



INITIATIVE ON
Asian Mega-Deltas

Integrated Decentralizes Food System Governance at the District Level

Ouch Mara, Mak Sithirith, Sanjiv De Silva, Sok Sao



Key Messages

- The governance of natural resources, water, fishery, and lands have been decentralized in the forms of Farmer Water User Communities (FWUCs), Community Fisheries (CFis), Community Fish Refuges (CFRs), Agriculture Corporate (ACs) and Community Based Eco-tourisms (CBETs). However, they are decentralized, sectoral and siloes, but lack the integration; and thus, they are conflicting and competing at the grounds between FWUCs and CFis/CFRs, fishers and farmers, and between farmers and farmers. Without coordination and technical supports from the central ministries, these conflicts prevailed at the ground, affecting the sustainability of Beung Sneh and Beung Ream.
- The integrated institutional framework to manage natural resources, water, fishery and land at the district level has been formalized, but they lack experiences; and technical, financial and human resources. This institutional framework can be strengthened through the following approaches:
 - 1) Natural resource, water, fishery and land are part of the food production system. The governance of natural resources, water, fisheries and land is equated to the governance of the food system. Thus, its governance should take the landscape approaches.
 - 2) Establishing the District Technical Working Group (DTWG) on Food System Governance at the District level, chaired by the District Governor and membershiped by the representatives from the Provincial Department of Water Resources and Meteorology (PDOWRAM), Provincial Department of Agriculture, Forestry and Fisheries (PDAFF), Provincial Department of Environment (PDOE), Provincial Department of Rural Development (PDRD), Fishery Administration Cantonments (FiACs), District Office of Agriculture, Natural Resources of Environment (DANRE), Commune Chief, Village Chiefs and Community Representatives (FWUCs, CFis, CFRs, CAs & CBET).
 - 3) Building the capacity of members of DTWGs on technical skills such as water governance, fishery management, agriculture development, irrigation management, planning, financial management, conflict resolutions, and facilitation and coordination.
 - 4) The government shall allocate the national budgets to support the DANRE.
- The lesson learns and experiences from the pilots of the integrated decentralized food system governance at the district level in Beung Sneh and Beung ream are documented and built into the innovative model that are being tested and validated in order to scale up to other districts in Cambodia, aiming at improving governance of natural resources, water, fishery, land and agriculture.
- At the national dialogue on 26 November 2024, the Council of Agriculture and Rural Development (CARD) is interested in exploring furthermore to link the DTWGs to the Provincial Technical Working Groups of Food Security and Nutrition (TWGs-FSN), coordinated by the Provincial Governor at the provincial levels, and National TWG-FSNs, coordinated by CARD at the national level. The DTWG shall be assessed its sufficiency of the current piloted structures at the district level, both technical and trial-based, and consider expanding it to other provinces or districts while addressing identified gaps. CARD could use the established piloted DTWGs in Beung Sneh and Beung Ream as a case study to inform the implementation of the *3rd National Strategy on Food Security and Nutrition (2024–2028)*.

1. Challenges to Food System Governance at Local Levels

The Cambodia's Tonle Sap Lake and the Mekong delta are the engines of food productions in Cambodia. They provide water for agriculture, fisheries, crop cultivation and livelihoods. Climate change and changing hydrological regimes of the Mekong River and Tonle Sap Lake have undermined the food production, agriculture, fisheries and livelihoods. Climate change makes it more challenging to ensure stable food supplies. The hydropower and infrastructure development in the Mekong River Basin has altered the hydrological regime of the Mekong River and Tonle Sap Lake (TSL), affecting fishery productivity and the food of the rural population. The food production system is affected by too-much water (flooding) in the wet season and too-little water in dry season (drought).

Nevertheless, water governance is crucial to ensure the well-being of both people and their food security. However, Cambodia's water governance is hindered by various obstacles, including sectoral and centralized influences, top-down and large-scale strategies, weak coordination among relevant agencies, and limited involvement of local communities. Effective management of water resources is increasingly challenged by the complexities of multi-sectoral and multi-scale interactions, particularly within the context of inland fisheries, agriculture, and environmental sustainability (Öjendal, et al., 2023). Water is managed by the Ministry of Water Resources and Meteorology (MOWRAM) via the development and the management of the irrigation systems to provide water to irrigate the rice farming and other agricultural industries, while Ministry of Agriculture, Forestry and Fishery (MAFF) is mandated to manage agriculture and rice farming, and Fishery Administration (FiA) under MAFF is responsible for fishery management. The absence of a collaborative, multi-sector and multi-actor platform to govern shared water resources has led to the persistence of significant trade-offs between critical food production systems, such as rice cultivation and inland fisheries. Also, the decentralized governance of water has been organized through the establishment of Farmer Water User Community (FWUC) by MOWRAM; agriculture development via the formation of Agriculture Corporative (AC) by MAFF; and fishery management by the set-up of the Community Fisheries (CFis) and Community Fish Refuges (CFRs) by FiA. These forms of decentralized governance of water, fisheries, land and agriculture have been centralized and sectoral, and unintegrated. This fragmented approach has resulted in the alarming decline of inland fisheries, water conflicts, lowering agricultural productivity and increased production costs, undermining the overall productivity of the floodplain ecosystem and also threatening the food security and livelihoods of local communities who heavily rely on water, fisheries, land and agriculture for sustenance and income (Sithirith, 2017).

Furthermore, the national food security policy stresses the strength of agriculture (particularly rice and fish production) that depends on the synergy between land and water resources (CARD, 2019 & 2021). However, sector specific policies are sectoral and not well-linked. Concerning water governance, national bodies focus on their respective mandates and sectors. This shortcoming is concerning the Mekong Delta and Tonle Sap Lake, which are deeply linked to agricultural production and food security. Yet, a landscape approach to address the integral issues surrounding land-water resources and climatic risks does not exist. Specifically, there is no policy (Sithirith et al., 2024a).

Recognizing the significant limitations of traditional planning methods, the Royal Government of Cambodia enacted a Decree in 2019 that mandates the integrated management of water, land, agriculture, fisheries, and environmental resources at the district level. This pivotal policy recognizes the need for a holistic approach to resource management that can effectively address the interconnected challenges faced by these sectors. Four ministries are set to govern different aspects of water use and management includes - the MOWRAM, the Ministry of Agriculture, Forestry and Fisheries (MAFF), the Ministry of Industry, Science, Technology and Innovation (MISTI), and the Ministry of Rural Development (MRD) (Khmer Time, 2024; Chanrith et al., 20024).

Aligned with this policy, WorldFish together with International Water Management Institute (IWMI), Inland Fishery Research and Development Institute (IFReDI) and District Authorities in the Mekong Delta Provinces undertake the studies of integrated decentralized food system governance at the District levels in 2023 under the Asian Mega Delta (AMD) Initiative of the CGIAR and develop the innovative models to support the District Governments to manage water, fishery, land and agriculture. In 2024, the pilots of the "innovation model" for integrated decentralized food system governance at the district levels were conducted in Beung Sneh in Prey Veng, and in Beung Ream in Kampong Thom Provinces. The pilots provide a collaborative platform for diverse stakeholders, including government representatives, community members, and organizations to openly engage and discuss their challenges, share insights, and collaboratively identify and implement viable solutions. The piloted platforms bridge the gaps between various sectors, enabling a more cohesive approach to managing shared water resources.

Box 1: Beung Sneh

Beung Sneh (BSL), a 3,924 ha, is freshwater lake in Prey Veng Province, surrounded by 22,899 ha of rice farming areas, of which 69% of the total land areas is dedicated to wet-season rice farming, while the remaining 31% is for dry-season rice farming. BSL is home to 10,911 households, living in 44 villages, of which about 19% of households are engaged in fishing and the ID Poor 1&2 constitutes 14% of the total population. The average agricultural landholder size is 2.10 ha. The BSL is linked to the Mekong River and has a water storage capacity of 80 million m³ during the rainy season.

The lake is also rich in fishery resources, with many important fish species that villagers can catch during the fishing season. Recognizing the importance of the lake's fishery resources, the Fisheries Administration (FiA) established four community fisheries (CFis) in Beung Sneh around the year 2000. The CFis in Beung Sneh are connected to eight large irrigation systems that utilize water from the CFi areas to irrigate rice fields around the lake. These CFis protect and conserve the fishery resources by reserving approximately 40 hectares inside the lake and nine deep water areas in the Beung Sneh as CFi-protected zone.

