevention of landslides and coastal erosions, repairing terraced fields, roads and waterways in eco-friendly way, refurbishing of local housing, promoting ecological and cultural tourism and aboriginal crafts	Good quality of life (relational value)	Viable local livelihoods *Supportive institution*
NDHU			*Observing and facilitating role; supportive institution***	

* Categories of value priorities and landscape objectives are based on the conceptual framework of IPBES (Díaz et al. 2015) and the ecoagriculture 'stool' (Scherr et al. 2014).

** Value priorities and landscape objectives are not applicable for NDHU, as it played observing and facilitating roles in the process.

For instance, since 2010, with the help of NDHU, HFDOFB assisted the Dipit tribe by conducting annual investigations of natural resources, surveys of indigenous edible plants and ecotourism planning activities. Starting from 2015, HFDOFB took a further step by jointly implementing a 'Joint Community Forest Protection Program' with the members of the Dipit tribe, where the latter engaged in patrolling mountain forests to help prevent illegal logging and poaching. Clearly, as a supporting institution, HFDOFB primarily emphasized the intrinsic value of nature and the biodiversity conservation objective in its assistance efforts.

Meanwhile, in 2011, by the means of Rural Rejuvenation Programs, HBSWC aided the Dipit tribe with capacity building, community greening and facility enhancement, along with drawing college students back to the rural areas. Thus, within the framework of the programs, HBSWC prioritized the good quality of life (relational) and viable local livelihoods above other values and objectives.

The third government institution involved was HDARES. Its inclination towards instrumental values of nature and agricultural production and marketing was rather obvious when, starting from 2014, it became involved in promoting production and marketing of organic and environmentally-friendly rice farming in the Xinshe tribe. Visible increase in landscape diversity, achieved through planting of grass carpets on rice field ridges, slopes and surrounding hedges in order to control pests by natural enemies, had an additional positive impact on the ecotourism revenues for the Xinshe tribe.

Interestingly, for the primary stakeholders – the Dipit and Xinshe tribes – despite the existence of resource-related conflicts over water usage, hunting and fishing rights, their value priorities and landscape objectives were rather comparable (maybe this explains the nature of the conflict itself). Despite recognition of the value of nature in its intrinsic sense, good quality of life (relational value) and viable local livelihoods were given roles of primary importance by both communities. Probably, due to prevailing socio-economic hardships associated with aging population, deterioration of production landscapes, economic depression, and disappearance of traditional ethics and culture, it was the community revitalization and livelihood-oriented stance that mattered most to Amis and Kavalan residents.

NDHU, the research team, originally differed in its role as compared to other stakeholders. At this stage, by the means of participatory observations, individual interviews and group discussions, the team worked with other stakeholders in assessing their value priorities and landscape objectives. Understanding of the stakeholders' values and objectives in many ways shaped the tasks and categories of work that were further outlined in the Action Plan of the Multi-Stakeholder Platform (see Section 3.2). Prior to October 2016, however, despite the team's engagement (since 2010) in assisting the Amis Dipit tribe to work with HFDOFB on biodiversity conservation and with HBSWC on local livelihoods, there was no institutional arrangement in place (see 'supportive institutions' in Fig. 3) to promulgate collaboration among the stakeholders.

Therefore, a lack of communication between the Dipit and Xinshe tribes and of cooperation between the government agencies was resulting in functional incoherence and low efficiency of the stakeholders' efforts (see Fig. 8). Undoubtedly, though, overall economic, social and environmental problems of the area could only be resolved through a cross-border, cross-sector, and multi-stakeholder action. In other words, an integrated landscape approach

