My-Coast: Ecosystem-Based Conservation of Myanmar?s Southern Coastal Zone

Part I: Project Information

GEF ID
9261

Project Type
FSP

Type of Trust Fund
GET

Project Title
My-Coast: Ecosystem-Based Conservation of Myanmar?s Southern Coastal Zone

Countries
Myanmar

Agency(ies)
FAO

Other Executing Partner(s)
Ministry of Natural Resources and Environmental Conservation; and Ministry of Agriculture, Livestock, and Irrigation

Executing Partner Type
Government

GEF Focal Area
Multi Focal Area

Taxonomy
Agriculture, Forestry, and Other Land Use, Climate Change Mitigation, Climate Change, Focal Areas, Sustainable Development Goals, Biodiversity, Coral Reefs, Biomes, Sea Grasses, Mangroves, Tropical Dry Forests, Wetlands, Productive Seascapes, Protected Areas and Landscapes, Community Based Natural Resource Mngt, Fisheries, Mainstreaming, Transform policy and regulatory environments, Influencing models,

Convene multi-stakeholder alliances, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Civil Society, Stakeholders, Community Based Organization, Local Communities, Type of Engagement, Participation, Partnership, Private Sector, Individuals/Entrepreneurs, Gender Mainstreaming, Gender Equality, Beneficiaries, Sex-disaggregated indicators, Gender results areas, Awareness Raising, Access to benefits and services, Access and control over natural resources, Capacity Development, Participation and leadership, Training, Knowledge Generation, Capacity, Knowledge and Research, Innovation

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 1

Duration

48In Months

Agency Fee($)

289,403.00

A. Focal Area Strategy Framework and Program

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
BD-3_P6	Outcome 6.1 Integrity and functioning of coral reef ecosystems maintained and area increased	GET	1,306,863.00	5,160,966.00
BD-4_P9	Outcome 9.1 Increased area of production landscapes and seascapes that integrate conservation and sustainable use of biodiversity into management Outcome 9.2 Sector policies and regulatory frameworks incorporate biodiversity considerations	GET	871,242.00	3,470,882.00
CCM-2_P4	Outcome A. Accelerated adoption of innovative technologies and management practices for GHG emission reduction and carbon sequestration	GET	868,242.00	2,620,882.00
		Total Project Cost($)	**3,046,347.00**	**11,252,730.00**

B. Project description summary

Project Objective

Project Objective: Improved coastal zone management to benefit marine biodiversity, climate-change mitigation, and food security

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: National and sub-national (region/state) institutional capacity to develop and implement a large-scale coastal zone conservation strategy	Technical Assistance	Outcome 1:Strengthened national and sub-national (region/state) institutional capacity for ICZM, including improved national policies, strategic planning and a sound knowledge base for informed decision-making 1. 4000 (at least 50% women) national and region/state decision-makers/managers involved in project ICZM capacity-building activities (disaggregated by gender, m/f) 2. Evidence of increased knowledge and capacity on ICZM among key stakeholders at national and state/region levels (m/f) 3. Number and institutional position/role of personnel assigned to ICZM policy	1.1: An ICZM training and capacity development program for national and sub-national (region/state) stakeholders especially from Tanintharyi 1.2 Strengthened national and regional policy guidance frameworks and institutional arrangements for ICZM 1.3 Sustainable financing mechanisms for coastal conservation and management identified and tested 1.4: An integrated coastal zone management strategy for Tanintharyi Region 1.5: An information management system (IMS) operating to support informed ICZM decision-making and	GET	1,111,941.00	5,478,000.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2: Organizational capacity and action to implement strategic coastal zone conservation management in Tanintharyi Region, with special focus on the coastal habitats and biodiversity in the Myeik Archipelago	Technical Assistance	**Outcome 2**: Strategic coastal zone conservation management providing measurable environmental and socio-economic benefits demonstrated in the Myeik Archipelago of Tanintharyi Region 1. 210,000 ha (includes 110,000 ha of mangrove as below) of coastal habitat brought under improved conservation management via Community Fishery/Forestry User Groups and LMMAs 2. 110,000 ha of existing mangrove forest in Tanintharyi showing reduced degradation 3. 1100 ha of reforestation/ enriched forest 4. At least 3,000 coastal forestry and fisheries dependent households benefiting from project livelihood activities 5. Reduced dependency on fishing and mangrove fuelwood in target villages by 20-30% 6. Increased	*Output 2.1 Integrated coastal zone implementation capacity development and awareness programs established within Tanintharyi Region for district, township and village-tract level stakeholders* *Output 2.2: Multi-stakeholder coordination and decision-making mechanisms for coastal conservation management in Tanintharyi Region strengthened* 2.3: Expanded and improved coastal fisheries and habitat conservation management measures emplaced in the Myeik Archipelago *Output 2.4: Improved tenure, livelihoods, food security and climate change adaptation*	GET	1,789,342.00	5,774,730.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
				Sub Total ($)	**2,901,283.00**	**11,252,730.00**
Project Management Cost (PMC)						
	GET		145,064.00			
	Sub Total($)		**145,064.00**		**0.00**	
	Total Project Cost($)		**3,046,347.00**		**11,252,730.00**	

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount($)
Recipient Country Government	Department of Fisheries, Ministry of Agriculture, Livestock and Irrigation	In-kind	6,450,000.00
Recipient Country Government	Forest Department	In-kind	2,132,730.00
GEF Agency	FAO	Grant	620,000.00
GEF Agency	FAO	In-kind	100,000.00
Donor Agency	Institute of Marine Research Norway	In-kind	1,800,000.00
Other	WorldFish Myanmar	In-kind	150,000.00
		Total Co-Financing($)	**11,252,730.00**

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount($)	Fee($)
FAO	GET	Myanmar	Biodiversity		No	2,178,105	206,920
FAO	GET	Myanmar	Climate Change		No	868,242	82,483
				Total Grant Resources($)		**3,046,347.00**	**289,403.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required

☐

PPG Amount ($)

150,000

PPG Agency Fee ($)

14,250

Agency	Trust Fund	Country	Focal Area	Programming of Funds	NGI	Amount($)	Fee($)
FAO	GET	Myanmar	Biodiversity		No	105,000	9,975
FAO	GET	Myanmar	Climate Change		No	45,000	4,275
				Total Project Costs($)		**150,000.00**	**14,250.00**

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	321100.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	321,100.00		

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	4,700,000.00		

Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)

Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	0	0	0

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE

Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	0	15044610	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)		15,044,610		
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting		2021		
Duration of accounting		20		

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)				
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		7,500		
Male		7,500		
Total	0	15000	0	0

PART II: Project JUSTIFICATION

1. Project Description

.1 PROJECT CONTEXT

1.1.1 The national context

1. Myanmar is the largest country in mainland Southeast Asia. The continental coastline of Myanmar is around 2,280 kms in length (Myanmar Land Survey Department), but figures of 2,400 to 2,800 kms or more are also frequently quoted. In addition, there are more than 1,700 islands, including a dense cluster of over 800 islands in the Myeik Archipelago in the southern Tanintharyi Region. The coastline of Myanmar borders with Bangladesh in the Bay of Bengal to the north and with the Andaman Sea coast of Thailand in the south. Myanmar has an Exclusive Economic Zone (EEZ) of about 512,000 km2 and a continental shelf area (to a depth of 200m) of approximately 225,000 km2.

2. Three major coastal areas are recognized geographically in Myanmar: the coastline of Rakhine State in the north; the central Ayeyarwady Delta Region; and the coast of Tanintharyi Region in the south (Figure 1). The Gulf of Mottama, which is bordered by Yangon Region, Bago Region and Mon State, lies between the Ayeyarwady and Tanintharyi regions.

Myanmar Information Management Unit

Map of the Republic of the Union of Myanmar

Figure 1. Map of Myanmar showing the six regions and states bordering the coastline.

3. Myanmar is undergoing very rapid economic development and social change as a result of the political, administrative and economic reforms initiated from 2011 after almost 50 years of military rule. The country recorded annual economic growth averaging 7.5% over the period 2012-2016 and this rate is expected to continue for several more years ((NURI, 2018). However, a recent Country Evaluation concluded that such high economic growth has been achieved at the cost of increasing environmental degradation (NORAD, 2017). Thus, the on-going economic and social transformation in Myanmar risks adding new pressures on the country?s natural ecosystems and biodiversity, over and above the heavy exploitation that its forests, fisheries and other natural resources have already experienced over decades. In relation to marine biological resources, the National Biodiversity Strategic Action Plan (NBSAP, 2015-2020) acknowledges that these are being lost due to several factors, including over-fishing, illegal, unreported and unregulated (IUU) fishing, and poorly planned and uncoordinated development. Environmental impacts from climate change and pollution are additional and emerging threats, particularly to the health of the country's fragile marine and coastal ecosystems, and most notably Myanmar?s globally important coral reefs.

4. To date, fishing has had by far the greatest and most widespread impact on marine and coastal ecosystems and their associated biodiversity in Myanmar. Livestock and fisheries production contributed 8% of the country?s GDP in fiscal year 2017-18 (March to April). Marine fisheries production was 3.15 million tonnes: this is more than half the national total of 5.87 million tonnes for all fisheries and aquaculture products[1][1] and is equivalent to about 47% of the total marine fish catch in the Bay of Bengal.

5. It is estimated that around three million people are employed directly in Myanmar?s coastal fisheries sector, and many more derive indirect employment from it. Socio-economically, fishing remains by far the main source of livelihood and food security for many traditional coastal communities. In all three main coastal areas of Myanmar, small-scale fisheries contribute as much as 90% to the local economy of coastal and island fishing villages. However, faced with drastic reduction in their catches, these fishing communities are becoming increasingly impoverished and vulnerable to other environmental impacts, including climate change. Consequently, there is a fundamental interdependency between the health, productivity and diversity of Myanmar?s coastal and marine ecosystems and the well-being of millions of people whose livelihoods and food security depend on coastal living resources, especially fishery stocks. This relationship is evidenced further by the high level of fish consumption in the country, at over 50 kg per capita. The consumption of 52.3kg per capita in 2013 placed Myanmar 10th out of 160 countries for which fish consumption was recorded[2][2] and in 2017-18, the fish supply for human consumption reached 66 kg per capita.

6. The seas bordering Myanmar support a huge diversity of aquatic species, but illegal, unregulated and unreported (IUU) fishing and destructive fishing methods have caused overexploitation and habitat degradation, resulting in a significant decrease in the coastal fisheries standing stock and a severe reduction in the abundance of the most valuable commercial species. The most comprehensive assessment of the state of coastal fishery resources in Myanmar has been conducted by the Norwegian research vessel (RV) Dr Fridtjof Nansen under the FAO-implemented EAF-Nansen Programme[3][3]. This ship surveyed both pelagic and demersal fishes throughout Myanmar?s EEZ in 2013-15.

Compared to an earlier survey in 1979-80 by a similar Norwegian fisheries research vessel, pelagic fish stock levels had declined by more than 80% (from about 1 million tonnes to 190,000 tonnes; and demersal stocks by almost 60% (from 750,000 to 320,000 tonnes). Results from a similar survey conducted by the EAF-Nansen Programme in August-September 2018 indicate an increase in fish stock biomass compared to the 2013 survey findings, but some of the observed change is considered to reflect seasonal variation in fish abundance as the surveys compared were conducted in different months of the year.

7. In addition to the major decline observed in the abundance of fish since the initial survey in 1979-80, the more recent fish stock surveys (2013, 2015 and 2018) also revealed a dramatic change in the composition of species caught. There has been a significant reduction in the most valuable commercial species (e.g. threadfin bream, sea catfishes, snappers, sea cucumbers, lobsters); and a corresponding increase in smaller, less-valuable species. Species shifts of this nature are a typical indicator of over-fishing in a multi-species fishery. Another recent negative trend regarding the health of fishery stocks was the observed presence of large populations of jellyfish in some areas compared to 1979-80.

8. Over-fishing and habitat degradation have resulted in similar declines in artisanal and subsistence fishing for shrimps, crabs, and gastropod and bivalve molluscs on which many of the poorest fisher-folk depend, including women and children who collect shellfish by hand (gleaning). Both commercial and subsistence fishing areas are, in practice, open-access and there is little or no enforcement of fisheries regulations. The harvesting of mud crabs (*Scylla* species) is a good example: mud crabs are important to the livelihoods of subsistence fishers in all the coastal regions and states of Myanmar, but catches are now dominated by juvenile crabs below the legal minimum size of 100g designated by Department of Fisheries (DoF) Directive No. 9/94 (3 June 1994)[4][4]. Although this regulation determines the minimum size of mud crabs that can be legally collected and traded, it is neither complied with nor enforced.

9. The importance of Directive No. 9/94 is emphasized here because mud crabs are the most significant fishery resource associated with coastal mangrove ecosystems and, as such, are an ideal indicator species group for the project to monitor the relationship between coastal habitat health (in this case mangroves) and fisheries productivity). Moreover, mud crabs are second only to the freshwater *rohu* carp as the most valuable fishery product exported by Myanmar. The intimate relationship between mangroves, mud crabs and the economy of coastal fisher households in Myeik District of Tanintharyi Region is explained further in section 1.3.3 in relation to the project?s proposed demonstration site in Auckland Bay in the Myeik Archipelago and the use of indicator species of ecosystem health.

10. Myanmar still has extensive coastal mangrove forests and is the seventh ranked country globally with a mangrove area of about 485,000 hectares according to country estimates by Giri *et al.,* (2011)[5][5]. A more recent estimate by the Myanmar Forest Department (FD) identified 462,943 hectares of mangrove (2015 data). Within the Indo-Pacific biogeographical region, Myanmar ranks fourth in area of mangrove cover after Indonesia, Australia and Malaysia. The mangroves in Myanmar are also rich in biodiversity, with 34 out of the global total of just over 70 true mangrove tree species having been recorded, including several globally rare species, such as *Bruguiera hainesii*.

11. Although mangroves occur in all three main coastal areas of Myanmar, since the 1970s there has been a rapid rate of mangrove clearance due to coastal land conversion for agriculture; and degradation caused by the extraction of mangrove timber and fuelwood. Mangroves were cleared initially for rice production and then in some locations for aquaculture (shrimp ponds), especially in the Ayeyarwady Delta Region and Rakhine State, respectively. According to the Forest Department (FD), the percentage mangrove area lost from 1980 to 2015 was 71% in the delta and 24% in Rakhine State. In contrast, only a 2% loss was estimated for Tanintharyi Region over the same period. However, based on an assessment of forest cover, Connette *et al.* (2016) reported that almost two-thirds of this southern region?s mangrove forests are already degraded[6][6].

12. Mangrove wood continues to be in high demand throughout Myanmar?s coastal regions/states for many domestic purposes (cooking, heating, house construction and utility items); as commercial fuelwood/charcoal (including for drying fish); and as pole wood or cut timber for jetties, walkways and fishing structures. Much of the exploitation of mangrove trees is illegal, but it is widespread and severe, even in designated protected areas like the Meinmahla Kyun Wildlife Sanctuary in the Ayeyarwady Delta and Wunbaik Forest Reserve in Rakhine State. Human impacts are also severe on Myanmar?s biodiversity-rich but even more fragile coral reef and seagrass ecosystems (e.g. Howard, 2018).

