

Developing Efficient Strategic Plans for Small-scale Fisheries Co-management: Case Study in Cambodia, Lao PDR, and Thailand

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The case study, which aims to develop efficient strategic plans for small-scale fisheries co-management utilizing SWOT analysis, was conducted under the project “Community Fisheries Co-management: Capacity Building and Sharing Experiences and Lessons Learned among Mekong Region Member Countries” implemented by the Community Fisheries Development Department (CFDD) of the Fisheries Administration (FIA), Ministry of Agriculture, Forestry and Fisheries (MAFF) of Cambodia, with support from the Mekong-Lancang Project. Its main objective is to strengthen the capacity of officers and relevant stakeholders in fisheries co-management for sustainable fisheries resource management by sharing experiences, good practices, and lessons learned among the participating countries, namely: Thailand, Lao PDR, Viet Nam, China, and Cambodia. The Mekong-Lancang Project provided support for the conduct of the case study, which focused on its three participating countries that are also ASEAN Member States (AMSs): Cambodia, Lao PDR, and Thailand.

Under the Community Fisheries Co-management Project of CFDD, several capacity-building activities were conducted, such as the Training Workshop on Fisheries Co-management on 11-17 June 2023 in Siem Reap Province, Cambodia; Field Visit to fisheries co-management sites in Lao PDR and Thailand on 25-29 September 2023; and Reflection on the Co-management Situation in Siem Reap Province, Cambodia on 30 November–01 December 2023.

The participants in the Training Workshop included representatives from the Mekong-Lancang Participating Countries—Thailand, Lao PDR, Viet Nam, China, and Cambodia, with resource persons from various institutions, including those from Conservation International (CI), Culture and Environment Preservation Association (CEPA), and the Training Department (TD) of the Southeast Asian Fisheries Development Center (SEAFDEC). The fishers’ groups from the study sites in Cambodia, Lao PDR, and Thailand also participated in focus group discussions. Several staff members from SEAFDEC/TD took part in activities to facilitate knowledge- and experience-sharing on fisheries co-management.

Fisheries co-management has been implemented for many years to promote a shared responsibility and authority between resource users and the government in managing fishery resources and areas (Tiaye, 2023). More specifically, Try and Sitha (2011) defined co-management in the fisheries sector as a process of management in which the government shares power with fishery resource users, with fishery users being given specific rights and

responsibilities relating to information, decision-making, and implementation of the fishery management activities. On the other hand, the ecosystem approach to fisheries management (EAFM) is a practical participatory approach that seeks to balance ecological and human well-being with good governance (Weerawat, 2020). These two approaches can complement each other effectively (**Box 1**), as several countries, particularly the AMSs, have recognized the benefits of applying fisheries co-management alongside the EAFM. Fisheries co-management and the EAFM are effective management approaches (SEAFDEC, 2022). Before adoption, fishery managers—including officers, fishers, and resource users—should carefully consider the various aspects, such as impacts, challenges, threats, weaknesses, strengths, and opportunities of a specific management strategy. This is essential to ensure sustainable fisheries resource management and to support the well-being of fishing communities.

Box 1. Definition of Co-management and Ecosystem Approach to Fisheries Management	
Co-management	A collaborative approach that focuses on shared responsibility, where governments and indigenous or community partners work together to make decisions about natural resources. However, the level of actual power-sharing can vary widely (Parsons, Fisher, and Crease, 2021) co-management initiatives are increasingly commonplace and are intended to improve sustainable environmental management as well as foster more equitable power-sharing between states and Indigenous or local communities.
Ecosystem Approach to Fisheries Management	A way of managing fisheries that looks at the whole ecosystem rather than just individual fish stocks, where ecological, social, and governance considerations are brought together, and ongoing learning experience, stakeholder involvement, and co-management are considered. The process is adaptive—after issues are identified, a plan is created and implemented, and the results are monitored so that the plan can be updated as conditions change.