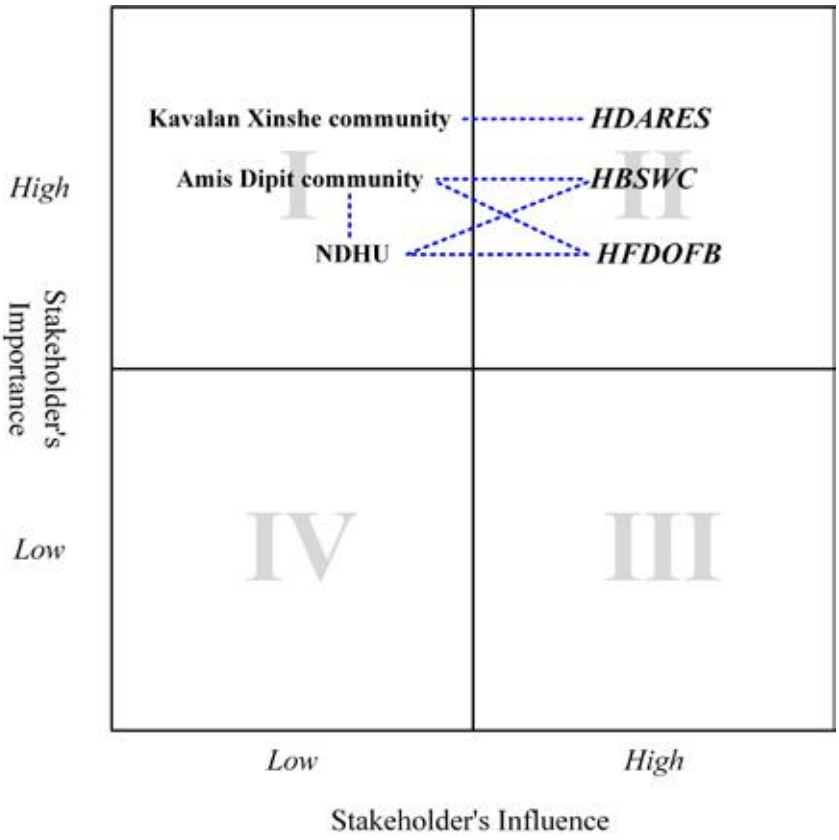


Figure 8. Stakeholder assessment matrix before the Initiative (dash line: allies)

and cross-sector collaborative governance were required to address varying priorities towards MVN and find a common ground for their management and co-existence.

3.2 Setting up a new Multi-Stakeholder Platform

Following the suggestion and with the assistance of the NDHU research team, on 11 October 2016, the vice-director of HDARES invited the directors of HFDOFB and HBSWC, and local people from Xinshe and Dipit tribes for a meeting in the Xinshe community to discuss the idea of the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative'. Participants, ten people in total, generally welcomed the idea and suggested that HDARES and NDHU help set up a formal Multi-Stakeholder Platform for planning and management of the Initiative (see Table 2).

For the second stage, from November to December 2016, two formal multi-stakeholder meetings were held in the study area to discuss the design of the collaborative mechanism for multi-stakeholder participation. On 30 November 2016, the first formal multi-stakeholder meeting was convened by the director of HDARES on the premises of the Dipit tribe. There were 23 people, including two directors and several staff members from HFDOFB and HBSWC, as well as local people from the Xinshe and Dipit tribes, in attendance at the meeting. Based on the draft prepared by the NDHU research team, participants discussed and reached a consensus on the Collaborative Mechanism of the Multi-Stakeholder Platform in the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative'. Additionally, participants all agreed to regard the meeting on that day as the first Task Force Meeting, a group that was to be composed of six core members, including representatives of the Xinshe and Dipit tribes, HDARES, HFDOFB, HBSWC, and NDHU.

On 20 December 2016, the first Multi-Stakeholder Platform Meeting was held by the director of HDARES in the Xinshe tribe's community. The list of attendants included about 40 people, amongst whom were two directors and several staff members from HFDOFB and HBSWC, local people from the Xinshe and Dipit tribes, NGOs and other government institutions. Members of the Task Force clarified to all participants the origin and the goal of the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative' by also presenting a draft of the Collaborative Mechanism of the Multi-Stakeholder Platform. In the end, all participants reached a consensus on each aspect for promoting the Initiative: name, goal and the Collaborative Mechanism.