13. In conclusion, the rate and intensity of coastal ecosystem degradation, biodiversity loss and fishery stock declines will continue to accelerate unless resource governance is greatly improved and species and habitat conservation regulations are actually enforced. Unsustainable sector-led development is already jeopardizing the fragile relationship between coastal habitats and the fisheries-dependent livelihoods of traditional coastline and island village communities. If future coastal zone development and resource use in Myanmar are not aligned strategically to protect and enhance marine conservation more effectively, coastal ecosystems will become increasingly degraded, fish stocks will continue to decline and some may even collapse. This project responds to the urgent need to apply integrated coastal zone management (ICZM) as a governance and sustainable management approach to address these issues. In doing so, the project will also enhance Myanmar?s contribution towards achieving the objective of the Bay of Bengal Large Marine Ecosystem (BoBLME) programme phase 2: *?A healthy ecosystem and sustainable use of marine resources for the benefit of the people and countries of the Bay of Bengal Large Marine Ecosystem?*. MyCoast is well-aligned with the four main themes of BoBLME?s Strategic Action Programme (SAP): 1) Fisheries and other marine living resources are restored and managed sustainably; 2) Degraded, vulnerable and critical marine habitats are restored, conserved and maintained; 3) Coastal and marine pollution and water quality are controlled to meet agreed standards for human and ecosystem health; 4) Social and economic constraints are addressed, leading to increased resilience and empowerment of coastal people[7][7].

1.1.2 Project intervention area

14. The MyCoast Project will focus primarily on the Tanintharyi Region, especially the Myeik Archipelago, but it will provide capacity development for integrated coastal zone management policy, planning and implementation nationally to benefit Myanmar?s Union

and State/Region levels, as well District to local levels in Tanintharyi. Moreover, the project-emplaced field-level results in the Myeik Archipelago will have potential for up-scaling throughout Myanmar?s coastal zone.

Geography and Population

15. The coastline of Tanintharyi is approximately 900 km long, extending from the Gulf of Mottama south to the mouth of the Pakchan River. The widest point from the coast to the border with Thailand is only about 100 km. Tanintharyi covers 43,345 km2, which is about 6.5% of Myanmar?s total territory, but has only around 1.75 million people out of the national population of over 53 million (3.3%). Consequently, this southern region is sparsely populated with an average population density of only 40 people per square kilometre.

16. The population of Tanintharyi is 75% rural and due to the region?s mountainous interior, its inhabitants are concentrated in the coastal belt and along the main rivers and their tributaries. Tanintharyi Region is divided into three administrative districts: Dawei, Myeik, and Kawthaung and 10 townships. The Myeik Archipelago covers more than 34,000 km2 and includes around 800 islands, most of which are uninhabited. Kyunsu Township covers the central part of the Myeik Archipelago and will be the focus of the project's field level activities. The inhabited islands typically support small and scattered fishing villages; however, on the larger islands, especially Kadan Island where Kyunsu Town is situated, agroforestry is also important economically and includes rubber, coconut, betel nut, cashew nut and fruit trees.

17. The majority of the resident population in Tanintharyi are Bamar, but there are also two important ethnic minority groups living in the coastal zone: Kayin (Karen) people and Moken (or Silon). Kayin comprise about 4% of the population in the coastal township of Kyunsu, which has a total population of 155,625[8][8]. There are a number of Kayin communities on the larger islands, especially Kadan Is. and Thayawthadangyi Is. The first Kayin households to settle on Thayawthadangyi Is. came from the mainland in the early 1900s, but many more arrived in the late 1940s and 1950s to escape the insurgency at that time[9][9]. The majority of Kayin people are farmers or farm workers who cultivate farmland, gardens or forest orchards with coconut, betel and fruit trees. More recently, a number of Kayin households have turned to fishing as their main source of livelihood. In contrast, the Bamar are involved in all types of fishing and business activities, but have less involvement in agriculture. In relation to religion, the Bamar people are Buddhists, whereas the Kachin are Christians.

18. It is believed that Moken people have been living in the Myeik Archipelago since at least the 18th century[10][10] and they are still present in small communities in the Myeik and Kawthaung districts of Tanintharyi. Traditionally, the Moken have migrated along the southern coastal zone of Myanmar, moving from island to island to collect sea cucumbers, pearls, shells, bird nests and other valuable natural products to trade for rice and other basic goods. As sea nomads, the Moken would spend much of their lives on traditional ?kabang? houseboats in the dry seasons, only building temporary villages on protected beaches to shelter during the monsoon periods. Today they live a more sedentary life style mainly within the central part of the Myeik Archipelago, and in recent years many Moken

have switched to squid fishing as their main source of income. The Moken population in Tanintharyi Region is about 3,000, including several settlements near the Lampi Marine National Park where efforts are being made to help the Moken benefit from tourism.

19. Within Kyunsu Township where the MyCoast ICZM demonstration site will be situated the population of Moken in 2017 was reported to be 655. Although some Moken in Kyunsu Township now live in small, permanent settlements, e.g. on Daun Kyun (Ross Island) and Thayawthadangyi Island, they still remain largely unintegrated with the majority Bamar and Kayin communities. The Moken have traditionally worshipped deities known at ?*nats*?, but many Moken have now converted to Buddhism or Christianity.

Biodiversity

20. The extensive forest landscapes and island seascapes in Tanintharyi Region are home to a globally significant concentration of biodiversity, with a high degree of endemism. Mangrove forests cover large areas of the region?s coastline and inner islands, while the islands of the Myeik Archipelago support globally significant coral reefs and seagrass meadows, with diverse associated marine life. The bottom trawl surveys by RV Nansen in 2018 recorded a total of 587 teleost (bony fish) species entities belonging to 145 families in the three main coastal areas of Myanmar, of which 501 species entities were present in Tanintharyi. As in previous surveys, it is expected that several new fish species will be identified from the 2018 samples collected.

21. Tanintharyi Region is also renowned for its beautiful beaches, some of which are used by nesting turtles; while there are also extensive mudflats and sand flats serving as important habitats for edible cockles and clams, as well as feeding grounds for wading birds. These productive coastal and marine ecosystems provide essential socio-economic services to the region?s human population, and they have the potential to provide other substantial economic and climate-change benefits if they are managed sustainably. However, Tanintharyi?s rich biodiversity and vital marine and coastal ecosystem services are under threat from over-exploitation, especially by the fisheries sector. A rapid expansion of other sectors, including commercial agriculture, tourism, oil and gas, trade and transportation, together with an influx of workers and ancillary businesses that these emerging sectors will attract, pose significant additional risks to the integrity of Tanintharyi?s coastal environment.

22. The International Union for Conservation of Nature (IUCN) has identified the southern coast of Myanmar as a major biodiversity conservation area (Figure 4), but also one of concern. Tanintharyi Region is located far from the nation?s capital of Nay Pyi Taw and historically has been rather isolated from the rest of the country. However, the southern region is now experiencing rapid development, including foreign investment. Tanintharyi Region has long-standing and close economic links with Thailand. There is cross-border trade by road from Dawei to the Thai province of Kanchanaburi in the east, and by sea to Ranong Province in southern Thailand. Approximately 90% of all the marine fishery products from Tanintharyi Region are exported to Thailand.

23. Many globally important species persist in southern Myanmar. Examples include over 20 critically endangered *Dipterocarpus* species; a vulnerable porpoise (*Neophocaena phocaenoides*), endangered whale shark (*Rhincodon typus*), and Irrawaddy dolphin (*Orcaella brevirostris)*; critically endangered hawksbill (*Eretmochelys imbricata*) and leatherback turtles (*Dermochelys coriacea*); the Sunda pangolin (*Manis javanica*), dugongs (*Dugong dugon*) and wild elephants (*Elephas maximus*). The coastline of Tanintharyi has some of Myanmar?s most extensive nesting areas for sea turtles, while the

Myeik Archipelago alone has over 209 bird species, including the vulnerable plain-pouched hornbill (*Rhyticeros subruficollis*) and Wallace?s hawk eagle (*Niseatus nanus*).

Marine and Coastal Habitats

24. The Myeik Archipelago, together with the Moscos Islands in northern Tanintharyi, contain some of the most abundant, widely distributed and biodiversity-rich coral communities in Southeast Asia. IUCN (with funding support from BOBLME) recorded more than 300 species of hard corals within the Myeik Archipelago. Similarly, Fauna and Flora International (FFI) observed 288 species and predicted a total of 309 species from surveys conducted in 2013-14. The outer reefs are most diverse in species, but both inner and outer coral reefs, as well as rock reefs, support a high number of coral genera (36 to 40 genera per site). FFI concluded that this high coral genetic diversity across the Myeik Archipelago indicates that larval recruitment is occurring from the wider Andaman Sea area, and possibly even from parts of the Coral Triangle area far to the east of Myanmar.

25. There are more than 10 species of sea-grasses in Myanmar. Seagrass meadows have a patchy distribution along the coastline of Rakhine State and Tanintharyi Region, where they occur both intertidally and sub-tidally. The areas with the highest diversity of seagrasses within Myanmar include Zar Det Ngye Island (East) and Pa Law Kar Kyun (St. Luke Island.) in the Myeik Archipelago; and Ma Gyi and Pho Htaung Gyaing along the Rakhine coast. Although data regarding seagrass coverage and distribution are limited, the southern coastal zone, and the Myeik Archipelago in particular, has relatively large areas of seagrass, with the percentage cover in surveyed sites ranging from 26 to 65% and represented by seven species (Howard, 2018). Seagrass meadows provide important habitat for a diverse assemblage of aquatic animals.

26. Mangrove forests in Tanintharyi cover an estimated 241,465 ha, mainly within Myeik District (177,892 ha), including near pristine mangroves on Lampi Island. Of this total mangrove area, the Forest Department (FD) has jurisdiction over 92,347 ha (about 38%), which has been designated as Reserve Forest (RF) or Public Protected Forest (PPF). The remaining 62% is classified as vacant land; however, FD has proposed to gazette a further 77,062 ha as PPF, which in total would bring about 70% of the mangroves in Tanintharyi under FD?s jurisdiction as RF/PPF.

27. In conclusion, Tanintharyi Region supports rich and globally important biodiversity. The selection of Tanintharyi Region, and particularly the Myeik Archipelago (as the project field intervention area) reflects this region?s importance as a hot spot for marine biodiversity, supporting extensive mangrove forests, coral reefs, seagrass meadows, mud flats and beaches. Tanintharyi is also an important region for both commercial and subsistence fisheries. It is still relatively undisturbed compared to many other coastal areas in Southeast Asia. However, as explained below, economic development in Tanintharyi?s coastal zone is poised for dramatic expansion, involving major infrastructure projects, oil and gas, international trade, tourism and aquaculture development alongside the already considerable marine fisheries sector. Thus, urgent action is required to bring Tanintharyi?s vulnerable marine and coastal ecosystems under effective conservation and sustainable use management.

1.2 THE CURRENT SITUATION

1.2.1 Main environmental threats

28. Fisheries and forestry over-exploitation have already impacted the rich biodiversity and abundant natural resources of Tanintharyi Region; and there is now imminent risk that new economic sectors, infrastructure development projects and climate change will add greatly to the existing pressures on the region?s coastal ecosystems and biodiversity

1.2.1.1 Over-exploitation of coastal resources

Marine Fisheries

29. Marine fisheries in Myanmar are sub-divided into inshore and offshore fisheries. The inshore area extends for 10 nautical miles from the coastline; and the offshore area starts from the end of the inshore area to the end of the EEZ[11][11]. Boats permitted to fish within the inshore area should not exceed 30 feet in length, or use an engine exceeding 25 HP. Despite declining fishery resources and poor catches, the number of offshore vessels has increased steadily in recent years, while more and more inshore fisherfolk have switched from non-powered to powered boats. Ever-increasing demand for seafood and over-capacity in the fisheries sector are the underlying and intermediate causes of over-fishing, respectively.

30. Tanintharyi has the highest number of large fishing vessels compared to Myanmar?s other coastal states and regions, with more than 900 trawlers and purse-seiners out of a national total of 3,172 off-shore fishing vessels (DoF, 2018). Much of the offshore fishing fleet operates from the fishery port town of Myeik. In fiscal years 2017-18 and 2018-19 to present, the Myeik District Fisheries Office issued more than 80% of all the offshore fishing licences issued in Tanintharyi.

31. Commercial over-fishing has impacted on the livelihoods of subsistence fisher communities and there is on-going conflict between offshore and inshore fisherfolks, with the latter complaining about illegal encroachment of large fishing vessels into inshore water areas. Several fishing practices are both illegal and harmful to coastal habitats, such as trawling over seagrass meadows in the inshore area. Dynamite, or blast fishing, which is still practiced within the Myeik Archipelago, is particularly destructive to coral reef communities.

Habitat Degradation and Conversion

Mangrove forests

32. Although the southern region still has extensive mangrove forests, with a total area of more than 240,000 ha, Tanintharyi?s mangroves have been heavily degraded by wood extraction for a wide range of construction purposes, and for firewood and charcoal-making. The widespread mangroves fringing Auckland and Whale bays in Myeik District, for example, have been exploited for charcoal since 1995 and charcoal production remains the main direct threat to these and other mangrove areas in Tanintharyi. Large trees (diameter at breast height, DBH 25-30cm) are now rare in Auckland Bay and most stands contain only small trees[12][12] The remaining mangrove forest cover is dominated by *Rhizophora*, *Bruguiera* and *Ceriops* species (Family Rhizophoraceae), which numerically constitute 75% of the forest (Tun, Hteik and Thuya, 2014). These are the main tree species

targeted by charcoal producers, so they are likely to be exploited as soon as they reach the minimum size suitable for charcoal-making.

33. Mangrove charcoal produced in Tanintharyi is used as household fuel in the great majority of local fishing villages (see Appendix XI). Although commercial production of charcoal is illegal, some charcoal is sold in Myeik and other towns, including Yangon. Large quantities of mangrove charcoal are also being sent to Ranong in southern Thailand and from there to other Asian countries such as Malaysia and Japan. This illegal export of mangrove charcoal to Thailand from Tanintharyi was triggered when Thailand?s mangroves were brought under strict conservation status in the late 1990s and mangrove forest concessions previously allocated for charcoal production in Ranong were terminated. According to a recent report, charcoal kiln operators in Tanintharyi are in debt to the buyers of the charcoal in Thailand, who store it in large warehouses before it is repackaged so as to appear to be produced in Thailand[13][13]. This indebtedness of the producers ensures a consistent supply of charcoal for the Thai buyers - leading to continued illegal felling of mangroves in Tanintharyi.

34. Healthy and well-managed mangrove ecosystems can contribute significantly to human well-being and to the resilience of people and nature to climate change. Mangroves support ecological and socio-economic resilience by providing vital provisioning, regulating and supporting services, especially food and livelihood security, while reducing impacts from climate change and militating against climate-induced hazards. The protective value of mangroves against storms and tidal surges is now well-recognized in Myanmar: Cyclone Nargis, which struck Myanmar?s Ayeyarwady Delta in 2008, caused far more loss of life (more than 140,000 people were killed) and more extreme physical destruction because much of the former mangrove forest had been converted to agricultural land. Myanmar?s National Adaptation Programme of Action to Climate Change (NAPA, 2012) concluded that: *?The loss of mangroves has severely reduced the flood regulation functions to protect local communities from climate extremes. Therefore, there is an urgent need to restore mangrove ecosystems, particularly in the face of increased intensities and frequencies of extreme weather events resulting from climate change.?****[14]***[14]

Seagrass meadows

35. Seagrass meadows are important gleaning sites for fisherfolk in Myanmar and they support a very high diversity of fishes and invertebrates. However, they are also targeted illegally by trawlers because seagrasses are known to provide habitat for valuable species of shrimp and fish (Howard, 2018)[15][15].

36. The specific threats to Myanmar?s seagrass meadows have been identified by the GEF/UNDP Bay of Bengal Large Marine Ecosystem (BOBLME) project as:

a) Runoff from cities and towns and hazardous wastes and oil dispersals released from industrial zones located in the upper areas of natural seagrass meadows are seen as serious threats to these habitats.

b) Bottom trawlers that ply directly through seagrass meadows to target shrimps and other marine species; the indirect threats from such activities include an increase in sedimentation which can smoother these habitats.

c) Sand mining in the Myeik Archipelago can also threaten seagrass meadows indirectly by increasing water turbidity, leading to a reduced ability of seagrasses to photosynthesize.