During the Training Workshop on Fisheries Co-management in Siem Reap Province in June 2023, representatives from the Mekong-Lancang participating countries, together with the resource persons, presented the fisheries co-management approach, which uses the three EAFM components: ecological well-being, good governance, and human well-being (**Box 2**). The participants also selected

Cambodia, Lao PDR, and Thailand as study sites for focus group discussions of key stakeholders, such as the fishers, agriculturists, and processing groups. Results of the group discussions indicated that fisheries co-management and EAFM can be applied according to each country’s specific circumstances. In terms of *ecological well-being*, activities implemented by government officers, community fisheries, and relevant stakeholders include establishing conservation areas, conducting fish releases, habitat rehabilitation, and capacity-building initiatives. In the area of *good governance*, the participating countries should strengthen enforcement mechanisms and policy measures while promoting people’s participation in planning, implementation, monitoring, and evaluation. To enhance *human well-being*, livelihoods and

occupational development activities—such as modifying fishing gear, creating job opportunities, and promoting savings groups—should be introduced. A summary of fisheries co-management activities and related aspects in Cambodia, Lao PDR, and Thailand, categorized by the three components of EAFM, is presented in **Table 1** (CFDD, 2023).

Box 2. Three Components of EAFM	
Ecological well-being	means that the habitat is healthy, fishery resources are sustainable, and pollution is reduced
Good governance	encompasses the effective institutions and arrangements for implementing rules and regulations
Human well-being	means there is food security, sustainability in fishers’ livelihood, and equitable wealth

Table 1. Activities/aspects concerning fisheries co-management

Ecological well-being	
Cambodia	<ul style="list-style-type: none"> Establishment of fish conservation zones in coastal and inland fishing areas protected by the Community Fisheries (CFi) Protection of flooded forests by the CFi Co-management of the deep-pools in the upper Mekong by CFi and the provincial authority
Lao PDR	<ul style="list-style-type: none"> Conduct of resource enhancement activities (releasing of fish seeds and broodstocks) Demarcation of conservation areas leading to high species abundance (more than 400 fish species, 37 amphibian species, seven crab species, and ten shrimp species recorded)
Thailand	<ul style="list-style-type: none"> Conservation and restoration of resources <ul style="list-style-type: none"> Habitat restoration Fisheries enhancement Training and capacity building Organization of fishers’ groups for aquatic conservation and ecotourism
Good governance	
Cambodia	<ul style="list-style-type: none"> Cancellation of all fishing lots by the government Encouraging local participation in fisheries management Giving the rights to establish the CFi and management Setting up of a Sub-decree on the CFi management and proclamation of the CFi guidelines
Lao PDR	<ul style="list-style-type: none"> Development of policies and strategies for fisheries co-management Implementation of the Guidelines for fisheries co-management in 2009 Establishment of the Fisheries Management Committee (FMC) in the communities Participation of the communities in decision-making, implementation, and monitoring of fishery projects
Thailand	<ul style="list-style-type: none"> The new Royal Ordinance on Fisheries promotes participation and supports communities to manage, maintain, conserve, restore, and sustain utilization of aquatic animal resources, <i>i.e.</i> the registered local fishing community has the right to propose fisheries management measures Participation of local fishing communities in policy planning, resource enhancement, and monitoring of the projects
Human well-being	
Cambodia	<ul style="list-style-type: none"> Promotion of additional livelihoods, <i>i.e.</i> agriculture, aquaculture, livestock, and fish processing, that bring more income to the CFi and reduce fishing pressures Encouraging participation in community fisheries activities Promotion of micro-credit schemes through savings groups Promotion of ecotourism to provide jobs and incomes to CFi in an environmentally friendly manner
Lao PDR	<ul style="list-style-type: none"> Establishment of fishers’ groups or marketing groups to promote fishery products and value-added products Creation of more benefits for local communities through fisheries co-management, such as increased income, secured food, and enhanced nutritional benefits
Thailand	<ul style="list-style-type: none"> Promotion of occupational development and strengthening of the communities through <ul style="list-style-type: none"> Career development, such as the modification of fishing gear, promotion of fish processing, and creation of marketing channels Livelihood development, such as facility and public utility improvements Gender inclusion and empowerment Raising awareness and capacity enhancement to support cooperation among stakeholders

