COMMUNITY ACTION PLAN (CAP) TO CONSERVE NAUNG TAW AND NAUNG LOAM INNS AND SUPPORT ALTERNATE LIVELIHOODS IN MAING NAUNG

Community-based integrated management to conserve the Upper Chindwin Basin

Stockholm Environment Institute

UK DEFRA Project

Contents

Introduction

The Upper Chindwin River's Key Biodiversity Area (KBA) serves as a habitat for endangered species within the nation of Myanmar. The KBA encompasses Hkamti Township, which harbors 38 freshwater species that are currently facing threats. Among these species are the *Batagur trivittata* (Burmese Roofed Turtle) and *Puntius manipurensis, Schistura kangjupkhulensis, and Schistura reticulate*, all of which are classified as Critically Endangered or Endangered by the International Union for Conservation of Nature (IUCN) in 2017.

The town of Hkamti situated along the Chindwin River, is characterized by a number of tributaries and streams, thereby providing ample freshwater resources. The wetlands of this area hold significant value in terms of the resources and their contribution to the economic sustenance of the local population. These wetland ecosystems are highly productive and offer diverse habitats for a wide array of flora and fauna. The degradation of wetlands has been observed for several years, resulting from both natural and anthropogenic factors. Under anthropogenic pressure, the function and services of these ecosystems have deteriorated.

In order to address the current improper land and water management practices in the Naung Taw and Naung Loam inns and Maing Naung village, this practical action plan is being developed. In addition, community-driven initiatives have the potential to sustain current livelihoods in an environmentally responsible manner by the means of wetland conservation, rehabilitation, capacity-building and awareness-raising programs (CEPA). Based on the research conducted and expert deliberations, the favored approaches or actions include pisciculture, pig farming, provision of seed capital for rice and groundnut production, and financial support for land acquisition and tenure.

Purpose of CAP

The purpose of the Community Action Plans (CAP) is to ensure biodiversity conservation and integrated management of land and water in the region through sustainable and wise use of priority wetlands and ecosystem services. CAPs will identify priority actions to enhance livelihood opportunities, help community to pursue alternative livelihoods and lead conservation and monitoring of the wetlands and their ecosystem services on which their livelihoods depend.

The current project will empower the community by co-designing the CAPs and forming Village Working Committees (VWC) to lead implementation. The VWC will be key in implementing the identified actions to achieve the goal of ensuring wetland conservation and foster alternate livelihoods.

Goal and Objectives

The goal of the Community Action Plan for Maing Naung village, Naung Taw and Naung Loam inns thereof, is to “ensure the conservation of a wetland ecosystem that is abundant in biodiversity, sustains the provision of ecosystem services, fosters alternate livelihoods and to be scaling up the CAP model that was initiated to apply in the Nar Myitter village as a model” for community-based wetland management. Overall objectives for CAP are to:

Objective 1: To maintain healthy wetland habitats by conservation of key habitats and species

Objective 2: To reduce pressure on wetlands through provision of varied livelihood opportunities to communities of Maing Naung

Objective 3: To design a Communication, Education, Participation and Awareness programme (CEPA) to enhance communities' engagement and ownership in wetland management, monitoring and assessment.

Objective 4: To develop a community-based governance framework to ensure the effectiveness of the Community Action Plan of the Maing Naung village and two associated wetlands such as Naung Taw and Naung Loam.

Village and wetland profile

Maing Naung village is located at the downstream area of the Chindwin River. The distance between Hkamti Town and the village is about 19.07 km. The village is situated within the administrative boundaries of Linn Hpar village tract. It takes about 60 minutes to arrive at the village by car or motorbike from Hkamti town. In the wet season, it can be commuted by ferry motorboat along the waterway to the end of Homalin. Transportation is not a smooth way to commute from the town. People say that there were 90 inns surrounding the village in the past several years. The associated wetlands: Naung Taw and Naung Loam inns were selected for CAP implementation. Naung Taw inn is located at the northeast of the village and 30 minutes has taken to the inn by walking. Naung Loam inn is located at the southeast of the village and 60 mins has taken to the inn by walking. With respect to the number of households, there are 48 households and 150 Female, 156 male and 114 children under 16 years old can be observed. Ethnic groups of Buddhist, Shan, Burma, Naga and Rakhine can be found in the village. According to the results of the household survey, it was found that around 50% of the individuals possessed primary education and middle (38%), high (12%) respectively. The main livelihood is agriculture and livestock rearing for consumption and small-scale local trading.