37. Seagrasses provide ecological services to many marine species including dugongs and turtles, which are protected by Law in Myanmar. Despite their conservation status, however, these vulnerable animals are under severe pressure from human impacts, including loss of seagrass-dominated habitats, which are crucial feeding grounds for dugongs and green turtles. Seagrass-associated fish and marine invertebrates are exploited both commercially and on a subsistence basis in Tanintharyi. In addition, the southern region?s seagrass meadows are particularly vulnerable to coastal development activities because they occur mainly in the intertidal zone. Moreover, investigation during the PPG phase revealed that the area of seagrass meadows in Tanintharyi is much less than has been reported by UNEP-WCMC and the Myanmar National Wetland Inventory (see Appendix XVII for details).

Coral reefs

38. Healthy coral reefs support rich biodiversity and serve as crucial habitat for numerous commercial fishery species, including high value species of finfish (e.g. groupers and snappers), crustaceans (e.g. spiny lobsters) and large edible molluscs. They provide a vital physical buffer from storms and wave surges; and coral reefs can sustain biodiversity-related tourism activities, such as boating, angling, snorkelling and diving, provided they are well-managed.

39. A recent biodiversity study by FFI in the Myeik Archipelago[16][16] found that many coral reefs showed clear signs of degradation, although some sites were still intact or showing signs of recovery. The FFI study reported that overall, the area covered by hard corals was below 50% in the surveyed sites (average 48.9%) and dead corals and coral rubble were frequently present, indicating past and present impacts. Coral bleaching[17][17] due to thermal stress in 2010; physical impacts from dynamite and other destructive fishing practices; and damage by boat anchors were cited among the main causes of coral degradation. Reefs nearest to villages also showed a high incidence of stress-related coral diseases associated with the discharge of untreated wastewater and plastic waste.

40. While destructive fishing activities remain the most direct threat to coral reefs in Tanintharyi, coral bleaching caused principally by thermal stress from climate change is predicted to increase as a major threat to hard corals at the ecosystem level.

Aquaculture

41. The area under aquaculture production in Myanmar has more than doubled in less than 20 years, from 70,535 ha in 2000-2001, to 198,845 ha in 2017-2018, while aquaculture production has greatly intensified within this same period, rising from 128,225 tonnes in 2000-2001 and to 1,130,350 tonnes in 2017-18, representing an almost nine-fold increase.

42. Aquaculture is vital for employment and food security in Myanmar because it is providing a rapidly increasing proportion of the fish supply to offset the declining stocks that support capture fisheries. However, intensive aquaculture systems such as coastal shrimp farming and soft-shell crab production can have serious negative impacts on coastal ecosystem integrity unless they are well-planned and managed responsibly within ecological capacity limits. Coastal shrimp farming has been particularly harmful in many Southeast Asian countries, including Myanmar, because much of the coastal land converted to shrimp ponds was formerly mangrove forest.

43. The Department of Fisheries is encouraging the development of fish and shrimp culture in every state and region of Myanmar in order to achieve self-sufficient local consumption and increasingly to provide high value products for export[18][18]. This policy will inevitably lead to coastal land conversion to aquaculture farms. The favourable coastal environment and tropical climate in Tanintharyi, plus its proximity to seafood markets in Thailand, makes the southern region a particularly attractive location for aquaculture investment. Some large areas of mangrove have already been converted into intensive shrimp culture and soft-shell crab farms in Myeik District. Pollution from intensive aquaculture facilities, even if they are largely water-based (e.g. floating fish cages), can cause severe organic and chemical pollution. Aquatic animal diseases and over-collection of wild seed and feed to support production are other risks that intensive forms of aquaculture can pose to the health of coastal ecosystems.

Coastal development, infrastructure and extractive industries

44. Myanmar has entered a new and rapid phase of development and economic expansion. Investment in coastal infrastructure is accelerating, but without evidence of strategic planning and management to mitigate negative environmental impacts. Substantial investments are being made in industrial agriculture, offshore oil/ gas, transportation and tourism, as well as the already heavily invested fisheries sector. Environmental hazards caused by extractive industries such as oil and gas are already in evidence, at least on a localized basis. For example, the RV Nansen 2015 survey recorded elevated levels of perylene, lead, mercury and barium, particularly near oil rig facilities.

45. Myanmar?s southern coast is still relatively undeveloped compared to other coastal areas of Southeast Asia, but due to its long border with Thailand, Myanmar?s southern region is being targeted for major cross-border economic development. New and substantial economic investments are planned along the coastal belt of Tanintharyi Region, the most significant being the Dawei Special Economic Zone Project, which will include a deep-sea port occupying 27 km2, plus other infrastructure including an oil refinery, a steel mill, fertilizer and petrochemical plants, factories and a reservoir, covering an additional 169 km2. Moreover, a new highway will provide a road connection between Dawei and Thailand. The highway and deep sea port will boost trade significantly by enabling goods from Myanmar and other ASEAN countries to be shipped from Dawei to India, the Middle East and Europe. Other improved road links, fish processing plants, aquaculture farms and major tourism development projects can also be expected. Kawthaung Airport will be upgraded to accommodate international flights, which will greatly boost the business and tourism sectors in Tanintharyi. Although such investments will bring much-needed

economic development to the southern region, they must be accompanied by commensurate integrated coastal zone planning, including sound conservation measure, to mitigate the risk of highly damaging environmental impacts.

Tourism

46. Although impacts from coastal tourism have not yet been documented in Tanintharyi, Myanmar is fast-developing as a new ?destination? country and a major target for international tourism development will undoubtedly be Tanintharyi?s attractive sandy beaches and the islands of the Myeik Archipelago. Domestic tourism is also expected to increase rapidly as urban middle-class families become financially able to enjoy more leisure time and to travel.

47. International tourism to Tanintharyi is currently constrained by a lack of facilities and high travel/tour costs. At present, foreign tourists cannot overnight on islands in the archipelago; and scuba diving is also prohibited. However, once Kawthaung Airport can receive international flights, and some of the other constraints on tourism are removed, a surge in foreign tourist numbers can be anticipated. However, tourism development in Tanintharyi has been largely unplanned to date: a Tanintharyi Tourism Development Committee was formed only at the end of 2018 and tasked with preparing a masterplan for sustainable tourism.

48. Based on experiences from neighbouring countries, the threats to Tanintharyi from coastal tourism development are expected to increase unless the sector is well-planned and regulated. These threats will include: coastal habitat conversion to tourism infrastructure; wastewater and solid waste pollution; physical damage to coral reefs; overexploitation of high value seafood, including rare species; and trade in souvenirs made from mollusc shells, puffer fish, turtles and other threatened marine animals are expected to increase substantially over the coming years.

Climate Change

49. Myanmar ranks among the countries most at risk from the main global climate change threats identified by the World Bank, namely: droughts, floods, storms, cyclones, sea level rise and impacts on agriculture. Forty-three extreme weather events occurred in Myanmar within the period 1997-2016, resulting in an average loss of life exceeding 7000 people annually. The Global Climate Risk Index (CRI) reported Myanmar to be one of the three most climate-affected countries over this same period (Germanwatch, 2018).

50. Future predictions for Myanmar point to even more extreme weather patterns and greater exposure of rural communities and food production systems to climate hazards. Food security and freshwater water availability will be reduced by impacts caused by less predictable weather, higher temperatures and longer drought periods, plus storm damage and saltwater intrusion into agricultural land. Coastal areas in particular will experience more intense flooding due to a combination of storm surges and sea level rise (SLR).

51. The Government of Myanmar expects appreciable and consequential temperature increases by 2050. The predictions for 2021-2050 point to an increase in temperature of 0.8 ?C to 1.4 ?C across Myanmar, with the highest rise to be in the deltaic (1.4 ?C) and coastal areas (1.2 ?C), plus an increase in rainfall throughout the country. However, the monsoon-driven wet season will start later and be shorter in duration. Myanmar?s monsoon season has already contracted from approximately 145 days to about 120 days annually, but rain events have intensified. Thus, the severity and extent of storm surges, and the risk of flooding, have also increased. Although less exposed to storms compared to the coastal areas of Rakhine State and Ayeyarwady Region, Tanintharyi?s coastal zone is

one of the most vulnerable to sea level rise. Heavier rainfall during the Southwest monsoon period has already resulted in flooding in Tanintharyi.

52. Coral reef communities are particularly vulnerable to climate change, as well as to direct human exploitation and pollution. A survey initiated in 2013 found that the health of 23.3% of hard corals across the Myeik Archipelago was compromised by bleaching[19][19], sedimentation, overgrowth or physical damage (Howard, 2018). Seagrass meadows are thought to be only slightly less sensitive than corals to similar stresses caused by climate change and human activities, including physical disturbance, sedimentation and water pollution (e.g. Orth et al., 2006). While it is clear that climate change represents a significant and imminent threat to coral and seagrass communities, mangroves are expected to cope quite well in the face of climate change, at least in the short to medium term, provided the rate of sea level rise is not excessive[20][20]. Mangroves may actually benefit from climate change-induced higher rainfall/lower salinity conditions.

53. A climate vulnerability assessment study for the DANIDA-supported CCA Project (?Climate Adaptation in Coastal Communities of Myanmar: Improved Management of Mangrove Forests?)[21][21], found that nearly all respondents in 25 coastal/near-coastal villages in Rakhine State (22 villages) and Myeik District (three villages) recognize that protection of their villages, property and other assets from damage by extreme weather events is directly related to the health and integrity of the adjacent mangrove ecosystem. They are also aware that further loss and degradation of mangroves will increase their vulnerability. However, in general this recognition has not translated into community-led actions to protect mangroves, or to rehabilitate degraded forest areas. Thus, the challenge for the MyCoast Project will be to mobilize effective community involvement in mangrove conservation, rather than ?awareness-raising? *per s*e on the importance of mangrove ecosystem services in relation to climate change.

54. Villagers in Myeik District made the following specific observations relating to impacts from climate change[22][22]:

a) Winds are becoming stronger;
b) single rainfall events are becoming more intense, with higher amounts of rainfall than in the past;
c) start of the rainy season is delayed, and the rainy season lasts longer in the year;
d) storm season begins earlier and ends later;
e) severity of storm damage to fishing grounds and aquatic resources is increasing;
f) hot dry spells during the dry season are becoming hotter;
g) flooding is more frequent, is becoming higher and more serious, and takes longer to clear than before;
h) cyclones are becoming more frequent and more intense;
i) diseases of livestock are become more serious and frequent;
j) common human diseases are more frequent;
k) droughts, floods, cyclones, storm surges and tidal inflows are more frequent and all cause more serious damage than before.

55. In conclusion, the above factors, combined with over-exploitation and poorly informed habitat conversion, represent cumulative impacts that can only accelerate the rate of ecological decline in Myanmar?s coastal states and regions. Further stresses on coastal

ecosystems will increase the vulnerability of local communities to climate change and lower their adaptive capacity. Directly and indirectly, climate change is a threat to the safety, livelihoods and food security of coastal-dwellers in Myanmar, particularly the poorest households and ethnic minority peoples.

1.2.2 Institutional and legal baselines

56. Two ministries are primarily responsible for natural resource management in Myanmar: Ministry of Agriculture, Livestock, and Irrigation (MoALI); and Ministry of Natural Resources and Environmental Conservation (MoNREC). MoALI was formed in 2016 by integrating the former Ministry of Livestock, Fisheries and Rural Development with the Ministry of Agriculture and Irrigation.

57. Recognising the socio-economic importance of natural resources to the large rural population of Myanmar, and the risks that rapid economic development presents to the ecological integrity of the country?s biodiversity, landscapes and ecosystems, the government and development partners are supporting policy reforms, as well as capacity-strengthening and awareness-raising, aimed at achieving ecosystem-based management and effective governance over natural resources. However, few investments are applying ICZM as a governance and management approach, or address the nexus between marine biodiversity, coastal livelihoods, food security and climate change.

Fisheries Baseline

58. The legal framework for fisheries in Myanmar comprises of four Union-level laws and two amendments:

a) Law relating to the fishing rights of foreign fishing vessels (1989)

b) The Law relating to Aquaculture (1989);

c) Myanmar Marine Fisheries Law (1990);

d) Freshwater Fisheries Law (1991);

e) Law Amending the Law relating to the Fishing rights of Foreign Fishing Vessels (1993);

f) Law Amending the Myanmar Marine Fisheries Law (1993).

59. The Marine Fisheries Law defines ?Myanmar Marine Fisheries Waters? as the waters along the sea coast of Myanmar from the high tide mark towards the open sea; the waters on the seaside of the straight line drawn from one extreme end of one bank to the extreme end of the other bank of river and creek mouths; and the waters from the said high tide mark to the end of the EEZ. It also defines ?Inspector? as State, Division, Zone and Township Officers-in-charge of the DoF, any officer of the DoF assigned the duties of an Inspector by the Director General, and any individual assigned the duties of an Inspector by the Ministry from time to time.

60. Of particular relevance to MyCoast, the Myanmar Marine Fisheries Law confers powers to the Director General of the DOF to issue conditions, prohibitions, orders and directives relating to fisheries. In exercising this power, DoF Notification No. 2/2013 defines inshore and offshore areas as follows: An inshore area is an area up to 10 nautical miles from the shore along the Myanmar coastline; an offshore area starts at the end of the inshore area and extends to the end of the exclusive economic zone. Only boats less than 30 feet in length and engine capacity less than 25 HP are permitted to fish within the inshore area. There are also various DoF notifications prohibiting the catching of turtles,

whale sharks and marine mammals; and restrictions by area or season on the catching of sharks and rays, Indian threadfin, groupers, sea bass, prawns, mud crabs and clams (Appendix XII). DoF restrictions on fishing gears include minimum mesh size limits on trawl nets for catching finfish and prawns, as well as bans on illegal fishing methods such as dynamite fishing.

61. The Law relating to Aquaculture defines aquaculture in Myanmar as the propagation of fish species and breeding of fish through different stages of growth in natural or artificial waters by various breeding techniques. Under this law, land for aquaculture means the land demarcated and reserved by the DoF for the purpose of aquaculture. In order to develop aquaculture, the DoF may demarcate and reserve land for aquaculture out of suitable lands from amongst agriculture lands and waste lands, in accordance with the existing Land Laws.

Department of Fisheries (DoF)

62. Previously, the DoF concentrated more on its production function than on conservation. Now both objectives are included in its policy framework, but there is little enforcement of the enacted fishery conservation measures described above. DoF operates through its national office and state/region offices, but with only 2,469 staff (365 officers and 2,104 other employees), the department is severely under-staffed and has very limited technical capacity or financial resources. A recent Myanmar sectoral analysis concluded that *??fisheries remain under prioritized by the government and suffer from poor management as well as the lack of infrastructure, modern technology and impact assessment.?* (Norwegian Institute of International Affairs, 2018).

63. Maximum Sustainable Yield (MSY) was calculated nearly 40 years ago and recent data suggest that the MSY might need to be adjusted down, from 2 million t/ year to only 100,000 t/ year, in order to return to long-term sustainability. Fisheries management is pursued by licensing, prescribing exploitable species, designation of permitted fishing gears and fishing restrictions e.g. imposing closed areas or seasons. The current statistical system for marine fisheries is not conducive to delivering data to support effective fisheries management; and it does not incorporate critical considerations about the status of coastal/marine habitats and biodiversity.

64. To better regulate offshore fishing, DoF is trying to initiate a satellite-based Vessel Monitoring System (VMS) by installing tracking devices on offshore fishing vessels. These electronic devices can provide location, catch-size and other fishing surveillance data. This initiative aims to provide effective and efficient scientific data to monitor, evaluate and improve fisheries enforcement activities. It also presents an opportunity to broaden the use of information systems to incorporate other indicators of coastal ecosystem health into decision-making: this is an aspect of fisheries management that MyCoast can contribute significantly to.

