PLAN VIVO PROJECT IDEA NOTE

Community-Centred Mangrove Restoration and Conservation in the Ayeyarwady Delta, Myanmar

Version 1.2
20 May, 2025

Developed by:

Andaman Capital Partners. (ACP)

Overview

This PIN describes two project components: a community-centred restoration project of 324 hectares where the first project phase of replanting has already been completed, and an outline plan for a protection project for 2300 hectares whose implementation timing is uncertain. The **Restore** project was planned and implemented with 13 partner community groups in 2023/24, following PV principles and approaches. The additional community engagement to be undertaken before PDD submission is described in this PIN. The **Protect** component requires more development, to be undertaken when regulatory approval is obtained. This PIN outlines ACP's envisaged approaches, aligning with PV values and project requirements, but does not include projected carbon benefits.

Project Title:	Community-Centred Mangrove Restoration and Conservation in Myanmar
Location:	Ayeyarwady Region, Myanmar.
Project Coordinator:	Gill Pattison – Director, Andaman Capital Partners (ACP), Project Coordinator (PC) Gpattison@andamancapitalpartners.com Phone and WhatsApp: +959 250141915
Project Area:	Approximately 2,624 hectares initially[1]. This total has two components: 324 ha for restoration (already planted in 2023 and 2024) and 2,300 ha for protection. There is further expansion potential. The 2,300 ha for protection represents an estimate of the total forested mangrove area under the Project Participants' management in their respective designated Community Forest areas, excluding the 324 ha degraded areas identified for restoration. (Refer Map in Annex 1).
Project Participants:	The Project Participants are 13 Community Forest User Groups (CFUGs), legal entities established to provide greater local participation in sustainable stewardship of Myanmar's forest areas -- including mangroves. Under a formal agreement with the Myanmar Government's Forest Department (FD), CFUGs are granted long-term rights to occupy designated forest land and to generate commercial benefits in return for responsible resource management plans. The 13 CFUGs comprise 662 CFUG households, with an average of 4.6 people/household, amounting to about 3,045 individuals[2]. Taking account of the total village population where the CFUGs are located, there is an additional 1,700 households and an estimated 7,820 individuals who benefit from a local mangrove project.
Project Intervention(s):	Healthy and sustainable mangrove forests and ecosystems provide essential climate and economic resiliency for vulnerable communities in the face of climate change. The project will include both afforestation/restoration and protection activities, referred to in this application as "Restore" and "Protect" project interventions, implemented on

[1] Total: About 2,700 ha. Calculated as 324 ha (already restored) + 75% of remaining CFUG ha (2,350) in 13 CFUGs. Total mangrove area is estimated at an average 75% of the total CFUG area, to allow for village areas, home gardens and other small scale agriculture

[2] Average number of people/household = 4.6 Source:. Republic of the Union of Myanmar Inter-censal Survey 2019 .Link

<table>
<tr><td></td><td>separate tracts of land within 13 remote CFUGs, in Pyapon District of the Lower Ayeyarwady Delta.

Intervention 1: Restoration of degraded mangrove lands - 324 ha completed 2023/24.

Planning the restoration work, the CFUGs and the PC identified severely degraded mangrove areas suitable for replanting. The project restored some of these areas with enrichment planting over the two-year program, leaving the few existing trees untouched. Experience has been positive, with productive community engagement, project employment and a strong commitment from the CFUGs to protect this resource. Mangrove replanting projects meet with CFUG's enthusiastic support as project funding helps the CFUGs meet their planting obligations under their Community Forest Management Plans.

Intervention 2: Protection of existing mangrove forests - 2,300 ha - not yet implemented

Although the prospect of earnings from mangrove-generated carbon credits motivates communities to conserve this resource, there are still some drivers of deforestation which the project will address. Whilst Myanmar is committed to reducing deforestation nationally, since the military coup, the authorities have not yet advanced the plans for a legal framework for carbon projects focused on forest conservation.</td></tr>
<tr><td>Expected Benefits:</td><td>Healthy mangrove forests provide a range of positive environmental and social impacts for the planet and coastal communities, including protecting coastal communities and ecosystems from flooding and storm surges; reducing coastal erosion; creating vital habitats for aquatic life (which in turn improves fish stocks, local food value chains, livelihoods and biodiversity); and efficiently storing carbon – mitigating global warming.

<table>
<tr><td>Mitigation….
reduced GHG emissions</td><td>⇒ Mangrove restoration contributes to carbon removals and storage through plant growth and soil carbon accumulation
⇒ Estimated 144,266 tCO2e sequestered by restored trees over 20-year project period
⇒ Mitigation potential of mangrove conservation to be estimated once the Plan Vivo Climate Blue Carbon methodology is published.</td></tr>
<tr><td>Adaptation….
to climate change</td><td>⇒ Fast-growing mangrove trees quickly increase the physical protection to communities and infrastructure during severe storms
⇒ With increased mangrove forest habitat and more diversified incomes, communities are less sensitive to future climate-related shocks.</td></tr>
<tr><td>Improved community resilience</td><td>⇒ Increased short-term and longer-term incomes from project employment and carbon revenues respectively will boost local economic development
⇒ Restoration of aquatic habitats will improve fisheries, income generation potential and fishers' productivity</td></tr>
</table>
</td></tr>
<tr><td>Methodology:</td><td>New Plan Vivo Climate Blue Carbon methodology to be released this year.</td></tr>
<tr><td>PIN Version:</td><td>PIN version 1.2</td></tr>
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Date Approved:	25th August 2025

1 General Information

1.1 Project Interventions

As part of a pilot mangrove restoration initiative, 342 ha of mangroves were replanted in degraded tidal wetland areas in 2023 and 2024. Carbon finance from the sale of PVCs will support the continued protection of these mangroves, enabling the area to be rehabilitated into the healthy mangrove forest it was until the area was deforested over the past two decades. Although specific plans for further restoration work will depend on the flow of carbon finance, the pilot interventions implemented in 2023 and 2024 has provided experience that will inform any future restoration activities. Additional community engagement that will take place prior to PDD submission to further develop the longer-term aspects of the project, including livelihood enhancement measures, will likewise form part of the restoration model for any future expansion.

Planning for the Protect project is completely forward looking. However, involving the same communities as the Restore project means there is already a strong foundation for further community collaboration and participatory approaches.

Table 1.1 – Project Interventions

Intervention Type	Project Interventions	Expected Benefits
Restoration (1) **Total: 324 ha restored 2023/2024**	**Replanted 324 ha degraded mangrove areas in 2023 and 2024, working in partnership with 13 communities**. Key components of this activity: 1. Establishment of nursery for mangrove plant seedlings 2. Planting site preparation by community workers, leaving existing trees standing. 3. Employing community workers, planted saplings at a density of approx. 2,000/ha. 4. Employing community workers, weeding and replacing dead seedlings for one-year post-planting. 5. Building capacity in communities for monitoring tree growth and conducting inventory assessment. 6. Assisting communities to establish patrolling regimes, providing boats and mobile phones with GPS tracking software, and funding community patrolling teams for the newly planted mangroves.	**Climate change mitigation:** - GHG emissions reductions of 144,266 tCO2e removed over 20-year project period[3] **Livelihoods benefits** - Expanded aquatic habitat, improves fisheries and incomes of fishers. - Project employment and income: the 2024 restoration program provided 9,320 person/days of work for 444 people, paying workers MMK 92 mn (USD43,800)[4]. - Project provided paid patrolling employment after planting for one year. - Carbon credit revenues of estimated at US4.5-5.0 mn[5] to 13 communities over 20 years. - Support to crab farmers in 2-4 CFUGs, boosting income for an estimated 100 crab farmer families, (450 people).

[3] Ex ante carbon removal estimates for the Restore project provided by Ms Leah Glass of Silvestrum Climate Associates.
[4] ACP Labour Analysis - mangrove restoration program in 8 CFUGS 2024.
[5] Estimate based on key assumptions related to carbon sequestration rates, carbon credit market prices (stable price of $40 through 20 years. May be conservative)), Plan Vivo Certificates required for buffer (20%). Financial model assumes 60% of revenues provided to participating communities.

	7. Piloting Revolving Fund loans in 2 CFUGs to support low intensity crab farming within mangrove areas which could be replicated in other CFUGs in the future for livelihood improvement and local economy development. Communities will have the potential to use some of the carbon credit revenue to seed a Guarantee for a micro-finance institution (MFI) to sustainable provide loan capital to communities.	**Ecosystem benefits** - Thriving mangrove forests protect vulnerable coastal areas from intense storms and flooding. - Improved biodiversity and habitats for native and migratory species. Critically endangered species such as the Ayeyarwady saltwater crocodiles (Crocodylus porosus) may increase in numbers.
Protection (2) **2026-on** **Total planned: 2300 ha**	**Planned project interventions to avoid deforestation and conserve existing mangrove resources**. Historically, the main causes of deforestation in the Ayeyarwady Delta have been (1) large scale conversion of mangroves to rice paddy, (2) shrimp and fish farming, (3) overexploitation for fuelwood, charcoal and timber. In the project area, conversion for agriculture and aquaculture and extraction for charcoal has eased in recent years, but unsustainable harvesting for fuelwood and illegal cutting of timber for construction still occurs. The below interventions address these main drivers: 1. Capacity building to increase community knowledge and capabilities in natural resource management and mangrove stewardship, in parallel boosting commitment to mangrove conservation 2. Establishing monitoring and patrolling protocols with each community - during both project-funded periods and later when communities take over this responsibility. 3. Providing boats and mobile phones with GPS tracking software (see point 6 under Restoration). 4. Boundary demarcation and signs to remind anyone entering to adhere to the regulations within the Community Forest. 5. Working with the communities on the best measures to preserve their mangroves, including establish	**Climate change mitigation** - Carbon sequestration benefits will be substantial, and calculated once the PV Climate Blue Carbon methodology is published. - Reduce annual rate of deforestation in protected areas from the current 1.87%[6] to 0.5%. **Livelihood benefits** - Carbon credit revenues from avoided GHG emissions to 13 communities over 20 years. - Expanded aquatic habitat, improves fisheries and incomes of fishers - Community woodlots will mitigate potential income losses from the small proportion of the population who derive income from selling extracted timber. **Ecosystem benefits** - Improved biodiversity and habitats for native and migratory species. Critically endangered species such as the Ayeyarwady saltwater crocodiles Crocodylus porosus may increase in numbers.

[6] ACP Analysis: Annual mangrove cover loss 2014-2024 Ayeyarwady Region, Myanmar. Sources: Imagery from Landsat-8 (2014-2024) and Sentinel 2 (2017-2024).

	community woodlots for fuelwood needs. 6. Assisting CFUGs revise and develop their Community Forest Management Plans. These plans are the blueprint for CFUGs sustainable management of their mangrove forests. The PC's staff is worked with each community to ensure the 5-year MP reflects the wishes and agreements of the community for managing their mangrove resources, unambiguously documenting the community's rights to payment for ecosystems services including carbon credit revenues; and equitable benefit sharing between community members	

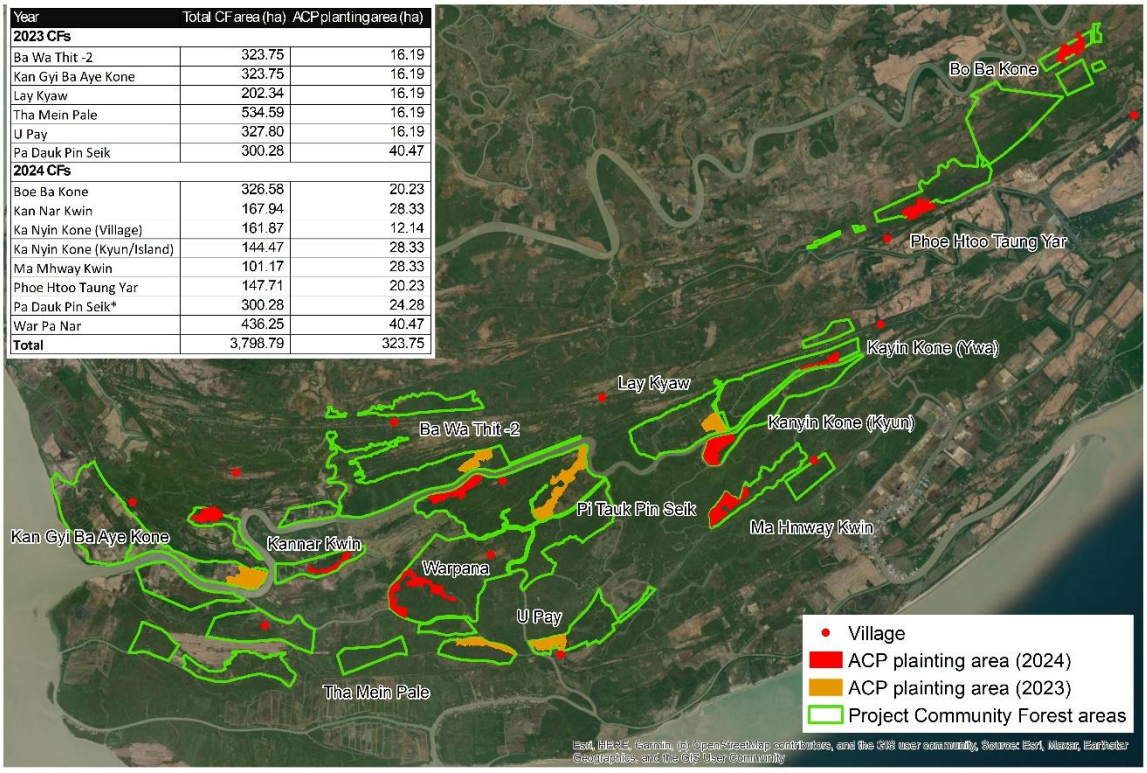
1.2 Project Boundaries

Table 1.2 Project Boundaries

Location:	Pyapon District, Ayeyarwady Region, Myanmar Refer maps below and reproduced in Annex 1
Project Region(s):	Ayeyarwady Region - Total area: 3,513,800 ha 1. Restoration - Existing 2023 and 2024: 324 ha. 2. Protection - Planned - 2300 ha
Project Area(s):	13 Community Forests within Pyapon District. Note: The "Restoration" area is a relatively small area within the CFUG, and has not been counted in the "Protection" area 1. Restoration - Existing 2023 and 2024: 324 ha 2. Protection - Planned - 2300 ha
Protected Areas:	The project area is within the Pindaye Reserve Forest. Regulations pertinent to reserved forests provide only weak protection, with a long history of deforestation in these areas and erratic enforcement of regulations, particularly after the military takeover in 2021.