The services on provisioning, regulating, and supporting from two wetland areas are provided to the community. Regarding the threats, mining, electric shock and fish poisoning were highlighted as significant threats, both as current and potential future threats. Fish stocks and diversity have declined despite claims that only traditional techniques (nets) are employed.

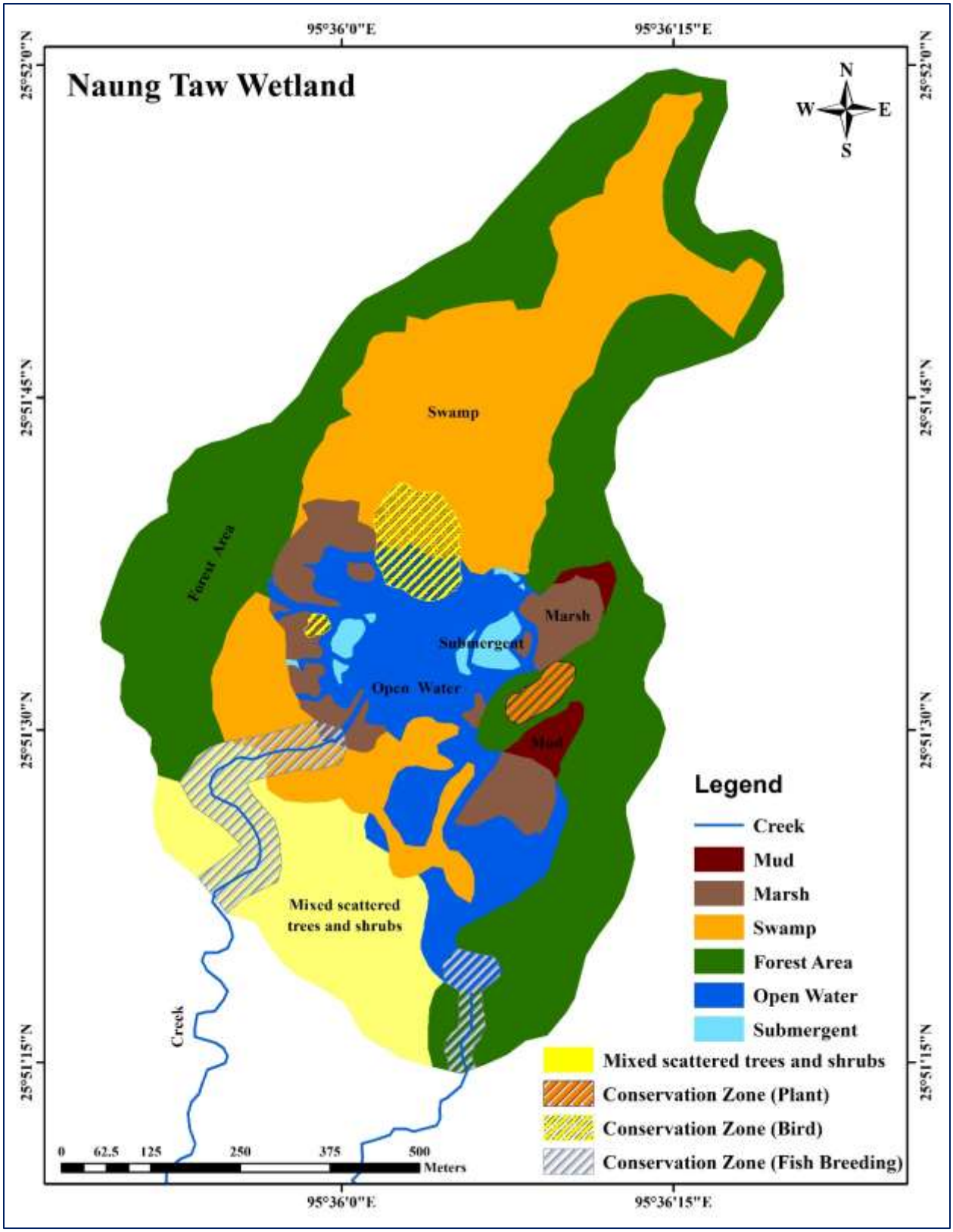
Two wetlands were selected to study in Maing Naung: Naung Taw and Naung Loam inn are dominated by secondary forest. They are permanent wetlands characterized as swamp fed by rainwater, hill streams and Chindwin River. Their outflows join the Loai Sai Nam creek and Maing Naung creek respectively feeding the Chindwin River. Naung Taw inn is located at 25° 51' 33.3" N and 95° 35' 58.7" E. Wetland area is 11.55 hectares with 2.6 meter in depth and altitude is 151 m amsl. Naung Loam inn is at 25° 50' 06.2" N and 95° 36' 43.1" E at an altitude of 153 m amsl. The wetland area is 4.0 hectares with 2.25 meter in depth. The same parameters of wetland physical and chemical components were evaluated at Naung Taw and Naung Loam. Maximum transparency was observed at Naung Loam wetland which had an average depth of 2.25. The lowest average values of nitrate level and phosphate level were (1.2 mg/l) and (0.16 mg/l) at Naung Taw inn.