BSL is home to 50 bird species. The Ministry of Environment (MOE) has issued a sub-decree to designate 3,557ha of Boeung Sneh as Multiple Use Area. Also, MoE has established the bird sanctuary in Tuolporn Taley Boeung Sneh, covering 86ha. It has employed 03 Rangers from the villages surrounding to protect the birds from illegal poaching. A community-based eco-tourism (CBET) has been established MOE to attract tourists to visit Beung Sneh and see the birds.

There are eleven irrigation schemes in Beung Sneh, new and old schemes, covering 22,899 hectares which have pumped water from Beung Sneh to irrigate the surrounding the rice fields. In addition, 10,911 households in 44 villages have been utilizing the irrigation canals to irrigate their rice fields. Two farmer water user communities (FWUCs) had been established since 2005 by the Provincial Department of Water Resources and Meteorology (PDOWRAM) manage and distribute to irrigate rice farming. The FWUC is set up a dedicated committee responsible for overseeing the operation of the water gates and releasing water to farmers who need it for rice cultivation. This committee consists of representatives from the District Office of Water Resources and Meteorology (DOWRAM) as well as representatives from different villages. The committee meets monthly to discuss the plan for opening and closing the water gates, as well as to address maintenance issues. Within Beung Sneh, also there are two farmer water user communities (FWUCs),

There are also private operators pump water from BSL to supply water to farmers for agriculture and domestic water uses. In the Torp Sdach village in the Theay Commune, one private individual operates a private water pumping station (PWPS) under permits granted by the district authority to supply water to farmer and charge the water fees. The PWPS operator received a four-year contract (2016–2024) to pump water from Beung Sneh to irrigate 305 hectares of land across five villages, charging water fees ranging from KHR 270,000 to KHR 300,000 per hectare per season. This enables farmers to cultivate 2–3 rice crops annually. Of the 305 hectares, 105 hectares of upland rice fields are not flooded by the rising water level in Beung Sneh, and farmers cultivate three rice crops per year. The remaining 200 hectares are located within Beung Sneh's floodplain, which floods during the wet season, permitting only one dry seasonal rice crop per year (typically from March to May). The PWPS serves approximately 250–300 households, 175 of which do dry seasonal rice farming and own at least one pumping generator per household. In addition, three water supply stations were operated in BSL by private individuals with licenses from MOWRAM. They pump water from BSL, filter, clean, and sell it to villagers. Two stations are operational, while one is under construction. It is estimated that 50–60% of the population around BSL uses water from the water supply system, paying KHR 1800–2000 per cubic meter. On average, a household uses around 10 cubic meters of water per month.

Agriculture, rice farming, fishery, water supply and eco-tourism compete for water, leading to over-exploitation and conflicts. Climate change, particularly droughts in 2022-2024, and the increased rice farming seasons from one to three crops a year raise the alarming concerns about the future of the lake. The land speculation and encroachments have demanded for rapid interventions to protect the BSL.

Box 2: Beung Ream

Beung Ream is a pristine freshwater pond nestled in Kakoh Commune, Santuk District, Kampong Thom Province. It is a small waterbody in the Tonle Sap floodplain, linked to the Tang Krasaing Irrigation scheme (TKIS). Water from Beung Ream serves the purposes of rice farming and fisheries. It is surrounded by ten villages in Kakoh Commune, and it is home to about 3,325 households, with the majority as farmers and 30% as fishing households, while 18% of households fall in the ID Poor 1&2 Categories.

Beung Ream is designed as a community fish refuge (CFR). It was formally established as CFR in 2021 by FiA with support from WorldFish. The Boeung Ream CFR covers 13 hectares, with a core zone of 2 hectares. The CFR is connected to the surrounding floodplains and small natural ponds through a canal system. The CFR supports the livelihoods of around 572 households who regularly engage in fishing and harvesting of fish and aquatic animals, with the field fisheries system benefiting 716 families, including about 20% being poor farmers. The flooded rice fields and other water bodies in the area cover a total of 995 hectares. The CFR Committee was officially established on October 29, 2021 to manage this vital community-based fishery resource.

In the vicinity of Beung Ream, three canals are present: O' Praing, Beung Karav, and irrigation canals constructed by MoWRAM. O' Praing was rehabilitated, and since then, it has ensured a year-long water supply to Beung Ream. Also, Beung Ream is connected to Taing Krasaing Irrigation Schem (TKIS). The TKIS enters the Kor Koh Commune, and it is called the Kakoh irrigation scheme, which is a sub-TKIS. The Kakoh irrigation canal enters the Beung Ream via a water gate that regulates water supply to the Beung Ream areas. The Kakoh irrigation system is part of the Taing Krasaing Irrigation Scheme. Farmers from nine villages have used water from the TKIS to irrigate 995 hectares of rice fields surrounding Beung Ream with water from the Kakoh irrigation canals and Beung Ream lake, enabling them to cultivate 2–3 crops of rice. Approximately 572 households are actively involved in fishing and harvesting fish and other aquatic animals from the floodplain area and rice fields surrounding the Beung Ream, which gets flooded during the rainy season. In addition, around 294 households fish within the Beung Ream area for approximately five months a year. The estimated annual fish catch per household is about 88 kg, and the estimated annual catch of other aquatic animals is about 48 kg per household.

There is a large FWUC established at the irrigation system level of Taing Krasaing Irrigation Schem (TKIS), which covers district and a number of communes. The TKIS-FWUC was established in 2018, led by 04 Committee members and comprises of three Sub-FWUCs, covering Communes. The Kakoh Commune is established into one Sub-FWUC, which comprises of 09 Group FWUC (09 villages). The total number of households (HHs) is 3,328 HHs. The majority is farming with 3 crops per year, and only 20-30 households per village are engaged in fishing. Farmers who used water from the sub-irrigation schemes pay the water fees. The water fee is paid per crop. It cost 40,000 riel/ha/crop for a rice field located close to the irrigation and 20,000-30,000 riel/ha/crop for a rice field located close to the irrigation canals. The payments are made to the FWUC Committee. However, during the dry season, particularly from January to March or April, farmers pump water from the CFR area, but they do not pay water fees to CFR Committee, but to FWUCs.

Water conflicts have occurred between fisheries and rice farming, between CFRs and FWUCs, between fishing and farming households. Climate change has made also water shortage for rice farming and fishery conservation. Farmers have encroached the CFRs to pump water to irrigate the rice farming, leading to conflicts between them. At the same time, the water conflicts have occurred among farmers between the upstream and the downstream of the irrigation schemes. Also, the management of the irrigation scheme focuses mainly on water for rice farming, but lack the integration of fishery and the landscape approaches.

2. Integrated Decentralized Food System Government at the District Levels

WorldFish, IWMI, IFRDI and District Authorities in Prey Veng and Kampong Thom Provinces undertook the pilots in Beung Sneh and Beung Ream to innovate the integrated decentralized food system governance at the district level. It has provided support to three districts (Ba Phnom, Peam Ro and Svay Anhor) in Prey Veng Province and Santuk District in Kampong Thom to manage the Beung Sneh and the Beung Ream respectively at the district levels. Through the pilots and working relation with the stakeholders and local communities in respective sites, it draws out some lessons and innovations in the following.

2.1 Landscape Approach

Beung Sneh and Beung Ream are two vital ecological systems that include water bodies, river networks, fishery ecosystems, rice fields, irrigation systems, and human communities. Water serves as a crucial link connecting landscapes from upstream to downstream, yielding fish that sustain livelihoods. Beung Sneh, the expansive freshwater lake in Prey Veng Province, is a cornerstone for the local community, providing essential resources that support diverse livelihoods, particularly through water, fisheries, and agriculture. The thriving fishery not only serves as a primary source of protein for families but also plays a significant role in the local economy through market engagement. Additionally, the lake's water is indispensable for irrigation, enabling farmers to cultivate rice and other crops crucial for food security in the region (Sithirith et al., 2024a).