A particular unity in opinion was achieved at this stage in relation to the question of who should be the convener for the Task Force and Multi-Stakeholder Platform Meetings. Determined to have not only shared results but also

Figure 9. First Multi-Stakeholder Platform Meeting convened by HDARES on 20 December 2016 (Photo: NDHU research team)

responsibilities, at the first Task Force Meeting held in November 2016, HDARES and NDHU suggested that the meetings should be conducted on a rotational basis by HDARES, HFDOFB, and HBSWC. It was also anticipated that the local communities, Xinshe and Dipit tribes, could be in charge of convening and chairing the meetings in the foreseeable future. The above propositions were unanimously approved by the leaders of the three institutions and representatives of the two tribes at the first Multi-Stakeholder Platform Meeting in December 2016 (see Fig. 9).

Collaborative Mechanism of the Multi-Stakeholder Platform

Objectives: Multi-Stakeholder Platform working on revitalization of Xinshe SEPLS was established to realize the vision of 'living in harmony with nature' for Dipit and Xinshe tribes.

Participants and meetings: Stakeholders engaged in promoting the Initiative included the Task Force composed of six core members (Xinshe and Dipit tribes, HDARES, HFDOFB, HBSWC and NDHU), and the Multi-Stakeholder Platform comprised of all interested participants (at that time around 20 members) – local community organizations, central and local government institutions, local schools, academia, NGOs, NPOs, green enterprises, etc.

Meeting frequency: October 2016 to December 2017 was the period of intensive planning. Regular Task Force Meetings were held in January, February, April, May, July, August, October, and November, while the regular Multi-Stakeholder Platform Meetings took place in March, June, September, and December. Necessary date and time adjustments were also acceptable.

Venue, conveners and role of local communities: Both Task Force and Multi-Stakeholder Platform Meetings were convened in turn by HDARES, HFDOFB or HBSWC and were held on a rotational basis either at the community center in the Kavalan Xinshe tribe or at the activity center in the Amis Dipit tribe. The ultimate goal was to empower the primary stakeholders – the Xinshe and Dipit tribes – to be soon able to take the lead in convening and chairing the meetings.

Facilitator: College of Environmental Studies, NDHU (Laboratory of Landscape Conservation and Community Participation – the research team).

3.3 Drawing up a cross-sector Action Plan

At this stage, from January to March 2017, two Task Force Meetings and one Multi-Stakeholder Platform Meeting were held each month to determine short- and medium-term action plans for promoting the Initiative. Each of the meetings was chaired by the department heads of either of the three units. Referencing the 'vision-methods-perspectives' framework of the three-fold approach to the Satoyama Initiative, the Action Plan for the Initiative was jointly discussed, revised and completed in March 2017. The Action Plan (see Appendix A) explicitly outlined division of labor within five major categories of work, stipulated 38 tasks and their expected durations (short-, medium- or long-term), as well as specified main organizers and co-organizers (see Fig. 10).


Figure 10. Task Force Meeting held on 30 November 2016 (Photo: NDHU research team)

3.4 Implementation/adaptation of the Platform/Action Plan

In the beginning of the implementation stage, during a Task Force Meeting on 24 April 2017, NDHU suggested clearly specifying the functions of each of the two meetings (see Fig. 11). It was determined for the Task Force Meetings to give priority to reporting and discussion of the issues that required immediate attention, especially matters proposed by the two tribes. In addition, the ways of conducting meetings were seen as flexible, held both indoors and outdoors, so that the participants could explore the issues in a solution-oriented way. At the same time, the function of the Multi-Stakeholder Platform Meeting was to overview the progress of relevant tasks outlined in the Action Plan.

Figure 11. 4th Task Force Meeting on 24 April 2017 (Photo: NDHU research team)

Each main organizer mentioned in the plan was responsible for reporting the progress, difficulties and outcomes, as well as discussing collaborative strategies needed.

At the Multi-Stakeholder Platform Meeting on 18 July 2017, participants deemed the Initiative to be on the right track and decided to adjust the meeting frequency. Thus, regular Task Force Meetings were to be held in February, April, August and October, while the regular Multi-Stakeholder Platform Meetings were to be held in June and December. During the implementation stage, from April to December 2017, a total of four Task Force Meetings and two Multi-Stakeholder Platform Meetings were organized to implement the Action Plan of the Initiative.

3.5 Evaluation of new institutional capacity

The given case study demonstrates how the partnership Platform and the Action Plan, collectively developed by the multi-interest stakeholders, evoked the formation of a new cross-border and cross-sector institutional capacity.