Floral diversity

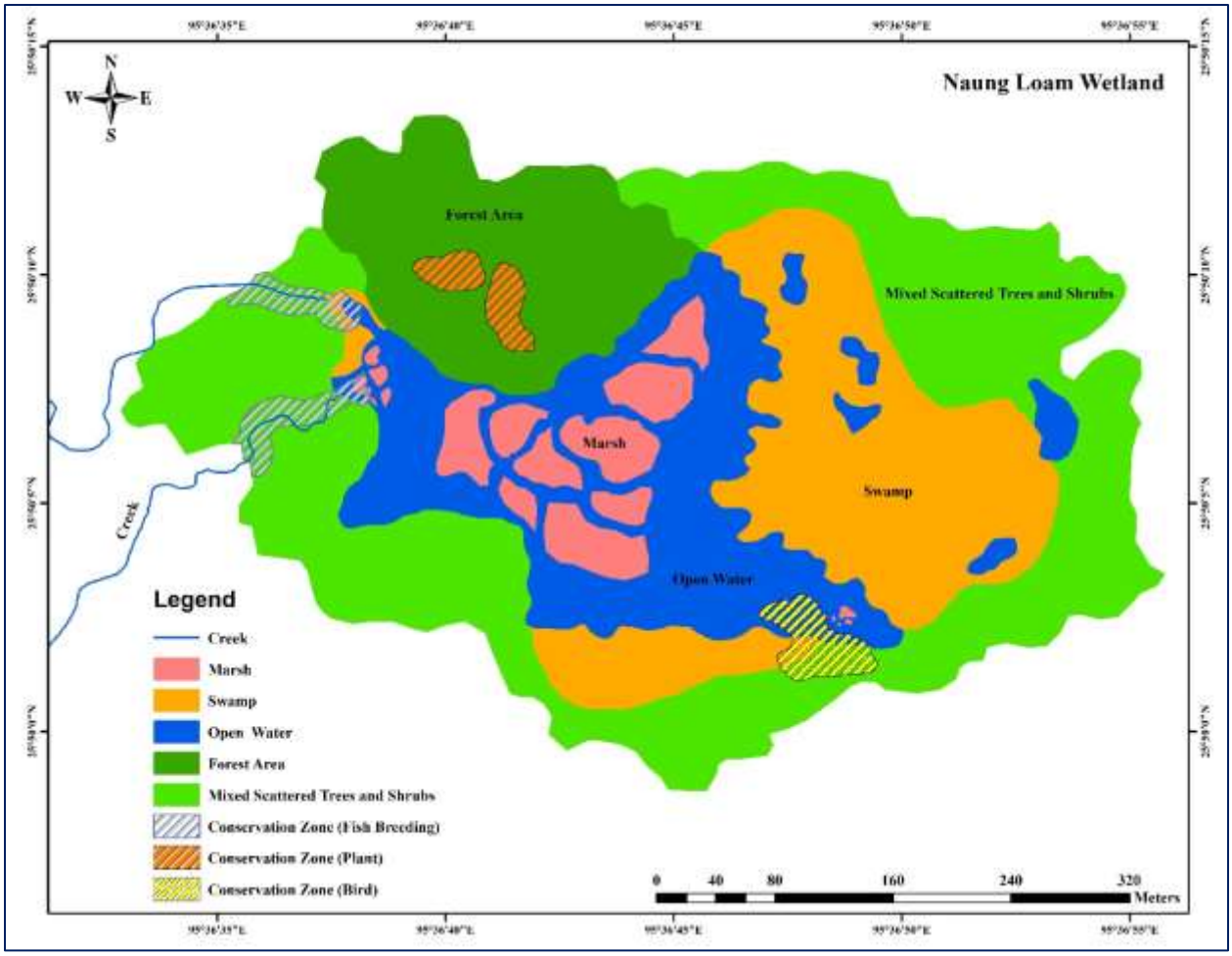
At the Naung Loam wetland, forty plant species were identified, three of which were aquatic, with *Lasia heterophylla (Roxb.) Schott* having special medicinal value. In the nearby forest, the endangered species Kanyin Ni (*Dipterocarpus turbinatus*) and Kanyin Phyu (*Dipterocarpus alatus*) were discovered. There are 49 plant species in the Naung Taw wetland, 12 of which are aquatic, such as *Ceratophyllum demersum, Potamogeton sp., Onoclea sensibilis, Dulichium arundinaceum, Dichanthelium clandestinum, Lemna aequinoctialis, Eichhornia crassipes*, and *Lasia heterophylla (Roxb.) Schott*.