Forestry Baseline

65. The legal framework for forestry and associated land use in Myanmar includes the following legislation:

a) Forest Policy (1995);

b) Forest Law (2018);

c) Community Forestry Instructions (2016);

d) Land Use Policy (2016);

e) Vacant, Fallow, and Virgin Land Management Bill (2018).

66. The Forest Policy (1995) recognizes the importance of the forestry sector in enhancing national socio-economic development and ensuring ecological balance and environmental stability. It has six priorities: protection, sustainability, basic needs, efficiency, participation, and public awareness. The policy encourages forest development through natural regeneration, reforestation and rehabilitation programmes; conservation of natural forest resources; optimizing productivity from natural and planted forests; and restoring ecosystems. There is an annual target of 30,000 hectares for the rehabilitation of degraded lands and for meeting rural needs: The Forest Policy also states that Myanmar?s protected area system should cover at least 10% of the total land area of the country.

67. The new Forest Law (2018) supports conservation initiatives and sustainable forestry practices, promotes socio-economic benefits and encourages private sector and community participation in forest management. This recently enacted law has also enabled development of the 2016 Community Forestry Instructions (CFI), which give a legal basis for rural communities to co-manage forest resources. The new Forest Law also recognizes and respects the customary conservation of natural forests all over Myanmar, including mangroves in the coastal areas, and legally supports the various types of forest plantation both within and outside the Permanent Forest Estate (PFE).

68. The Community Forest Instructions (CFIs) 2016 give rural communities the right to co-manage forests in order that economic development can expand throughout the country while providing basic needs to local people and encouraging their active participation in environmental conservation. The CFIs encourage tree-planting and reforestation on barren and degraded land to help Myanmar achieve the goal of net-forest growth over the next 30 years. The overall principles of the CFIs are that local communities should be able to fulfil their basic livelihood needs and develop a market-oriented approach to forest products, while also reforesting degraded areas. The CFIs recognize the rights of rural communities to have equitable use of forestland adjacent to their villages because of the importance of forest products to their livelihoods.

69. The Land Use Policy (2016) supports sustainable land use management with land tenure right and security, and protection of natural resources, together with livelihoods improvement and food security for all people by promoting people?s participation. The policy provides principles on how to implement, manage, and carry out land use and tenure rights in the country. It is considered to be one of the most socially progressive policies in Myanmar, as it includes recognition of customary land rights, the inclusion of women in land governance and acknowledges the rights of ethnic minority groups. However, the policy has not yet been fully implemented.

70. The Vacant, Fallow, and Virgin Land Management Bill (2018) supports coordination of the Central Committee with MoNREC and other concerned ministries to prevent destruction or damage to forest land, including Reserve Forest, and Protected Public Forest; and for the conservation of natural habitats, watershed areas and natural fisheries. The Central Committee can grant the right to utilize vacant, fallow and virgin land in the country for the following purposes: agriculture, livestock and poultry farming, aquaculture, mining and other allowable purposes in line with national laws. There is widespread concern that this new land bill threatens the customary land and forest use rights of traditional communities, especially ethnic minorities who are fearful of ?land-grab?. This could include conversion of coastal forest land for commercial agriculture or aquaculture, if it is not protected within the Permanent Forest Estate (comprising of Reserve Forest and Public Protected Forest) under jurisdiction of the Forest Department.

Forest Department (FD)

71. Within MoNREC, the Forest Department (FD) is responsible for sustainable forest management, biodiversity conservation, restoration of degraded forest ecosystems, watershed conservation, plus forestry research and development. Management of mangrove forests is currently under the Watershed Division within FD. As well as having jurisdiction over Myanmar?s Permanent Forest Estate, the FD is also responsible for the protection and conservation of wildlife, e.g. Meinmahla Kyun Wildlife Sanctuary in the Ayeyarwady Delta, which is an important mangrove-dominated island for the protection of wildlife, including crocodiles.

72. The Forest Department is implementing the National Reforestation and Rehabilitation Program (NRRPM), which is a 10-year initiative (2016 to 2026) with the goal to enhance economic and environmental conditions of the country through a national reforestation and rehabilitation program. In summary, the specific objectives of NRRPM are to restore degraded natural forests for the provision of goods and services; improve the condition of plantation forests; and introduce technical improvements and more efficient reforestation activities.

1.2.3 Partner programs/projects

73. The Government of Myanmar supports marine conservation through a limited number of programs/projects and strategies. The latter include the FAO-COFI ?Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication?, but these guidelines only peripherally address habitat and conservation concerns.

74. In collaboration with the FD, a number of different agencies and organisations, including JICA (Japan International Cooperation Agency), DANIDA (Danish International Development Assistance), FREDA (Forest Resource Environment Development and Conservation Association) and MERN (Myanmar Environment Rehabilitation-Conservation Network) are undertaking mangrove and other coastal forest restoration efforts in response to the impact of cyclones in the Ayeyarwady Delta and Rakhine State. The support from DANIDA also includes mangrove conservation and restoration activities in Tanintharyi.

75. A list of current marine/coastal conservation projects in Tanintharyi being implemented by the DoF and FD in collaboration with international development partners and INGO/NGOs is shown in Table 1. In collaboration with BANCA (Biodiversity and Nature Conservation Association) and FFI (Fauna and Flora International), the DoF is also planning to establish an MPA Network System that will incorporate existing marine reserves, including two shark reserves, in the Myeik Archipelago.

Table 1. Current coastal and marine conservation projects in Tanintharyi Region.

Project	Implementation	Partners

Conserving marine species and ecosystems and environmental services in Tanintharyi and Ayeyarwady Regions and Rakhine State	2014-19	DoF, FFI, BANCA
Spearheading Marine Conservation in Myanmar: A national program for marine spatial planning and fisheries reform.	2016-19	DoF, WCS (Wildlife Conservation Society)
Sustainable Coastal Fisheries (SCF) (Rakhine State and Tanintharyi Region)	2017-20	DoF, DANIDA
Climate Change Adaptation: Improved Management of Mangrove Forests (CCA) (Rakhine State and Tanintharyi Region)	2017-21	FD, DANIDA
Innovative Strategies for Environmental Conservation and Social Inclusion through the Development of a Responsible Ecotourism Model (STAR)	2018-21	FD, Istituto OIKOS, WorldFish
Development of Sustainable and environmentally friendly aquaculture techniques in coastal waters in Myanmar (Tanintharyi Region) (MYSEFAT)	2017-21	DoF, JIRCAS (Japan International Research Center for Agriculture Sciences)
Development of Marine Cage Fish Farming (technical assistance)	2018-20	DoF, NDG (Norway Development Group)

Supporting the Application of the Ecosystem Approach to Fisheries Management Considering Climate and Pollution Impacts (EAF- Nansen) (Ayeyarwady, Rakhine and Tanintharyi)	2018-21	DoF, FAO and NORAD (Norwegian Agency for Development Cooperation)
Myanmar-Norway Fisheries Development Program (MYANOR-Fish)	2019-24	DoF, NORAD and IMR (Institute for Marine Research)

Food and Agricultural Organisation of the United Nations (FAO)

76. Since 1975, FAO has collaborated with NORAD (Norwegian Agency for Development Cooperation) and IMR (Institute of Marine Research) in Bergen, Norway, to carry out marine surveys in and around developing countries in Africa, Asia, and Latin America. This is a significant addition to the range of national activities in Myanmar and activities involving Myanmar scientists and government officials in a wider Bay of Bengal context. Important benchmark information on the state of Myanmar?s marine resources was provided by a first survey in 1979-80. More recent surveys were conducted in 2013-15 and 2018 by the Norwegian research vessel (RV) Dr Fridtjof Nansen, operating within the framework of the FAO EAF-Nansen Project ?Strengthening the Knowledge Base for and Implementing an Ecosystem Approach to Marine Fisheries in Developing Countries? (GCP/INT/003/NOR) and BOBLME.

77. The FAO Regional Office for Asia and the Pacific, based in Bangkok, is the implementing agency for the Bay of Bengal Large Marine Ecosystem (BOBLME) project, which is supporting all eight nations bordering the Bay of Bengal: the Maldives, India, Sri Lanka, Bangladesh, Myanmar, Thailand, Indonesia, and Malaysia. The project has laid a foundation for a coordinated programme of action designed to improve the lives of coastal

populations through improved management of the Bay of Bengal ecosystem complex and its fisheries. FAO has also been involved in some of the BOBLME components directly relating to fisheries and resource management. BOBLME Phase 1 ended in 2015 and a second phase is in preparation.

78. FAO and the Government of Myanmar share a long history of cooperation in their respective efforts to achieve food security, fight poverty, and sustainably manage natural resources. FAO?s Myanmar Country Programming Framework (CPF) for 2012-2017 included sustainable management of natural resources, and food and agricultural production (including fisheries and forestry), among its outcome priorities. For example, the Environmentally Sustainable Food Security Programme (ESFSP) ?Support to the immediate rehabilitation of farming, coastal fisheries and aquaculture livelihoods in the cyclone Nargis-affected areas of Myanmar? (GCP/MYA/012/ITA; 2010-2014) sustainably improved household food production, nutritional status, and income-generating activities among households and communities that comprise landless, marginal, and small-scale farmers and fishers in the cyclone-affected townships of Bogale, Labutta and Pyapon. Co-management of fishing concessions in the Ayeyarwady Delta was also piloted. This project provided valuable lessons learned for the MyCoast PPG.

79. The current FAO CPF (2017-2022) is supporting three priority areas, plus several cross-cutting issues: a) enhanced food security, nutrition and food safety; b) strengthened governance and sustainable management of lands, forests, water resources and ecosystems; and c) enhanced resilience of local communities and farming households to natural and humanitarian disasters, climate change and transboundary and emerging infectious disease risks. Particular emphasis is also being given to three cross-cutting issues: capacity development, gender equity and equality, and ethnic group rights. The MyCoast Project is closely aligned with these thematic and cross-cutting priorities.

Danish Development Assistance (DANIDA)

80. The Denmark-Myanmar Country Programme 2016-2020 includes two components that focus on coastal fisheries, and mangroves and climate change: `Sustainable Coastal Fisheries` (SCF) and `Climate Change Adaptation: Improved Management of Mangrove Forests` (CCA) are two highly relevant DANIDA-supported engagements that include activities in Tanintharyi Region as well as Rakhine State. In cooperation with DoF, fisheries co-management is being developed by SCF in coastal villages in Myeik and Dawei districts. The CCA engagement, which will operate until 2022, is assisting the FD to expand the area of coastal mangroves under Public Protected Forest status in Myeik District. The CCA is also supporting ICZM capacity development. Both the SCF and CCA engagements also include emphasis on building capacity for project implementation and financial management within the DoF and FD, respectively.

Norwegian Agency for Development Cooperation (NORAD)

81. Myanmar is a priority country for assistance from Norway. In addition to having a focus on peace and reconciliation, and the political and economic reform process, NORAD?s support to Myanmar covers several relevant natural resource management projects/programs, especially fisheries, and energy and environment/climate, including REDD+. Myanmar is one of only three developing countries selected for special collaboration with Norway?s Fish for Development Program. This program covers Research and Development (including the Nansen programme); Business and Development (including aquaculture); and Resource Management and Legislation. A five-year Myanmar-Norway Fisheries Development Program (MYANOR-Fish) has also started, which is supporting capacity development in the Department of Fisheries (DoF) Myanmar, with a particular focus on improving fisheries statistics, offshore fisheries

management and marine aquaculture. This program (2019-2024) has four components: 1. Fisheries statistics: including a registry for fishing vessels and recording of fish catches at landing sites; 2. Training: including technical and informal training, Master?s degree education in Norway and third country training; 3) Aquaculture: oceanographic and environmental monitoring to support planning and feasibility of marine caged aquaculture (mainly in Myeik District), and food safety aspects of seafood for export; 4. Fisheries governance: covering regulation of offshore fisheries (including surveillance and control) and aquaculture, as well as Myanmar?s involvement in international fisheries agreements. MYANOR-Fish is funded by NORAD and implemented by the IMR (Norwegian Institute of Marine Research).

WorldFish

82. As a member organisation of the CGIAR, a global research partnership for a food-secure future, WorldFish is an international, non-profit research organization dedicated to harnessing the potential of fisheries and aquaculture to strengthen livelihoods and improve food and nutrition security. Under its current research strategy (2017-2022), Worldfish has three main programs: resilient and productive small-scale fisheries; sustainable aquaculture; and fish product value chains and nutrition.

83. In partnership with DoF, WorldFish implemented the project ?Improving Research and Development of Myanmar?s Inland and Coastal Fisheries (MYFish)?. This project helped to improve the management capacity in Myanmar?s inland aquaculture and fisheries sectors and promoted fisheries co-management and small-scale aquaculture as cornerstones of rural food security and livelihoods. WorldFish is also a co-financing and implementing partner in the FAO/GEF FishAdapt Project (Strengthening the adaptive capacity and resilience of fisheries and aquaculture-dependent livelihoods in Myanmar). WorldFish is an implementing partner in several other freshwater fisheries and aquaculture projects, including the freshwater component of MYSAP (Myanmar Sustainable Aquaculture Project) funded by the EU and Germany; and Phase 2 of MYFish (Improving fishery management in support of better governance of Myanmar?s inland and delta fisheries) funded by ACIAR.

84. MyCoast can benefit from the experience of WorldFish in fisheries co-management and aquaculture, as well as its knowledge of the legal and policy framework for fisheries and aquaculture in Myanmar. WorldFish is also assisting the DoF to administer a Fisheries Research Development Network (FRDN) that includes the Myanmar Fisheries Federation (MFF) and Yangon and Mandalay universities. In partnership with the OIKOS-implemented STAR project, WorldFish is developing an ICZM plan for the Lampi Island Marine National Park in Myeik District, with a focus on helping Village Fisheries Societies to manage sustainable fishing zones, while OIKOS is preparing a more general management plan for Lampi, including sustainable tourism. These activities can provide valuable contributions to the Tanintharyi Coastal Conservation Strategy that will be a key output from the MyCoast Project.

1.2.4 Remaining barriers to be addressed

85. Nearly all existing and emerging challenges facing the ecological security of Myanmar?s coastal zone stem from the absence of integrated landscape and seascape planning and management, coupled with over-exploitation and environmentally harmful extraction of coastal resources. Management is still strongly sectoral in nature, with laws, policies and action plans based largely on sector-specific objectives. However, even the existing sector-level regulatory frameworks, including those covering fisheries and

forestry management, are not enforced effectively, with the result that illegal fishing practices harmful to coral, seagrass and mangrove ecosystems, plus mangrove forest degradation caused by wood extraction and encroachment, remain widespread throughout Myanmar?s coastal zone.

86. Sustainable conservation of coastal resources in Myanmar requires large, intact ecosystems. However, the accelerating development in Myanmar?s coastal zone is not supported by a strategic approach to coordinate and guide investment, or to ensure that coastal ecosystems and their associated services are conserved. Myanmar does not currently have an integrated coastal management strategy at a scale designed to address challenges at the ecosystem level. Without a comprehensive and innovative coastal conservation strategy, coastal ecological integrity is at risk, as are fisheries-based livelihoods and food security. Local communities generally understand that their natural surroundings are being increasingly threatened and degraded, but they have few alternative livelihood options and little recourse to improve decision-making. This challenging situation persists due to four primary barriers. These relate to: (1) a lack of the enabling conditions (especially institutional capacity and access to sustainable livelihood opportunities) required to support integrated coastal zone management in both principle and practice; (2) ineffective coastal resources governance including weak enforcement of existing regulations; (3) low awareness of the full environmental and socio-economic values of coastal ecosystem services; and (4) the absence of a working example of an integrated coastal zone conservation strategy adopted and applied on a significant geographical scale (i.e. state/region level).