ACP planting area in Pyapon (2023 and 2024)

Year	Total CF area (ha)	ACP planting area (ha)
2023 CFs		
Ba Wa Thit -2	323.75	16.19
Kan Gyi Ba Aye Kone	323.75	16.19
Lay Kyaw	202.34	16.19
Tha Mein Pale	534.59	16.19
U Pay	327.80	16.19
Pa Dauk Pin Seik	300.28	40.47
2024 CFs		
Boe Ba Kone	326.58	20.23
Kan Nar Kwin	167.94	28.33
Ka Nyin Kone (Village)	161.87	12.14
Ka Nyin Kone (Kyun/Island)	144.47	28.33
Ma Mhway Kwin	101.17	28.33
Phoe Htoo Taung Yar	147.71	20.23
Pa Dauk Pin Seik*	300.28	24.28
War Pa Nar	436.25	40.47
Total	3,798.79	323.75



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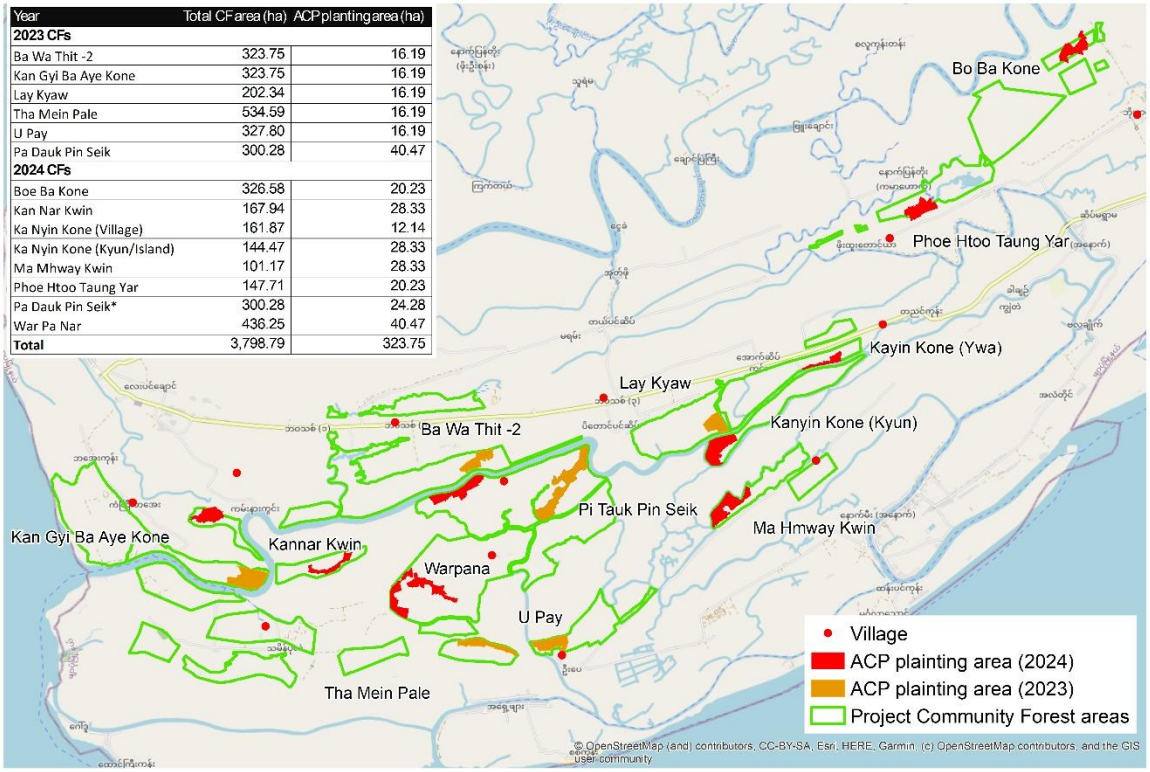
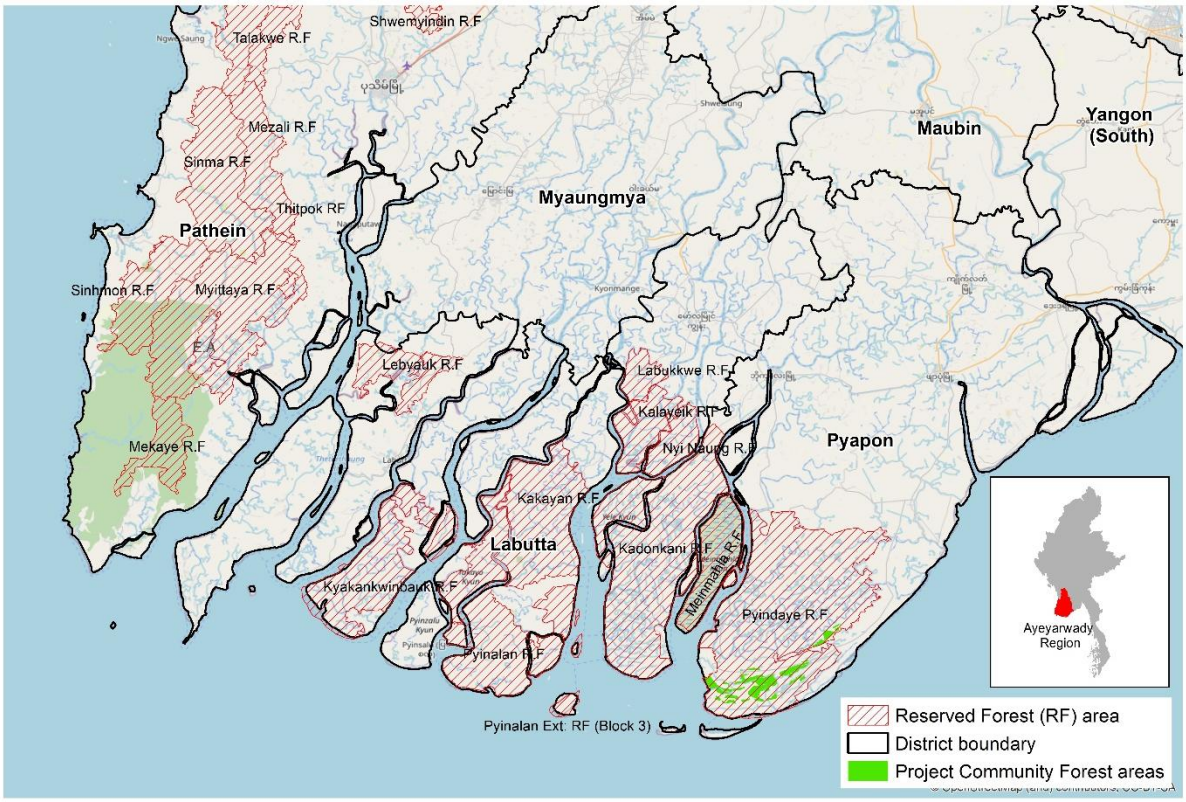


Geo-spatial files are available here.

1.3 Land and Carbon Rights

Whilst the project area is located within the Pyindaye Reserved Forest, this is not "protected" land in the sense of being land zoned and managed by a central and/or subnational entity and specifically designated as a nature park.

Project sites within Pyindaye Reserved Forest in Pyapon Township, Ayeyarwady Region



Reserved Forests (RFs) are a legal classification for forests under Myanmar's Forest Law (2018) and the earlier Forest Act (1902, revised in 1992). RFs are managed and controlled by the Forest Department under the Ministry of Natural Resources and Environmental Conservation (MoNREC) and are designated for conservation (protection of forests and biodiversity), sustainable use (commercial timber production, local supply, and ecosystem services), and ecosystem protection (watershed protection, carbon sequestration, and habitat protection).

However, like many other RFs in the Ayeyarwady Region, the Pyindaye Reserved Forest has undergone extensive mangrove deforestation and degradation over the past several decades, driven by agricultural encroachment, aquaculture expansion, and infrastructure development. This highlights the ineffectiveness of its protected status. Despite several conservation and restoration efforts –including FREDA's mangrove restoration projects (1990-present), UN-REDD technical assistance (2021-2023), and community-led reforestation initiatives by World View International Foundation (WIF) and Myanmar Environment Rehabilitation-conservation Network (MERN) – mangrove loss and degradation within the Pyindaye RF continue. Weak law enforcement and policy gaps further exacerbate these challenges, hindering long-term recovery and sustainability. Additionally, the devastation caused by Cyclone Nargis in 2008 severely disrupted the ecological stability of mangrove ecosystems, further delaying restoration efforts.

The project's design is based on the PC entering partnerships with participating CFUGs, who have legal title to their lands under long-term (30 year) lease agreements (renewable) with the Myanmar Government Forest Department (FD). Once the CFUG is established, it obtains its Community Forest Certificate[7] , essentially its licence to operate and a record of members. The objective of the CFUG structure, as set out in the Community Forestry Law of 2016[8], up-dated to the Community Forest Instruction in 2019[9], is to incentivise the communities living in and around these forests to protect and restore the forests (including mangroves) in their areas by granting them land tenure and the rights to income derived from this land.

However, without investment, the CFUGs have largely been unable to fulfil this mandate, nor generate significant earnings from forest-based enterprises. Neither the Community Forestry Law, nor the Community Forestry Instruction 2019 (CFI) provide any specific legal framework -- beyond the general rights to benefits from Community Forest lands -- for the regulation of carbon rights. FD officials indicate their acceptance of the principle that carbon rights are included in the CFI's umbrella definition of "benefits" by advising the PC and participating CFUGs to specify the carbon project in their Management Plans.

CFUG activities are implemented through a 5-yearly Management Plan in accordance with the CFI. The PC has worked closely with partner CFUGs and under the guidance of working level FD officials, as they revise their Management Plans to explicitly document the CFUG's ownership of carbon resources, and the associated rights to PES[10]. A typical CFUG Management Plan with the relevant sections highlighted can be viewed in the link in the footnote.

For both the 2023 and 2024 restoration planting programmes, FD gave their approval for the PC and FREDA to perform enrichment planting on 120 ha and 200 ha respectively, in line with the CFUG Management Plans.[11]

At this time, there is no explicit process for FD approval for "protect" projects, but we are aiming for constructive dialogue with FD staff at the lower levels to pave the way for the time when stability returns and meaningful engagement with senior forestry leaders is possible again.

2 Stakeholder Engagement

2.1 Stakeholder Identification

Local (and primary) stakeholder groups:

CFUG members - landowners and non-landowners. Most of the land in the restoration areas in the 13 CFUGs is owned by 64 individuals (222 ha or 70% of the PC's planting area). The PC's baseline surveys of CFUG members' socio-economic status indicates low levels of income across the board. This is unsurprising given that villagers joined CFUGs at the outset because they were poor - often

[7] Community Forest Certificate template - English translation Link
[8] Up-dated in 2019 with the Community Forest Instruction (CFI).
[9] Community Forestry Instruction 2019 - Burmese with English Translation Link
[10] An example of one of the CFUG Management Plans with pertinent sections referring to carbon project highlighted in yellow and translated can be viewed here This wording is typical of the other CFUG Management Plans.
[11] FD letters of approval for ACP planting 2023 (2 letters) and 2024 (1 letter) attached in Annex 5 and can be viewed here and here

landless - and the mangrove land provides few economic opportunities apart from subsistence farming and fishing. In our ongoing community consultation, we will confirm that the 64 individual land rights' owners are not significantly more prosperous than other CFUG members.

The remainder (98 ha or 30%) is owned collectively by all 662 CFUG members. The proportion collectively owned varies between CFUGs. The PC works with each CFUG to understand the dynamic and to encourage the community to adopt fair and equitable benefit sharing principles between CFUG members (land owners and non-land owners) and non-CFUG members living in the nearby village and having access to the CF mangrove forest. The expectation among CFUGs is that the landowners will be granted a substantial majority of carbon credit revenues, as this is the practise for other non-wood forest products in Community Forest Enterprises included in the CF Management Plan. To ensure that the rest of the community also benefits, ACP will advocate that a meaningful level of funds is allocated for community development activities, for example, provision of village infrastructure like wells, footpaths, bridges etc. ACP will put forward a rationale that carbon revenues for Restore projects have been enabled by external funding rather than the landowners' own resources, indicating that a more equitable benefit sharing arrangements are appropriate. There is typically strong social capital in Myanmar villages, and this, combined with ACP's clear expectation that the whole community should benefit from the carbon project, should result in fair and equitable arrangements which will be described in the PDD.

Population in the Ayeyarwady Region do not meet PV Climate definition of " Indigenous Peoples". Myanmar has a plethora of ethnic groups, with Bamar the dominant group representing about 68% of the total, with Karen people representing about 7% (Source: 2014 Census). The latter mostly live in Kayin State where they represent some 69% of that State's total population. According to the 2014 Census, in Ayeyarwady Region Bamar form the large majority 4,873,027 (76.98%) , with Karen almost all of the remainder 1,426,973 (22.5%). Many Karen immigrated to the Delta area during colonial times, once it had been extensively drained and became suitable for agriculture. Given these facts, and no mention of indigenous peoples during community engagement, the PC concludes that the population of the project areas do not meet PV Climate's definition of Indigenous Peoples. However, the project area does include individuals or groups with statutory or customary rights to land or resources within the Project Area(s).

Non-CFUG members residing in/near the project area. Not all the people in the community are CFUG members. The 13 communities in the 2023/24 program total 2,340 households, of which 662 or 28% are CFUG members. Buy-in to the CFUG conservation plans and policies by non-CFUG members is crucial for conserving community mangrove forests. Careful consideration is being given to how non-CFUG members can benefit from the project, when they may not receive carbon revenues directly and may have to change their current harvesting practices. Benefits may include:

- a portion of the carbon revenues earned by CFUGs (to be set by each group) will be allocated to a Village Fund which can finance village infrastructure or other local projects.
- project employment opportunities
- participation in other livelihood support initiatives.
- rights to take wood for personal use from the community woodlots and participate in natural resource management training provided to communities.

Secondary stakeholders

Myanmar Forestry Department

While the military coup in 2021 enfeebled the Myanmar civil service, FD is still operational at the Central (Headquarters), Regional/State, District and Township levels, albeit with less motivation and capacity to enforce FD regulations and implement new initiatives. Potential project impacts as follows:

Central level (Headquarters).

Located in Naypyidaw, the Forest Department Headquarters operates under MoNREC. It formulates policies, strategies, and national-level programs for forest management, conservation, and forest law enforcement. There is some understanding of carbon credit projects within the Ministry of the Union government because Myanmar hosts one of the longest-established and largest mangrove projects in the world, managed by Worldview International Foundation (WIF). This project was set up as a joint venture between WIF and the Myanmar government more than 10 years ago to restore degraded mangrove areas, supporting community livelihoods and, in more recent years, selling carbon credits certified under the Verified Carbon Standard.

At present, WIF's carbon credit projects are primarily managed at the national level by MoNREC.

The PC, adopting a different model, working directly with CFUGs, has been transparent with FD about its intention to seek carbon project certification and sharing revenues from the future sale of carbon credits. FD's stance has been that mangrove restoration schemes may be undertaken, provided FD approval is given for the specific planting programs in each CFUG.

Going forward, when political stability returns, we expect the Myanmar government to create a regulatory framework which allows the government to take a standard percentage of the carbon credit revenue. We judge this is some time away. In the interim, the government may seek a resource fee negotiated on a project-by-project basis, although to date the subject has not been broached by FD with ACP.

Regional level

The Regional level is managed by a Director, and responsible for forest management and protection, development of forest management plans, monitors forest resources and enforces national and regional laws. It also works with local communities to implement community-based forest management (CBFM) initiatives and collaborate with International Organizations to support carbon sequestration initiatives.

District and township levels

The district level is managed by an Assistant Director (AD), and supervises conservation, law enforcement, and community forestry programs. It can approve and monitor community forestry (CF) areas and private forest plantations.

Led by a Staff Officer (SO), Township level handles field-level implementation, forest management, and local enforcement. It also engages with CFUGs, private companies, NGOs, and international organizations working on forest restoration initiatives and supports capacity-building initiatives related to community forestry.

Regional, District and Township levels of FD are not directly involved with carbon credit certification, but they play a role in facilitating carbon credit projects as community forest (CF) areas and private forest plantations under their management can be eligible for carbon credit projects.

The Township and District levels of the FD need to approve CFUG Management Plans, and we have worked carefully with the hierarchy to ensure all are in the loop and comfortable with the planting activities and the principle that the CFUGs have the rights go the carbon resources of their land. The PC is currently assisting the CFUG Management Committees to revise their plans to identify the areas restored and document they are allocated for a single carbon project. This is a time-consuming exercise, but will provide a strong foundation for future community engagement and cooperation with the FD.

Engagement with Forest Department.

The PC and its planting partner FREDA have had continual engagement with relevant Forestry Department officials at the regional, district and township levels, from project inception through to planning and implementation, communication and consultation.

Other development organisations active in mangrove conservation and restoration.