The ecosystem services provided by Beung Sneh—including water filtration, wildlife habitat, and flood regulation—are integral to maintaining ecological balance and supporting the livelihoods reliant on its resources. These resources are particularly important as both lakes supply vital food to local, district, and provincial markets, thereby bolstering the regional economy. Similarly, Beung Ream supports approximately 3,300 households across ten villages, offering a rich array of ecosystem services that strengthen local economies. This lake is renowned for its biodiversity, which is essential for freshwater fisheries and various aquatic plants that are harvested for consumption and trade. Fishing remains a primary income source for many families, while the water from the lake facilitates irrigation for rice paddies, allowing farmers to grow crucial crops that sustain their families and contribute to the local economy. Both Beung Sneh Lake and Beung Ream are essential ecosystems that underpin agriculture and fisheries, playing a critical role in local food security and livelihoods. Integrated Water-Land Resources Management (IW-LRM) provides a holistic framework to address these challenges, promoting coordinated development for both economic and ecological sustainability (Sithirith et al., 2024b).

Beung Sneh encompasses four districts in Prey Veng Province: Ba Phnom, Peam Ro, Svay Anhor, and Prey Veng City. In contrast, Beung Ream is situated within a single district, Santuk, in Kampong Thom Province. The management strategies for both Beung Sneh and Beung Ream should extend beyond administrative boundaries, focusing instead on a landscape approach that emphasizes connectivity and productivity. This approach will address both ecological needs and human requirements for current and future generations (Cascio & Beilin, 2010).

Utilizing a landscape approach in the management of Beung Sneh and Beung Ream is vital for safeguarding ecosystem functions, fostering connectivity, enhancing ecosystem services, and ensuring human security linked to these thriving ecosystems. An improved hydrological regime in Beung Sneh promotes the development of fish breeding sites within the flooded forests and defends the lake's water body against land encroachment, while also sustaining wetlands year-round as a healthy habitat for birds and promoting biodiversity in the Toulporn Taley Beung Sneh bird sanctuary. These habitats are crucial not only for aquatic life and avian species but also in supporting local human populations, offering untapped potential for eco-tourism. Similarly, in Beung Ream, enhanced hydrological conditions and the creation of fish breeding habitats within the Beung Ream CFR contribute to the resilience of the ecosystem. Preserving these environments is essential for maintaining biodiversity and ensuring the harmonious coexistence of fisheries and agriculture (Sithirith et al., 2024a).

2.2 Institutional Framework for Integrated Decentralized Government of Water, Land and Natural Resources at the District Level

Beung Sneh and Beung Ream have distinct institutional dimensions and mandates. The Ministry of Water Resources and Meteorology (MOWRAM) is tasked with managing water resources through the development and oversight of irrigation systems. MOWRAM delegates the governance of these irrigation schemes to the Provincial Department of Water Resources and Meteorology (PDOWRAM) and establishes Farmer Water User Communities (FWUCs) to oversee water usage at the local level. The Ministry of Agriculture, Forestry and Fisheries (MAFF) is responsible for utilizing the water from Beung Sneh and Beung Ream to irrigate rice farming and support other agricultural activities. To facilitate this, MAFF collaborates

with MOWRAM to draw water from these irrigation systems. Additionally, Agricultural Cooperatives (ACs) are formed by MAFF to enhance agricultural activities within communities. Within MAFF, the Fisheries Administration (FiA) manages fisheries, establishing Community Fisheries (CFis) and Community Fish Refuges (CFRs) to strengthen the governance of fishery resources at the local level. Similarly, the Ministry of Industry, Science, Technology, and Innovation (MISTI) oversees clean drinking water in urban regions, while the Ministry of Rural Development (MRD) is responsible for ensuring access to clean drinking water in rural areas, which further complicates the overall framework for water management. On the ground, these agencies establish mechanisms and institutional frameworks to carry out their mandates in Beung Sneh and Beung Ream, each operating with unique plans and management systems (Chanrith et al., 2024).

Ministers from the Ministry of Water Resources and Meteorology (MOWRAM), the Ministry of Agriculture, Forestry, and Fisheries (MAFF), and the Ministry of Rural Development (MRD) have jointly issued a statement promoting coordination and collaboration among these ministries to facilitate the sharing of water resources for agriculture and rural development (Khmer Times, 2024; EAC News, 2024). The Cambodian government is making strides towards decentralizing the governance of natural resources by establishing the District Office of Agriculture, Natural Resources and Environment (DANRE). This decentralized approach seeks to enhance the integration and effectiveness of various community-based initiatives, including community fisheries, fish refuges, farmer water user communities, community-based ecotourism, agricultural corporations, and private water supply systems (Sub-decree, 2019). However, despite the establishment of DANRE, the management of water and land resources often remains fragmented, with policies, strategies, and management processes functioning in isolation across different sectors and institutions, such as water, agriculture, fishery, and irrigation. Additionally, DANRE faces constraints in technical, human, and financial resources, compounded by power dynamics, making the governance of Beung Sneh and Beung Ream a significant challenge (Chanrith et al., 2024).

Beung Sneh supports four Community Fisheries (CFis) that emphasize sustainable fishing practices and community engagement alongside two Farmer Water User Groups (FWUCs) responsible for managing irrigation schemes vital for agriculture, particularly during the dry season. Additionally, it features one Community-based Eco-tourism (CBET) initiative, which is essential for safeguarding the flooded forest surrounding the lake. This forest is crucial for sustaining both the fishery and the diverse bird populations thriving in the wetland, recognized as a site of national wetland significance. However, management of water-land resources in the Boeung Ream CFR and Beung Sneh Lake is significantly hampered by fragmentation and overlapping jurisdictions among various governmental bodies. This complexity stems from a historical context in which different ministries were established with distinct mandates, resulting in a governance structure that lacks cohesion and control over resources for its intended purpose. The absence of clear guidance and coordination mechanisms at the district level has led to decentralized governance systems functioning in isolation, with each sector or community initiative operating independently rather than adopting an integrated approach to natural resource management. Such a fragmented governance structure can impede the overall effectiveness and efficiency of natural resource management (Sithirith et al., 2024b), as it fails to adequately consider the synergies and trade-offs between different sectors.

An integrated decentralized institutional framework has been established to guide and support the governance of natural resources, including water, fisheries, land, and agriculture in Beung Sneh and Beung Ream. The District Administration for Natural Resources and Environment (DANRE) is responsible for enhancing the governance of these resources in the area. However, their effectiveness is hindered by a lack of experience, capacity, and resources. To address this, the District Technical Working Group (DTWG) has been created to foster coordination among stakeholders and facilitate the development of integrated management plans that take into account ecological, social, and economic factors. By bringing together diverse perspectives, the DTWG aims to improve resource management, empowering local communities while promoting sustainable practices that benefit both the environment and the people reliant on these resources.

Two Technical Working Groups (TWGs) have been established to support DANRE in its efforts. The Beung Sneh Technical Working Group (BS-TWG) consists of 23 members from three districts—Ba Phnom, Peam Ro, and Svay Anthor—along with representatives from relevant provincial departments, including two female members. This group is chaired by the District Governor of Ba Phnom and includes representatives from the three District Offices of DANRE, the Provincial Department of Water Resources and Meteorology (PDOWRAM), the Provincial Department of Agriculture, Forestry and Fisheries (PDAFF), the Provincial Department of Environment (PDOE), and the Fisheries Administration of Cambodia (FiAC), as well as members from Farmers' Water Users Communities (FWUCs), Community Fisheries (CFis), Community Forestry (CFRs), and Community-Based Ecotourism (CBETs). The Beung Ream Technical Working Group (BR-TWG), also chaired by the District Governor, comprises 16 members from the District Office of Santuk, DANRE, PDOWRAM, PDAFF, FiAC, as well as Commune Chiefs, Village Chiefs, and representatives from Commune Policy, FWUCs, and CFRs.

The TWGs provide platforms for provincial departments, the District authorities, the DANRE, Commune Authorities, village Chiefs, FWUCs, CFIs, CFRs and concerned stakeholders to meet and discuss the issues affecting the Beung Sneh and Beung Ream. It also provides venues for the concerned stakeholders to think and plan for the future developments of both lakes. It also builds the culture of working together at the district levels and construct the collective trusts and actions at local levels.