Barrier 1: Insufficient institutional and human resource capacity to generate strategic approaches to coastal zone management.

87. Myanmar is a rapidly emerging country with very limited experience of integrated coastal zone management (ICZM). There is no ecosystem-based coastal zone planning in the country and whilst there is environmental legislation, a national and state/region-level enabling environment is only now being put in place with the formation of a National Coastal Resources Management Committee (NCRMC). Formed by a Union Cabinet Decision in November 2016, the NCRMC is chaired by a Vice-President and has 19 members, including state/region ministers, with MoNREC serving as the committee Secretary. After several meetings of the NCRMC, an Advisory Committee with six Expert Groups was set up in 2018 to cover key aspects of ICZM: policy, planning and coordination; fishery and marine ecosystem conservation; forest, agriculture and environmental conservation; region/state development, tourism and transport; oil, gas and mining; and marine and coastal resources research. Below Union level, the composition of an equivalent committee for Tanintharyi Region (TCRMC) was only decided in 2018, and district level committees (DCRMC) have only just been formed. It is still unclear how the work of these committees will be coordinated between the different levels of government involved?

88. The first step towards achieving a strategic framework for ICZM in Myanmar is to craft a coastal zone conservation management strategy. However, existing laws and policies do not directly address coastal area management in a strategic, integrated manner. Relevant institutional roles are unclear, or even conflicting; and regulatory frameworks governing fisheries, forestry, agriculture, and other natural resources and development sectors are, in some cases, misaligned and run counter to coastal biodiversity and environmental objectives. The agencies responsible for marine fisheries, forestry, agriculture, tourism, energy, transport and other major sectors impacting on coastal ecosystems and their resources reside in different ministries and departments. While the recent establishment of national and region/state and district level CRMCs represents a new and progressive initiative to address coastal conservation issues, these committees do

not have non-governmental representation, and there are no clear mechanisms in place to coordinate with actions on the ground involving local managers, coastal communities and commercial resources users.

Barrier 2: Ineffective coastal resources governance, including weak enforcement of existing conservation and environmental protection measures

89. The Environmental Conservation Act 2012 and Foreign Investment Rules 2013 require environmental and social impact assessments. However, there is no comprehensive conservation strategy upon which to evaluate and gauge such assessments. Without this reference point, it is difficult to evaluate individual or cumulative impacts relative to conservation objectives. The result is that planning, monitoring, and strategic management of the coastal zone remain elusive. Commercial and artisanal fishing remain primarily open-access and the coastal fishing effort has increased steadily as many inshore fisherfolks have switched to larger, engine-powered boats. There is only limited implementation of regulatory controls on some forms of fishing and the marine fishery regulations are grossly outdated. This has led to extreme levels of over-fishing (as illustrated by the example of mud crab exploitation - see subsection 1.1.1); widespread illegal fishing; and on-going conflicts between inshore (within 10 miles of the shoreline) and offshore (beyond 10 miles) fishing boats. Overall, coastal zone development is fragmented and uncoordinated, while coastal zone resource use is not well monitored or assessed for environmental impact.

Barrier 3: Low awareness of the true environmental, socio-economic and societal values of coastal ecosystem services

90. The provisioning services derived from coastal ecosystems, such as fishery products and wood extracted from mangrove forests, are easy to value because they can be quantified and have a known selling price. Coastal ecosystems provide numerous other important services, particularly regulating and supporting services. However, many of these are indirect or ?off-site? services that are poorly understood and are not adequately considered in coastal development planning. They include physical protection of coastline from storms and flooding (coral reefs and mangroves); sediment trapping and stabilization of coastal land (mangrove and seagrass ecosystems); nutrient cycling and maintaining water quality; habitats supporting biodiversity, or providing nursery and feeding grounds for commercially important species of fishes, crustaceans and molluscs. The total economic value of coastal ecosystem services can be extremely high on a recurring annual basis, but policy decisions often focus only on the direct values of ecosystem provisioning services in the form of tradable ?goods? and overlook the significant contributions from ecosystem regulating, supporting and cultural services. Similarly, offsite and indirect ecosystem services are usually excluded from environmental impact assessments (EISs), which typically are limited to assessments of on-site and direct impacts only.

Barrier 4: Lack of demonstrated strategic integrated coastal zone management approaches

91. Even if a strategy and national enabling environment for ICZM can be developed, good examples of region/state ICZM plan implementation on-the-ground will still be needed. There are both common and unique socio-ecological circumstances and threats among the six states and regions that border Myanmar?s long coastline. Without ground-tested examples of ICZM planning frameworks, implementation mechanisms and examples of ?best practice? results, coastal development will continue to be driven by disconnected, short-term interests with little consideration given to ecosystem health and biodiversity, or to the impacts from climate change on people and nature. And without the capacity to develop and implement ICZM plans at the local level, coastal communities (in

village tracts and villages) will not be able to protect their environment and the ecosystem services they depend on for income, food security and safety from extreme weather events.

92. In summary, it cannot be expected that government, private sector or community stakeholders will be able to embrace and apply ICZM principles unless they are able to witness the practical application of ICZM at first hand, and thereby appreciate and give their support to the benefits that integrated coastal resources conservation management and sustainable use can achieve.

1.3 THE GEF ALTERNATIVE

1.3.1 Project strategy

93. The project?s objective is *improved coastal zone management to benefit marine biodiversity, climate-change mitigation, and food security*. The project has two inter-related and complementary components. Under Component 1, national and region/state capacities will be developed to plan and implement strategic coastal conservation management based on integrated coastal zone management principles. Under Component 2, equivalent district to community capacities will be built and integrated coastal zone management (ICZM) will be demonstrated in practice in a selected geographic area of the southern Tanintharyi Region, with a focus on the Myeik Archipelago. The demonstration site(s) for ICZM will be large enough to allow for measurement of positive change on an ecosystem scale. The other criteria for selection of demonstration sites include a) evidence of intimate ecological linkages between the coastal habitats within the site and fish stocks of high economic importance to local communities; and b) existing or potential threats to the site from direct or indirect human activities, and/or climate change.

94. The project will address the conservation needs of all coastal ecosystems and habitats, including coral reefs and seagrass meadows, but it will have a particular focus on mangrove forests in Tanintharyi, due to their significance both within Myanmar and globally. Mangrove conservation and restoration[23][23] can play a vital role in protecting the more vulnerable coral reef and seagrass ecosystems from sedimentation and pollution, as well as supporting coastal fishery stocks. Moreover, mangroves have much greater capacity for natural recovery from overexploitation, shocks or stress, compared to coral reefs and seagrass meadows; and they can also be rehabilitated rapidly by planting seedlings.

95. The mangroves in Myanmar cover an estimated total area of almost 463,000 hectares (Forest Department: 2015 data). This figure ranks Myanmar within the ten most important countries for mangroves by area worldwide and third in Southeast Asia after Indonesia and Malaysia. Mangrove forests form the dominant coastal habitat along much of the mainland coast of southern Myanmar, especially in Myeik and Kawthaung districts, including many of the nearshore islands of the Myeik Archipelago. Tanintharyi Region has some of the largest remaining areas of mangrove forest in Southeast Asia, including some near pristine mangrove forests along its southern border with Thailand in Kawthaung District and within Lampi Island Marine National Park in Myeik District. While Myanmar has lost more than one-third of its total mangrove cover since 1980 (from 704,880 ha to 462,943 ha; FD, 2015), the loss of area in Tanintharyi has been modest, although new evidence suggests that mangrove deforestation has trended sharply upwards in recent years (De

Alban, 2020). In contrast, the Ayeyarwady Region has lost around two-thirds of the mangrove cover since 1980; and in Rakhine State, almost 25% has been lost over the same period. Thus, there is still a window of an opportunity for the project to develop a coastal conservation strategy for Tanintharyi centred around the still abundant mangrove forests, and also including strategic protection for the region?s highly vulnerable coral reef and seagrass ecosystems. For both conservation and sustainable use reasons, it is vital that ecological connectivity between these different habitat types is safeguarded. Many fishery species move frequently between mangroves, coral reefs and seagrass meadows or use these habitats selectively during different stages of their life cycles. Mangroves also play an essential role in nutrient cycling and coastal food webs, as well as trapping suspended sediments that could otherwise smother corals and seagrasses.

96. As in many other countries, reports on Myanmar?s mangrove forest cover and its rate of change show considerable variation according to the data sources and analytical methodologies used. The most recent study (De Alban et al., 2020) estimates an annual loss of mangroves in Tanintharyi of 1.72% from 2007 to 2016, which is far higher than previous estimates. Gaw et al. (2018) reported the mangrove forest area in Tanintharyi to be 258,800 ha in 1989 and 250,600 ha in 2014, a decrease of only 3.2% over 25 years, or only 0.13% per annum.. The Forest Department estimated that mangrove cover in Tanintharyi decreased from 262,174 ha in 1980 to 257,083 ha in 2015, or a loss of 1.9% over 35 years. A study by Connette et al. (2016) reported a figure of 243,000 ha for the mangrove forest area in Tanintharyi. (See Appendix XVII for further analysis of the estimates of mangrove area and rate of loss in Tanintharyi.)

97. Mangroves fringe much of the mainland coast and inner islands of the Myeik Archipelago. Myeik District has a total of 177,892 ha of mangroves, of which 73,702 ha are under conservation management by the Forest Department (FD) with the status of Reserve Forest or Public Protected Forest (PPF). The FD has also proposed that a further 31,891 ha of mangrove should be designated as PPF.

98. The figures above, however, do not reveal the condition of Myanmar?s remaining mangrove forests, which have been heavily degraded by wood extraction and other human activities. Connette et al. (2016) estimated that almost two-thirds (66%) of the mangroves in Tanintharyi are in a degraded state. Similarly, an assessment by FFI (2016) reported that large areas of the mangrove forest cover in Myeik District are ?degraded to heavily degraded?. There are still numerous areas of mangrove classified by FFI as ?still intact? to only ?slightly degraded?, but these are relatively small and scattered in their extent.

99. The health and status of the mangroves in Tanintharyi are critically important to maintaining the ecological integrity of the region?s broader marine and coastal ecosystems and the globally significant biodiversity they support, most notably coral reefs. Thus, many of the project?s activities under both Components 1 and 2 will focus on strategies to conserve mangrove forests and their associated ecosystem services, especially their fisheries nurturing role and their potential to sequester carbon.

100. **The main drivers of mangrove degradation** along Myanmar?s southern coast include wood harvesting, habitat encroachment, over-fishing, rapid and poorly planned infrastructure development and population pressure. Coral reefs and seagrass meadows are also being degraded and human impacts on these sensitive ecosystems can be extremely severe. Dynamite fishing, discarded fishing nets and damage by boat anchors are among the specific threats to corals and seagrasses in the Myeik Archipelago identified by Howard (2018). Coral reefs (and to a lesser extent seagrasses) are also extremely sensitive to impacts from pollution and climate change. Compared to mangroves, the capacity of corals and seagrasses to recover from such impacts is very low.

101. **The MyCoast Project will help to address both the direct and underlying causes of coastal habitat degradation and associated CCM impacts** by emplacing an integrated coastal zone conservation strategy for Tanintharyi Region. The strategy will be supported by capacity-building at all levels: from Union to Tanintharyi Region and District government levels, and to Kyunsu Township and coastal villages within the ICZM demonstration area.

102. The project will help to build and implement the policy framework, institutional cooperation mechanisms, technical tools and capacities required to implement and monitor the Tanintharyi coastal zone conservation strategy. Overall, this GEF investment will greatly increase national and region/state capacities to improve management of the nation?s extensive coastal ecosystems, especially high-carbon-value mangrove forests. The result will be an integration of CCM with SFM activities. This approach fits with the GEF-6 strategic support for integrated approaches to coastal management of ?blue? carbon, in this case involving both mangroves and seagrasses.

103. By establishing and supporting the implementation of a coastal zone conservation strategy for Tanintharyi Region, the project can help to reduce the projected rates of mangrove deforestation and degradation. This will also have a positive impact on the integrity of coral and seagrass habitats and their rich associated biodiversity. The strategy, supported by a strengthened institutional and policy framework, technical assistance, training and awareness-raising, will assist the Government of Myanmar to adopt a sound approach towards achieving sustainable coastal zone development, with sustainable coastal fisheries and habitat conservation at its core. This approach will also promote closer institutional cooperation between MoALI and MoNREC, leading to more integration of the marine/coastal natural resources management roles of these two ministries and their respective departments (see details in section 1.2.2).

104. There are at least 240,000 ha of mangrove forests in Tanintharyi Region (recent estimates range from about 241,000 to 257,000 ha). Building on some preliminary assessments of the use and condition of mangroves in particular locations, e.g. Auckland Bay in Kyunsu Township, Myeik District (FFI, 2014), the project will place mangrove conservation and sustainable use at the heart of the coastal management strategy. Working closely with the DoF, FD and ECD, local communities and the private sector, the project will prepare spatial plans to show which mangrove areas are crucial for specific functions e.g. biodiversity conservation, fisheries support, sediment-trapping in front of coral reefs/seagrass meadows, or coastal protection against wave surges; and which areas should be managed on a sustainable multiple-use basis, including community-managed areas. The project will give particular attention to the integrity of the mangrove ecosystem by developing and monitoring indicators of ecosystem health, including mud crab and other key mangrove-associated fishery species, rather than just reporting on the area of forest cover, as is conventionally done.

105. It is envisaged that many areas of mangrove habitat will qualify as valuable multiple-use conservation areas. The project will calculate the full socio-economic value of all the multiple ecosystem services provided by mangroves in order to demonstrate their true value to both coastal dwellers and to society. The project will also ensure that policy-makers and planners are well-informed about the valuation findings as evidence-based knowledge to support sound coastal area planning. Overall, this approach will contribute to conserving the broad range of species that depend upon mangrove ecosystems for their survival and to the ecosystem services essential to traditional coastal-dwellers.

106. An extensive mapping program will be developed to assess and then monitor the status of coastal mangrove forests in Tanintharyi Region. The use of mangrove goods and services by coastal dwellers will be surveyed and quantified, including their socio-

economic values. These outputs will support the design and implementation of the ICZM strategy. Assessment of the total economic value (TEV) of the many ecosystem goods and services provided by mangroves in Tanintharyi will include careful estimation of their climate change mitigation (CCM) value via carbon sequestration. Compared to other types of forest, mangroves can sequester much higher quantities of carbon, especially below ground: even three to five times more carbon per hectare than terrestrial forests (Donato et al., 2010). Overall, the outputs from these activities will assist stakeholders at all levels in Myanmar to better understand the full value of mangrove ecosystem services in the broader socio-economic context, as well as the important role that mangroves can play in climate change mitigation via carbon sequestration and long-term storage. This approach will also lead to more accurate carbon sequestration estimates for mangrove forests from a globally significant area of high mangrove diversity.

1.3.1.1 Incremental reasoning

107. In the baseline scenario *without GEF resources*, Myanmar will lack capacity to engage in sufficiently strategic planning for coastal conservation and sustainable use of living resources. Myanmar will also not have the tools to manage the development of its coastal areas to integrate economic development with ecosystem and biodiversity conservation objectives. The result will be a continued loss of biodiversity, declining fisheries productivity and other impaired ecosystem services caused by habitat loss and degradation of coral reefs, seagrass meadows and mangrove forests. Further ecological degradation will be accompanied by an equally unsustainable trajectory for local livelihoods, which have already been severely impacted by the depletion of fish stocks. These trends will also increase the vulnerability of traditional coastal fishing communities to the additional threats from climate change.

108. In the alternative scenario *with GEF resources*, the GEF investment will be used to support actions that will achieve significant global environmental benefits above and beyond the baseline of national actions. The project will provide the catalytic investment required to stimulate and build the capacity to support more strategic coastal conservation management that promotes and maintains ecological integrity and associated ecosystem services. The proposed approach will substantially and measurably benefit the conservation of globally significant biodiversity and the mitigation of climate change, while also safeguarding the livelihoods and food security of some of the most vulnerable traditional coastal communities in Myanmar?s southern region.