Forest Resource Environment Development and Conservation Association (FREDA), one of Myanmar's foremost experts on mangrove planting and restoration, the PC contracted with FREDA in 2022, and have worked closely with this organisation for the last three years. FREDA management and staff are strong proponents for mangrove restoration projects, and have themselves gained valuable experience on this project in the operational, monitoring and documenting requirements of carbon projects seeking certification. FREDA's role is to oversee the maintenance and patching of restored areas in 2025, and once the Protect project starts, conduct training on mangrove stewardship with participating CFUGs.

A number of other NGOs have undertaken projects to support communities in mangrove restoration and conservation activities, although none have yet initiated a carbon project. Most notable include:

- Worldwide Fund for Nature and Wildlife (WWF) who works with CFUGs in Pyapon and Laputta, focusing on strengthening governance arrangements, documenting CFUG Management Plans, and support for complementary livelihood initiatives. The PC has links with WWF, and we are exploring opportunities to join forces on capacity building in project CFUGs for agro-forestry and mud crab farming.
- The Myanmar Environment Rehabilitation-Conservation Network (MERN), also supports CFUG Management Committees to build community capacity on natural resource management.

The PC mangrove team are well connected with other NGOs working in this sphere, who share useful information and keep each other informed of project and potential project activities, trying to ensure no project overlap or duplication.

Local businesses that may be buyers of Plan Vivo credits from a Myanmar project.

There are a number of large regional and international companies active in Myanmar who are potential purchasers of Plan Vivo credits for a mangrove restoration and protection project. Initial exploratory discussions have been promising. It is encouraging that WIF has sold all the carbon credits it has issued to date from its Myanmar project.

Illegal loggers from outside the CFUG

Outsiders are motivated to steal mangrove wood from CFUGs, particularly those with larger trees. Forest Department officers may be informed of instances of encroachment but their limited enforcement ability means poachers have little fear of consequences. CFUG conservation plans will include monitoring and patrolling functions to reduce the incidence of poaching. Risk of encroachment is low in the early years, risks increase as the mangroves grow.

2.2 Project Coordination and Management

Project coordinator: ACP experience and expertise

As the PC, ACP has responsibility for overall project management and coordination, contracting with external consultants for specialist expertise and local implementing partners for specific tasks such as planting and community engagement. We have a consultancy arrangement with Ms Leah Glass of Silvestrum Associates to provide technical assistance to our team on carbon project design and certification, *ex-ante* carbon estimates, and best practice mangrove restoration strategies.

Project leadership is provided by Ms Gill Pattison and Mr Kevin Murphy, co-founders and directors of ACP, working in Myanmar for over 20 years. In mid 2022, they launched the "Andaman Blue" initiative to mobilize international funding through the Voluntary Carbon Markets (VCM) for long term support of mangrove preservation and restoration in Myanmar.

ACP has both the experience and capacity to carry out this project through their focus on nature-based solutions, financial inclusion, and rural and community livelihoods development. Working in Myanmar since 2002**,** ACP has a strong track record in impact investment advisory, working with both private sector and donor clients. The ACP Mangrove team is experienced in co-designing and managing high impact programs for target communities that use innovative mechanisms to unlock private sector finance to meet ambitious development goals.

We have growing expertise in "blue carbon" projects. Since embarking on the nature-based-solutions work in 2021, ACP has gained valuable subject matter expertise and project management experience, bolstering its team with experienced foresters and mangrove planting experts.

Attesting to ACP's capabilities are two successful pilot schemes in the project area:

***(1) Mangrove restoration*.** ACP secured grants from two organisations: USAID (Responsible Investment and Trade Activity) and One Tree Planted Inc - in support of a 120-hectare pilot in 2023, implemented in partnership with six CFUGs. After the successful first year program, in 2024, USAID provided a second grant to support planting of another 204 ha with eight CFUGs. Effective community engagement and smooth implementation with FREDA allowed all planting to be completed on time and within budgets.

***(2) Crab Farmer support*.** The New Zealand Ministry of Foreign Affairs and Trade (NZMFAT) funded a pilot access-to-capital support program for crab farmers in two of the CFUGs included in the

mangrove pilot. After a co-design phase with the communities, funds were disbursed in November 2023 for a one-year program. With 100% repayment, the revolving fund is now under community governance and loans were re-disbursed November 2024 to original borrowers, with interest earned during Year 1 used to make loans to people wishing to start crab farming in the two communities.

Table 2.2 Responsibility for Project Coordination and Management Functions

Project Coordination and Management Function	**Responsible Party/Parties**
Stakeholder engagement during project development and implementation	ACP
Ensuring conformance with the Plan Vivo Standard and compliance with applicable policies, laws and regulations	ACP
Developing technical specifications, land management plans and project agreements with project participants	ACP, Silverstrum Climate Associates
Ensuring that the PDD is updated with any changes to the project	ACP
Registration and recording of land management plans, project agreements, monitoring results, and sales agreements	ACP
Managing project finances and dispersal of income to project participants as described by the benefit sharing mechanism	ACP
Managing Plan Vivo Certificates in the Plan Vivo Registry	ACP
Preparing annual reports and coordinating validation and verification events	ACP
Securing certificate sales and other means of funding the project	ACP
Assisting Project Participants to secure any legal or regulatory permissions required to carry out the project	ACP
Providing technical assistance and capacity building required for project participants to implement project interventions	ACP FREDA, WWF
Monitoring and reporting progress indicators, livelihood indicators and ecosystem indicators and providing ongoing support to project participants	ACP
Measurement, reporting, and verification of carbon benefits	ACP FREDA.

2.3 Project Participants

The Project Participants are CFUG members, all of whom live in or nearby their mangrove lands. They are all resident within the Project Region and use the land and natural resources within the Project Region to support their livelihoods. Project maps in Section 1 show the location of the 13 villages associated with each CFUG. Other participants are non-CFUG members, also living in the village, who may take up project employment and will be encouraged to participate in community-level capacity building and livelihood enhancement opportunities.

2.4 Participatory Design

Community engagement with project design

2.4.1 Restore project

The section below refers to the Restore project component - both for work already done in the Phase 1 planting, and planned for the future.

Starting out in 2022 with the first 6 CFUGs, and then repeated the following year for the 2024 planting program, main steps in the project design process are outlined below:

- The PC identified a shortlist of eligible CFUGs (determined by total CF size and estimated area of degraded mangroves) in the Pyapon District, approaching them to explain the proposed restoration project and assess interest in participating. Together with FREDA, the PC team engaged with the community through the elected CFUG Management Committee, empowered to represent CFUG members in these initial discussions.
- Once the Community Forest Management Committee (CFMC) had canvassed members' opinions, all six responded positively, and the FREDA team returned to assess the degraded mangrove land the CFUG identified as needing restoration. Not all of the degraded lands were to be included; the strong demand from CFUGs to be included in the project aligned with the project donor's preference to spread benefits across several communities, resulting in smaller parcels of land in some CFUGs being selected. The PC considered that any expansion of the project in the future could restore additional areas. The 2023 project ended with a total of 120 ha, 80 ha in 5 CFUGs and 40 ha in the 6th.
- There were discussions between the PC, FREDA and knowledgeable representatives from each CFUG on the design and implementation of the project, covering topics such as precise location of planting area, on-ground tidal conditions, suitability of different mangrove species, and planting methodologies. Although these discussions were not documented, the results of this engagement with CFUGs were reflected in the Project Plan collectively developed that was finally presented to CFUG members at each "Community Consultation Plan Review and Community Agreement" meeting. Each member had a chance to give feedback in that forum.
- Another major area for community input was project employment. The team explained about the opportunities, which would be open to all, with active encouragement of women, young people, and landless families, in particular. The longer-term benefits of revenue from carbon credits were discussed, in the context of the need to protect the communities' mangrove resources. CFUGs expressed their capacity to mobilise workers, and preferences regarding arrangements and the work program.
- We explained the FPIC process, and possible timeline for carbon project registration, ultimate issuance and sale of carbon credits from the project, and distribution of funds. The PC briefed the community that before the project could be certified, they would need to develop fair benefit sharing arrangements for carbon revenues, but this could be decided at a later date.
- The team explained the purpose of the Grievance Mechanism, and how any community member could use that if they felt unfairly or improperly treated at any point during the project.
- The template and guidelines developed to guide the PC community engagement team in their Initial Consultation and the subsequent Project Plan Review, FPIC and Partnership Agreement meeting can be viewed here and here.

Further community engagement (among both CFUG and non-CFUG members) in the lead up to PDD submission to assist the community plan for the longer term for its restoration, will include discussions on community contribution to monitoring and verification; role and responsibilities for preservation measures for the new mangroves; further deliberation on fair and equitable benefit sharing; and preferred livelihood initiatives.

The team will confirm that women and potentially disadvantaged groups such as the poorest people and landless people are fully included and will receive benefits from the project. In particular, Plan Vivo's Participatory Toolkit Tool 17 on engaging with disadvantaged groups will guide us in ensuring these voices are heard and understood.

There will be more discussions about risks, including risks of community conflict if members disagree on benefit sharing, and physical risks to patrollers. We will facilitate the CFUGs to consider both the level and impact of risks, and suitable mitigations.

2.4.2 Protect project

During the consultation and co-design process for the Protect project component, The PC intends to consult with CFUG members and non-CFUG members living in the area separately , and then together, using relevant Tools from the Participatory Toolkit. It is imperative that the entire community agrees to protect and preserve their mangrove forests, and all community members should benefit from carbon revenue generated by the Protect project. The specific benefit sharing mechanism needs to be worked out by the community to properly compensate the entire community, but specifically (1) people contributing to the protection effort (patrolling etc) and (2) those whose livelihoods have been negatively impacted (likely to be poorer villagers).

In preparation for participatory project design, the PC will research other mangrove Protect projects to understand options and costs/benefits of different measures for sharing with communities as options they may consider. For the Protect project, the participatory design will be an iterative process, as it will involve a wider group of stakeholders with a greater number of intervention options that the community will need to consider before they decide on whether, and how, to proceed.

Having worked with the participating communities for two years now, and built familiarity and trust, it is easier to engage with the communities flexibly, with different kinds of discussions dependent on need and context (e.g. community meetings, Management Committee, small focus groups, one-on-ones, groups with similar characteristics etc), using relevant tools from the PV Participatory Toolkit, in particular:

1. Stakeholder analysis. The focus here will be to gain a deeper understanding of the impact (positive and negative) of the Protect project on non-CFUG members, especially those who currently derive income from mangrove wood that may be proscribed under a Protect project. The aim will be to discover their needs and preferences, explore options and together determine acceptable approaches.

2. Problem analysis. From our research conducted to date, there is a strong understanding of why mangroves continue to decline in most areas, but this will be a deeper dive into reasons specific to each participating community. We understand behaviour changes are often difficult unless compelling reasons are provided

3. Visioning, to further develop and refine the project's theory of change. It will foster a common understanding of the main hindrances communities face in conserving their mangrove resources and what are likely to be practical and effective measures to combat them.

4. Local Institution Mapping. This is not static, and we will want to up-date our original work on the influential players in the project area and in each community.

9. Participatory Resource Mapping . We see this as being especially useful in CFUGs where there exists, or is good potential for, crab farming, and also for communities to identify natural resource areas of concern, for example, erosion hotspots.

17. Engaging with Disadvantaged Groups. The team has wide experience in general village engagement, but this tool will assist us with techniques that ensure we find, and have effective communications with, disadvantaged individuals and families.

2.5 FPIC Process

The PC followed the UN-REDD+ program[12] for Myanmar's approach to safeguards[13] to conduct the project FPIC process with the communities involved. The project area is not inhabited by Indigenous Peoples, and local communities with rights to the land have not been historically displaced.

The team conducted the steps outlined below:

- After the informal agreement to participate described in section 2.4, the team re-visited the six communities for the review of the project plan and Partnership Agreement and associated FPIC process. The CFMCs had gathered together the large majority of CFUG members for these meetings to hear directly from the PC team about the project and have the opportunity to ask questions. Photos of each meeting are available.
- The area proposed for restoration in each CFUG had been proposed by the CFUG and after a site visit with ACP and/or FREDA had been collectively .
- The mangrove restoration project itself is fairly straightforward and communities were familiar with reforestation initiatives, but they had little knowledge of carbon projects. The team took time to explain the basic principles of a carbon project, their rights and obligations under the project, and gave indications of the potential benefits to the community in the future. The communities were enthusiastic, as they all had obligations under their CFUG Management Plans to restore some degraded areas, but did not have the funds to undertake this activity. In addition, communities are aware of the ecosystem and protective benefits of mangrove forests and wish to see them restored.
- Discussion about the detailed design of the planting project took place, often at the site survey, as described in section 2.4.1.
- Most of the communities had questions around the benefits of the project. The PC reinforced that all funding for restoration work was provided by the project, and that community members would be paid for project work during the restoration period. The team stated that men and women would have equal employment opportunities under the project. Regarding future carbon credit revenues, the PC indicated that further information on community income would be shared before the planting season in July 2023.
- The proposed Partnership Agreement[14] incorporating the FPIC: "Record of provision or withholding of consent (FPIC)" form appended, between the PC and each community

[12] Myanmar is a signatory to the REDD+ program since 2017 and in 2020 approved a project component for mangroves. The 2020 annual report notes "The overall goal of the UN-REDD Mangroves technical assistance to Myanmar is the sustainable management, restoration, and conservation of mangroves ecosystems to contribute to the achievement of the overall goals of the National REDD+ Strategy, in terms of emissions reductions and enhanced livelihoods of local communities. The key outputs are: (1) enhanced regulatory frameworks, capacity development, and coordination of stakeholders; (2) data generated and monitoring system for enhanced decision making; and (3) demonstration of integrated land use planning and inclusive forest planning.

[1313] "Myanmar's National Approach to REDD+ Safeguards". MoNREC and Myanmar National UN-REDD Programme, April 2020. Link.

[14] Template Partnership Agreement; "Partnership Agreement between Andaman Capital Partners (ACP) and Community Forestry User Groups (CFUGs) for Pilot Mangrove Planting Project 2024". Link

(written in Burmese) was handed out, and the team walked everyone through each clause, answering questions as they arose.

- The team provided an illustrative timeline, assuming a monsoon season (June-Sept) planting time, and asked the communities to consider the proposal. They left the proposed Partnership Agreement and the FPIC form with the CFMC for further consideration.
- FREDA returned to the communities, to hear and document any comments from the CFUGs, and collected the six signed Partnership Agreements and FPIC forms.[15] As indicated from the earlier consultation meetings, there was no pushback from the communities, with all welcoming the initiative. An example of the signed Partnership Agreement and FPIC form in Burmese language used in the CFUGs - (this one is for Pi Dauk Pin Seik) can be viewed here [16] All other project CFUGs had similar agreements.
- At this time, FREDA explained to each community how any issues or complaints would be handled through the Grievance Redress Mechanism (GRM). The document describing the procedure and the complaint form were left with the Chairman of each of the CFUG Management Committees, with the suggestion that they affix it to a wall in a public place. [17]

3 Project Design

3.1 Baseline Scenario

(1) Restoration

It is highly unlikely the land identified for mangrove restoration by the communities would have been restored without the PC's project. The areas had lost mangrove cover many years ago; there was no natural regeneration, and while all communities had planting obligations under their CF Management Plans, lack of funds meant that no restoration work had been undertaken. The grant from the lead donor (USAID) was offered because the PC demonstrated strong intent to develop a participatory carbon project that would generate future revenue for communities and the PC, thus ensuring sustainability. This grant was contingent on co-investment by the PC. As a commercial project management company, the PC would not have made this investment alone without the prospect of some returns in the future or without collaboration[18].

(2) Protection

Each of the CFUGs have stands of existing mangrove trees, in varying degrees of health and density. The PC's baseline research about attitudes to mangrove resources and current harvesting practices revealed that while people were aware of mangrove benefits (good for fisheries, crab farming and coastal protection) there is gradual deforestation resulting from unsustainable harvesting, mostly because of pressure on incomes and limited employment opportunities.