Faunal Diversity

16 species were recorded at Naung Loam and Naung Taw wetland. Seven species of fish were common in both wetlands including *Notopterus notopterus, Puntius chola, Labeo rohita, Parambassis ranga, Ompok vimaculatus, Channa striatus* and *Wallago attu.* Of these, three species are of conservation significance of which two are near threatened (*Ompok bimaculatus* and *Ompok pabo*) and one is vulnerable (*Wallago attu*). Asiatic softshell turtle (*Amysda cartilaginea*), a vulnerable reptile species was recorded at Wetlar, Hman Pin, Naung Loam and Naung Taw wetland. Avifaunal species were observed, with 11, and 16 species recorded at Naung Loam, and Naung Taw, respectively. All recorded species were classified as species with the least conservation significance.



Map 1: Location of Naung Taw Inn/Wetland



Map 2: Location of Naung Loam Inn/Wetland

Threats to the wetland ecosystem

The Naung Taw and Naung Loam inns' ecosystem has been found to be impacted by various threats. Table 1 shows the types and levels of threats faced by Naung Taw and Naung Loam inns.

Table 1: Types and levels of threats to the Naung Taw and Naung Loam wetland ecosystem

Sr. No.	Conservation pressure	Types of threats	Level of Threat
Naung Taw and Naung Loam inns			
1	Mining	a significant threat, both as a current and potential future threat. The wetland will be potentially defined as a jade mining area nearby Naung Loam in the coming years (from FGD).	High
2	Fish stock and diversity	Employing illegal techniques such as fish poisoning and electric shock	High

3	Deforestation/ Land use change	Increased sedimentation due to forest clearance and extensive grazing in Naung taw inn (very close to the village)	High
4	Wetland area shrinkage (narrow)	A kind of weed (grass) and its multiplication cause small segmentation land area and narrow in open water area	Medium
5	Hydro-morphological	Land drainage, increased erosion, construction of embankments, conversion to agriculture	Medium
6	Nutrient Enrichment	Nutrient enriched inflows from agriculture and/or urban areas and/or seasonal enrichment during floods; weed (grass) and its multiplication cause small segmentation land area and narrow in open water area	Low
7	Biological	Loss of species, Increase spread of invasives, overexploitation of resources, Employing illegal techniques such as fish poisoning and electric shock	Medium
8	Mining	Heavy metals leaching affecting water quality and fisheries	Low
9	Climate change induced	Decreased water levels, inflows, flash floods, overexploitation of wetland ecosystem services	Medium

Approach for CAP formulation

The project began by conducting a rapid assessment of ten wetland habitats situated in the Upper Chindwin Basin. The primary objective of this evaluation was to determine the degree to which the local communities depend on the ecosystem services provided by these wetlands, as well as to identify the threats that these wetlands face. The prioritization of conservation efforts was determined based on the results obtained from the RVA, which indicated that five wetlands and four villages were identified as high priority areas. Focus group discussions were carried out in each of the villages to determine the management needs, assess community experiences and interests, and identify strategies for managing expectations. In the course of the discussion, committees comprising village members were established to spearhead and facilitate the implementation of the Community Action Plan (CAP) in each of the villages. Notably, the committees were constituted with the active involvement of both women and youth.