109. The project?s expected contributions to the Global Environmental Benefits are summarised below.

Biodiversity BD-3	Program 6: Ridge to Reef+: Maintaining Integrity and Function of Globally Significant Coral Reef Ecosystems	An ICZM conservation-orientated strategy developed for Tanintharyi Region, covering 900 kms of coastline and including more than 800 islands containing globally significant coral reefs and associated biodiversity, especially within the Myeik Archipelago.

Biodiversity BD-4	Program 9: Managing the Human-Biodiversity Interface	Improved conservation management of more than 4.7 million ha of coastal habitat (indirect benefit), including coral reefs, seagrass meadows, mangrove forests and mudflats. 210,000 ha of coastal habitat, including 110,000 ha of mangrove forests, plus coral reefs brought under improved management to achieve sustainable fisheries and mangrove ecosystem services to traditional fisher communities, plus additional livelihood support to at least 3,000 households (direct benefits).
Climate Change Mitigation CCM-2	Program 4: Accelerated adoption of innovative technologies and management practices for GHC emission reduction and carbon sequestration	At least 15 million tCO_2-e conserved over 20 years, mainly through reduced degradation of mangroves.

Project Theory of Change

110. The project design addresses the environmental issues and remaining barriers described in sections1.2.1 and 1.2.4, respectively. A Theory of Change (ToC) has been prepared to confirm the logic of the designed project to deliver the expected outcomes and objective (Figure 2). The potential intermediate steps leading to the expected local, national and global impacts of the MyCoast project are also indicated. It is expected that the ToC will be reassessed and, if required, reformulated by the mid-term and terminal evaluations.

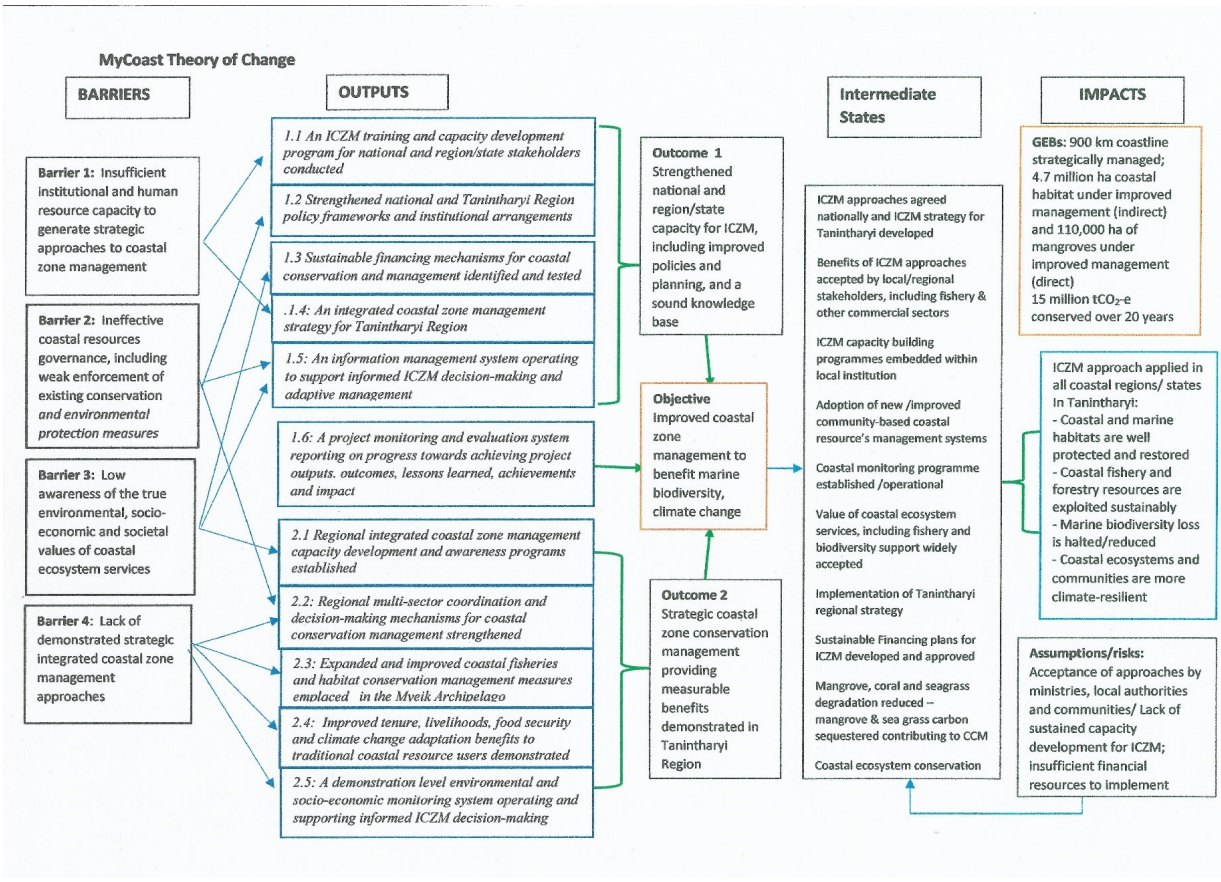

MyCoast Theory of Change
BARRIERS
OUTPUTS
Intermediate States
IMPACTS
Barrier 1: Insufficient institutional and human resource capacity to generate strategic approaches to coastal zone management
Barrier 2: Ineffective coastal resources governance, including weak enforcement of existing conservation and environmental protection measures
Barrier 3: Low awareness of the true environmental, socio-economic and societal values of coastal ecosystem services
Barrier 4: Lack of demonstrated strategic integrated coastal zone management approaches
1.1 An ICZM training and capacity development program for national and region/state stakeholders conducted
1.2 Strengthened national and Tanintharyi Region policy frameworks and institutional arrangements
1.3 Sustainable financing mechanisms for coastal conservation and management identified and tested
1.4: An integrated coastal zone management strategy for Tanintharyi Region
1.5: An information management system operating to support informed ICZM decision-making and adaptive management
1.6: A project monitoring and evaluation system reporting on progress towards achieving project outputs. outcomes, lessons learned, achievements and impact
2.1 Regional integrated coastal zone management capacity development and awareness programs established
2.2: Regional multi-sector coordination and decision-making mechanisms for coastal conservation management strengthened
2.3: Expanded and improved coastal fisheries and habitat conservation management measures emplaced in the Mveik Archipelago
2.4: Improved tenure, livelihoods, food security and climate change adaptation benefits to traditional coastal resource users demonstrated
2.5: A demonstration level environmental and socio-economic monitoring system operating and supporting informed ICZM decision-making
Outcome 1 Strengthened national and region/state capacity for ICZM, including improved policies and planning, and a sound knowledge base
Objective Improved coastal zone management to benefit marine biodiversity, climate change
Outcome 2 Strategic coastal zone conservation management providing measurable benefits demonstrated in Tanintharyi Region
ICZM approaches agreed nationally and ICZM strategy for Tanintharyi developed
Benefits of ICZM approaches accepted by local/regional stakeholders, including fishery & other commercial sectors
ICZM capacity building programmes embedded within local institution
Adoption of new /improved community-based coastal resource's management systems
Coastal monitoring programme established /operational
Value of coastal ecosystem services, including fishery and biodiversity support widely accepted
Implementation of Tanintharyi regional strategy
Sustainable Financing plans for ICZM developed and approved
Mangrove, coral and seagrass degradation reduced -- mangrove & sea grass carbon sequestered contributing to CCM
Coastal ecosystem conservation
GEBs: 900 km coastline strategically managed; 4.7 million ha coastal habitat under improved management (indirect) and 110,000 ha of mangroves under improved management (direct)
15 million tCO2-e conserved over 20 years
ICZM approach applied in all coastal regions/ states in Tanintharyi:
- Coastal and marine habitats are well protected and restored
- Coastal fishery and forestry resources are exploited sustainably
- Marine biodiversity loss is halted/reduced
- Coastal ecosystems and communities are more climate-resilient
Assumptions/risks: Acceptance of approaches by ministries, local authorities and communities/ Lack of sustained capacity development for ICZM; insufficient financial resources to implement

Figure 2. MyCoast Theory of Change

1.3.2 Lessons learned

111. It is essential to have a solid knowledge base to support coastal conservation initiatives, not only knowledge about the target ecosystems and species for conservation, but also an intimate understanding of their socio-economic importance to resource-dependent communities, including the most vulnerable groups. Moreover, and increasingly, an understanding of the threats from climate change on coastal social-ecological systems is also needed. The existing knowledge base on Myanmar?s coastal and marine ecosystems is actually quite extensive, but conventional in form. There are numerous published reports on particular species and species groups - especially marine mammals, turtles, crocodiles and other endangered animals. A number of commercial species of fishes, crustaceans and molluscs, and animals and plants of importance in aquaculture have also been studied. The globally significant marine biodiversity of Tanintharyi Region features prominently in this scientific literature (reviewed by WCS, 2012). More recently, the status of marine biodiversity in Myeik Archipelago has been surveyed extensively and reported on by FFI (Howard, 2018).

112. Less is known and appreciated about the socio-economic dependency of traditional coastal communities on coastal ecosystem services; or how governance can be improved so that these communities can be involved effectively in conserving the resources they depend on in the face of competition, control over resources, or illegal practices, by external players. The following lessons learned focus on these issues: they have been derived from the experiences of current marine/coastal projects in Myeik District supported by OIKOS, JIRCAS and IUCN, and from mangrove restoration projects in Southeast Asia, including projects implemented in Rakhine State and Ayeyarwady Region. To the extent possible, these key lessons have been incorporated into the design of the MyCoast Project.

a) Previous marine and coastal conservation projects have found it very difficult to achieve their conservation objectives in the face of destructive or excessive exploitation of natural resources and economic development pressures. These issues are compounded by weak coordination among government stakeholders, poor relations between government agencies and local communities, and lack of enforcement of environmental protection legislation. For example, project efforts to conserve coral reefs continue to be threatened by dynamite fishing, even though this practice is illegal under the Marine Fisheries Act (1990). Similarly, tree-cutting and encroachment into mangrove forests is widespread in Myanmar, even in the Wunbaik Reserve Forest (RF) mangroves in Rakhine State (Saw and Kanzaki, 2014). This is despite efforts by an FAO implemented project[24][24] to provide an integrated mangrove management plan for Wunbaik RF to achieve sustainable management of forest and fisheries resources for the benefit of the area?s local communities and future generations (Oskin Stanley and Broadhead, 2011).

b) An important lesson from the FAO project report on Wunbaik RF is that local resource users must be incentivized to manage the mangrove-based resources sustainably; and: *?For this to happen an enabling regulatory framework is necessary and relevant institutions must play a facilitative role.?* It is also necessary to have a clear project vision, plus an ability to motivate the target beneficiaries by addressing both their personal and their community economic concerns.

c) Consistently, other mangrove conservation and restoration projects have found that local communities have limited commitment to protect mangrove trees unless there are

additional incentives offered to them in the form of tangible livelihood support activities. It takes several years for lost or impaired mangrove ecosystem services to be regained fully through forest restoration, whether by natural regeneration or assisted planting, and therefore faster return income-generating opportunities are essential to offset the fact that forest ecosystem recovery is a slow process. A corresponding limitation is that mangrove ?projects? are time-bound with a life span typically of only three to five years. This is far too short a time-scale to ensure that mangrove restoration activities lead to sustainable and equitable forest management. To address these common project short-comings, MyCoast will adopt an integrated resources management approach and an incentive-based coastal environment and livelihoods monitoring system that is well-designed and resourced so that it will continue beyond the life of the project.

d) Existing capture fisheries and coastal agro-forestry systems sustain the economies of the great majority of coastal villages in Myanmar, even though incomes from fishing, agriculture and forest resources may be declining. Thus, it is important that new livelihood opportunities do not compromise these traditional sources of income. Open-access to resources, such as collecting crabs and molluscs, or other non-timber forest products, from intertidal areas is a vital livelihood need of the poorest households and farmers who face seasonal income shortfalls. The poorest households are least likely to be able to benefit from the potential economic benefits from aquaculture or tourism development; therefore, any privatization or segregation of land and water areas for such purpose?s risks impacting negatively on the poorest and most vulnerable.

e) The knowledge, skills and commitments of local implementing partners is a key factor determining the success of field-based projects. Local institutions, and NGO/ CSOs with a number of years of experience, can mobilize local capacity (including local knowledge) and community support for a project and increase the probability that its results will be sustainable. Coastally-situated universities can also benefit projects through applied research to generate the scientific knowledge needed to support sound coastal environmental management. For example, life cycle and habitat use analysis of commercially important, or endangered, aquatic species; ecological ad economic importance of mangrove, coral and seagrass ecosystem services are much needed aspects of applied coastal research that university departments can undertake provided they are supported adequately to do so. Other coastal projects have found that investments in joint research activities with Myeik, Mawlamyine and Pathein universities (the three universities in Myanmar with Marine Science departments) has been effective in creating new knowledge and building staff capacity for research. It is also well established in academia that active research programs enrich a university?s teaching role, which benefits the knowledge and skills gained by its students.

f) Lessons learned from more 300 small and medium grant projects implemented by the Mangroves for the Future initiative (2007-2018) are particularly relevant to MyCoast. Many of these projects had effective stakeholder participation and good internal communication, yet communication between projects was weak. Inter-project sharing of results and experiences can yield synergies such as knowledge-building, more effective project to policy dialogue with decision-makers and collective efforts to overcome barriers to implementation. In line with this observation, MyCoast will provide a strong coordinating role, supported by effective communication mechanisms, to ensure that results from other field-based projects in Tanintharyi are shared and informed to the other coastal regions/states and national government levels, particularly their Coastal Resources Management Committees.

g) Multi-stakeholder partnerships are the best approach to finding sustainable solutions within coastal ecosystem conservation, as they encourage cooperation and synergy for integrated development. However, it is important to identify a lead partner to encourage

and guide the other stakeholders in the partnership. Stakeholders, especially within the private sectors and local government, respond best to pragmatic advice and practical solutions. For this reason, it is highly advisable to promote best practices and provide field-based demonstrations to these stakeholder groups, e.g. via site visits and study tours.

h) Regarding private sector engagement, a key focus and interest for many large commercial organizations is to reduce their ecological footprint and overall environmental impact through supply chain efficiency. By helping companies to analyse and evaluate these processes, they can be encouraged to adopt greener business strategies, which recognize and reflect the true value of ecosystem services.

i) In the case of commercial tourism, conservation projects can build good relations with key players in this sector by a) providing valuable knowledge, experience and lessons from the implementation of eco-friendly tourism initiatives in other locations/countries; b) contributing information that tour companies can provide to their tourists about the species and conservation value of marine and coastal tourism sites. (Consistently in Southeast Asian countries, there is a lack of information to educate tourists about the environmental and/or cultural features of the sites they visit.)

j) The fisheries/aquaculture sector can be more difficult to engage with, but producers are usually interested to learn about aquaculture technology and practices that reduce the risks of harvest failures (e.g. from disease). They can also be interested in habitat restoration and species conservation, provided these topics can be linked to making their fishing/aquaculture activities more sustainable. Seafood processors and exporters have a strong interest in value-added processing and certification of aquatic products to meet international standards, so these are good entry points to engage them on broader marine conservation issues.

k) Most coral reefs surveyed by FFI in the Myeik Archipelago have revealed signs of damage, with almost one-third of sites revealing medium to high impacts. Physical damage caused by fishing boat anchors dropped on coral reefs is a long-standing issue and anchor damage is likely to become more severe as more and more tourists are brought by boat for swimming, snorkelling or diving (where permitted) over the more accessible reefs. Corals are also vulnerable to direct damage by careless swimmers and snorkelers. Awareness campaigns are needed throughout both the fisheries and tourism sectors to reduce coral damage from boat anchors. But the lesson here is that more practical interventions are required: MyCoast should demonstrate and promote best practices e.g. floating buoy anchorages and codes of conduct for tour operators and tourists visiting coral reefs. The concept of tourist carrying capacity in areas containing sensitive coastal habitats is another important consideration that the project must address.

l) Solid wastes, most notably plastics, are a growing problem along the coastline of Tanintharyi Region. Many projects and environmental awareness campaigns have supported beach clean-ups as a response to marine waste pollution. The lesson here is that, while clean-up activities do have a value, they do not solve the underlying cause of the problem, which stems from inadequate waste management in urban centres, over-use of plastic packaging and plastic bags by producers and vendors, and the ?throw away? behaviour of the public, who do not know or care about the environmental consequences of plastic litter. This issue must be tackled at source in the major towns of Dawei, Myeik and Kawthaung where the greatest amounts of waste are generated.

m) While it is the primary responsibility of urban authorities to improve solid waste management, MyCoast will provide advice, best practices and lessons learned from locations where plastic waste pollution caused by tourism has been controlled successfully. For example, some local authorities responsible for heavily used tourist

beaches in Thailand do not allow local vendors to sell food in polystyrene/plastic packaging - only cardboard and paper containers are permitted, a measure that has significantly reduced the *in-situ* beach plastic waste problem. In addition, in Viet Nam, tourists visiting the Cham Islands (an MPA near Danang City) are required to swop any plastic bags they bring for paper bags provided to them on arrival by the MPA?s management staff.