Current government regulations around harvesting are not enforced, so individual villages determine their own rules. In this environment, we think it is reasonable to assume that the 1.87%

[15] Partnership Agreement and FPIC form were signed by 528 out of the 662 CFUG members (80%), over the 2 year program. 27% of signatories are women.
[16] Pi Dauk Pin Seik CFUG signed Partnership Agreement and FPIC (Burmese). Link
[17] English translation of the Grievance Response Mechanism Document and complaint form. Link.
[18] While USAID has been terminated, the officers responsible for overseeing USAID's support for the project are available to attest to the circumstances surrounding their decision to support the project, if required.

[19]annual rate of mangrove deforestation experienced over the last decade in Ayeyarwady Region would continue, in the absence of any other intervention.

Loss of mangroves has a particularly negative impact on local fisheries. One Myanmar study by the Global Green growth Institute states that. "Myanmar's coastal fisheries (much of which rely on mangroves and corals nurseries and habitats) have declined by 50% since 1980.[20] With the decline in wild fish catch, reducing incomes, directly contributes to a move from capture fisheries to often damaging aquaculture. This is observed in Laputta District, adjacent to the project's Pyapon, where a faster rate of mangrove deforestation is accompanied by rampant development of shrimp ponds.

Conservation and restoration of mangroves ensures that essential nursery habitat for shrimp, crab and fish is maintained and improved. This will contribute to the sustainability over the long term and will provide increased income for fishers.

3.2 Livelihood Baseline

Socio-economic and livelihood baseline

Current situation

In November 2022, ACP conducted an assessment from secondary sources of the socio-economic profile of the Ayeyarwady Region and conducted primary research among three mangrove-focused CFUGS in the project area. The research is summarised from Ayeyarwady Region and Pyapon District Socio-Economic Profile report[21] and the CFUG Livelihoods Survey[22] with key findings outlined below:

- The Ayeyarwady Region is characterised by one of the highest rates of poverty in Myanmar at 53% (UNDP, 2024) [23]and a largely rural population (88% of total inhabitants).
- The Lower Delta, including Pyapon District where our project is located, is highly exposed to climate hazards, including storms and floods. Farmland is prone to salt-water intrusion, resulting in high dependence on fisheries and forestry for employment.
- People of the project villages typically have low levels of education with just 15% completing high school. About half of the households are employed in small businesses, with 34% casual laborers and the remainder describing themselves as fishers or farmers. There are limited employment opportunities in these remote areas.
- As a proxy for poverty levels, 26% said their family did not have quite enough to eat.
- There is no access to grid electricity, and no prospect of the grid being extended to these remote areas in the short to medium term. Most houses have solar power for lighting and use wood burning traditional stoves for cooking.
- Small-scale crab farming is quite a common income-generating household activity for CFUGs in mangrove areas. However, earnings are constrained by lack of access to affordable working capital.

[19] ACP Analysis: Annual mangrove cover loss 2014-2024 Ayeyarwady Region, Myanmar. Sources: Imagery from Landsat-8 (2014-2024) and Sentinel 2 (2017-2024).
[20] "Coastal Landscapes Restoration". Global Green Growth Institute, 2019.
[21] ACP Focus Area Socio-Economic Profile - 1 Nov, 2022 Link
[22] CFUG Livelihood Survey - June 2022. Link
[23] UNDP Poverty and Household Economy Myanmar 2024. Link

Expected changes

The economic situation in Myanmar continues to deteriorate since the military coup, although the Ayeyarwady Region has fared better than most other areas as it has been been largely free of conflict. However, without a change in the political settings and return to stability viewed as lasting, there is little prospect of significant improvement in lives and livelihoods for project stakeholders for the following reasons: continue pressure on household income because of inflation; reliable or expanded access to grid electricity is a distant prospect in the project area; development aid/assistance is reducing; there is little new investment in local infrastructure including health and education in these remote coastal villages; almost no access to credit for microbusiness growth; and continued business challenges, such as fishers and farmers are price-takers from brokers without access to financial services and better market linkages. Project villages are poor, and there are no evident reasons for future improvement to this baseline.

3.3 Ecosystem Baseline

Current:

Ayeyarwady Region sits in a largely coastal area between the Bay of Bengal to the west and the Andaman Sea to the south. With a mostly flat topography, the Delta collects sediments and nutrients from various waterways and branches fed by the Ayeyarwady River and massive lowlands under rice cultivation that support a highly productive surrounding ecosystem. The region is highly exposed to climate hazards: cyclonic and monsoonal storms, surges and floods, in particular. The Lower Delta where the project is located, is permanently affected by saltwater intrusion, so that livelihoods are highly dependent on fisheries.

The RAMSAR protected area of Meinmahla Kyun, in the vicinity of the project area, gives indications of species of conservation concern in the project area[24]: *" (Meinmahla Kyun) supports globally threatened species such as the critically endangered hawksbill turtle (Eretmochelys imbricata) and mangrove terrapin (Batagur baska). The latter is particularly significant for the Site because it is listed under the IUCN Red List as regionally extinct in Myanmar. Other threatened species include the endangered great knot (Calidris tenuirostris), Nordmann's greenshank (Tringa guttifer), green turtle (Chelonia mydas) and dhole (Cuon alpinus). Vulnerable species include the Pacific ridley turtle (Lepidochelys olivacea), fishing cat (Prionailurus viverrinus), lesser adjutant (Leptoptilos javanicus) and the Irrawaddy dolphin (Orcaella brevirostris). The Site is also the last estuarine habitat in Myanmar for the salt water crocodile (Crocodylus porosus)"*

Future:

"A recent report from The World Bank on Myanmar's climate vulnerability indicates that there is expected to be increases in the intensity and frequency of extreme rainfall events and frequency of cyclonic events the region will be affected by rising sea levels. Sea level rise will cause larger areas to be inundated during storm surges and coastal floods, further augmented by increasing storm intensity....these changes will significantly impact populations, infrastructure and biodiversity and ecosystems"[25]

[24] RAMSAR website https://rsis.ramsar.org/ris/2280
[25] World Bank Group https://climateknowledgeportal.worldbank.org/country/myanmar/vulnerability.

3.4 Project Logic

3.3.1 Livelihoods

Main dimensions of livelihood enhancement are outlined below:

- The planting phase of the Restore project contributes to livelihoods as there is extensive employment of casual labour, mostly from the community. The table below summarises the key metrics for 2024 - detailed data in 2023 were not collected, but would likely be similar to results for 2024. Project employment in restoration. For land preparation, planting, and maintenance, project employment for part-time workers in the 2024 program is summarised below:

Table A - Project employment

	Apr-Dec 2024
Workers - part-time	**444**
% women	**39%**
Average # of days/worker	**21**
Total employment days	**9,320**
Average daily salaries to workers (MMK)	**9,922**
Total salaries to workers (MMK)	**92,474,000**
(USD)[26]	**44,350**

The 2024 project delivered additional income of approximately USD100 to more than 400 people, totalling an injection of MMK 92 million (more than USD44k into the local economy. In addition, during 2025, community members receive income from part-time patrolling after the restoration work.

- Revenue from carbon credits. Estimated at USD2.5 - 3.5 mn (over 20 years crediting period) contributing to local economies, resulting in better village infrastructure, expanded employment opportunities and micro-enterprises.

- Improved fisheries, leading to higher incomes for fishers (medium term). Multiple studies identify the link between healthy, abundant mangrove forests and improved local fisheries, but it is challenging to estimate likely levels of increase in a specific context. However, two excerpts from the literature are indicative of positive correlations:
    - "There is not a large literature on the fisheries production value of restored or recovering mangroves. However, it seems likely that fishery benefits do recover following mangrove restoration, although this may take time"[27]
    - "On aggregate, restored mangroves provide higher ecosystem functions than unvegetated tidal flats but lower than natural mangrove stands....Conversely, restored mangroves exhibit higher levels of crab production and diversity compared

[26] At official exchange rate of USD1 = 2100 MMK
[27] "The Role of Mangroves in Fisheries Enhancement". Hutchison, Ermgassen and Spalding, 2014. Link

to both naturally regenerated mangroves.... and degraded mangroves"[28]

- Increased income from livelihood initiatives. The next round of community engagement will explore community ideas and preferences more fully. At this time, the PC will provide some estimates of the amount and timing of possible revenues from the carbon project, so CFUG members will be able to see what resources may be available. This will initiate discussion on benefit sharing and how at least a portion of these funds could be used to support and develop sustainable enterprise. Agro-forestry is an option the PC has heard from some CFUGs and from WWF, another is crab farming, as described below.

- Support for crab farming. The PC's pilot scheme in 2 CFUGs that provided affordable working capital loans[29] to crab farmers resulted in significant increases in participants' incomes. Impact surveys conducted at the beginning and after one year in project households showed that 83% of project households experienced improved income levels. The average annual income from crab farming increased by 94%, rising from MMK 2.0 million to MMK 3.9 million - a significant uplift. To identify how much of this increase could be attributed to the intervention, rather than external market factors, the before and after survey was also undertaken in a nearby control village among their crab farmers. Whilst the control group enjoyed income increases too, at an average of MMK 2.0 mn to 3.2 mn, it was significantly less than project participants. A Difference-in-Difference analysis shows that a 35% increase in incomes in project households can be attributed to the working capital loans.

  This pilot has demonstrated the efficacy and sustainability of this kind of support. The communities demonstrated governance capability, and such evergreen Revolving Funds will continue to bolster crab farming incomes in future years. In the short term, the PC intends to identify donors willing to provide grant capital to establish Revolving Funds to support livelihood initiatives in other mangrove villages in the project area until a record of good repayment practice is established. At this point, microfinance institutions (MFIs) should become interested in providing loans, especially if there is some de-risking mechanism such as a partial credit guarantee. If communities favour this intervention, a portion of the carbon credit revenues can be provided for this guarantee. The PC has experience of working with MFIs on these kinds of programs where a portfolio guarantee encourages MFIs to lend to new borrower groups they would otherwise consider too risky. As the MFI gathers experience and borrowers repay consistently, guarantee amounts can be reduced, leading to longer term sustainability. This activity will be presented as an option for consideration in the next round of community engagement, prior to PDD development.

Table 3.4 Initial Project Logic

[28]"A meta-analysis of the ecological and economic outcomes of mangrove restoration". Su, Friess and Gasparatos, 2021. Link.

[29] Program description: 54 loans were made to crab farmers in the two CFs in November 2023, averaging about MMK 500,000 each. The loan amount varied according to the acres farmed. Interest at 1% per month was paid every quarter with a bullet principal repayment after 12 months. 100% loan repayment performance after 12 months, and revolving funds re-loaned.

The PC initiated a pilot planting and livelihood support program with philanthropic money, with the goal of creating a carbon project. Revenue from carbon credit sales is needed to deliver community benefits and keep these trees in the ground, continuing to sequester CO_2.

There are also goals to expand these conservation activities to intact mangrove areas, to deliver emission reductions in addition to the removals generated by restoration. Also, if the carbon project is a success, further restoration could be undertaken.

Aim: The project aims to: • mitigate the local impact of global warming; • provide physical protection to coastal communities vulnerable to extreme weather events; • enhance livelihoods and resilience in poor communities through increased income • restore and enhance aquatic habitats and biodiversity		
	Description	**Assumptions/Risks**
Outcomes – Intended overall project aim		
Carbon Benefit	Total 144,266 tCO2e sequestered from mangrove restoration. The Carbon Benefit due to mangrove protection to be estimated once the PV Climate Blue Carbon methodology is published.	Assumptions: Restoration: Biomass growth curve derived from data from mangrove plantations in the Ayeyarwady Delta and biomass stocks in mature trees within the Project Region. Conservatively assumes some loss of shrubby and herbaceous baseline biomass. Default value in VCS tidal wetland methodology (VM0033 v2.1) used for soil sequestration rate. Protection: Assumes that the current average annual deforestation rate of 1.87% is reduced to 0.5%. **Risk 1:** New threats emerge resulting in major increase in tree cutting, owing to greater pressure on local incomes, attractive market opportunities for mangrove wood, or decline in enforcement of conservation rules. Mitigation.: More systematic community monitoring should deter most poaching. **Risk 2**: Intense storms or cyclones destroy some of the project mangroves Mitigation. Restoration sites are not located on the coast, and are therefore less exposed to extreme weather.
Livelihood Benefit	Communities gain additional income through: (1) project employment,	Assumptions: Carbon project registration is successful and generates carbon credits which are

	(2) carbon credit revenues, (3) livelihood support initiatives and improved fisheries	sold at a price in line with PC's model's "moderate" scenario. Communities determine equitable sharing of carbon revenues Donor funds identified for revolving funds for crab farmer support. **Risk 1.**Communities unable to sustain conservation practices because of extended period before receiving carbon revenues. Mitigation: Communities committed to protecting their mangroves and poaching pressure now when plants are small. **Risk 2**. Various factors result in carbon credit revenues less than anticipated. Mitigation: Patching conducted to boost carbon sequestration. **Risk 3**. Donors funds not available to support Revolving Funds, due to Myanmar political situation. Mitigation: PC exploring with private sector companies as alternative funders.
Ecosystem Benefit	Increased coastal protection; reduced risk from cyclones, flooding and erosion. Habitat, and species protection and restoration	**Risk:** More frequent extreme weather events in coming decades and sea level rise Mitigation:. Assume that stronger mangrove ecosystems will mitigate the impact of intense storms and cyclones. Project areas not on coast.
Outputs		
Output 1 Carbon	Restoration: 324 ha of successfully established mangrove seedlings with a survival rate of and estimated 70% after 1 year (2023) and 69% after 5 months (2024) Conservation: Significantly reduced the loss of of mangrove forest over the 20 year crediting period	**Risk 1:** There may be further death of young trees in the current dry season, particularly with the younger trees of the 2024 planting. Mitigation: Mid-2025, the team will patch with seeds and seedlings to replace trees that did not survive. **Risk 2** for conservation: If commercial logging increases. Mitigation: Communities' monitoring and surveillance activities and heightened awareness of mangrove trees' value. If poaching is persistent, FD authorities will be mobilised.
Output 2 Livelihoods -	Restoration project in 2024 delivered 9,320 days of project employment to 444 workers	**Risks:** Negligible, as the major planting work has been completed. But project employment continues in 2025 with

Project employment	(CFUG and Non-CFUG), injecting USD44,350 additional income into communities. Refer Table 1 above.	plantation maintenance and monitoring, and there is risk that employment opportunities not shared equally. **Mitigation:** PC actively encourages female participation and fair sharing of casual work.
Output 3 Livelihoods - Carbon Revenue	Estimated carbon credit revenues of USD4.5 mn - 5 mn over the 20 year project period.	**Risk 1:** Delays in registration and verification process **Risk 2**: Slow issuance and credit sales process **Risk 3:** Lower than expected prices **Risk 4**: Lower than expected credit issuance Mitigation: PC will be responsive during certification process. Other factors beyond PC control.
Output 4 Livelihoods - Improved fisheries.	Difficult to quantify this Output as there is no Myanmar-specific reference studies, but more general experience in other global mangrove habitats and anecdotal information from project communities suggest increased healthy mangroves will improve coastal fisheries.	**Risk**: Market opportunities beyond the control of the project increase fishing pressure and/or migration to the Project Region and local management is insufficient to manage over-fishing. Mitigation: The PC expects stronger community governance will result in close monitoring of fish resources, collective arrangements to avoid over-fishing and better market linkages to improve prices for the catch.
Output 5 Livelihoods Crab farmer incomes	Revolving funds successfully established in 2 crab farming CFUGs, increasing annual income for crab farmers by an estimated 20% Expect similar results in other CFUGs where other revolving fund are established.	**Risk 1:** This income uplift is conservative in a neutral market scenario where prices remain stable. If market prices decline, income increases will be less. **Risk 2:** Donor support is necessary to establish village revolving funds. Mitigation: Successful pilot should assist in attracting funds from both donors in the short run and commercial MFIs over the longer term when communities may decide that carbon revenue may be available for small guarantees to backstop MFI loans.
Output 6 Improved natural resource management	Project communities trained and knowledgeable in mangrove stewardship and sufficiently motivated to protect their mangrove resources.	**Risk**: Motivated and capable communities may not be equal to pressures of increased commercial mangrove timber extraction if FD enforcement declines further. Mitigation: PC has ability to advocate with FD for improved enforcement

3.5 Additionality

Table 3.5 Initial Barrier Analysis

Project Intervention	Main Barriers	Activities to Overcome Barriers
(1) Restoration	Financial barrier: • Communities unable to replant degraded areas without access to funding	**Phase 1 planting** With the intent of registering as a carbon project, the PC secured funding for 324 ha of mangrove planting. The planting project would not have been undertaken without the prospect of future carbon revenue to support CFUG conservation efforts and local economic development. Planting is only the first stage in the rehabilitation process. Ongoing protection and monitoring are required to ensure the mangroves will continue to grow into mature trees and sequester CO_2. Refer section 3.1 (1) for further detail. **For the future**, carbon revenue is critical for effective conservation measures (CFUGs need to be compensated for their time monitoring and maintaining their mangroves) and for setting up sustainable livelihood improvement interventions.
	Potential institutional barrier: • No specific legal framework for carbon projects in Myanmar, and may not be developed until political settings change. • "First of a kind" blue carbon project working through CFUGs, although a precedent set for mangrove carbon projects with the large-scale WIF restoration project.	• FD has confirmed that the CFUG members have the rights to income generated from their land. • To reinforce carbon rights, the PC is supporting the FD in the revision of project CFUG Management Plans, which will include explicit reference to the CFUGs ability to host carbon projects and benefit from project revenues.