A baseline survey was conducted at four villages to gain an in-depth understanding of the socioeconomic characteristics and reliance on wetland resources for sustenance. Concurrent biodiversity and water quality assessments were carried out at five specifically chosen wetlands to ascertain suitable habitats and locations for the conservation of key species.

An expert meeting was held at the SEI Bangkok office with the participation of experts in hydrology, biodiversity, wetland, fisheries, livelihoods, agriculture, and forestry to identify crucial measures for attaining the management goal and objectives outlined in section 3, based on the aforementioned inputs. The discussions and formulation of the CAP for Maing Naung was guided by the Conservation of Biodiversity and Protected Area law of Myanmar, 2018, which advocates for the establishment of formal

mechanisms for Local community protected areas. In addition, an integrated landscape approach has been adopted to restore and maintain the ecological integrity of wetlands.

The CAP aims to develop a localized management system that prioritizes continuous learning, adaptive management, participatory and user-friendly monitoring, and enhanced stakeholder engagement. The objective of the Conservation Action Plan (CAP) is to effectively balance the competing demands of conservation and development, while also addressing the various challenges encountered by Naung Taw and Naung Loam inns.

This draft Community Action Plan will be presented to the Village Committee group for review and defining roles and responsibilities.

Community Action Plan

Activities to meet the four objectives have been clustered under three components: Sustainable livelihoods, wetland habitat conservation, and Communication, Education, Participation and Public Awareness (Refer Table 2).

Wetlands habitat conservation

Proactive management of wetland habitats is key to maintaining and enhance populations of species of high conservation significance including turtle and fish species dependent on Naung Taw and Naung Loam inns.

- Restrict unsustainable practices in wetland habitats critical for populations of endemic, threatened and vulnerable species
- Identification, demarcation and monitoring of conservation zones
- Demarcating wetland boundary to mitigate the impacts and restrict land conversion within wetland

Sustainable livelihoods

Providing alternate and sustainable livelihood options to the communities dependent on wetlands resources is key to managing the pressures resulting from extensive biological resource extraction from the wetland.

- Groundnut cultivation and pig farming will be promoted in the village area through project support to improve the village community's livelihoods.
- Financial support to land tenure and ownership

CEPA

Community and stakeholder engagement in wetlands conservation and management will be promoted through creating awareness on wetland biodiversity and ecosystem services values, management strategies adopted and opportunities for participation. Specific activities should be undertaken :

- To enhance community and government stakeholders' understanding of the significance and roles of wetlands, workshops and outreach initiatives will be organized. These endeavors will be facilitated in collaboration with Village Committees and the Environmental Conservation Department (ECD), whenever feasible.
- Additionally, bilingual signages in Myanmar and English will be installed in the wetland area to disseminate knowledge pertaining to wetland ecosystems, habitats, and species.

- Training workshops on issues such as wetland conservation and management, rehabilitation, sustainable agricultural practices, community forestry etc.
- Publication and Brochures – do's and don'ts for communities and visitors, wetlands factsheet, CAP summary

CAP implementation

The village committee is envisaged to maintain an overview of implementation and monitoring of activities identified in the community action plan. The committee will also review of other projects proposed for the region, convergence of some other schemes and action plans of some line departments including ECD and Township Administration in the future.

The committee will also foster and promote community engagement for wetlands conservation and management efforts. The Stockholm Environment Institute, Myanmar Environment Institute, and NSNO will provide leadership and support for capacity development through training workshops at various levels, such as township and village. These workshops will focus on specific topics as outlined in the aforementioned table.

The Village Committee, with the guidance of local CSO, NSNO, and MEI, will conduct a mid-term and end-term evaluation of the Action plan to determine the level of achievement of the identified objectives. The village committee may also collaborate with various departments such as the Township Administration Council, Environmental Conservation Department, Livestock Breeding and Veterinary Department, Department of Fisheries, Department of Agriculture, Department of Agriculture Land Management and Statics, Forest Department, among others, to establish a comprehensive management plan to ensure sustainability and offer long-term conservation.