Thus, the stakeholder assessment matrix after the start of the Initiative (see Fig. 12) demonstrates, on the one hand, established collaboration and communication between six initial stakeholders (Kavalan Xinshe tribe, Amis Dipit tribe, HDARES, HBSWC, HFDOFB, and NDHU), and on the other hand, the emergence of two new stakeholders – EBAFA and the Xinshe elementary school – as a result of planning and management processes. EBAFA joined the platform as a key member to assist in agricultural product marketing for the two communities, while the Xinshe elementary school was invited to participate in discussions pertaining to education and transfer of indigenous culture and knowledge.

Table 2. Multi-Stakeholder Platform Meetings timeline (October 2016 – December 2017)

Steps	Related Platform Meetings
Preparation and Discussion *(October 2016)*	• Preparation meeting *(October 2016)*
Consensus-building *(November - December 2016)*	• 1st Task Force Meeting *(November 2016)* • 1st Multi-Stakeholder Platform Meeting *(December 2016)*
Action-planning *(January - March 2017)*	• 2nd, 3rd Task Force Meetings *(January - February 2017)* • 2nd Multi-Stakeholder Platform Meeting *(March 2017)*
Implementation *(April - December 2017~)*	• 4th -7th Task Force Meetings *(April - November 2017)* • 3rd, 4th Multi-Stakeholder Platform Meetings *(July, December 2017)*

Moreover, stakeholders agreed on the need to inform the COA (a superior unit of HDARES, HFDOFB, HBSWC, and EBAFA), as well as Hualien County Government, about the progress and problems of the Initiative in order to ensure timely and sufficient support.

Worth noting is a special 'supportive institution' function that NDHU was playing in the process of building this new institutional capacity. While before the Initiative, in October 2016, there were no institutional arrangements in place and each government agency worked separately on their respective objectives and sectoral goals, after the Initiative was introduced, the role of NDHU shaped into a 'backbone' of the process – it became the main facilitator of cross-border and cross-sector activities.

Another way to evaluate the progress of institutional capacity building among stakeholders is to look at it from the point of Healey's 'three capitals' of collaborative planning: intellectual, social and political.

When it comes to intellectual capital, traditional planning and decision-making are usually reliant on the decisions of government officials and experts as to what constitutes the problem and what are the possible solutions. The newly established Multi-Stakeholder Platform, in this case, provided opportunities for the two local communities, government agencies, and experts to sit at a round table and vis-a-vis each other discuss existing issues, solutions, projects, financial support, and division of work. The Multi-Stakeholder Platform helped to enhance the dialogue