Table 1. Members of the Technical Working Groups

Membership	Beung Sneh		Beung Ream		Total
	Male	Female	Male	Female	
1. District Government	1	1	2	0	4
2. District Agriculture Office	4	0	3	0	7
3. Fishery Cantonment	1	0	1	0	2
4. Provincial Department of Agriculture, Forestry and Fisheries	0	1	1	0	2
5. Provincial Department of Water Resources	1	0	1	0	2
6. Provincial Department of Environment	0	1	0	0	1
7. Commune Authorities	6	0	1	0	7
8. Village Chief	0	0	4	0	4
9. FWUC Representatives	3	0	1	0	4
10. Cfi Representatives	2	0	0	0	2
11. CFR Representative	0	0	0	1	1
12. Community based biodiversity conservation	2	0	0	0	2
13. Commune Police	0	0	1	0	1
Total	20	3	15	1	39

2.3 Building the Capacity of Government Officials and Stakeholders

The members of the BS-TWG and BR-TWG represent various levels and scales of government agencies, each bringing their distinct backgrounds and capacities, which can lead to challenges in achieving a shared understanding. Their perspectives on the issues concerning Beung Sneh and Beung Ream are shaped by their institutional frameworks, policies, and technical expertise, all of which influence their engagement and involvement in the management of these areas. Therefore, enhancing the capacity of TWG members and stakeholders is essential for fostering their participation in discussions and planning efforts for Beung Sneh and Beung Ream.

Three key areas of capacity building were implemented concerning the Technical Working Groups (TWGs) and the management of Beung Sneh and Beung Ream. First, we focused on enhancing facilitation skills for TWG members to effectively engage stakeholders in the governance of natural resource management (NRM), water, fisheries, agriculture, land, and irrigation in both Beung Sneh and Beung Ream. Second, we emphasized participatory action research and development in NRM, water, fisheries, agriculture, and irrigation management within these lakes. Lastly, we worked on developing a shared vision and planning for Beung Sneh and Beung Ream.

Some 34 members of TWGs (including 04 women) from Prey Veng and Kampong Thom participated in the exposure visits to Siem Reap to see the integrated decentralized governance of water, fishery, and agriculture in Santey village, Dan Run Commune, Sotr Nikum District. The exposure visit was organized by WorldFish to bring the TWG members from two provinces to see how community and stakeholders worked together to manage the CFRs, CFIs, water uses, and agriculture, and how they share the benefits among its members.

A total of 29 participants from the BS-TWG and 21 participants from the BR-TWG received training from WP4-AMD focused on visioning and planning for both Beung Sneh and Beung Ream. This training equipped members of the BS-TWG and BR-TWG with the skills needed to develop a visioning map for Beung Reap and Beung Sneh, followed by planning for the development of both lakes. Various skills in visioning and planning were provided to different members of the TWGs, empowering them to effectively manage and plan for Beung Sneh and Beung Ream.

Furthermore, capacity building and awareness raising activities on fishery law were conducted by FiAC to build the capacity and understanding of fishery law to 140 participants in three communes in three District in Prey Veng Province: (1) Theay Commune in Ba Phnom District, (2) Prey Kandieng Commune in Peam Ro District, and (3) Samrong Commune in Svay Anhor District. Other capacity-building activities were organized by the Provincial Department of Environment of Prey Veng on the importance of the wetlands surrounding the Beung Sneh Lake to 58 participants, including 16 women, from Ba Phnom District in Prey Veng Province.

The Fishery Administration Cantonment (FiAC) of Kampong Thom and the District Authority of Santuk organized a “fish day” in Beung Ream, participated by 125 people from 10 villages from Kakoh Communes. It was organized to raise awareness about the importance of Beung Ream in connection to the water uses for both fisheries and agriculture and also seek support from local governments and the surrounding villages to protect the Beung Ream CFR.

Part of the roles and responsibilities, the TWG members attended the monthly meeting regularly. The monthly meetings focused on the updates of the TWG member activities, the issues occurring in Beung Sneh and Beung Ream, the resolutions to some of the issues happening and the coordination and collaboration concerning Beung Sneh and Beung Ream. Members of TWGs were introduced to concerned legal frameworks; the structures and process of governance of water, fishery, irrigation and agriculture; and planning frameworks; partly to keep up the knowledge of TWG members to the same levels.

2.4 Development of Visions

The BS-TWG and BR-TWG, and the District Governments of Ba Phnom in Prey Veng and Santuk in Kampong Thom Provinces are equipped with the technical tools to help them facilitate the participations, the dialogues, the planning, the managements and conflict resolution for Beung Sneh and Beung Ream. The first important tool used is the ‘visioning map’ and the second tool is the planning. In these processes, other tools are also used, including the problem identification and prioritizations, problem tree analysis, stakeholder analysis, and setting the goals, objective and activities for planning development.

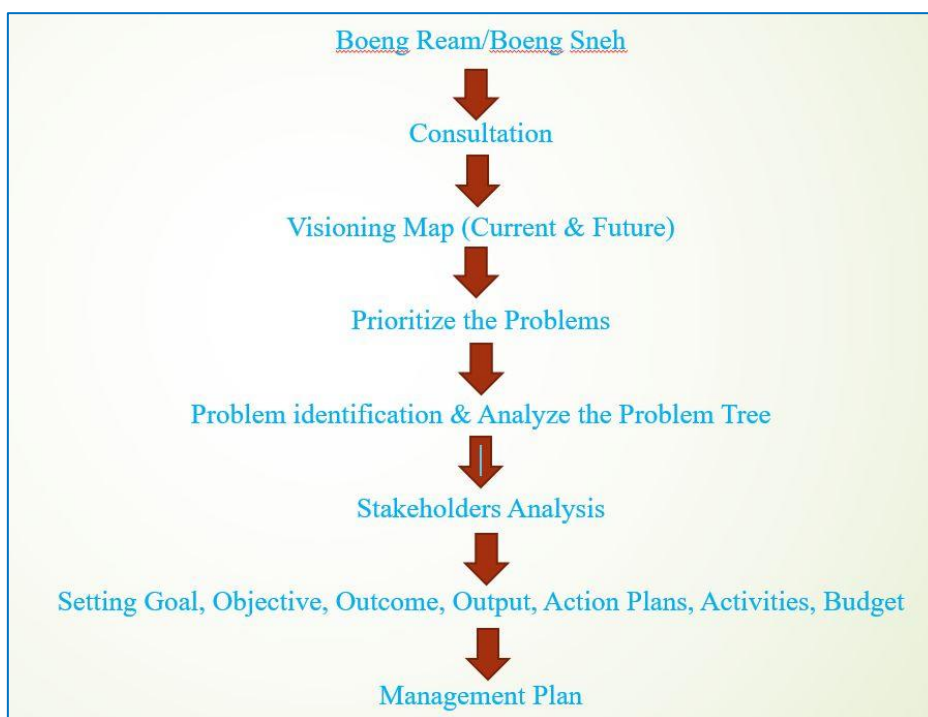


Figure 1. The framework for the development of visions and planning process.

The members of the BS-TWG and the BR-TWG undertook various consultations with villages surrounding the Beung Sneh and Beung Ream to identify the problems facing Beung Sneh and Beung Ream, fisheries, water, irrigation and livelihoods. In Beung Sneh, members of BS-TWG conducted six consultation meetings at village levels to discuss and identify the problems facing the Beung Sneh. The meetings were participated by 246 participants, including 76 women, from six villages in three concerned districts around Beung Sneh. In Beung Ream, members of BR-TWG organized four consultative meetings at the village level around Beung Ream to discuss issues and challenges facing the Beung Ream, the water uses for CFR and rice farming and also, the livelihoods. The meetings were participated 194 villagers, including 106 women from four villages.

After the consultations at the village level, the BS-TWG and BR-TWG conducted the District Meetings to consolidate the issues and problems facing the Beung Sneh and Beung Ream. Two representatives from each village participated in the meeting to discuss their issues with other villages and to identify the common issues. The members of TWGs from the commune, district, and provincial departments were also involved in the meeting. Some 43 participants, including seven women, participated in the meeting to finalize the common issues facing the Beung Sneh. Also, 27 participants were involved in the District meeting to discuss and finalize the common issues facing the Beung Ream.