Table 2: Action plan for conservation and management of Naung Taw and Naung Loam inns

Community Action Plan (CAP)	Priority	Responsibility	Starting Time (Season)	Time Frame	Estimated Budget (USD)	Link to wetland threats and supporting livelihood	Remark
a. Sustainable livelihoods							
Initial funding for groundnut sowing	High	Proposed farmers, Agri Expert, Village Working Committee	Winter season	5-6 months	620/acre	The farmers can reduce loan amount with high interest and benefit from a regular price when the product (oil) is available in a market. By implementing this kind of CAP, pressure and complete reliable activities on the wetland can be reduced such as harvesting of wetland resources, logging, fuel wood, fishing etc.	- The project is required to provide technical and financial support to the community initially. - The village working committee can manage the funding and provide the expenses with an agreement (accomplish to implement the activities with a well plan with signature). - The project needs to discuss clearly the benefit sharing and an agreement letter between the project and proposed farmers before starting the implementation activities. - The current price of every item for CAP (especially for fish
Pig farming	High	Community, Livestock Expert, Village Working Committee	Whole season	11-12 months	645 (one piglet for one household)	It can increase income generation and provide job opportunity for women. The threat of livestock farming and grazing can be reduced.	
Fish farming	Low	Proposed fish farmers, Fisheries Expert, Village Working Committee	Dry season (April-May)	220 days	4,500-5,000	The proposed fishermen are getting high incomes and knowing sustainable ways on how to manage fish farming because the project is supporting an Expert to implement activities. It can also reduce illegal fishing	

Community Action Plan (CAP)	Priority	Responsibility	Starting Time (Season)	Time Frame	Estimated Budget (USD)	Link to wetland threats and supporting livelihood	Remark
						methods (electric shock and poisoning), avoid killing aquatic resources and can decrease their interests on auctions (over exploitation).	farming) is very high in Hkamti because of transport limitations. - Availability of feed for poultry farming is limited because of transportation difficulty and high price consequently.
Poultry production	Low	Community, Expert, Village Working Committee	Whole season	Layer - 150 days Boiler – 45 days	740 (for 100 numbers of one-day old chick)	It can increase income and reduce the threats of livestock farming and grazing.	
Financial support to land tenure and ownership	Low	Community, Village Working Committee	Whole season		1200 (at least; depends on location and soil condition)	It increases number of land ownership and enhance agricultural activities with good income. Use of wetland resources (logging and deforestation, mining) can be reduced.	
b. Wetland conservation and rehabilitation							
- To develop local rules and regulation at village level for protecting sustainable wise use	High	Community, Local authority	Whole season	Within 30 days (depends on process)	100 (estimated amount for organizing meetings at village)	It can reduce illegal activities and wetland pressure. Fishing by other villages can also be prohibited.	- Coordination with multi-stakeholders level including relevant departments. - Discussions and agreement with the community and consult with the relevant departments (e.g, Forest department,
To define boundary line of wetland among the village and	High	Community, Local authority	Whole season	Within 30 days (depend on linkage and process by	100 (estimated amount	It can reduce small conflicts among the villages and reducing the illegal actions by other villages.	

Community Action Plan (CAP)	Priority	Responsibility	Starting Time (Season)	Time Frame	Estimated Budget (USD)	Link to wetland threats and supporting livelihood	Remark
village tract located nearby boundary areas				relevant departments)	depends on process)		Environmental Conservation). - Community has main responsibility to take actions.
Signage boards to indicate restoration zone, habitat conservation zone, non-illegal fishing zone around the wetland area	High	Community, Local authority	Whole season	2-3 days (for set up signage boards) Within 30 days for a process if relevant departments are needed to inform	100 (estimated amount for boards)	It can conserve the habitat areas for flora and fauna, protect sprawling ground for aquatic resources and sustain wetland health and wise use.	
Replanting and contribution of seedlings to community to grown in wetland area	High	Community, Local authority	June-July and October, 2024	2-3 days	300 (estimated cost for 100 seedlings)	It can promote good ecosystem, restore the wetland degradation, recovery natural habitat.	
c. Capacity building and awareness raising							
Wetlands conservation and management	High	MEI	July, 2023	3 days	1500 USD * 4 times = 6000 USD (estimated budget for four times trainings)	This is important to share on how to conserve wetland and resources for long term such as provide habitat for aquatic resources naturally. Basic understanding on wetland management and how to reduce the threats	- The project will be provided to build capacity, training, awareness programs. - The project is required to provide perdiem, meal, accommodation and