	• Government could impose a high carbon tax or other large costs that render the project uneconomic	• Continuing dialogue and advocacy with senior FD officials.
(2) Protection	Financial barriers • Poverty - leading to harvesting of mangroves for income or to reduce household expenses • No funds to support community patrolling • Due to poor investment environment in Myanmar, restricted private or grant capital available to support development of a comprehensive Protection regime, prior to carbon credit revenues coming on stream.	• Potential or actual revenue from carbon credits • Establishment of community woodlots for fuel wood and regulated harvesting. • Livelihood enhancement activities, like support for crab farming. • Improved local fisheries resulting in higher income for fishers • Communities commited to protection of mangrove resources..
	Institutional barriers • Weak enforcement from FD undermines community efforts to protect mangrove resources	• Escalating poaching incidents to FD for sanction of perpetrators • Advocacy with FD to improve enforcement activities

3.6 Exclusion List

The project does not include any activities covered on the Plan Vivo Exclusion List (see Annex 3)

3.7 Environmental and Social Screening

Refer Annex 4.

3.8 Double Counting

As noted earlier, there is no explicit legislative framework for the regulation of carbon rights and resources in Myanmar at present. There is, however, an understanding by the government that the carbon rights in areas restored by carbon project developers in concert with local communities may not be granted to other organisations or attributed to any government emissions' programs like the NDCs. More detail is provided below:

Government programs. Until there is a specific regulatory framework for carbon projects, the Myanmar government is unlikely to deviate from its stance laid out in the NDCs of 2020, i.e. that afforestation/avoided deforestation NDCs will be from government initiatives on government owned and managed land. The Myanmar government tends to be legalistic, sticking to existing legal frameworks wherever possible. To include carbon benefits generated by CFUGs in NDCs would be in contravention of The Community Forestry Law, which confers on CFUG members the rights to manage and derive income from their land. Additionally, the large mangrove project from

Worldview International, established about 10 years ago, which is generating significant VCU credits, provides a precedent. We understand from the project developer that there has been no question of these credits contributing to any government, or other, program.

At the **community level**, the partnership agreement between the CFUGS and the PC does not allow any other organisation (private or public sector) the rights to the carbon resources within the PC planting areas. Refer Clause 10 in the referenced Partnership Agreement and FPIC document.[30]

To date, there is no explicit agreement with the Myanmar government on the CFUG's rights to generate carbon credit revenue through conserving their existing mangrove lands, but when political conditions allow, the PC will work with the Forest Department and MoNREC to establish a regulatory framework for conservation activities.

Myanmar National Defined Contributions (NDC)

In Myanmar's draft NDC submission of 2020, the unconditional targets for emissions avoided or reduced in the country from 2021- 2030 were 245 mn tCO2e, made up almost equally between the energy sector (transitioning to renewables) and reducing deforestation. All of the forestry initiatives were government sponsored on government land, under the Myanmar Reforestation and Rehabilitation Program (MRRP) and the National REDD+ Strategy. The NDC draft states the largest MRRP initiatives are (1) conservation of 0.59 mn ha of Reserved Forest (2) Community Forestry Management and agroforestry 0.3 mn ha (2) establishment of new Reserved Forests and Protected public Forests (PPF) of 4.1 mn ha.

After the military coup, there was no apparent follow up on the NDCs by the Myanmar authorities, although Forest Department is undertaking some planting activities. These however should not impact the Project, as Project activities are carried out under the auspices of the Community Forest Law and the CFI which grants CFUG members the rights to income generated from the CF lands they occupy.

Other emission trading

The carbon benefits generated by the project will not be used or included in any other greenhouse emission trading scheme. For the already restored areas, each CFUG has signed a Community Agreement in which Clause 10 states "ACP has the right to sell Certified Carbon Credits from this project on behalf of participating CFUGs, who shall not generate any other carbon credits from the activities of this project." For the future Protect component, the PC would seek similar undertakings from the participating CFUGs for the areas covered under that project.

Table 3.8 National Level Legislation, Policies and Instruments

	Yes/No/Unsure	Details
Is there a national registry for land-based carbon projects?	No	
Are carbon rights defined in national legislation?	Not explicitly	Under the Community Forestry Law of 2016, named CFUG members are granted long-term rights to occupy designated Community Forest land and to generate commercial

[30] Partnership Agreement and FPIC 2024. Link Refer Clause 10.

		benefits in return for responsible resource management plans. Although the law makes no specific mention of carbon rights, as recommended by the FD, the PC has worked closely with partner CFUGs as they revise their Management Plans to explicitly document the CFUG's ownership of carbon resources, and the associated rights to payments for ecosystems services. Drafts of these revised Management Plans have been informally approved by the FD, and the PC is now processing the Management Plans through the formal channels.
Are there any carbon pricing regulations existing or in development (e.g. emissions trading scheme or carbon tax)	No	
Does the country receive or plan to receive results-based climate finance through bilateral or multilateral programs?	Unknown	
Are there any other relevant regulations, policies or instruments?	No	**Under UN REDD+ umbrella program,** Myanmar formulated a National REDD+ Strategy[31] through multi-stakeholder consultations and a Safeguards Information System to ensure that REDD+ activities comply with environmental and social safeguards. The strategy is pending formal government approval.

4 Governance and Administration

4.1 Governance Structure

4.1.1 General - building on existing community governance structures

As the foundation of the initiative, the project will strengthen existing CFUG governance structures, specifically the CFUG Management Committee (voted for by CFUG members). The PC will encourage that at least 40% of the Management Committee are women, and require that there may be no more than one Management Committee member per household, in order to ensure a broad range of community voices.

There is an existing process for documenting the CFUG's plans for protecting and developing their forest resources, namely the CF Management Plan, which was first drafted when the CFUG was established and is required to be up-dated at least every five years. The 2023 and 2024 restoration plantings are being documented during the current revisions process, as noted in Table 3.8 above.

[31] Myanmar has a National REDD+ Strategy (https://www.un-redd.org/partner-countries/asia-pacific/myanmar)

The continuation of the Restore project and the design and implementation of the Protect project will require dedicated processes and documentation, beyond the basic Management Plan. For this reason, the governance structure proposed in the organogram at the end of this section will be established to ensure that stakeholders are included in all aspects of project design and development, including ongoing livelihood and community development initiatives and project partners' roles and responsibilities. For a long-lasting governance structure, it is imperative everyone is heard and that information provided and views expressed are properly considered in the decision-making process. The CF Management Committee, aided by the PC, is the focus for community decisions, but the Project Steering Committee will provide another level of oversight, ensuring continued adherence to PV values across all the CFUGs.

4.1.2 New community governance structures required.

Before carbon revenues are generated, the PC will facilitate participatory workshops for determining how the carbon revenue should be shared by CFUG members. In all but one of the CFUGs, the large majority of the restored mangrove land is owned by a small number of CFUG members, who have the legal right to income generated from their land. Preliminary community discussions indicate general agreement of this principle. There is also a generally accepted notion that a percent of carbon credit income should be allocated to benefit the entire community. Please refer to section 2.1 for further details, but in summary, the PC proposes that each community should determine what that percent should be, indicating a minimum acceptable level, and advocating for a higher-than-usual allocation for the community because of the externally funded nature of this project.

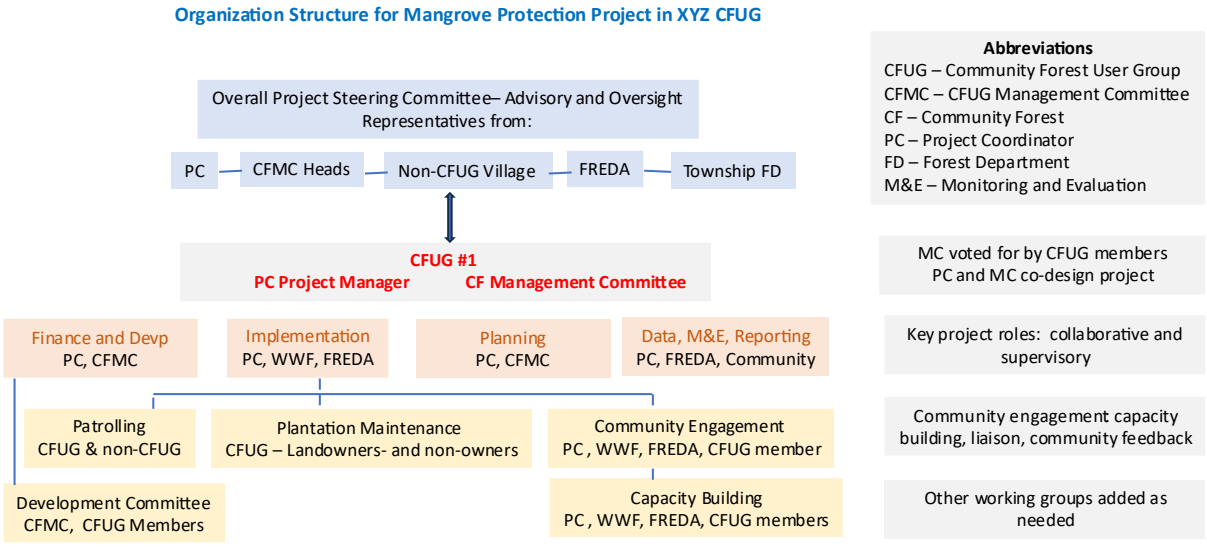
For the Protect component of the project, the PC will suggest in the participatory workshop a communal approach, whereby all community members have obligations to protect the mangrove forests, and the whole community shares fully in the resulting carbon revenues.

The PC will share information on different approaches from other communities with similar projects to help the villagers think through their preferences. Some kind of Village Fund will be set up to receive the carbon revenues, with a series of rules and protocols for account access, management and visibility.

The PC will encourage the CFUG to establish a Development Committee which reviews and assesses proposals from community members for how the funds allocated to the community should be spent. This Committee will assess each expenditure proposal against a set of selection criteria which the CFUG members have created and agreed.

The Village Fund is a common construct in Myanmar, so people are familiar with community-based decision-making on resource allocation. A key role of the PC is to identify whether existing governance structures work equitably, or whether more intervention or guidance is needed.

A draft organogram is depicted below, with overall oversight by a Steering Committee for the entire project (13 CFUGs) and an underlying structure that would be replicated in each CFUG.



4.2 Legal and Regulatory Compliance

The FD under MONREC is responsible for the management of Myanmar's forests, including Community Forest territories.

In preparing for the 2023 and 2024 restoration projects we consulted with FD officials at the Township, Regional and Central (Headquarters) levels, obtaining permission for the planting programmes, in partnership with the 13 CFUGs. Annex 5 contains links to these two letters (with an English translation) from the Forestry Department to FREDA, the PC's planting partners and representative for government relations.

Andaman Capital Partners attest that this project will be in full compliance with all relevant national and international policies, laws and regulations.

4.3 Financial Plan

The PC obtained funding for the restoration program of 2023 and 2024 from two organizations:

1. **USAID - RITA** - 2023 and 2024. These two grants provided partial funding for 280 of the 324 ha, and required co-investment from the PC.
2. **One Tree Planted Inc** - contributed to the 2023 programme, funding restoration of 40 ha in one CFUG.

New Zealand Ministry of Foreign Affairs and Trade (NZMFAT) provided a grant to pilot the establishment of revolving village loans to support working capital for mud crab farmers in project mangrove restoration areas.

The six CFUGs of the 2023 planting have now taken over plantation monitoring and maintenance from the PC, and are highly motivated to protect their mangrove resources as they await carbon project certification.

Completion of the replanting phase of the Restore project (Maintenance and monitoring of planted areas for one year post-planting) and this certification process is fully funded from ACP internal funding and grants received previously. The six CFUGs of the 2023 planting have now taken over plantation monitoring and maintenance from the PC, and are highly motivated to protect their mangrove resources as they await carbon project certification.

We estimate the cost of PDD development and validation will be USD30k-40k. ACP will provide the necessary investment but we are hopeful to attract additional co-funding for some of the expenditure. To date, we do not have additional external funding committed to the project. As noted in the PIN, fund raising efforts have paused until the PIN is approved, which we trust will provide tangible evidence of a credible project. This will facilitate discussions with external funders, who have expressed interest in the project but have been deterred because the first stage of certification had not yet been passed.