In Beung Sneh, members of BS-TWG, stakeholders and communities identified 15 key issues. These issues were agreed by members of TWGs. It was then presented to the District Authorities and Commune Administration in the Beung Sneh area:

1. The lake is shallow
2. Violation of the lake's land for ownership
3. Multiple farming/year
4. Water pollution through the use of pesticide
5. Illegal fishing in the lake
6. Shortage of habitat fish breed stock
7. The surface of Beung Sneh is very shallow
8. There Is no specific schedule to open and close the water gates
9. The water treatment station pumps the water from Beung Sneh for sale
10. Shortage of water sources in dry season
11. Disposal of pesticide trash in Beung Sneh
12. There is competition for pumping the water for farming
13. The participation from local people is poor
14. The conflict resolution is still poor
15. The main canals are shallow and broken

Also, in Beung Ream, the members of BR-TWG, the stakeholders and communities identified 21 key issues. These identified issues were also presented to the District Government to get the feedback and agreement:

- 1) Shortage water for farming from November-April
- 2) Shortage of small irrigation canals (335m*2m*200m) at Ou Run Chey Chomnea area.
- 3) Shortage of culverts cross the canals at Ou Prang area
- 4) Shortage of Boeng Keo Vorsar (1880m*2m*8m) with extra culverts in 3 sites and water gates in 2 sites.
- 5) Shortage of Ou Prang canal 1000m
- 6) Request the Prek Talock dam near Choung Chang dam
- 7) Poor in water gate management at Boeng Karao lake
- 8) The Krava dam is severely broken due to degradation
- 9) Famers compete for water pumping without following the schedule
- 10) The sub-canals are shallow in dry season
- 11) The main canals are shallow which are required the rehabilitation (1.5m down)
- 12) Shortage of 2 water gates at Boeng Karao lake
- 13) Shortage of small culverts at Prakcheung area for drainage
- 14) Farmers do not follow the pumping schedule which arrange by FWUC committees
- 15) There is illegal fishing at spawning season
- 16) Shortage of canals and water gate connect to Boeng Ream CFR
- 17) Shortage of Deum Putrea water spillway at the end of Chong Chang dam
- 18) Boeng Ream CFR committee has a shortage of budget for patrolling

- 19) Shortage of dam 30m*6m
- 20) Shortage of water for farming in second cycle
- 21) The shallow canals lead to a shortage of water for farming.

The identified problems/issues were then prioritized by the community representative, stakeholders and members of TWG. In Beung Sneh, five issues were prioritized and selected. The same happens to Beung Ream and five priority issues were selected.

Beung Sneh	Beung Ream
<ol style="list-style-type: none"> 1. Violation of the lake territory for land ownership 2. Illegal fishing in the lake 3. The Beung Sneh Lake is getting shallow 4. The increased uses of pesticides and chemical fertilizer for rice farming 5. The increasing farming season from one to three rice crops per year 	<ol style="list-style-type: none"> 1. The shortage of water for dry season rice farming from November to April 2. Rice farming not in accordance with the farming calendars (close/open the water gate) 3. The CFR is getting shallow in the dry season due to the pumping water for rice farming 4. The irrigation canal is getting shallow and lack of tertiary canals. 5. Part of the canal lower than the rice field

The prioritized issues were then used to develop the vision for Beung Sneh and Beung Ream. The visioning exercises allow people to dream about the Beung Sneh and Beung Ream for the next 5-10 years what they want to see. It is a planning tool that is used to guide what they shall do to achieve these dreams. In each site, two meetings were organized by TWGs and involve:

- 1) Village representatives
- 2) Local authorities
- 3) Women group representatives
- 4) CFR committees
- 5) FWUC committees
- 6) Agricultural cooperative
- 7) Community Based Eco-tourism
- 8) Relevant government agencies
- 9) Women groups

Based on the current issues and problems occurring in Beung Sneh and Beung Ream, visioning maps were created to identify specific locations and issues. Villagers, stakeholders, and members of the Beung Sneh Technical Working Group (BS-TWG) and Beung Ream Technical Working Group (BR-TWG) were invited to share their vision for these areas over the next 5 to 10 years. They were asked to draw visioning maps that reflect their aspirations for Beung Sneh and Beung Ream in this upcoming time frame.

For Beung Sneh, for the next 5-10 years, communities, stakeholders and members of BS-TWG dream to see:

- 1) The Beung Sneh Lake will be rehabilitated by the participation of local communities and concerned government agencies.
- 2) The Lake boundary will be demarcated with a clear boundary that could prevent the encroachments by offenders into the lake areas and they are enforceable by the concerned agencies.
- 3) The spill-over dike will be raised to keep more water during the wet and dry season in the lake. Water level demarcation system will be installed in the lake to provide the information when the water level reached the alarming level.
- 4) More flooded forest will be planted in the Beung Sneh Lake to provide the habitats for fisheries, biodiversity and bird and to protect the lake areas.
- 5) The fishery conservation areas and the deep fishery pools will be protected and there will more fish.
- 6) The bird sanctuaries will accommodate more birds and will attract more tourists. The community based eco-tourism will be developed and will provide alternative livelihoods to local communities.
- 7) The irrigation system will be rehabilitated and FWUCs will be organize to share and uses water from the lake effectively.

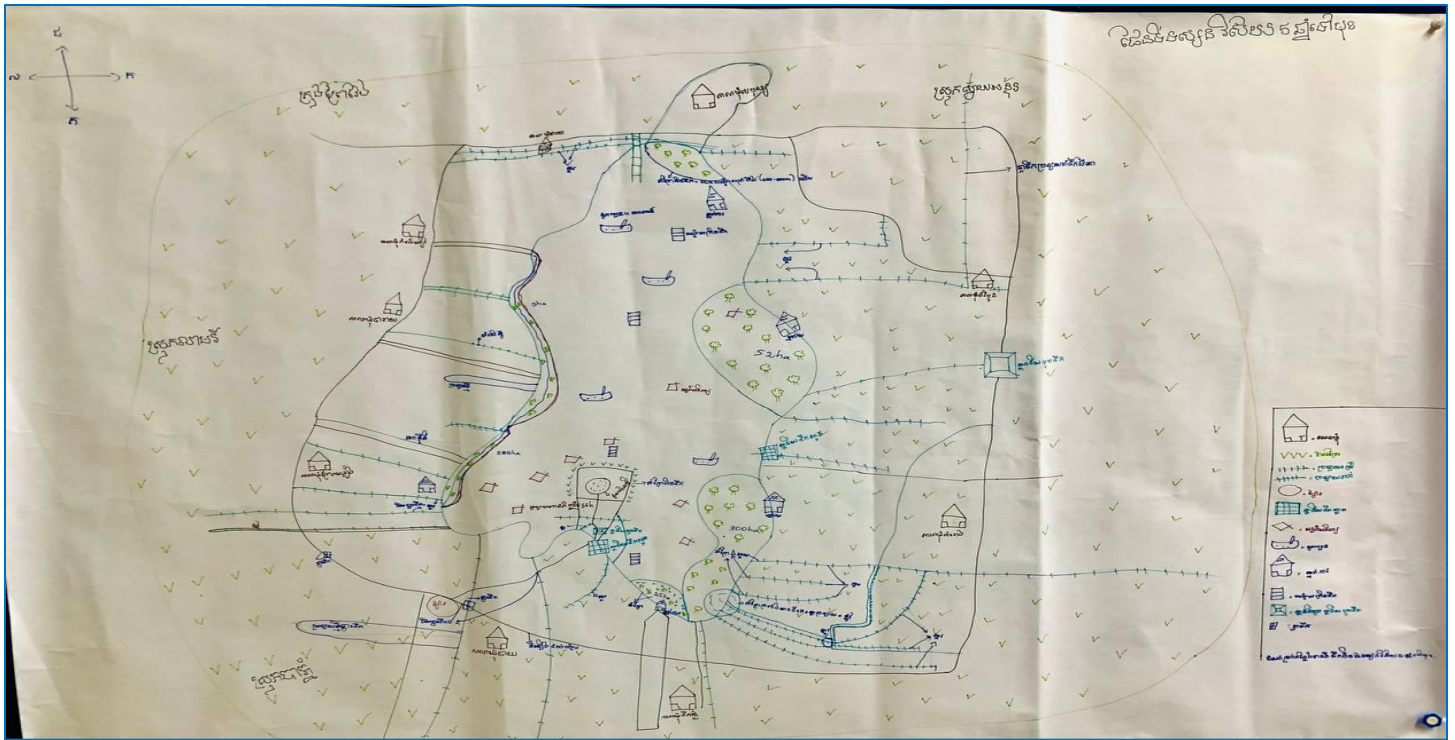


Figure 3. The visioning map of Beung Sneh

For Beung Ream, they dream to see in the 5-10 years the following:

- 1) The Beung Ream will have the water year-round, which could protect the number of fish breed stocks and important fish species.
- 2) There will be no encroachment into the Beung Ream lake to pump the water from the Beung Ream CFR to irrigate the dry season rice farming.
- 3) Villager who used water from the Kakoh irrigation system follow the calendars for rice farming and water use effectively.
- 4) Level up the canal systems at the lower section about 1000 m in order to increase the water supply from the head to end of the canals.
- 5) Increase the sizes of culverts and install six culverts in order to ensure the smooth supply of water from the main canals to the secondary canals.
- 6) Rehabilitate the secondary canals about 3000m at the high ground to lower than the main canals.
- 7) Rehabilitate the canals entering into the Beung Ream CFR about 400m and also the tertiary canals.
- 8) Demarcate the boundary of the Beung Ream CFR, deepen and rehabilitate the core area of the CFR, install the system to measure water level, dig the canals surrounding the Beung Ream CFR and organize the annual fish release into the Beung Ream CFR.
- 9) Repairing broken dams and repairing 2 sluice gates of Boeung Karao.
- 10) The government shall deepen the Stung Slap river and widening it.