Community Action Plan (CAP)	Priority	Responsibility	Starting Time (Season)	Time Frame	Estimated Budget (USD)	Link to wetland threats and supporting livelihood	Remark
Biodiversity Conservation and Ecosystem Services	High	MEI	Feb-Mar, 2024	2 days		Basic understanding on general knowledge of biodiversity and ecosystem services and how to reduce the threats on biodiversity and their habitats	travel allowance to the participants. - For M&E, NSNO will check regularly on ground level and MEI and SEI team can join in favorable time.
Fish farming and aquaculture	High	Fisheries Expert	September, 2023	1 day		Basic knowledge of fish farming and aquaculture production, income generation by fish farming.	
Management of Fisheries resource	High	Fisheries Expert	September, 2023	1 day		This is important for sharing knowledge because of illegal fishing. More understanding on fisheries management and catching methods with sustainable ways.	
Fish processing and associated value chain	High	Fisheries Expert	September, 2023	1 day		Supporting livelihood options and enhance employment opportunity for women	
Sustainable agriculture and soil management practices	High	Agri-Expert	October-November, 2024	1-2 days		Basic practices of knowledge from land preparation to harvesting steps and soil management to get more productivity and increase incomes	

Community Action Plan (CAP)	Priority	Responsibility	Starting Time (Season)	Time Frame	Estimated Budget (USD)	Link to wetland threats and supporting livelihood	Remark
Community forestry and Agro-Forestry	High	Forestry Expert	October-November, 2024	1 day		More understanding on the importance of forests, good governance, forest management	
MEL	High	SEI, MEI	Feb-Mar/ June-July, 2024	2 days		Methods of monitoring and evaluation to evaluate the progress	
Financial management	High	SEI, MEI	Feb-Mar/ June-July, 2024	2 days		Basic understanding on budgeting, accounting and reporting	

Monitoring, Evaluation and Learning

This section of the CAP proposes a monitoring framework for Naung Taw and Naung Loam inns to ensure its management and biodiversity conservation. The following are a few key objectives for establishing a monitoring plan.

- Establishing a baseline to map changes in ecosystem structure and function
- Generating information on wetland status and drivers of change
- Identifying and prioritizing risks to wetland ecosystem and developing strategies to mitigate risks
- Assessing effectiveness of wetland conservation and management

Table 3 lists the key parameters that must be monitored from the beginning of implementation of CAP till the end along with the priority and frequency of monitoring.

Table 3: Monitoring parameters, proposed frequency and priority

Scale	Parameter	Frequency	Priority
Wetland	Wetland area	Beginning and End of CAP implementation	High
	Water level	Seasonal	High
	Water quality trends	Seasonal	High
	Type and extent of wetland habitats	Beginning and End of CAP implementation	High
	Floral diversity	Seasonal	Medium
	Faunal Diversity	Seasonal	High
	Perception of wetland values	Beginning and End of CAP implementation	High
	No of graziers dependent on wetland	Beginning and End of CAP implementation	High
	No. of direct beneficiaries Fisheries Timber Fuelwood Other Wetland resources	Seasonal	High
Wetland Catchment	Inflows and outflows	Beginning and End of CAP implementation	High
	Land use land cover change	Beginning and End of CAP implementation	High

The CAP needs to be periodically assessed based on these parameters to make sure that the set objectives are being achieved. The effectiveness of CAP towards achieving objectives can be enhanced if it focuses on following questions:

- What is the current status of Naung Taw and Naung Loam inns?
- Is the management ensuring the conservation of Naung Taw and Naung Loam inns?
- What threats have been mitigated and are any future threats identified?
- Are adequate resources available for achieving objectives?
- What additional steps can ensure effectiveness?

Periodic reports must be developed by the Village working committee with support from NSNO providing summary of the outcomes of monitoring in Myanmar language which can later be translated to English by SEI colleagues. This report should also detail out the information based on questions framed above.