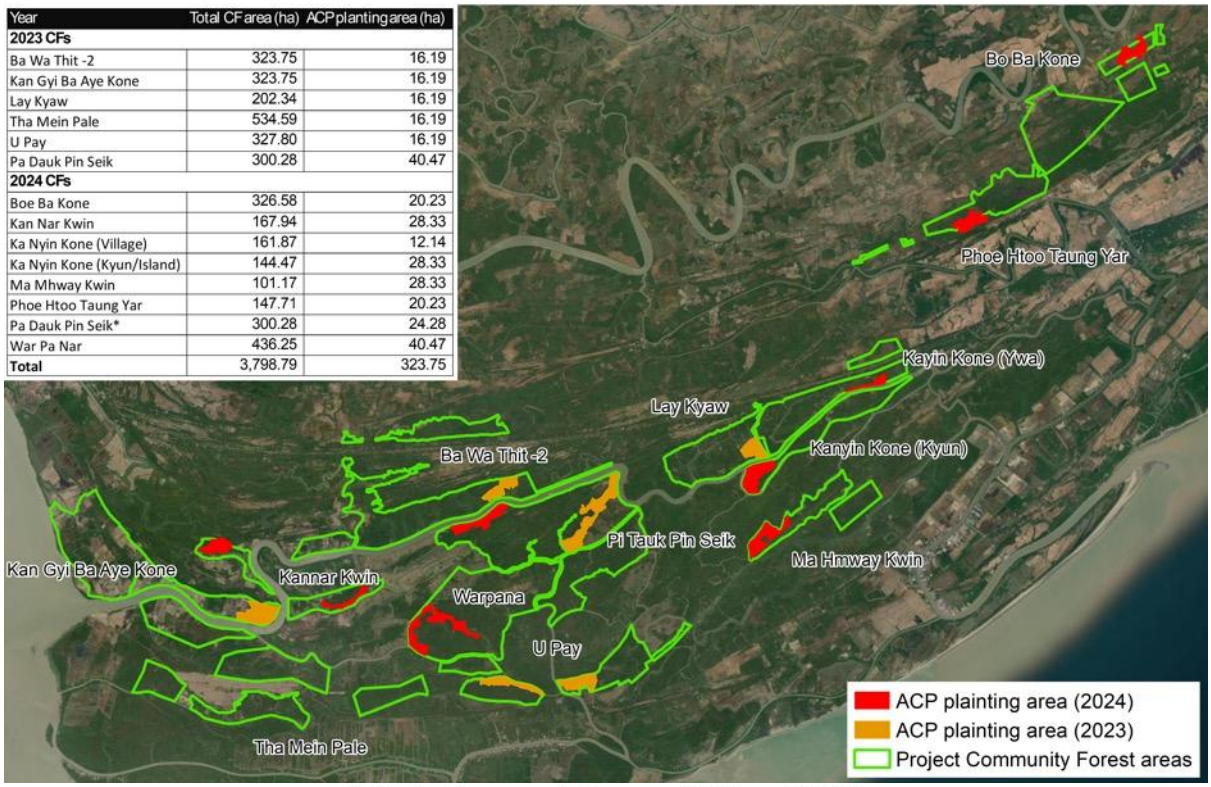
Further, the Project has already made significant foundational investments: we have specialist ACP staff (GIS and forestry experts); assets (boats, vehicles, measuring equipment); partner CFUGs trained in forest inventory monitoring, and a project database of information collected through our own surveys on socio economic conditions, physical and ecosystem conditions and drivers of deforestation in the project area.

Annexes

Annex 1 – Project Boundaries

ACP planting area in Pyapon (2023 and 2024)

Year	Total CF area (ha)	ACP planting area (ha)
2023 CFs		
Ba Wa Thit -2	323.75	16.19
Kan Gyi Ba Aye Kone	323.75	16.19
Lay Kyaw	202.34	16.19
Tha Mein Pale	534.59	16.19
U Pay	327.80	16.19
Pa Dauk Pin Seik	300.28	40.47
2024 CFs		
Boe Ba Kone	326.58	20.23
Kan Nar Kwin	167.94	28.33
Ka Nyin Kone (Village)	161.87	12.14
Ka Nyin Kone (Kyun/Island)	144.47	28.33
Ma Mhway Kwin	101.17	28.33
Phoe Htoo Taung Yar	147.71	20.23
Pa Dauk Pin Seik*	300.28	24.28
War Pa Nar	436.25	40.47
Total	3,798.79	323.75



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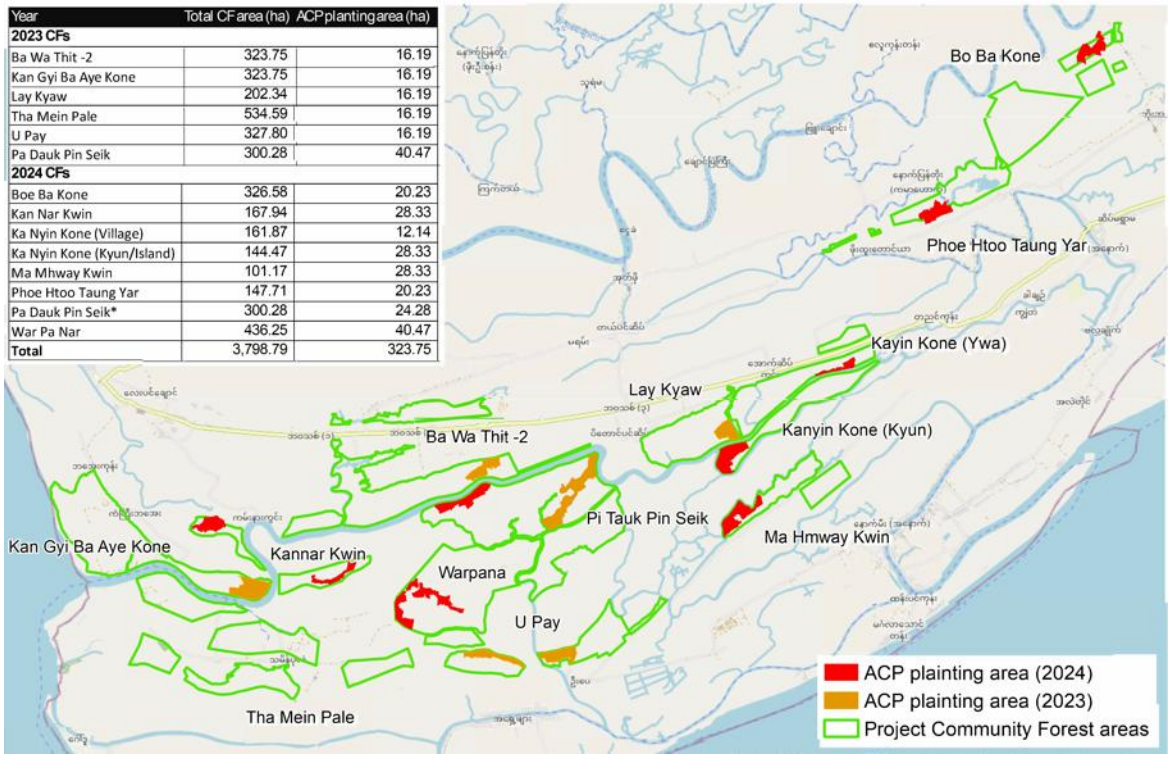

Annex 2 –Registration Certificates - ACP and FREDA

Andaman Capital Partners Certificate of Incorporation.
https://acrobat.adobe.com/id/urn:aaid:sc:US:75998109-f494-401d-8791-aa90a984732d

Forest Resource Environment Development and Conservation Association (FREDA)

Registration Certificate of Local Organization

Annex 3 – Exclusion List

Activities	Included in Project ('Yes' or 'No')
Any project activities leading to or requiring the destruction [1] of critical habitat [2] or any forestry project which does not implement a plan for improvement and/or sustainable management.	No
Any activity which could be associated with the significant impairment of areas particularly worthy of protection of cultural heritage (without adequate compensation in accordance with international standards).	No
Trade in animals, plants or any natural products not complying with the provisions of the CITES/Washington convention [3].	No
Illegal, harvesting or trading in any wildlife resources.	No
Destructive fishing methods or drift net fishing with a net more than 2.5 km in length, explosives and/or poison.	No
Large-scale commercial logging operations for use in primary tropical moist forest.	No
Production or trade in wood or other forestry products other than from sustainably managed forests [4].	No
Exploitation of diamond mines and marketing of diamonds where the host country has not adhered to the Kimberley Process, and exploitation of other conflict minerals [5]	No
Activities involving harmful or exploitative forms of forced labour, [6] harmful child labour [7], modern slavery and human trafficking [8].	No
Projects that include involuntary physical displacement and/or forced eviction.	No
Production or activities that encroach on lands owned, or claimed or occupied by Indigenous Peoples, without full documented Free, Prior and Informed Consent (FPIC) of such peoples [9].	No
Harmful and unsafe production, use, sale or trade of pharmaceuticals, ozone layer depleting substances [10], and other toxic [11] or dangerous materials such as asbestos or products containing PCB's [12], wildlife or products regulated under CITES, including all products that are banned or are being progressively phased out internationally	No
Production or trade of arms, ammunition, weaponry, controversial weapons, or components thereof (e.g., nuclear weapons and radioactive ammunition, biological and chemical weapons of mass destruction, cluster bombs, anti -personnel mines, enriched uranium).	No

Procurement and use of firearms.	No
Provision of finances to military institutions involved in conservation or security activities.	No
Production or trade of strong alcohol intended for human consumption or other alcoholic beverages (excluding beer and wine).	No
Production or trade of tobacco and other drugs	No
Gambling, gaming establishments, casinos or any equivalent enterprises and undertaking [13].	No
Any trade related to pornography, prostitution or sexual exploitation of any form.	No
Production or trade in radioactive material. This does not apply to the procurement of medical equipment, quality control equipment or other application for which the radioactive source is insignificant and/or adequately shielded	No
Production or trade in unbound asbestos. This does not apply to the purchase or use of cement linings with bound asbestos and an asbestos content of less than 20%.	No
Production, trade, storage, or transport of significant volumes of hazardous chemicals, or commercial scale usage of hazardous chemicals. Hazardous chemicals include gasoline, kerosene, and other petroleum products.	No
Transboundary trade in wastes, except for those accepted by the Basel Convention and its underlying regulations [14].	No
Any activity leading to an irreversible modification or significant displacement of an element of culturally critical heritage [15].	No
Production and distribution, or investment in, media that are racist, antidemocratic or that advocate discrimination against a part of the population.	No
Projects involving the planting or introduction of invasive species	No
Projects that increase the dependency of primary participants and other stakeholders on fossil fuels.	No

Notes:

[1] Destruction means (1) the elimination or severe reduction in the integrity of a habitat/area caused by a major and long-term/prolonged change in land-use or water resources or (2) the modification of a habitat such that this habitat's ability to fulfil its function/ role is lost.

[2] The term critical habitat encompasses natural and modified habitats that deserve particular attention. This term includes (1) spaces with high biodiversity value as defined in the IUCN's classification criteria, including, in particular, habitats required for the survival of endangered species as defined by the IUCN's red list of threatened species or by any national legislation; (2) spaces with a particular importance for endemic species or whose geographical range is limited; (3) critical sites for the survival of migratory species; (4) spaces welcoming a significant number of individuals from congregatory species; (5) spaces presenting unique assemblages of species or containing species which are associated according to key evolution processes or which fulfil key ecosystem services; (6) and territories with socially, economically or culturally significant biodiversity for local communities. Primary forests or high conservation value forests must also be considered as critical habitats

[3] https://cites.org/eng/disc/text.php

[4] Sustainably managed forests are forests managed in a way that balances ecological, economic and socio-cultural needs.

[5] Conflict minerals, including tin, tungsten, tantalum and gold, can be used to finance armed groups, fuel forced labour and other human rights abuses, and support corruption and money laundering. See the EU Regulation on conflict minerals: https://policy.trade.ec.europa.eu/development-and-sustainability/conflict-minerals-regulation/regulation-explained_en

[6] Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

[7] Harmful child labour means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development. Employees must be at least 14 years of age, as defined in the ILO's Declaration on the Fundamental Principles and Rights at Work (C138 – Minimum Age Convention, Article 2), unless local laws require compulsory school attendance or a minimum working age. In such circumstances, the highest age requirement must be used.

[8] Modern slavery is comprised two key components: forced labour and forced marriage. These refer to situations of exploitation that a person cannot leave or refuse due to threats, violence, deception or coercion. (https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_854733.pdf)

[9] https://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

[10] Any chemical component which reacts with, and destroys, the stratospheric ozone layer leading to the formation of holes in this layer. The Montreal Protocol lists Ozone Depleting Substances (ODS), their reduction targets and deadlines for phasing them out.

[11] Including substances included under the Rotterdam Convention, Stockholm Convention and WHO "Pharmaceuticals: Restrictions in Use and Availability".

[12] PCBs (polychlorinated biphenyls) are a group of highly toxic chemical products that may be found in oil-filled electrical transformers, capacitors and switchgear dating from 1950 to 1985.

[13] Any direct financing of these projects or activities involving them (for example, a hotel including a casino). Urban improvement plans which could subsequently incorporate such projects are not affected.

[14] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their disposal (1989).

[15] "Critical cultural heritage" is considered as any heritage element recognised internationally or nationally as being of historical, social and/or cultural interest.

Annex 4 - Environmental and Social Screening

Guidance on use

Background

- The questionnaire includes questions aligned with the Plan Vivo Cabron Standard (PV Climate) Environmental and Social Safeguards (Section 3.9, V5.0) and other Safeguard Provisions that are embedded in PV Climate (namely Stakeholder Engagement, Stakeholder Consultation, Free Prior and Informed Consent, Grievance Mechanism).
- The questionnaire also draws from the Plan Vivo Environmental and Social Policy Framework (ESPF).
- The questionnaire is structured around the IUCN ESMS Questionnaire, which itself is designed to be aligned with the IUCN ESMS (2016), and the World Bank Environmental and Social Framework (2017), including World Bank Standards 1-10.
- The number of questions has been limited in this version of the questionnaire to ensure that it is practical and user-friendly.
- The purpose of the questionnaire is to establish: 1) the project risk rating; 2) the significance of risks and impacts; 3) alignment with safeguard provisions; 4) the need for further E&S assessment during project design; 5) the likely safeguard plans that should be developed.
- Due to the early stage in project design, the questionnaire is not designed to assess alignment with PV Climate requirements, but rather prompt projects as to what will be expected regarding those requirements that relate to E&S safeguards.
- Any social and environmental risks must inform the design of the *Project*.

Requirement

- As per PV Climate V5.0 every project must conduct a screening of environmental and social risks and impacts at the PIN stage of project design. The questionnaire and screening report are to be submitted alongside the PIN to the Plan Vivo Foundation.

Process for use of the E&S questionnaire

- The Project Coordinator is to fill in the "Project coordinator response" section of the questionnaire. This is the column shaded light grey.
- Once completed by the Project Coordinator, the Plan Vivo Foundation Project Officer and E&S reviewer is to fill in the "E&S reviewer comments" section of the questionnaire. This includes filling in the "E&S reviewer conclusions".
- The screening report is then completed at the end by the Plan Vivo Foundation E&S reviewer, and the results are shared and discussed with the Project Coordinator.

Establishing significance of risks and impacts

Table 1 illustrates how risk significance can be established based on an estimate of likelihood of something happening, and the impact should it occur. This likelihood-magnitude matrix can be used by the Project Officer and the E&S reviewer to estimate the risk and impact significance of the E&S risk areas indicated in the E&S questionnaire **Section B**, below. Note that while the questionnaire focuses on key topics and issues that are common to natural resource management projects, the project coordinator should include other known E&S risks and impacts associated with the planned project.

Likelihood represents the possibility that a given risk event is expected to occur. The likelihood should be established using the following five ratings:

Very unlikely to occur (1)
Not expected to occur (2)
Likely – could occur (3)
Known to occur - almost certain (4)

Common occurrence (5)

Impact (or consequence) refers to the extent to which a risk event might negatively affect environmental or social receptors – see below criteria distinguishing five levels of impacts:

Severe (5)	Adverse impacts on people and/or environment of **very high magnitude**, including **very large scale** and/or spatial extent (large geographic area, large number of people, transboundary impacts), cumulative, **long-term (permanent and irreversible**); **receptors** are considered **highly sensitive**; examples are severe adverse impacts on areas with high biodiversity value; severe adverse impacts to lands, resources and territories of indigenous peoples; significant levels of displacement or resettlement with long-term consequences on peoples' livelihood; impacts give rise to severe and cumulative social conflicts with long-term consequences.
Major (4)	Adverse impacts on people and/or environment of **high magnitude**, including **large scale** and/or spatial extent (large geographic area, large number of people, transboundary impacts), of certain duration **but still reversible** if sufficient effort is provided for mitigation; receptors are considered sensitive; examples are adverse impacts on areas with high biodiversity value; adverse impacts to lands, resources and territories of indigenous peoples; significant levels of displacement or resettlement with temporary consequences on peoples' livelihood; impacts give rise to social conflicts which are expected to be of limited duration.
Medium (3)	Adverse impacts of **medium magnitude**, **limited in scale** (small area and low number of people affected), **limited in duration** (temporary), impacts are relatively predictable and can be avoided, managed and/or mitigated with known solutions and straight forward measures.
Minor (2)	Adverse impacts of **minor magnitude, very small scale** (e.g. very small affected area, very low number of people affected) and only short duration, may be easily avoided, managed, mitigated.
Negligible (1)	Negligible or no adverse impacts on communities, individuals, and/or on the environment.