Yebyu
Kaleinaung
Dawei District
Yebyu
Myitta
Dawei
Launglon
Thayetchaung
Dawei
THAILAND
Andaman Sea
Palauk
Palaw
Myeik District
Kyunsu
Myeik
Tanintharyi
Kawthoung District
Pyigyimandaing
Bokpyin
Karathuri
Kawthoung
Khamaukgyi
Legend
Capital
State Capital
Main Town
Other Town
River
Coast Line
Township Boundary
State/Region Boundary
International Boundary
Dawei
Kawthoung
Myeik

Figure 3. Map of Tanintharyi Region showing the three districts of Dawei, Myeik and Kawthaung.

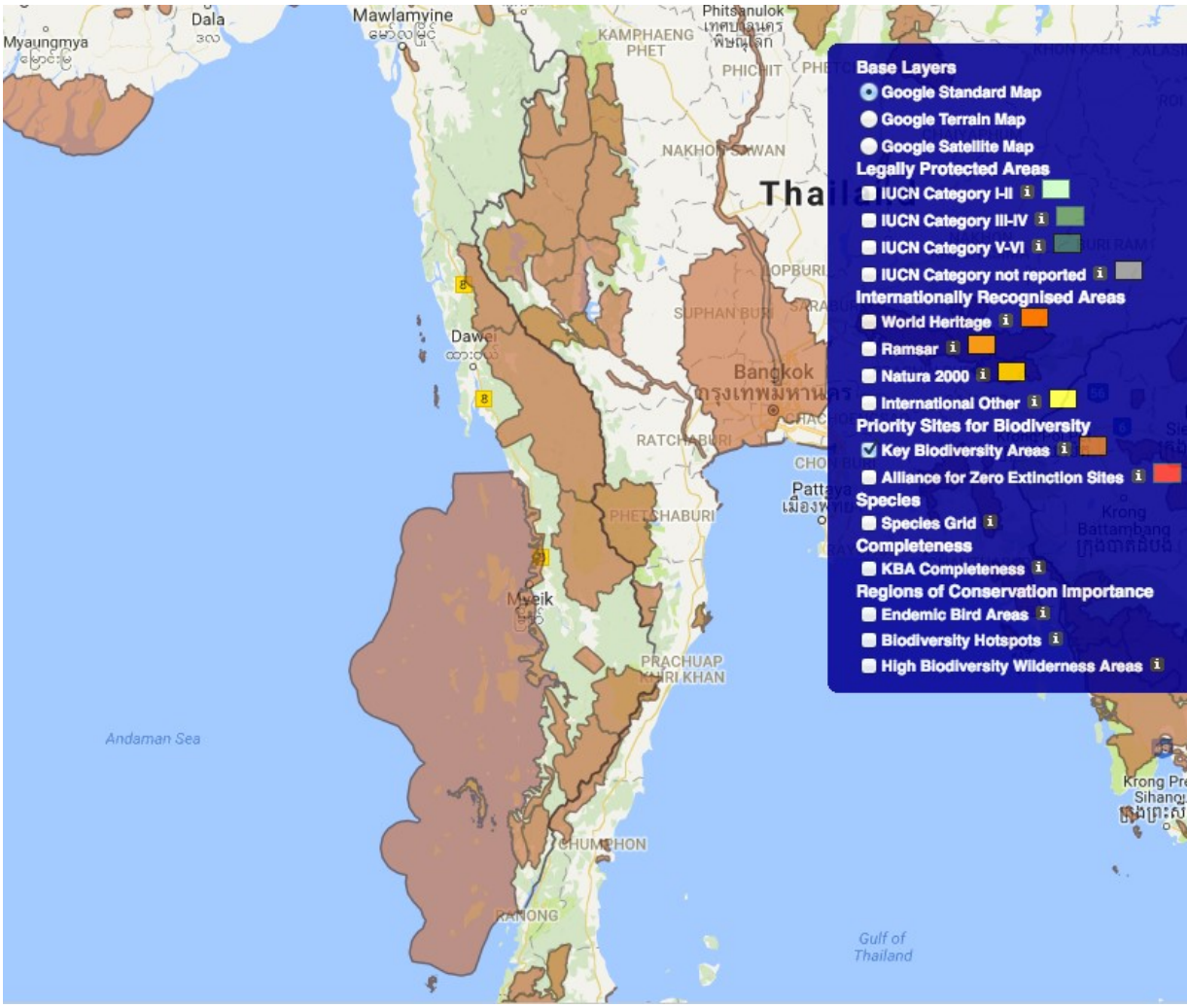


Figure 4. Key Biodiversity Areas in Tanintharyi Region (Conservation International designation)

Source: IBAT Alliance (2016).

1.3.3 Project objective, outcomes and outputs

113. The project?s objective is ***improved coastal zone management to benefit marine biodiversity, climate-change mitigation, and food security***. The project will have two inter-related components, each supported by one outcome and several outputs. Under Component 1, national and region/state institutional capacities will be developed for the planning and implementation of strategic, integrated coastal zone management (ICZM)

and a model ICZM strategy will be generated for the southern Tanintharyi Region of Myanmar. Under Component 2, equivalent district to village community capacities will be built within the Tanintharyi Region and strategic coastal conservation management will be demonstrated in practice in a representative site selected within the Myeik Archipelago. Thus, an important feature of the project is that it will operate at all levels from national, to sub-national (region/state) and local (district/township/village) levels.

114. The main demonstration site in Tanintharyi for the application of ICZM will be large enough to allow for measurement of positive impacts at the ecosystem level in terms of biodiversity, other ecosystem services and resilience to climate change. It will be situated within a large mangrove ecosystem where there is intense pressure on both fishery and forestry resources. The project may also include one or two additional demonstration areas where effective biodiversity and natural resources management will be needed in the face of other fast-developing economic activity, such as coastal tourism.

115. The criteria for selection of demonstration sites were refined further during the PPG stakeholder consultation process, to include a) evidence of ecological linkages between the coastal habitat within the site and fish stocks of socio-economic and nutritional importance to local communities; b) potential to improve the well-being of traditional coastal resource users, including ethnic minorities, through community-based coastal resources management and sustainable livelihood improvements; c) evidence of negative impacts, or potential threats to the site, from direct or indirect human activities, including off-site activities, and/or climate change; and d) agreement of local stakeholders on site selection and their support to the implementation of demonstration activities.

Component 1:

116. National and sub-national (region/state) institutional capacity to develop and implement a large-scale coastal zone conservation strategy.

117. This component will focus on the capacity development needs of national institutions and especially those at Tanintharyi regional level[25][25]. It will build the national and sub-national capacities required to generate, implement, and adapt a comprehensive coastal zone management strategy for Tanintharyi Region. The project will invest heavily in capacity development so that decision-makers and planners at national and sub-national (region/state) level are familiar with the principles and practices of ICZM, especially the application of cross-sectoral and ecosystem approaches to achieve coastal resources conservation management and sustainable use. In addition to the importance of the strategy *per se*, their involvement in the preparation of an ICZM Strategy for Tanintharyi Region will provide decision-makers and planners at national and sub-national (region/state) levels with valuable practical learning experience on ICZM.

Outcome 1:

118. Strengthened national and sub-national (region/state) institutional capacity for ICZM, including improved national policies and strategic planning, facilitated by a sound knowledge base to support informed decision-making

Output 1.1: An ICZM training and capacity development program for national and sub-national (region/state) stakeholders especially from Tanintharyi

119. To support capacity-building, the project will make full use of training materials already available from an ICZM Course developed by Mangroves for the Future (an IUCN/UNDP-led Asia-wide program involving 11 countries, including Myanmar) and the Asian Institute of Technology. This course was taught successfully from 2011 to 2015 as a certificate course at AIT to participants from countries across the Indian Ocean and South China Sea. The ICZM course has a flexible structure consisting of four modules covering Coastal Ecosystems, ICZM Principles, Tools for ICZM and ICZM Project Design and Management. Each module is free-standing and can be taught as a separate course, or in various combinations (each module can be taught in four to five days, or less). Each module is supported by field-level examples and case studies, thereby ensuring that the more theoretical or scientific elements of the course are explained with the aid of practical examples. In 2018, the Asia regional ICZM course was offered as a Training of Trainers (ToT) course to participants from Bangladesh, Cambodia, Myanmar, Pakistan and Sri Lanka. They included lecturers from the Marine Sciences departments of Mawlamyine, Pathein and Myeik universities, and representatives from DoF and FD. An important component of the ToT course held at AIT involved adapting the ICZM course into the curricula taught at the three universities. More recently, IUCN and WCS have also developed and taught a vocation version of the ICZM course in Myanmar.

120. The project will support ICZM capacity development activities based on the ICZM principles, approaches and tools provided in the Asia regional ICZM training course described above and detailed in Appendix XV. The project will contribute to further adaptation of the course to make it as highly relevant as possible to ICZM capacity development needs in Myanmar at all levels. This will include use of locally relevant field examples and case studies; and the course materials will be translated into local languages. Emphasis will be given to key topics within ICZM, such as improving coastal resources governance, conflict resolution, and ecosystem approaches to fisheries management and aquaculture (EAF/EAA). MyCoast will call upon assistance from Myeik University and from other coastal projects working in Tanintharyi, the Gulf of Mottama, Ayeyarwady Delta and Rakhine to build up a nationwide set of field examples and case studies to support ICZM capacity-building. The project team will also liaise with Asia regional programs (e.g. BOBLME, IUCN Asia, RECOFTC, SEAFDEC)) to ensure that the ICZM course is updated regularly to include Asia regional best practices and lessons learned. Various versions of the ICZM course will be developed, from undergraduate to vocational and community levels, to meet the training requirements of a wide range of stakeholders. A preliminary training needs assessment for DoF and FD staff was conducted during the PPG stage (Appendices XII and XIV). At the request of the Forest Department, IUCN is also developing a National ICZM Program for Myanmar, plus ICZM programs for the Rakhine and Tanintharyi regions, which will include policy and institutional analyses, as well as needs assessments. These programs will provide a valuable framework to support the MyCoast project?s capacity development activities, including institutional and policy strengthening (see Output 1.1.2 below). IUCN?s work is being funded by the Climate Change Adaptation (CCA) project and is credited within the co-financing provided by FD to MyCoast.

121. Further ToT courses will be organised in order to build a cadre of national trainers well-qualified to teach ICZM. They will include trainers from the Institute of Fisheries Technology in Yangon, Myanmar?s universities, Forest Department and other governmental and non-governmental institutions, so that ICZM training can be embedded within existing institutional training programs to the extent possible. This will create sustainability and provide a valuable multiplier effect. In Tanintharyi Region, use can be

made of training facilities in Dawei and at Myeik University. However, capacity-building will not be confined to training alone: it will include knowledge development workshops and seminars, fact-finding visits to field sites, and local and other country study tours tailored to meet the learning needs of different stakeholder groups.

Output 1.2 Strengthened national and sub-national (region/state) policy guidance frameworks and institutional arrangements for ICZM

122. The project will assist the Government of Myanmar to develop a national policy guidance framework for ICZM through a multi-stakeholder process, which will include specific support for an ICZM strategy for Tanintharyi under output 1.4, as well as consultation with governmental stakeholders and development partners in other coastal regions/states. The recently-formed Coastal Resources Management Committees (CRMCs) at Union, Region/State and District levels represent an important institutional structure for the project to support on the overall development of coastal zone policy guidance in Myanmar.. Membership of the CRMCs is confined currently to representatives of various government agencies, but the CRMCs can appoint other sector representatives to working groups and a broader institutional arrangement for the CRMCs may develop in future.

123. The project will support strengthening of Myanmar?s limited current policy framework for ICZM. Gaps and weaknesses in the existing laws and policies relevant to the coastal zone will be reviewed, including the widespread failures in coastal governance e.g. lack of compliance with and enforcement of resources conservation measures. The immediate and underlying drivers of coastal ecosystem degradation and over-exploitation of resources will be analysed. The analysis will include estimation of the full socio-economic costs resulting from these unsustainable practices.

124. Regulating services include physical protection of coastlines from severe weather and wave surges; and in the case of mangroves forests and seagrass meadows, high levels of sequestered carbon, thereby contributing to climate change mitigation. Supporting services include the vital habitat role that coastal ecosystems provide to many commercially-exploited fish and shellfish stocks, as well as ?hidden? services e.g. nutrient cycling and water purification. The non-material benefits people obtain from ecosystems, referred to as ?cultural services, include not only aesthetic inspiration, cultural identity, sense of home, and spiritual experience related to the natural environment, but also nature-based tourism, which is growing in both aesthetic and economic importance. The project will help to develop a decision-making tool to support coastal policy and development planning that takes into account the full value of these coastal ecosystem services to society.

125. Working with the DoF, FD, ECD and other development partners, the project will also compile and disseminate policy briefs and best practice guidelines to support the policy framework for ICZM. Various international and Asia regional guidelines already exist, which the project will adapt to the local context and translate into local languages. Other guidelines will be developed, or adapted, directly by the project to meet specific identified stakeholder needs. Relevant guidelines may include: marine spatial planning; valuing coastal ecosystem services; ecosystem approaches to fisheries and aquaculture (EAFM/EAA) and resource governance systems (e.g. co-management); and best practices for coastal

agriculture and forestry management. The project will work to help ensure that such guidelines are made widely available and are applied in support of policy development.

Output 1.3 Sustainable financing mechanisms for coastal conservation and management identified and tested

126. The project will assist the Government of Myanmar to identify and test potential sources of sustainable financial support for implementation of actions identified in the Tanintharyi ICZM strategy, plus possible financial mechanisms to facilitate up-scaling to other coastal regions/states. In addition to the need to allocate dedicated government funding to support ICZM, there are other potential sustainable financing mechanisms which the project will evaluate in consultation with a wide range of coastal stakeholders. These could include public and private financing mechanisms, some of which fall under the broad category of Payment for Ecosystem Services (PES). The PES mechanism is defined as a voluntary transaction between the buyer of a specific ecosystem service and the provider of that service. A payment is made by the buyer to the provider based on the value of the ecosystem service, but on the condition that the provider continues to supply the agreed service.