Conducting a focus group discussion on fisheries co-management in the study sites in Cambodia, Lao PDR, and Thailand was a valuable approach in understanding the dynamics of fisheries management across key areas in these countries. In Cambodia, the discussion covered both inland and coastal fisheries; the established inland fisheries communities in Cambodia: Kampong Phluk Fisheries Community and Thmor Da Toek Chhar Fisheries Community; and the Trapeang Sangkae Fisheries Community for coastal fisheries (**Figure 1**). The Naxaythong Fisheries Management Committee, formed by the community living in Nam Xouang Reservoir of Vientiane Capital, served as the subject for the group discussion in Lao PDR (**Figure 2**). For Thailand, the Huai Bong Fisheries Community, established in Ubolratana Reservoir in Nong Bua Lam Phu Province (**Figure 3**), was discussed. The in-depth information gathered from the discussions offered a clearer understanding of the community context, co-management processes, and significant changes observed after adopting co-management practices across ecological, human well-being, and governance dimensions. The discussions also highlighted key problems, challenges, and strategies needed to sustain successful fisheries co-management in each area.

SWOT Analysis of Co-management in Small-scale Fisheries Communities in Cambodia, Lao PDR, and Thailand: The Case Study

From the focus group discussions, several problems, issues, and challenges were identified that required attention. It was necessary to conduct a strengths, weaknesses, opportunities, and threats (SWOT) analysis (**Box 3**) within each community to obtain deeper insights into specific conditions and needs across the different areas, enabling the development of strategic plans tailored to address these issues effectively. Such strategic planning is expected to enhance human well-being in small-scale fisheries, support the recovery and sustainability of resources and habitats, and strengthen fisheries governance. Although the conditions of the study sites in Thailand, Cambodia, and Lao PDR varied and local issues differed, their challenges were common, including insufficient policy or legal frameworks and unclear management mechanisms. A summary of the main points derived from the SWOT analysis is presented in **Table 2**.

Box 3. SWOT Analysis

Davies and Bergh (2001) defined “SWOT analysis” as a tool for determining the Strengths, Weaknesses, Opportunities, and Threats of a specific situation, and for developing the strategies to address them. SWOT analysis could provide valuable information on the potential threats of a situation that need to be discussed and addressed, which is an important factor in making an effective strategic plan. SWOT analysis is a simple and beneficial tool that could be used by any organization or authority in planning, especially for fisheries development and management.



Figure 1. Locations of the fisheries communities in Cambodia covered in the group discussions: 1) Kampong Phluk Fisheries Community in Siem Reap Province, 2) Thmor Da Toek Chhar Fisheries Community in Kampong Cham Province, and 3) Trapeang Sangkae Fisheries Community in Kampot Province



Figure 2. The Naxaythong Fisheries Management Committees in Nam Xouang Reservoir in Vientiane Capital of Lao PDR



Figure 3. The Huai Bong Fisheries Community in Ubolratana Reservoir in Nong Bua Lam Phu Province of Thailand

Table 2. Results from the SWOT analysis of fisheries co-management in pilot sites in Cambodia (KH), Lao PDR (LA), and Thailand (TH)