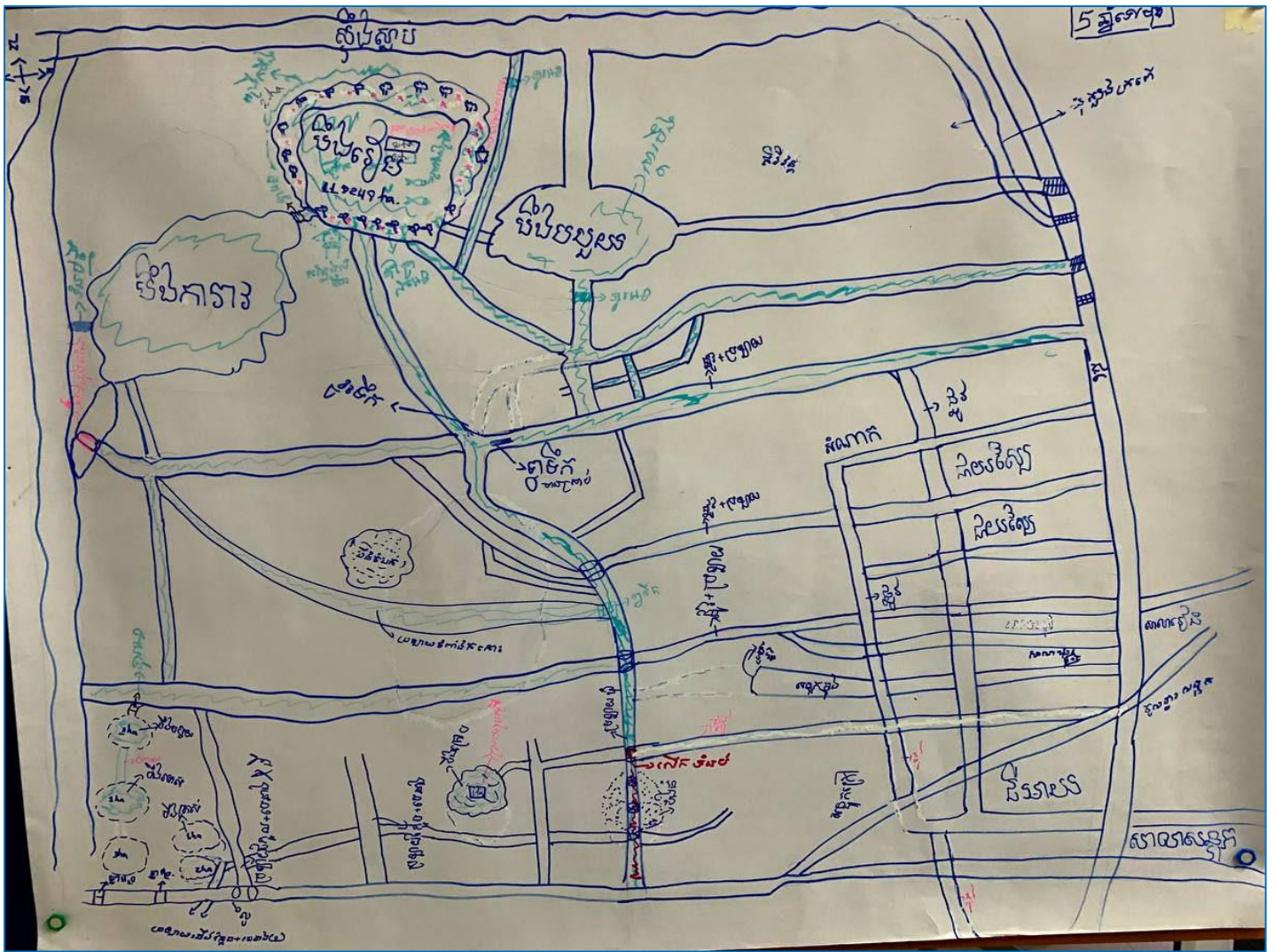


Figure 4. The Visioning Map of Beung Ream

2.5 Institutional Analysis

To address the prioritized issues and implement the visioning maps, an analysis of the stakeholders and institutions was conducted. The Provincial Department of Water Resources and Meteorology (PDWRAM) plays a crucial role at both sites, Beung Sneh and Beung Ream, in managing water and irrigation systems for rice farming. PDWRAM must adhere to the institutional frameworks, policy guidelines, and planning systems established by the Ministry of Water Resources and Meteorology (MOWRAM). Additionally, PDWRAM has integrated its planning and activities into the provincial planning process and is executing its work under the Provincial Administration.

PDAFF is a key organization responsible for agriculture, rice farming, and fisheries. Similar to PDWRAM, PDAFF follows the instructions and guidance from MAFF while being supervised by provincial governments. Within PDAFF, the FiAC manages fisheries in both Beung Sneh and Beung Ream. Although water is essential for fisheries and agriculture, PDAFF and FiAC are facing challenges in sharing water resources, as control over water management lies with PDWRAM and MOWRAM.

The provincial government plays a crucial role in overseeing the management of water resources, fisheries, and agriculture within Beung Sneh and Beung Ream. However, it does not directly engage in water engineering, combating illegal fishing, or managing and developing irrigation systems and water resources. Instead, the provincial government focuses on coordination, ensuring that provincial planning is effectively developed and implemented. At the provincial level, there is a Provincial Technical Working Group on Food Security and Nutrition (PTWG-FSN), which is chaired by the Deputy Governor. This group is also part of the National Technical Working Group on Food Security and Nutrition (TWG-FSN) at

the national level. The Council for Agriculture and Rural Development (CARD) facilitates and coordinates this group, which includes members from key line ministries.

The District Government is faced with limited financial and human resources. While there has been a gradual delegation of roles and responsibilities, this has not been accompanied by sufficient power and funding, which hinders effective work in fishery management, water governance, agricultural development, and natural resource management. In addition to connecting with PDOWRAMs, PDAFFs, FiACs, and other sectoral provincial departments, the District Government lacks technical working groups on Food Security and Nutrition (FSNs), resulting in no connection with the Provincial Technical Working Group on Food Security and Nutrition (PTWG-FSN). The establishment of the District Technical Working Group (DTWG) offers a valuable opportunity to bridge the gaps in the institutional structure and administrative mechanisms that have previously impeded collective action in addressing water management challenges in Beung Sneh and Beung Ream Lakes. By bringing together all relevant stakeholders from various sectors and administrative levels, the DTWG has created a new level of synergy, collective strength, and shared vision for managing these critical water bodies. This has been achieved through a deliberative and co-creative dialogue, uniting previously disconnected actors and promoting a collaborative approach to problem-solving.

The Commune Administrations and Village Chiefs play a vital role in tackling the challenges associated with Beung Sneh and Beung Ream. They empower villagers and their representatives to voice their concerns effectively to the District and Provincial Government, as well as to the relevant provincial departments. Moreover, local communities surrounding Beung Sneh and Beung Ream harness and manage water resources for fisheries and rice farming. With the collaborative support from the District, Commune, and Provincial Departments, these communities can enhance their involvement and significantly influence the governance of Beung Sneh and Beung Ream.