Table 1: Rating significance of a risk area (Source: IUCN ESMS questionnaire, 2020)

		Likelihood of occurrence				
		Very unlikely to occur (1)	*Not expected to occur (2)*	*Likely – could occur (3)*	*Known to occur - almost certain (4)*	*Common occurrence (5)*
Magnitude	*Severe (5)*	Moderate	Substantial	High	High	High
	Major (4)	Low	Moderate	Substantial	Substantial	High
	Medium (3)	Low	Moderate	Moderate	Moderate	Substantial
	Minor (2)	Low	Low	Moderate	Moderate	Moderate
	Negligible (1)	Low	Low	Low	Low	Low

Establishing project risk category

The project risk category will be determined based on an understanding of the types of potential E&S risks and impacts associated with the project, and the availability of appropriate and known mitigation measures. Most Plan Vivo projects are thought to be of either low or moderate risk. If high risk projects are identified, the E&S impact assessment would look to understand the alternative project designs available to reduce the potential risks and impacts.

Table 2: Rating significance of a risk area (Source: IUCN ESMS questionnaire, 2020)

Risk Category	Definition
Low	Insignificant or low potential environmental and social risks and impacts have been identified. No additional management measures are required; n Environmental and Social Management Plan (ESMP) section of the PDD required.
Moderate	Moderate and/or substantial potential adverse risks and impacts have bee identified, in one or more risk areas. These risks and impacts can be mitigated through known mitigation measures, such as a Stakeholder Engagement Plan, livelihood restoration plan, or through the project's ESMP.
High	High risks and impacts that are potentially diverse and irreversible, and for which standard solutions are not sufficient to manage, and for which specialist safeguard plans and expertise is required.

Alignment with safeguard provisions

Section C of the questionnaire refers to PV Climate safeguard provisions which are integrated into the Standard. These include:

- *Stakeholder engagement and consultation*
- *Free, Prior and Informed Consent*
- *Grievance Redress Mechanism*

The project coordinator will answer the questions related to these provisions, and clarify the project's intentions to meet these Standard requirements during the project design phase.

Environmental and Social Assessment

The E&S questionnaire should determine what E&S assessment is required during the project design phase (PDD development). For low and moderate risk projects, a tailored E&S assessment is required. For high-risk projects, an Environmental and Social Impact Assessment (ESIA) is required. The project coordinator should consider in responses what further assessment of risks and impacts is required, and the E&S reviewer will comment on this and include a summary in the Screening Report section.

Safeguard Plans

The E&S questionnaire should determine which Safeguard Plans are required by the project. For low risk projects, it is unlikely that an ESMP will be required. For moderate risk projects, and ESMP will be required. Projects will, according to the Standard, also require a mandatory Stakeholder Engagement Plan and a Grievance Redress Mechanism.

Some projects might require specialist plans, such as an Indigenous Peoples Plan (IPP) or a Livelihood Restoration Plan.

SECTION A: PROJECT INFORMATION	
Project title:	Community-Centred Mangrove Restoration and Conservation in Myanmar
Project coordinator:	Andaman Capital Partners Limited
Country:	Myanmar
Geography/ landscape:	Ayeyarwady Region, Lower Delta
Project summary:	The Project is located in Pyapon District in the Ayeyarwady Region of Myanmar's Lower Delta and aims for the restoration of 324 ha of degraded

	mangrove land and to protect 2,300 ha of existing mangrove forests in the same region. The Project Participants are 13 Community Forest User Groups (CFUGs), comprising 662 households, legal entities established to provide greater local participation in sustainable stewardship of Myanmar's forest areas -- including mangroves. Under a formal agreement with the Myanmar Government's Forest Department (FD), CFUGs are granted long-term rights to occupy designated forest land and to generate commercial benefits in return for responsible resource management plans. Restoration work for the project commenced in July 2023, with 324 ha re-planted in the two year planting programme. The 2,300 ha for protection represents an estimate of the total forested mangrove area under the Project Participants' management in their respective designated Community Forest areas, excluding the 324 ha degraded areas identified for restoration. (Refer Map in Annex 1)
Name and role of project coordinator staff member filling this questionnaire:	Gill Pattison - ACP Director. Mangrove Restoration Project Lead.
Confirm that the Plan Vivo Exclusion List is appended to this E&S questionnaire:	*Yes*

SECTION B: POTENTIAL E&S RISKS AND IMPACTS			
Topic	**Question**	**Project coordinator response**	**E&S reviewer comments**
E&S Risks and Impacts			
Vulnerable Groups	Are there vulnerable or disadvantaged groups or individuals, including people with disabilities (consider also landless groups, lower income groups less able to cope with livelihood shocks/ stresses) in the project area, and are their livelihood conditions well understood by the project?	The project areas are characterised by relatively high levels of poverty with few employment opportunities beyond fishing and farming. Baseline socio-economic studies have given the PC a good understanding of overall socio-economic conditions including prevalence of particularly disadvantaged groups, such as landless and people with disabilities	Agreed – the conditions and needs of vulnerable groups to fully participate and engage in the project must be described in detail at the PDD stage.
	Is there a risk that project activities disproportionately affect vulnerable groups, due to their vulnerability status?	Low risk. The project may have some negative impact on non-CFUG members, who are dependent on mangroves for their livelihoods. These villagers are likely to be economically poor. Mitigation through permitted harvesting from community woodlots and income enhancement initiatives such as crab	Agreed

		farming and sharing of carbon project revenues.	
	Is there a risk that the project discriminates against vulnerable groups, for example regarding access to project services or benefits and decision-making?	Low risk. There is a possibility that low income families do not gain equal access to benefits: project employment and carbon revenues. Mitigation through strengthened CFUG Management Committee governance with mandates to ensure equitable benefit sharing and monitoring by the PC.	Agreed
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 3 – Given the project context, particularly the high concentration of land ownership among 64 individuals and the limited engagement with non-CFUG members to date, it could occur.* *Estimated magnitude of risks (1-5) & justification: 2 - There would be a low number of people affected, and impacts can be managed through project governance structures.* *Risk significance: Moderate*			
Gender equality	Is there a risk of adverse gender impacts due to the project/ project activities, including for example discrimination or creation/exacerbation or perpetuation of gender-related inequalities?	Low risk. Women have been involved in project design and FPIC process. Restoration activities involved significant numbers of women, around 50% on average, apart from site preparation which involved heavy physical labour.	A description of how women have been and are involved in the project design and FPIC process as well as how the project plans to continue their involvement and fair treatment should be included at PDD stage
	Is there a risk that project activities will result in adverse impacts on the situation of women or girls, including their rights and livelihoods? Consider for example where access restrictions disproportionately affect women and girls due to their roles and positions in accessing environmental goods and services?	Low risk. Women are closely involved in household income generation, participating in farming and micro-enterprise. In most households, joint decision making around financial and employment matters is the norm. Very few women harvest wood for commercial sale, so if this is curtailed they will not be affected.	Agreed
	Is there a risk that project activities could cause or contribute to gender- based violence, including risks of sexual exploitation, sexual abuse or sexual harassment (SEAH)? Consider partner	Low risk. The replanting project did not give significant opportunity for GBV. Where men and women work together on restoration activities, it is generally group work by members of the same community with high visibility. Supervision by planting	Agreed

	and collaborating partner organizations and policies they have in place. Please describe.	partner FREDA provides an additional level of protection as this NGO has a zero tolerance policy for GBV. FREDA's Code of Conduct for project staff can be viewed here. Refer points 15-19 . Going forward, in designing the Protect project, the PC and community will need to give careful consideration to whether and how women can be safely included in patrolling activities.	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – Not expected to occur due to the developer's understanding of the local context.* *Estimated magnitude of risks (1-5) & justification: 3 – Impacts are of medium magnitude but can be mitigated by incorporating gender-sensitive approaches into the project design to ensure women are not overlooked.* *Risk significance: Moderate*			
Human Rights	Is there a risk that the project prevents peoples from fulfilling their economic or social rights, such as the right to life, the right to self-determination, cultural survival, health, work, water and adequate standard of living?	Low risk. A successful mangrove restoration and conservation project should reduce all these risks through enhanced employment opportunities and income and other community benefits from the carbon project.	Agreed
	Is there a risk that the project prevents peoples from enjoying their procedural rights, for example through exclusion of individuals or groups from participating in decisions affecting them?	Low risk. The PC's governance strengthening work with the communities will enhance existing community governance structures and encourage inclusion and opportunities for all. On-going, there will be regular meetings of CFUG members, and other villagers, once the Protect project starts. It will be important to monitor project progress, identify issues that emerge, and ensure that project values established at project inception are reinforced and adhered to.	Agreed
	Are you aware of any severe human rights violations linked to project partners in the last 5 years?	Low risk. The PC is not aware of any human rights violations linked to main project partner FREDA and potential partners, WWF.	Ok
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 - Not expected to occur, although there is a risk that the project's activities (e.g., land management changes, new rules, project benefits that bypass certain groups) could inadvertently limit or undermine existing rights for some individuals or groups e.g. non-CFUG members*			

Estimated magnitude of risks (1-5) & justification: 4– If this risk were to occur, it would have a significant impact on a large number of people. *Risk significance: Moderate*			
Community, Health, Safety & Security	Is there a risk of exacerbating existing social and stakeholder conflicts through the implementation of project activities? Consider for example existing conflicts over land or natural resources, between communities and the state.	Low risk. There is a low level of existing conflict, both within communities, between communities and with the state. Communities' frustrations with FD's weak response to tree cutting by outsiders may elevate when there are financial consequences, leading to CFUG demands that FD becomes more proactive. PC would facilitate engagement between CFUGs and FD to address this issue and collectively agree solutions. The PC also intends to raise the issue of weak FD support in its forthcoming engagement with senior FD officials If communities more zealously guard their mangrove resources, there is a slightly elevated risk of security incidents from outsider encroachment, but such poaching is unlikely to become common, with measures implemented as described above. To help guard against encroachment the PC has funded CFUG's desire to erect signboards prohibiting unauthorized entry around their planted areas.	The project must provide a conflict analysis and a concrete mitigation plan at the Environmental and Social Assessment (ESA) stage.
	Does the project provide support (technical, material, financial) to law enforcement activities? Consider support to government agencies and to Community Rangers or members conducting monitoring and patrolling. If so, is there a risk that these activities will harm communities or personnel involved in monitoring and patrolling?	Low risk. The project has supported wages, boats and mobile phone for tracking for community patrollers during the first year post-restoration. There are occasional wood choppers' incursions into remote areas of CFUG territory, but there are no reported violent incidents. There is no plan to directly support government agencies for monitoring or patrolling.	The absence of past violent incidents does not automatically equate to a low risk in the future, especially for activities that involve monitoring, patrolling, and potentially confronting illegal activities. Please explain in detail how risks to community patrollers will be identified and managed at PDD stage

	Are there any other activities that could adversely affect community health and safety? Consider for example exacerbating human-wildlife conflict, affecting provisioning ecosystem services, and transmission of diseases.	None identified	Please conduct a more thorough assessment for the PDD, considering potential risks such as access to crucial resources like non-timber forest products, traditional fishing grounds, etc.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 - Conflicts or tensions around resources may be experienced, but with effective management provisions and good understanding of governance structures, this is unlikely to occur* *Estimated magnitude of risks (1-5) & justification: 2 – Small area and low number of people affected* *Risk significance: Low*			
Labour and working conditions	Is there a risk that the project, including project partners, would lead to working conditions for project workers that are not aligned with national labour laws or the International Labor Organization's (ILO) Declaration on the Fundamental Principles and Rights at Work (discriminatory working conditions, lack of equal opportunity, lack of clear employment terms, failure to prevent harassment or exploitation, failure to ensure freedom of association etc.)?	Low risk. PC required ILO standards to be met in project employment during the restoration project. Workers were supplied with boots and hard hats and working hours were regulated. An instance of an underage worker was discovered and communities were reminded of project requirements. Men and women were paid the same rate for equal work.	While you've detailed past good practices for some aspects, your response then highlights past actions and mitigation of an identified issue (underage worker). A further explanation of how this incident occurred and how the project plans to mitigate this and similar risks from occurring within the project should be provided at PDD stage.
	Is there an occupational health and safety risk to project workers while completing project activities?	Medium risk. In site preparation and site maintenance, mechanical grasscutters and machetes are used. Accidents are possible, mitigated by the organizer holding First Aid kits and means of transport to nearest medical facility.	First aid kits and transportation to the nearest medical facility are essential for emergency response. However, these measures do not prevent accidents from occurring in the first place. It is important to address occupational health and safety risks and

			provide training before commencing project activities. Details about such training should be included in the PDD.
	Is there a risk that the project support or be linked to forced labour, harmful child labour, or any other damaging forms of labour?	Low risk. Patrolling will be performed by community members voluntarily, and it is extremely unlikely that children would be drafted for this activity, especially in the light of the project's prohibition on child labour.	It is important to note that child labour is expressly prohibited under the Plan Vivo Exclusion List.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 3 - Working in forestry involves unavoidable risks. While these risks should be managed by the project, it is important to acknowledge that there have been documented instances of avoidable risks in the past.* *Estimated magnitude of risks (1-5) & justification: 2 – Low number of people affected should this risk occur.* *Risk significance: Moderate*			
Resource efficiency, pollution, wastes, chemicals and GHG emissions	Is there a risk that project activities might lead to releasing pollutants to the environment, cause significant amounts of waste or hazardous waste or materials?	Low risk. No pollutants will be released as a result of the project. In site preparation, herbaceous and small plants were cut down, but mostly left to decompose on the site	Agreed – no chemicals or hazardous materials appear to be part of the project activities.
	Is there a risk that the project will lead to significant consumption of energy, water or other resources, or lead to significant increases of greenhouse gases?	Low risk. Gap planting is employed and the large majority of existing trees on the planting sites are left untouched. Mechanical grasscutters are used in site preparation and in weeding, but these are just for a few weeks at a time, in a small area.	Emissions are likely to be small in magnitude relative to the overall project's scale and expected carbon benefits.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification:2 – The potential for some emissions exists, but the likelihood of them being significant is low.* *Estimated magnitude of risks (1-5) & justification: 2 – Any impacts would be very small in scale.* *Risk significance: Low*			
Access restrictions and livelihoods	Will the project include activities that could restrict peoples' access to land or natural resources where they have recognised rights (customary, and legal)? Consider projects that introduce new access restrictions (e.g. creation of a community forest), reinforce existing access restrictions (e.g. improve	Low risk. We expect the CFUGs will enforce some new restrictions on local harvesting of mangrove wood for sale. Only a minority of community members are harvesting mangrove wood for commercial purposes but the negative impact on their livelihoods will be mitigated by establishment of community woodlots and additional income opportunities.	Please provide details of the alternatives at the PDD stage, evidencing that the impacts of this risk and the associated management provisions are appropriate for the different groups involved in the

	management effectiveness and patrolling of a community forest), or alter the way that land and natural resource access restrictions are decided (e.g. through introducing formal management such as co-management).		project. The management provisions should be developed in consultation with these groups to protect them from this risk. This will be reviewed at the PDD stage and during the validation process.
	Is there a risk that the access restrictions introduced /reinforced/altered by the project will negatively affect peoples' livelihoods?	Low risk. As noted above, few community members' livelihoods are dependent on mangrove harvesting in the project area.	As above.
	Have strategies to avoid, minimise and compensate for these negative impacts been identified and planned?	Yes. Woodlots in the planning stage. Livelihood support initiatives, such as crab farming support.	Agreed, evidence of mitigation and compensation through alternative community benefits should be provided at the PDD stage.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 3 – Given the existing traditional land uses and the pending establishment of new land management rules, this could occur* *Estimated magnitude of risks (1-5) & justification: 2 – If it were to occur, only a small area and a low number of people would be affected, as project activities aim to provide income and alternative livelihoods from carbon credits, mitigating any potential loss of commercial income.* *Risk significance: Moderate*			
Cultural heritage	Is the Project Area officially designated or proposed as a cultural site, including international and national designations?	No. There is no such designation	Ok.
	Does the project site potentially include important physical cultural resources, including burial sites and monuments, or natural features or resources of cultural significance (e.g. sacred sites and species, ceremonial areas) and is there risk that the project	No. There are no physical cultural sites or resources that could be negatively impacted by the project, as restoration work was undertaken on featureless degraded areas and conservation of existing mangrove forests will not change the landscape in the project area.	Ok.