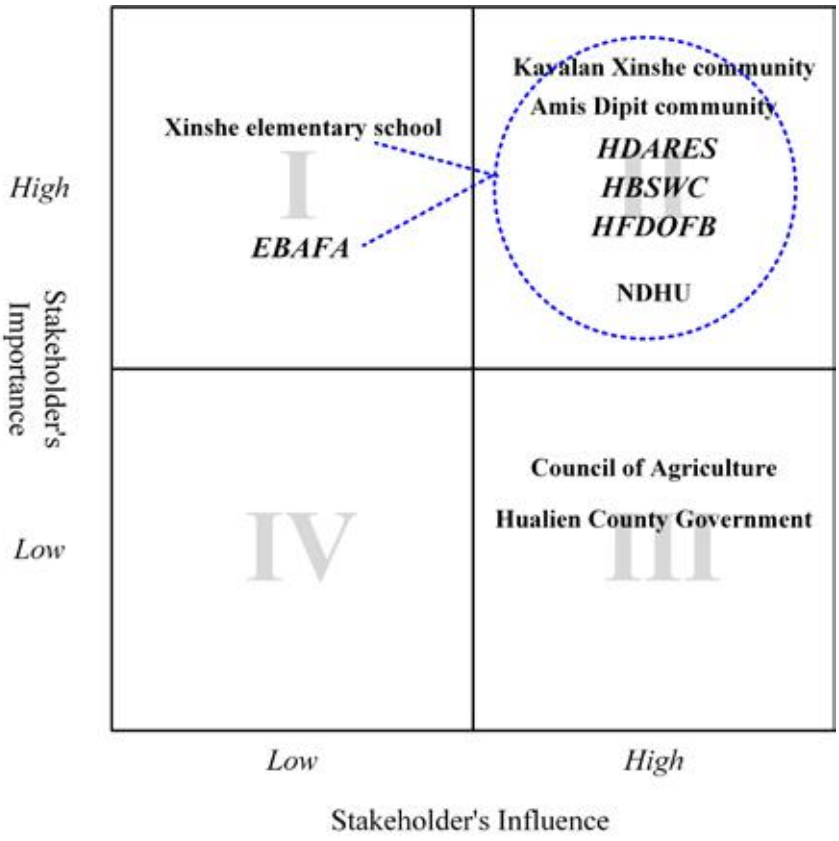


Figure 12. Stakeholder assessment matrix after the Initiative (dash line: allies)

between the "expert knowledge" and the "local knowledge", as well as contributed to mutual trust and synergy between the stakeholders' value priorities and landscape objectives.

For realizing the social capital, the newly established Multi-Stakeholder Platform not only emphasized the role of community but also reminded all members that planning and implementation of the Action Plan should match the paths of the two communities. The Platform Meetings were held in turns in the two communities, making it convenient for the local people to participate. It also demonstrated that government officials were willing to leave their offices and engage in face-to-face interactions with the local residents. Mutual trust between the local people and the officials was enhanced. Moreover, the Platform encouraged different government agencies and the two communities, who originally had no interaction, to start discussing, drafting and implementing a landscape- and seascape-scale Action Plan. This contributed to an integrated working partnership among all stakeholders.

In terms of the political capital, the newly established Multi-Stakeholder Platform helped to figure out an integrated cross-border and cross-sector Action Plan in accordance with the three-fold approach to the Satoyama Initiative. The Action Plan prescribed an overarching goal, five strategic perspectives, and 38 tasks, while short-, medium- and long-term deadlines, main organizers, and co-organizers were appointed for each task. At the end of each year, the outcomes of the integrated Action Plan were set to be reviewed, while at the beginning of each year, a work plan and resources input for the upcoming year were to be reported by the main organizers. Therefore, the Platform and the Action Plan could provide an action guidance for the required input of human and financial resources.

4. Conclusion

4.1 Lessons learned

Development of a new institutional capacity for the Xinshe SEPLS, Hualien County, Taiwan, by the means of the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative' presented itself as an innovative, community-oriented participatory approach to conservation, revitalization, and sustainability. Being introduced in late 2016, this first-in-Taiwan cross-sectoral and landscape-scale Initiative is still too young and emerging to deduce concrete and final results and their implications. However, even the early period of implementation presented here (October 2016 - December 2017) already allowed for a few notable observations to be made.

Firstly, the Initiative demonstrated how a synthesis of 'intellectual', 'social' and 'political' capitals is capable of bridging the value priorities and landscape objectives of various stakeholders to, on the one hand, forge a cross-border connectivity among the inhabitants, and on the other hand, encourage a cross-sector coherence among the government agencies engaged in the area.

Secondly, there appeared to be an observable change in the perception of MVN and of landscape objectives pursued by each of the stakeholders. Indeed, each of the involved government agencies (supportive institutions) continued to have their own 'leg' of the 'stool' to work on, based on their sectoral goals and primary responsibilities, and both communities prioritized community revitalization and livelihoods above other factors (see Table 1). What changed, however, was the appreciation and understanding of the other 'legs' of the 'stool' as equally important for the overall revitalization of the Xinshe SEPLS. All of the stakeholders recognized that only participation and cooperation among them can ensure the stability of the 'stool' in ecological, social and economic dimensions, as well as help society live in harmony with nature.

Thirdly, the Initiative opened a new window to the enhancement of human-to-human and human-to-nature synergies in the area. It became clear that socio-ecological issues within the Xinshe SEPLS could only be resolved through the combined efforts of all stakeholders, which gave a new sense of hope and dedication to enable such synergies happen.