2.6 The Development of the Management Plans of Beung Sneh and Beung Ream

The identified and prioritized issues, along with the vision mapping, have been used to develop management plans for Beung Sneh and Beung Ream. To facilitate this process, the problem tree analysis tool was employed to assist the Technical Working Groups (TWGs) in defining the objectives, outcomes, outputs, and activities. Based on the proposed activities, budgets were prepared and estimated. As a result, two management plans have been created by the TWG members for Beung Sneh and Beung Ream.

The Management Plan for Beung Sneh has been developed by the Beung Sneh Technical Working Group (BS-TWG) in consultation with stakeholders and local communities from three districts: Ba Phnom, Peam Ro, and Svay Anthor in Prey Veng Province. The plan aims for the sustainable management of Beung Sneh Lake through an integrated and decentralized approach to governance concerning natural resources, water, fisheries, and land at the district level. This approach is intended to sustain the environment and improve the livelihoods of the communities surrounding the lake. The plan includes five main objectives and 21 key activities to be implemented over the next five years (2025-2029). These activities include protecting fisheries and deep pools, rehabilitating Beung Sneh Lake, enhancing the spill-over dike, planting flooded forests to provide habitats for fish and birds, protecting bird sanctuaries and multi-use areas, increasing fish productivity, improving agricultural and fishery management, and enhancing local livelihoods. To implement this plan, an estimated budget of approximately USD116,500 is required. Various stakeholders will be involved in the implementation process (WorldFish, 2024a):

- 1) Department of Agriculture Forestry and Fisheries
- 2) Department of Water Resources Management and Meteorology
- 3) Department of Environment
- 4) Department of Land Management, Urban Planning and Construction
- 5) Department of Labour and Vocational Training
- 6) Commune Administration
- 7) District Administration
- 8) Local Authorities
- 9) Local communities (AC, FWUC, CFi)
- 10) Fisheries Administration Cantonment
- 11) Partner NGOs
- 12) Private sector (water treatment station)
- 13) Community based Eco-tourism

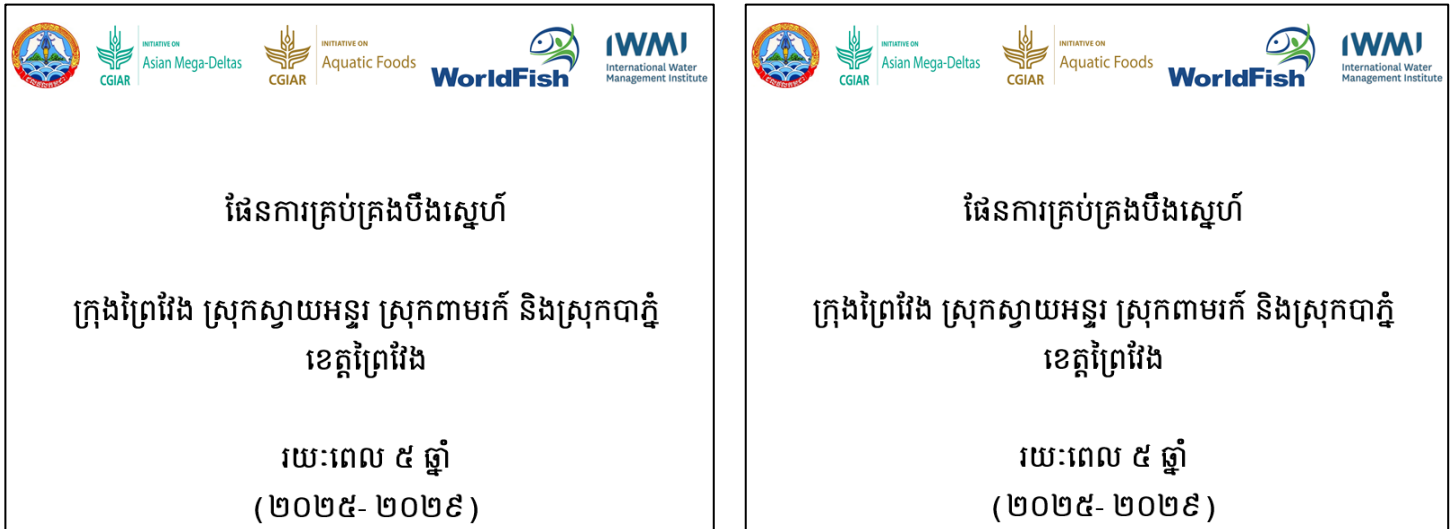


Figure 5. The development plans 2025-2029 for the Beung Sneh and Beung Ream

The Management Plan for Beung Ream (MPBR) has been developed by the members of the Beung Ream Technical Working Group (BR-TWG) in consultation with local communities and stakeholders in the Santuk District. This plan focuses exclusively on one district and outlines five main objectives. It details 38 activities aimed at achieving these objectives. Key activities include rehabilitating the Kakoh irrigation system, protecting the Beung Ream Community Forest Reserve (CFR), improving water management for the Beung Ream CFR, and preventing encroachments by farmers who pump water from the Beung Ream CFR for rice farming. Additionally, the plan emphasizes the implementation of farming calendars and water sharing between upstream and downstream areas, among other important initiatives. A budget of USD337,000 has been allocated for a five-year period (2025-2029) to carry out these activities, which will involve various stakeholders (WorldFish, 2024b):

- 1) Department of Agriculture Forestry and Fisheries
- 2) Department of Water Resources Management and Meteorology
- 3) Department of Environment
- 4) Department of Land Management, Urban Planning and Construction
- 5) Commune Administration
- 6) District Administration
- 7) Local Authorities
- 8) Local communities (FWUC, AC, CFR)
- 9) Fisheries Administration Cantonment
- 10) Partner NGOs

2.7 Provincial and National Dialogues

The DTWGs have prioritized the issues facing the Beung Sneh and Beung Ream. They also developed the visioning maps, and the management plans for the Beung Sneh and Beung Ream. They have presented these plans the District Governments and concerned stakeholders, including local communities.

The DTWGs presented the issues and the plans to address these issues in Beung Sneh and Beung Ream to the Provincial Governments of Prey Veng and Kampong Thom Provinces on 30 October 2024. The Provincial Dialogue was organized in Prey Veng Town and presided over by the Provincial Governor of Prey Veng. The Provincial Governments recognize the important roles of DTWGs and the involvement of District governments in addressing the issues and problems facing the Beung Sneh and Beung Ream.

The National Dialogue on “**Integrated Decentralized Food System Governance, Food Security, and Nutrition: Strategies for Improving Agri-Food Systems in the Cambodian Mekong Delta**” was organized by CARD on 26 November 2024 at the National Level and presided over by Dr. Ouk Rabun, Senior Minister and Chairman of CARD. The dialogue was interested in the pilots of the integrated decentralized food system at the District levels to manage the Beung

Sneh and Beung Ream. The piloted institutional framework for governance at the district levels in Beung Sneh and Beung Ream is an innovation worth investing in and expanding to other districts in Cambodia. This new proposed structure complements the CARD's TWGs at the district level. Also, it contributes to raising awareness of 3rd National Strategies on Food and Nutrition Security. However, CARD recognizes that the proposed structure could be assessed and scaled up to other districts in the future (Sithirith et al., 2024c).