Strengths		Opportunities	
1. Good cooperation/participation among fishers, government, and key stakeholders (KH, LA, TH)		1. Support could be tapped from various agencies/government/NGOs/relevant stakeholders, especially in terms of legal framework, education, skills development, construction, and funding (KH, LA, TH)	
2. Legal framework for the CFI available (KH)		2. Governments provide the rights for fisheries management and support to set up CFI (KH, LA)	
3. Abundance of fish (TH)			
4. Fisher's groups established (KH, LA, TH)			
5. Stakeholders' willingness to participate in the groups (KH, LA, TH)			
6. Effective planning for management activities (KH, TH)			
7. Willingness and enthusiasm of women to improve their livelihoods (LA, TH)			
Weaknesses		Threats	
1. Inadequate participation/coordination of key stakeholders (KH, LA)		1. Jurisdiction of the management area not well defined (LA)	
2. Insufficient capital for group operation (KH, LA)		2. Limited support from the government in terms of staff (KH, LA)	
3. Inadequate capacity of leaders (KH)		3. Inadequate policy/legal framework, unclear and outdated management mechanisms (KH, LA, TH)	
4. Varying community rules/regulations between districts in the same management area (LA)		4. Fragmented capacity building activities (KH, LA, TH)	
5. Insufficient knowledge and skills to improve fishery management, processing techniques, and marketing (LA)		5. Powerful companies investing in certain areas are difficult to deal with (KH)	
6. Insufficient cost for patrolling activities (TH)		6. Law does not give rights for fishers to arrest illegal fishing activities (KH, LA, TH)	
7. Low solidarity among villagers (TH)		7. Many fishers from outside the community come to the reservoir when it is open for fishing (TH)	
8. The co-management plan is not sufficiently clarified/ submitted to the government authorities/key stakeholders (LA, TH)		8. Illegal fishing still occurs, especially by fishers outside the community (LA, TH)	
9. Gaps in the functional capacities of fisher's groups (KH, LA)		9. Roads around the village are not in good condition (TH)	

Note: KH=Cambodia; LA=Lao PDR; and TH=Thailand

To develop an effective fisheries management tool, fisheries officers and planners should formulate strategies that leverage existing strengths to maximize opportunities (*SO-strategy*) and minimize threats (*ST-strategy*), and tap the opportunities to address the weaknesses (*WO-strategy*) and mitigate threats (*WT-strategy*).

By identifying the strengths of a fishery community—such as the establishment of fisher groups, the existing legal framework, and an effective management plan—the community can adopt strategies to seek support from various agencies, governments, NGOs, and other relevant stakeholders to address the gaps, such as skills development in fishery management (*SO-strategy*). Moreover, the strong cooperation and participation among fishers, the government, and key stakeholders are crucial for addressing external threats, such as illegal fishing by outsiders. Therefore, both the government and local community should play a central role in establishing and reinforcing community rules against illegal fishing, including monitoring, control, and surveillance (MCS) through active community involvement (*ST-strategy*).

On the other hand, the identified opportunities can help address the weaknesses in the fishing community, such as limited knowledge and skills in fishery management and fish processing. Support from various agencies, the government, NGOs, and other relevant stakeholders could be a key factor in strengthening these capacities. Consequently, to meet community needs and enhance fishery management

and processing, the government should provide education and awareness programs on management and processing techniques, including market access, or collaborate with other agencies to ensure broader support (*WO-strategy*). The government should also encourage fishers and local communities to actively participate in community activities, such as fishery management, training, and environmental initiatives. Furthermore, collaboration among the government, the community, and key stakeholders is essential for developing effective management plans (*WT-strategy*).

In summary, while fishery officers and planners can develop an effective strategic plan based on the results of SWOT analysis, the plan must ensure that local communities are actively involved and be tailored to specific areas, as circumstances and conditions can vary across countries and regions.

Conclusion and Recommendations

The fisheries co-management approach and the Ecosystem Approach to Fisheries Management (EAFM) provide a foundation for effective planning toward sustainable fisheries management and improved livelihoods by considering ecological well-being, human well-being, and good governance, with strong participation and cooperation from fishers, officers, and relevant stakeholders. In developing management plans, fishery officers, planners, managers, and fishers could apply SWOT analysis to identify, analyze and establish appropriate strategies. In so doing, project analysts

must gather relevant data and information from key persons through focus group discussions or interviews. The results of the SWOT analysis can help fishery officers, planners, managers, and fishers better understand and adapt to the specific conditions of a particular fishery, thereby supporting the development of efficient strategic plans. More specifically, strategic planning for small-scale fisheries co-management can be effectively developed using SWOT analysis; however, such plans must be tailored to the specific context of each area or country to enhance fisheries resources and management, as well as to improve the livelihoods of small-scale fishers.

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