	will negatively impact this cultural heritage?		
	Is there a risk that the project will negatively impact intangible cultural heritage? Consider for example cultural practices, social and cultural norms in relation to land and natural resources.	No. Rather the opposite. Some of the communities consider their mangrove resources an important part of their heritage, and have been saddened to see the mangroves declining. There is generally strong support for restoration and protection.	Ok.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 1 – Very unlikely to occur as no sites of cultural importance identified* *Estimated magnitude of risks (1-5) & justification: 1 – Negligible, due to the nature of project activities.* *Risk significance: Low*			
Indigenous Peoples	Are there Indigenous Peoples living within the Project Area, using the land or natural resources within the project area, or with claims to land or territory within the Project Area?	Refer section 2.1 for description of project area population and why they are not considered "Indigenous People" in this context.	Agreed
	Is there a risk that the project negatively affects Indigenous Peoples through economic displacement, negatively affects their rights (including right to FPIC), their self- determination, or any other social or cultural impacts?	Not Applicable, as local population not classified as "indigenous". Considering the impact on local populations - indigenous or not - there is low risk of significant negative impacts, provided the mitigants described in this application and in the "Access restrictions and livelihoods" section of this Screening Report are implemented	Ok
	Is there a risk that there is inadequate consultation of Indigenous Peoples, and/or that the project does not seek the FPIC of Indigenous Peoples, for example leading to lack of benefits or inappropriate activities?	Not Applicable, as local population not classified as "indigenous". The PC will ensure that all involved communities are adequately consulted.	Please ensure the FPIC-relevant sections of the PDD are filled out in detail once the project design process has been completed.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – Unlikely, as the project is managed by local communities* *Estimated magnitude of risks (1-5) & justification: 2 - Risks of inadequate consultations that follow FPIC principles can be mitigated through strengthened participatory approaches.* *Risk significance: Low*			
Biodiversity and sustainable	Is there a risk that project activities will cause adverse impacts on biodiversity (both in areas	Low risk. The restoration work is complete, without construction, use of pesticides or any construction. The planted species - avicennia and	Please complete an assessment of the impacts of project activities, specifically

use of natural resources	of high biodiversity value, and outside of these areas) or the functioning of ecosystems? Consider issues such as use of pesticides, construction, fencing, disturbance etc.	byu - are the predominant species in surrounding areas, so are an appropriate choice for gap re-planting. There is no clear reason why restoration would have negative impacts on biodiversity - more likely the converse.	on biodiversity, and report this at the PDD stage through additional ecosystem monitoring indicators.
	Is there a risk that the project will introduce non-native species or invasive species?	No. Only native mangrove species are planted.	Agreed
	Is there a risk that the project will lead to the unsustainable use of natural resources? Consider for example projects promoting value chains and natural resource-based livelihoods.	Low risk. Expansion of low intensity mud crab farming will lead to higher demand for juvenile crabs. However, expansion and preservation of mangrove territories should improve habitat for these species to meet any increase in demand. Also, expansion potential is limited by restrictions on the acreage permitted for crab farming by the FD, documented in their CF Management plans.	The proposed mitigation is unsubstantiated. There's no evidence provided to show that 1) habitat improvement will definitively lead to enough juvenile crabs to meet any increased demand; 2) what the sustainable harvest limits are; and 3) what monitoring mechanisms are in place to ensure crab populations are not over-harvested. At PDD stage, please provide an assessment covering all natural resources whose use might become unsustainable due to project activities.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 3 - While there's an intention to improve habitat, the absence of actively managed controls means the risk of demand outstripping supply could occur.* *Estimated magnitude of risks (1-5) & justification: 3 – If mud crab populations are used unsustainably, it may lead to ecological and livelihood impacts that could undermine a core project benefit.* *Risk significance: Moderate*			
Land tenure conflicts	Has the land tenure and use rights in the project area been assessed and understood?	Yes - both in terms of the rights conferred by the Community Forest Law and Instructions, and also at an individual community level.	Agreed
	Is there a risk that project activities will exacerbate	Low risk. The PC is not aware of any significant existing land use conflicts	While benefit sharing is important

	any existing land tenure conflicts, or lead to land tenure or use right conflicts?	in the project communities. However, villages will need to agree equitable benefit sharing arrangements for carbon credit revenues. Landowners will naturally enjoy a higher proportion of carbon revenues, but the PC will encourage landowners to allocate a significant proportion of carbon revenues to the community at large. Although not yet formally agreed in the communities, this sharing principle seems to be well accepted.	for preventing new conflicts, it doesn't directly address the potential exacerbation of existing conflicts over land tenure or use rights. A robust assessment and detailed mechanisms for equitable benefit sharing and conflict resolution will be needed for the PDD.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 3 – Could occur if equitable benefit-sharing is not formally agreed upon, or a risk of elite capture, reinforcing existing inequalities within the project communities.* *Estimated magnitude of risks (1-5) & justification: 4 – If this risk were to occur it would have a significant impact on a large number of people, but can be mitigated through robust, transparent, and participatory benefit-sharing mechanisms actively ensuring inclusion and addressing existing inequalities.* *Risk significance: Substantial*			
Risk of not accounting for climate change	Have trends in climate variability in the project areas been assessed and understood?	Yes. Project sites for restoration removed from the most exposed coastal sites were chosen to reduce risks from rising sea levels and the impact of severe storms.	Ok
	Has the climate vulnerability of communities and particular social groups been assessed and understood?	Yes. Before selecting project sites, the PC conducted a comprehensive risk assessment, including risks of flooding and storm surges from severe cyclones. None of the communities are located in the highest risk zones. All communities have cyclone shelters accessible to them in the event or extreme weather.	Ok.
	Is there a risk that climate variability and changes might influence the effectiveness of project activities (e.g. undermine project-supported livelihood activities) or increase community exposure to climate variation and hazards? Consider floods, droughts, wildfires, landslides, cyclones, etc.	Risk of floods - see above. Mangrove trees are inherently tolerant to flooding, but smaller trees are still vulnerable to prolonged flooding. For this reason, in selecting planting sites, we chose areas on relatively higher ground. The suitability of the sites is supported by the fact that there is no record of prolonged flooding. Risk of drought - Mangrove saplings are vulnerable in their early life to drought until root systems are established. We have planned to	Agreed

		patch the restored areas in the early monsoon, to replace seedlings that died during the preceding dry season	
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 2 – Could occur given the risks associated with climate change.* *Estimated magnitude of risks (1-5) & justification: 2 – Adverse impacts can be mitigated through the project's design and management provisions.* *Risk significance: Low*			
Other – e.g. cumulative impacts	Is there a risk that the project will contribute cumulatively to existing environmental or social risks or impacts, for example through introducing new access restrictions in a landscape with existing restrictions and limited land availability?	Not identified	Please conduct a more detailed and comprehensive assessment of potential cumulative environmental and social risks for the PDD. For example, the project's "Protect" component might introduce new rules. If there are existing restrictions or limited land, this is a cumulative risk.
	Are there any other environmental and social risks worthy of note that are not covered by the topics and questions above?	Not identified	As above.
E&S reviewer conclusions *Estimated likelihood of risks (1-5) & justification: 1 – so additional risks identified outside of those captured in this risk screening* *Estimated magnitude of risks (1-5) & justification: 1 – so additional risks identified outside of those captured in this risk screening* *Risk significance: Low*			
SECTION C: SAFEGUARD PROVISIONS			
Stakeholder engagement: requirements 2.1.1-2.1.3	Has a stakeholder analysis been conducted that has identified all stakeholders that could influence or be affected by the project, or is this still to be completed? Please describe.	CFUG Members Stakeholder analysis completed for restoration activities, not yet for conservation activities Non-CFUG members will be consulted and involved in project design for the Conserve project component. Government Authorities The PC and its partners have undertaken the necessary engagement to obtain permission for the restoration project. However,	Ok

		since the military coup in 2021, the civil service has been weakened and there have been few new policy initiatives. We don't expect this to change significantly until political stability returns, so it will likely be challenging for meaningful engagement with senior officials until there is a chance in government.	
	Are the local community and indigenous peoples statutory or customary rights to land or resources within the project area already clear and documented, or is further assessment required? Please describe.	Yes. CFUG members' land rights are well understood and documented. The CF Management Plans are being revised in all project CFUGs to confirm CF boundaries and land of individual owners. PC is assisting FD with this exercise and plans to complete mid-2025.	Agreed. Further work is required to ensure engagement with non-CFUG members.
	Are local governance structures and decision-making processes described and understood (including details of the involvement of women and marginalized or vulnerable groups), or is further assessment required? Please describe.	Yes – understood and described in general in the PIN narrative in section 4. Consulting communities for the Protect project is an opportunity to re-visit governance arrangements and assist in strengthening where necessary.	Agreed
	Are past or ongoing disputes over land or resources in the project area known and documented, or is there need for further assessment? Please describe.	No ongoing disputes identified. Conflict between the military and the Resistance forces does not affect the project area.	The project has not provided a clear confirmation as to whether any local disputes have been identified or documented. A conflict analysis at ESA, is required to address this finding.
Stakeholder consultation: requirements 2.5.1 and 2.5.2	Does the project have a Stakeholder Engagement Plan with clear measures to engage Vulnerable Groups, or is this plan still to be developed? Please describe.	Partially completed during Restoration project. Women's participation was highly encouraged for community governance and for project employment.	The project has not provided a detailed plan for stakeholder engagement. At the ESA stage, a comprehensive Stakeholder Engagement Plan with clear measures to engage vulnerable groups must be developed.

	Has the Project Coordinator informed all stakeholders of the project, through providing relevant project information in an accessible format, or does this still need to be completed? Please describe.	Yes. Completed for Restoration project through the FPIC process. CFs adjacent to the project CFs were informed of the project and invited to comment.	A clear communication plan is required for the ESA stage, detailing how project information in Burmese will be shared with the community to ensure informed consent.
Free, Prior and Informed Consent: requirements 2.6.1-2.6.4	Has the project analysed and understood national and international requirements for Free Prior and Informed Consent (FPIC)? Please describe.	Yes - understood and described in the PIN narrative in section 2.5	Please ensure the United Nations Declaration on the Rights of Indigenous Peoples, and the International Labour Organization Convention 169 are considered in the further development of the project design at the PDD stage.
	Has the project identified potential FPIC rightsholders and potential representatives in local communities and among indigenous peoples, or is this still to be completed? Please describe.	Yes - understood and described in the PIN narrative in section 2.5	The project should ensure that non-CFUG members are fully included in the FPIC process for all project activities that could affect their rights or livelihoods.
	Has the project worked with rightsholders and representatives of local communities and indigenous peoples to understand the local decision-making process and timeline (ensuring involvement of women and vulnerable groups), or is this still to be completed? Please describe.	Partially completed. Understood and incorporated for the for Restoration project. Will need to be re-visited in designing the Protect project.	Ok, include at PDD stage
	Has the project sought consent from communities to 'consider the proposed Project', and if so, where is this in principle consent documented? Please describe.	Yes. Link provided in the PIN Narrative of an example of a signed Community Agreement and FPIC form for the Restoration Project. Such agreements and FPIC forms are completed for all 13 participating communities	Agreed.

Grievance Redress Mechanism: requirements 3.16.1	Does the project already have a Grievance Redress Mechanism (GRM), or is this still to be established? Please describe.	Yes. Link provided in the PIN Narrative for the GRM developed and used during the Restoration Project	Agreed. At the PDD stage, the project must provide a further description and evidence of consultations surrounding the development and accessibility of the grievance mechanism process. Please also ensure any necessary updates are made to align fully with Section 3.17 of the Project Requirements.
	For projects with a GRM, is this accessible to project affected people? Please describe.	Yes. Description of the GRM is posted in the villages, and CF Management Committee have GRM forms.	Ok.

E&S reviewer conclusions for safeguard provisions

Are the project Safeguard Provisions adequately addressed, or to be adequately addressed during the project design phase? – At the time of PIN submission, several Project Safeguard Provisions are not yet adequately addressed. These will require further attention during the project design phase.

What additional actions need to be conducted during the project design phase? An Environmental and Social Assessment should be conducted in the field. The assessment should focus on moderate-to-substantial risks identified in this screening report.

Any other comments – N/A

SECTION D: SCREENING REPORT (NOT TO BE COMPLETED BY PROJECT: FOR USE OF PV E&S REVIEWER)	
Name of E&S reviewer	*Hamish McGill*
Date of E&S screening:	*13th June 2025*
Project risk rating:	*Moderate - The project warrants a moderate risk of negative social and environmental impacts. This is primarily due to the need for more comprehensive and proactive E&S risk assessment and mitigation strategies. For instance, clearer plans are required to address potential adverse impacts on biodiversity, risks of unsustainable resource use, and the exacerbation of existing social or land-use conflicts, including concerns around possible elite capture.*
Principle risks and impacts	*Key risks in this project include the potential for exacerbating existing inequalities among participants, particularly between landowning and non-landowning community members. There's also concern about infringing on access rights and livelihoods by restricting or limiting non-CFUG members'*

access to forests. Furthermore, the project should account for the risk of unsustainable use of natural resources, particularly mud crab populations, given the proposed expansion of crab farming as a key income-generating activity.

E&S topic/ risk area	Likelihood (1-5)	Magnitude (1-5)	Significance (low, moderate, severe, high)
Vulnerable Groups	3	2	Moderate
Gender equality	2	3	Moderate
Human Rights	2	2	Low
Community, Health, Safety & Security	2	3	Moderate
Labour and working conditions	2	2	Low
Resource efficiency, pollution, wastes, chemicals and GHG emissions	3	2	Moderate
Access restrictions and livelihoods	3	2	Moderate
Cultural heritage	1	1	Low
Indigenous Peoples	2	2	Low
Biodiversity and sustainable use of natural resources	3	3	Moderate
Land tenure conflicts	3	4	Substantial
Risk of not accounting for climate change	2	2	Low
Other – e.g. cumulative impacts	1	1	Low

E&S assessment required	*Risk assessment should focus on any risks rated moderate-substantial:* • *Vulnerable groups* • *Gender equality* • *Community, health, safety & security* • *Resource efficiency, pollution, wastes, chemicals and GHG emissions* • *Access restrictions and livelihoods* • *Biodiversity and sustainable use of natural resources* • *Land tenure conflicts* *Guidance on how to conduct an environmental and social assessment can be found here*
Likely safeguard plans required	*An Environmental and Social Management Plan (ESMP) will be necessary in the PDD. This plan should outline safeguarding measures, including details about the grievance mechanism and how it will be made accessible to all participants. Other key elements include benefit-sharing*

	arrangements, community consultation processes, strategies to avoid elite capture, etc.

Annex 5 – Notification of Relevant Authorities

1. Permission letter from Forest Department for 2023 planting - 2 letters: 200 acres in 5 CFUGs, and 100 acres 1 CFUG (Pi Dauk Pin Seik) - (Burmese and English translation) Link
2. Permission letter from Forest Department for 2024 planting (Burmese and English translation) Link

Community Forest Certificate - Sample in Burmese (Link) and Template English translation (Link)