Lastly, it should be noted that as the initial period of the multi-stakeholder landscape approach was primarily focused on setting up the Platform, and drafting and ensuring an early-stage implementation of the Action Plan, the lessons learned presented above mainly reflect the results of collaborative experiences before and after the Initiative. Clearly, more time and consistent effort would be needed in order to witness biodiversity benefits as a result of the Platform activities. Nevertheless, there are already initiatives in place that have a high potential to contribute to SEPLS ecosystem health. For instance, starting from 2017, with the support of HDARES and HFDOFB, villagers of the Xinshe tribe took up the role of civic scientists for monitoring of the surrounding coral reefs. Moreover, from 2018 onwards, a conservation NGO assigned by HFDOFB conducted a biodiversity investigation of terrestrial and riverine ecosystems in Xinshe Village. Preliminary results showed that shrimp species abundance and diversity in the stream is extremely high. This prompted the authorities and residents to discuss how to protect, restore and utilize local stream ecological resources through stream patrol activities and ecological engineering.

In sum, following successful implementation of the Platform activities and with more stakeholders joining in (including EBAFA and Xinshe Primary School), more explicit lessons related to biodiversity benefits, the Xinshe SEPLS ecosystem health, as well as indigenous and local knowledge transfer are anticipated to become available.

4.2 Potential risks and suggestions

This early stage of the 'Xinshe Forest-River-Village-Sea Ecoagriculture Initiative' implementation also revealed several obstacles, or potential risk factors, the consideration of which is vital for the overall success of new institutional capacity. Presented below are some of the risk factors (as of December 2017) as well as the authors' suggestions towards their resolution.

Lack of a higher-ranking supervising body: Since the four government agencies involved (HDARES, HFDOFB, HBSWC, and EBAFA) are in a horizontal relationship and equally subordinate to the COA, neither of them may take a coordinating role in case of conflict. Therefore, it is recommended that a chief officer from the COA central committee should become involved in the Initiative to take on the dispute-resolution role if required.

Need for a strengthened competence and cross-partnership among the staff members of various government agencies: Working for a multi-stakeholder platform on cross-border and cross-sector issues might be a novelty and an overwhelming experience for many of the administrative staff members involved, but at the same time it provides a unique experience for learning and knowledge exchange. Setting up of a Staff Secretariat may potentially take the workload off the shoulders of single staff members through capacity building, joint learning, and division of responsibilities.

Lack of a shared resource database: As the Task Force and Multi-Stakeholder Platform Meetings are convened on a rotational basis by HDARES, HFDOFB or HBSWC, materials related to preparation and results of the meetings are in the hands of the then-convener. This might pose a danger of resources being scattered or being lost if they are not systematized in one place. Creation of a shared Resource Database might be an appropriate solution.

Voluntary and agency-focused nature of performance assessment and reporting: Currently the efforts taken by each of the government agencies involved in the Initiative are 'voluntary' – they are not monitored by and do not require reporting to the COA central committee. In addition, the results of the Initiative are traditionally viewed through the lens of a single task performed by a single agency. Therefore, there is a need for a sustainable (responsible for sustaining for a prolonged period) and comprehensive (cross-sectoral and collaborative) analysis and reporting of the Initiative's efforts.

Leadership change-related risks: Since the heads of government agencies exercise sufficient power in determining the success and the very involvement in the Initiative, it is essential to ensure the hereditary nature of agencies' participation. In other words, a newly appointed head of an agency should be fully informed and advised of the previous activities to make a positive contribution to the Initiative.

Potential territory- and resource-related issues between the Amis and Kavalan tribes: Common resource use is still an apple of discord between the Xinshe and Dipit tribes. Therefore, any projects enacted by the government agencies under the Initiative would need to be mindful of this, as well as recognize each tribe's sense of territory.

Need for a participatory monitoring and evaluation system: A relevant indicator system for monitoring the landscape's resilience needs to be developed so as to assist stakeholders, including local people and government authorities, in jointly evaluating the current situation and monitoring its progress concerning the Initiative.

In sum, continued implementation of the Initiative, with a proper consideration of the lessons learned and potential risk factors, is believed to have a high potential for the revitalization of the Xinshe SEPLS, making the experience of this case study valuable for analysis in both regional and global contexts.

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