3. Policy recommendations & conclusions

To improve the good system governance in the Beung Sneh and Beung Ream areas at the district level, it is essential to:

- 1) Adopt a **landscape approach** that encompasses integrated and centralized strategies, which involve the coordinated management of various resources, including water, fisheries, land, and agriculture. By creating a comprehensive plan that recognizes the interconnections among these elements, we can enhance the productivity of the ecosystem and its services. The improved landscape approach will not only boost food production within the local district levels but also extend its positive impact beyond administrative boundaries, promoting sustainability and resilience in the surrounding areas. Such integration allows for more efficient use of resources, addressing the needs of local communities while ensuring a healthy environment for future generations.
- 2) To effectively manage the Beung Sneh and Beung Ream water resources at the district level, it is essential to establish and strengthen an **integrated and decentralized institutional framework** that extends beyond district boundaries. The governance of water resources in these areas is influenced by various policies and institutional frameworks, including water law, fishery law, land law, and others. These frameworks designate several water user communities, such as Farmer Water User Communities (FWUCs), Community Fisheries (CFis/CFRs), and Agricultural Cooperatives (ACs), all of which play vital roles in the management of water and fishery resources. The Ministry of Water Resources and Meteorology (MOWRAM) is primarily responsible for managing irrigation systems, while the Ministry of Agriculture, Forestry, and Fisheries (MAFF) oversees agricultural practices. Although there are established policies, their implementation is often hindered by a lack of resources and capacity at the local level. For example, Community Fisheries (CFis) often face challenges due to limited funding and technical support, which undermines their ability to effectively manage fishery resources. Furthermore, commune administrations, which act as mediators, frequently lack the authority and knowledge required to resolve conflicts between FWUCs and CFis.
- 3) The integrated decentralized institutional frameworks and landscape approaches in the governance of the food system in Beung Sneh and Beung Ream shall promote **multi-stakeholder engagement** inclusively through active dialogue, planning, and the management from government agencies, community-based organizations (CFis, CFRs, FWUCs, CBETs), and local communities in both Beung Sneh Lake and Beung Ream CFR. This participatory approach will ensure that diverse perspectives are considered in water resource management decisions. The framework emphasizes the importance of dialogue and negotiation in addressing water governance challenges. Monthly meetings of BS-TWG and BR-TWG provide a platform for dialogue, enhance cooperation, and ensure that the voices of farmers and fishers are heard.
- 4) Link of the District TWGs (DTWGs) to the Provincial TWG-FSNs and National TWG-FSNs coordinated by the Provincial Governor at the provincial level and CARD at the national level. The DTWG shall assess the sufficiency of the current piloted structures at the district level, both technical and trial-based, and consider expanding it to other provinces or districts while addressing identified gaps. CARD could use the established piloted DTWGs in Beung Sneh and Beung Ream as a case study to inform the implementation of the *3rd National Strategy on Food Security and Nutrition (2024–2028)*. Mechanisms for experience-sharing and progress reporting should be enhanced at both national and provincial levels.
- 5) Capacity building is a critical component in enhancing the sustainability of water resource management, particularly for Farmer Water User Communities (FWUCs) and Community Fisheries (CFis) in the Beung Sneh Lake and Beung Ream Coastal Fisheries Reserve (CFR) areas. By investing in training and development, members of DTWGs and local communities can improve their ability to manage water resources effectively, resolve conflicts, and ensure the long-term viability of both agricultural and fishery resources:
 - a. Enhancing Technical Skills in Water Management
 - b. Conflict Resolution and Negotiation Skills
 - c. Financial Management and Resource Mobilization
 - d. Community Engagement and Participation
 - e. Monitoring and Evaluation.

- 6) Financial resource allocation is a cornerstone for an effective integrated decentralized governance at the district level, particularly natural resources, water, fishery, and land. In integrated water-land resource management (IW-LRM), establishing a transparent and equitable mechanism for allocating financial resources is essential for fostering collaboration across sectors and ensuring sustainable development at the district level. It could involve a dedicated fund from the national budget to finance the integrated decentralized food system governance at the district level. At the same time, with support from CARD, fundraising to support the integrated decentralized food system governance at the district level can be explored with development partners such as the EU, World Bank, ADB, and others.
- 7) The Management Plans for Beung Sneh and Beung Ream CFR (2025-2029) are participatory and designed to address the complex challenges of natural resource management in the areas surrounding the lake and its canal system and will be managed by the TWGs led by the District Government. It also mobilizes resources, financial and human, to support the District Governments in implementing these plans to improve the management of Beung Sneh and Beung Ream.

References

CASCIO, A. L., & Beilin, R. (2010). Of biodiversity and boundaries: a case study of community-based natural resource management practice in the Cardamom Mountains, Cambodia. *Environmental Conservation*, 37(3), 347-355.

Chanrith Ng. S. De Silva, Sithirith M., and Sao S. (2024). *Policy Brief: Toward an Integrated Approach to Food Security and Nutrition in Cambodia*. Cambodia Development Resource Institute: Phnom Penh, available online: <https://cgspace.cgiar.org/items/6425d9a9-2142-4efe-8fe1-5b594be5ad8f> .

Council for Agriculture and Rural Development (CARD). (2021). *The Draft 3rd National Strategy for Food Security and Nutrition*. Council of Ministers, Royal Government of Cambodia: Phnom Penh.

Council for Agriculture and Rural Development (CARD). (2019). *The 2nd National Strategy for Food Security and Nutrition (2019-2023)*. Council of Ministers, Royal Government of Cambodia: Phnom Penh.

EAC News. (2024). *Tri-Ministerial Meeting Focuses on Advancing Agricultural Communities and Sustainable Development*. EAC News, 20 December 2024. Available online: <https://eacnews.asia/home/details/32718>.

Khmer Times. (2024). *Three ministries will increase more cooperation to help improve people's lives*. Available online: <https://www.khmertimeskh.com/501484140/three-ministries-will-increase-more-cooperation-to-help-improve-peoples-lives/>.

Öjendal, J., Nong, M., Chanmony, S., Sidana, B. Z., & Chanrith, N. (2023). *The Political Economy of Land-water Resource Governance in the Context of Food Security in Cambodia*. Cambodia Development Resource Institute: Phnom Penh.

Sithirith, M., Sao, S., de Silva, S., Kong, H., Kongkroy, C., Thavrin, T., & Sarun, H. (2024a). Water Governance in the Cambodian Mekong Delta: The Nexus of Farmer Water User Communities (FWUCs), Community Fisheries (CFis), and Community Fish Refuges (CFRs) in the Context of Climate Change. *Water*, 16(2), 242.

Sithirith, M., Sao, S., De Silva, S., & Kong, H. (2024b). Food System Governance in the Cambodian Mekong Delta: Food Production, Food Security, Migration, and Indebtedness. *Water*, 16(14), 1942.

Sithirith, M., Sok, S., Sok, S., & Sockcheng, S. (2024c). *Integrated Decentralized Food System Governance, Food Security and Nutrition: Strategies for Improving Agri-food Systems in the Cambodian Mekong Delta*. WorldFish: Penang.

Sithirith, M. (2017). Water governance in Cambodia: From centralized water governance to farmer water user community. *Resources*, 6(3), 44.

WorldFish. (2024a). *Draft Management Plan of Beung Sneh*. WorldFish: Phnom Penh.

WorldFish. (2024b). *Draft Management Plan of Beung Ream*. WorldFish: Phnom Penh.

Authors

Ouch Mara, Mak Sithirith, Sanjiv De Silva, Sok Sao

Citation

This publication should be cited as: Mara O, Sithirith M, Silva SD, and Sao S. 2024. Integrated Decentralizes Food System Governance at the District Level in Cambodia. Penang, Malaysia: WorldFish. Policy Brief.

Acknowledgments

This policy brief is written by Mara Ouch, with inputs from Sanjiv De Silva from the International Water Management Institute, Mak Sithirith & Sok Sao from WorldFish Cambodia. This work was undertaken as part of the CGIAR Research Initiative on Resilient Aquatic Food Systems for Healthy People and Planet, and the CGIAR Research Initiative on Securing the food systems of Asian Mega-Deltas for climate and livelihood resilience Asian Mega Deltas. Funding support for this study was provided through CGIAR Initiative on Asian Mega-Deltas. This work was carried out with support from the CGIAR Asian Mega-Deltas (AMD) and Aquatic Foods (RAqFs) Initiatives. We would like to thank all funders who supported this research through their contributions to the CGIAR Trust Fund:

www.cgiar.org/funders.

Design and production

Sok Sao, WorldFish.

Photo credits

Front cover, Sok Sao/WorldFish.

CGIAR is a global research partnership for a food-secure future. CGIAR science is dedicated to transforming food, land, and water systems in a climate crisis. Its research is carried out by 13 CGIAR Centers/Alliances in close collaboration with hundreds of partners, including national and regional research institutes, civil society organizations, academia, development organizations and the private sector. www.cgiar.org.

To learn more about this Initiative, please visit <https://www.cgiar.org/initiative/asian-mega-deltas/>.

To learn more about this and other Initiatives in the CGIAR Research Portfolio, please visit www.cgiar.org/cgiar-portfolio

© 2024 CGIAR System Organization. Some rights reserved.

This work is licensed under a Creative Commons Attribution-Noncommercial 4.0 International License (CC BY-NC 4.0).