127. As a starting point, the project will review the literature on PES (e.g. Forest Trends, 2010)[26][26] and other financial incentive mechanisms. There are a growing number of case studies and lessons learned from the application of PES-like mechanisms in other Southeast Asian countries. For example, a recent study in Thailand found that PES was the preferred financing option for the conservation and sustainable use of mangrove forests among a wide range of stakeholders (government agencies, corporations, community associations), based on the likelihood of achieving positive social, economic and environmental outcomes[27][27].

Output 1.4: An integrated coastal zone management strategy for Tanintharyi Region

128. The capacities built by the project will be applied to generate a model coastal zone management strategy covering Tanintharyi Region, including the Myeik Archipelago. The core purpose of the strategy will be to fully integrate biodiversity conservation, and sustainable coastal fisheries and forestry management, with other sectors, while also identifying implementable measures on climate change mitigation/adaptation. This integrated approach will be tailored to achieve conservation and sustainable use objectives within Tanintharyi?s productive seascapes and coastal landscapes. The strategy will promote management improvements designed to ensure the integrity of marine and coastal ecosystems, in order to safeguard their vital ecosystem services, while enhancing local communities? tenure and stewardship of the coastal and marine resources they depend upon.

129. The coastal zone management strategy for Tanintharyi Region will provide the Government of Myanmar with better tools to assess risks, including risks from climate change; will prioritize conservation and sustainable development goals; and will harmonize management processes based on multi-stakeholder coordination and integrated management principles. Building from output 1.2, the strategy will also recommend changes to Myanmar?s legal, policy and institutional frameworks to better address the root causes of the accelerating degradation and over-exploitation of resources in Tanintharyi?s coastal zone. The strategy will be adaptable to changing circumstances and priorities.

130. *Key features of the Tanintharyi coastal zone management strategy:* an inclusive and effective consultation process will be designed to support the strategy?s development and endorsement, with the views of all the main direct and indirect stakeholders from government, business sectors and civil society invited and considered. Their participation is also regarded as an important element of the project?s capacity development and awareness-raising strategies. It is envisaged that the draft strategy will include the following elements, as recommended by stakeholders consulted during the PPG phase; and other elements as may be identified during project implementation:

a) Generate a vision for integrated coastal zone management in Myanmar;

b) Provide a spatial plan for the Tanintharyi seascape and coastal landscape to maintain and rehabilitate ecosystem integrity and provide for sustainable development;

c) Mainstream ICZM within national, sub-national (region/state), and local policies and plans for coastal land use and maritime development;

d) Identify sites of highest biodiversity conservation importance, including critical coral, seagrass, and mangrove forest areas; describe the priority conservation and management needs and actions for each; evaluate the socio-economic importance of these ecosystems to traditional resource users - especially inshore fishers and gleaners; and estimate the full socio-economic value of their ecosystem services to society;

e) In relation to the socio-economic dependency of inshore fishers and gleaners on coastal ecosystems, evaluate and prioritize potential expansions of marine protected areas (MPAs) and other spatial management tools, such as Locally Managed Marine Areas (LMMA) and initiatives to increase the connectivity between different protected areas;

f) Develop a broader suite of protected/managed area categories and tools from strictly protected to community-based multiple-use zones, with clear objectives and regulations recommended for each category;

g) Identify pathways and processes for decision-making that engage and foster buy-in by local stakeholders;

h) Provide guidance for setting targets, and for monitoring and reporting, on the social ecological well-being of coastal areas;

i) Provide advice on the application of best international EAF, EAA and SFM principles and practices, particularly as they relate to mangrove forests and other exploited coastal and marine habitats;

j) Strengthen coastal forest accounting under LULUCF, particularly for mangroves;

k) Describe and analyse innovative conservation and management incentives such as co-management, biodiversity off-sets, Payment for Ecosystem Services (PES);

l) Recommend approaches to integrate ICZM within EIA processes;

m) Define and prioritize spatial and temporal biodiversity management objectives;

n) Address cross-cutting issues, including gender equality, indigenous/ethnic people?s rights, governance, transparency and effective communications;

o) Define mechanisms for establishing and monitoring environmental standards for coastal water quality; and conservation and management targets for key endangered, threatened or protected species, mangroves, coral reefs, seagrass meadows and climate change resilience of coastal and marine socio-ecological systems;

p) Identify the most appropriate institutional and management arrangements to implement the coastal zone management strategy, supported by a proposed action plan, giving particular attention to the role of the newly established Coastal Resources Management Committees (CRMCs), and mechanisms to promote effective communication between the region and district CRMCs in Tanintharyi.

131. The project will facilitate formal adoption of the coastal zone management strategy by the relevant authorities. It will also assist the government to identify the resources required to support sustainable implementation of the strategy?s action plan, and how the necessary resources can be identified and made available for this purpose. Although coordinated at national level for overall strategic reasons of national ownership and replication, the strategy development will ensure that stakeholders from Tanintharyi Region are actively involved so that the strategy is developed through a participatory way and is not a top-down strategy. The stakeholders involved in multi-stakeholder mechanism under Output 2.2 below will be the key stakeholder engaged in this strategy development.

Output 1.5: An information management system operating to support informed ICZM decision-making and adaptive management

132. The project will bring together existing knowledge to support better-informed decision-making for coastal management purposes. The project team will also identify and fill knowledge gaps, as well as making new knowledge available to all stakeholders, including project findings. Equally important will be the task of gathering traditional knowledge about the coastal environment and species in Tanintharyi and integrating it with scientific knowledge. A specific example of knowledge synthesis like this, which was recommended during the PPG phase, will be to assist DoF to work with local fishers and MMF members in Myeik to compile a database of both local and scientific names of marine fish species.

133. An initial appraisal of institutional responsibilities for monitoring and data management relevant to ICZM will be conducted, together with information about the monitoring and data collection methods already in place. To the extent possible, an ICZM information management system will be integrated into the existing national and sub-national institutional frameworks, using information sources that already exist within the government. For example, the Department of Meteorology and Hydrology (DMH) monitors climatic conditions and records and analyses meteorological and hydrological data. The Forest Department has a GIS Division that produces detailed maps of forest cover and the exact boundaries of forest management units within the PFE. The most relevant information sources within government will be supplemented with information from the growing number of other donor-supported coastal projects and programs. The fisheries stock survey conducted in 2018 by the Norwegian research vessel (RV) Dr. Fridtjof Nansen, for example, is providing valuable new information on the current status of marine fisheries in Tanintharyi Region.

134. However, given the great diversity of information that is relevant to ICZM, it will be necessary for the project to be selective, by identifying the information most needed by decision-makers and managers. A further important role for the project will be to ensure that data are processed into information usable to support decision-making and management. (A common problem in ICZM is that information management systems become ?heavy? with unprocessed data that lack analysis, leading to low system performance and value.)

Output 1.6: A project monitoring and evaluation system reporting on progress towards achieving project outputs and outcomes, and evaluating project results, lessons learned, achievements and impact

135. The project will develop a comprehensive monitoring and evaluation (M&E) system during the inception phase. Various baselines will be determined covering ICZM capacity development needs at Union to community levels; the status of fisheries, coral reef, seagrass and mangrove forest conservation areas in Tanintharyi; and environmental and socio-economic conditions within the project ICZM demonstration site and target villages in Auckland Bay.. Project monitoring will report on progress being achieved in relation to these baselines. There is another output under component 2 that will specifically monitor and report on the environmental and socio-economic change at field level in the demonstration site (see Output 2.5). The project team will conduct an internal review of the effectiveness of the capacity development and awareness-raising programs after two years. This will be completed just before an external Mid-term Review that will identify and report on any required improvements to the project?s design, and/or implementation arrangements during the remaining project period. An external Final Evaluation will report on the project?s results, main achievements and impact. (Further details of the project M&E process are provided in sections 2.4.1 and 2.5.)

136. The six project outputs under Component 1 and the main activities anticipated to support each output are shown in Table 2

Table 2. Component 1: Outputs and Main Activities.

Output	**Activities**

Output	**Activities**
1.1: An ICZM training and capacity development program for national and sub-national (region/state) stakeholders	1.1.1 Adapt and update (as required) an existing modular ICZM Training Course, to include emphasis on the ecosystem approach to fisheries management and aquaculture (EAFM/EAA) and Climate Change adaptation/mitigation, with locally relevant field-level examples and case studies, plus Asia regional best practices 1.1.2 Package the ICZM Course modules to meet the learning needs of specific target groups, including translation into local languages 1.1.3 Training of Trainers (ToT) courses in ICZM 1.1.4 Provide support for ICZM training courses conducted by DoF, FD and other project partners/training institutions 1.1.5 Knowledge-sharing workshops and seminars on ICZM for senior decision-makers (especially CRMC members) and managers at Union and Region/State level, including NGOs and commercial sectors 1.1.6 Exposure visits for senior decision-makers/managers from government, NGOs and the private sectors to key coastal field sites 1.1.7 Study tours to gain first-hand experience of Asia regional best practices in coastal resources conservation management and sustainable use

Output	**Activities**
1.2 Strengthened national and sub-national (region/state) policy guidance frameworks and institutional arrangements for ICZM	1.2.1 Review the existing laws/policies and institutional mandates relevant to ICZM and implement priority recommendations to address weaknesses/gaps 1.2.2 Analyse key drivers of coastal ecosystem degradation and resource over-exploitation; and evaluation of the socio-economic costs and risks resulting from impaired ecosystem services 1.2.3 Prepare and disseminate Policy Briefs and Best Practice Guidelines on key topics relating to ICZM, including environmentally responsible business practices 1.2.4 Develop a decision-making tool for use in multi-sectoral coastal and marine policy and planning 1.2.5 Prepare Guidelines on applying ICZM principles and tools on key topics (e.g. Environmental Impact Assessments (EIAs) of proposed coastal development projects)
1.3 Sustainable financing mechanisms for coastal conservation and management identified and tested	1.3.1 Assess potential sustainable financing mechanisms from review of literature, case studies, lessons learned and expert discussions 1.3.2 Consultation workshops to present to and discuss potential financing mechanisms with key stakeholders 1.3.3 Test the preferred financing mechanisms, including feedback from potential sellers and buyers of coastal ecosystem services

Output	Activities
1.4: An integrated coastal zone management strategy for Tanintharyi Region	1.4.1 Meetings of an ICZM Strategy Development Working Group tasked with overseeing preparation of a draft Tanintharyi ICZM strategy document that includes stakeholders from Tanintharyi (see Output 2.2) 1.4.2 Support a consultative process with key stakeholders about the strategy 1.4.3 Develop/synthesise GIS maps for a Tanintharyi-wide Marine Spatial Plan supporting ICZM 1.4.4 Prepare other technical inputs to the draft strategy, especially on gender, tenure and other cross-cutting issues 1.4.5 Arrange consultation meetings to review and revise the draft strategy 1.4.6 Provide support to the final adoption process for the strategy
1.5: An information management system (IMS) operating to support informed ICZM decision-making and adaptive management	1.5.1 Assess existing information sources and institutional roles regarding information-gathering and management, including coastal and marine environmental monitoring data 1.5.2 Develop a user-friendly ICZM information management system, including a project website, Facebook page and eNewsletter 1.5.3 Invite feedback from decision-makers and managers to optimize the types of information provided by the IMS and evaluate its usefulness for decision-making and adaptive management 1.5.4 An annual workshop to interact with key stakeholders and other projects/programs and development partners, and share results, experiences and analyse lessons learned from ICZM implementation and other project experiences. 1.5.5 Consult with DoF and other key stakeholders to develop sustainable operational support for the IMS beyond the project

Output	Activities
1.6: A project monitoring and evaluation system reporting on progress towards achieving project outputs and outcomes, and evaluating project results, lessons learned, achievements and impact	1.6.1 Develop an operational project M&E and communication system 1.6.2 Establish project baselines 1.6.3 Project progress monitoring and reporting 1.6.4 Internal evaluation of the effectiveness of the project?s capacity development and awareness-raising programs 1.6.5 Project Inception PSC meetings 1.6.6 Project external Mid-term Review. 1.6.7 Project achievements and lessons learned (from Activity 1.5.4) packaged and communicated in appropriate formats to meet the learning needs of different target audiences 1.6.8 Terminal Report consultation, preparation and external Review

Component 2: Organizational capacity and action to implement strategic coastal zone conservation management in Tanintharyi Region, with special focus on the coastal habitats and biodiversity in the Myeik Archipelago

Outcome 2: Strategic coastal zone conservation management providing measurable environmental and socio-economic benefits demonstrated in the Myeik Archipelago of Tanintharyi Region

Output 2.1 Integrated coastal zone implementation capacity development and awareness programs established within Tanintharyi Region for district, township and village-tract level stakeholders

137. In parallel with the ICZM capacity development program for national and sub-national (region/state) stakeholders under Component 1, the project will design and implement ICZM training for district, township and village-tract level stakeholders in Tanintharyi Region, especially those in the Myeik Archipelago. The project will enhance extension officers? capacities to support the design and implementation of strategic conservation and natural resource management measures. Building on existing governmental resources, the project will provide the skills and tools to equip staff to (a) facilitate stakeholder participation in natural resources governance; (b) engage more effectively with local communities; and (c) mobilize local support for livelihood-sensitive coastal resources management. This will include working with the Fisheries Training Centre in Yangon to provide in-service training for DoF

extension staff; as well as using trainers from government training centres in Dawei and Myeik University. To the extent possible, it will be advantageous to organise training for township level staff and local community and business stakeholders close to their home locations.

138. Training will also be offered to local NGOs/CSOs working in Tanintharyi?s coastal zone, based on their identified capacity development needs. While project training courses will be open to all stakeholders, it is anticipated that short seminars and workshops will be a more appropriate format to engage with and inform key commercial sectors operating in the coastal zone. A program of seminars/workshops will be designed for this purpose in close consultation with representatives of the fisheries, tourism, energy and transport, and coastal urban and industrial sectors. Suitably designed learning events will also be created for parliamentarians and other high-level decision-makers in Tanintharyi.

139. Under project Component 2, support will also be given to the Marine Science Department at Myeik University to ensure that its students receive high quality teaching in ICZM. And to ensure that students not only learn about ICZM in theory, but also gain good practical and research skills relevant to ICZM, the project will offer small grants to enable Marine Science Department staff to take their students on coastal field trips, and to allocate field-based research projects to a small number of post-graduate students.

140. Development of the Tanintharyi coastal zone management strategy will also be approached as a participatory, capacity-building and training exercise for national and region/state decision-makers. The project will provide technical, as well as some financial support, to enable national decision-makers to engage with local managers, community leaders and resource users to generate a strategy for Tanintharyi Region based on ICZM principles and practices. Field visits to important coastal sites in Tanintharyi will be arranged to provide the opportunity for decision-makers to observe coastal zone management issues at first hand and to interact with local stakeholders. Field-based coastal conservation management and sustainable use activities, including those by other development partners, will provide valuable learning opportunities by demonstrating good practices and serving as a focus for interaction between national, region/state and local stakeholders. These learning opportunities will be particularly relevant to decision-makers in DoF, FD, ECD, and those in other member agencies of the National and Region/State Coastal Resources Management Committees.

Output 2.2: Multi-stakeholder coordination and decision-making mechanisms for coastal conservation management in Tanintharyi Region strengthened

141. The project will play an important coordination role in promoting ICZM strategy development and implementation. It will provide information to support the work of the recently-established Tanintharyi Coastal Resources Management Committee (TCRMC) as the region?s key coordination and decision-making body on coastal area management. It is expected that this committee will appoint working groups for fact-finding and reporting on key issues, which the project will be able to liaise with and support. District level CRMCs have also been established and it will be particularly important for the project to facilitate effective coordination between the TCRMC and Myeik District CRMC. The project will also convene regular workshops and seminars to promote cooperation between stakeholders from the government, the commercial sectors and community conservation groups; and to share experiences, discuss issues and agree action on coastal conservation and management needs and initiatives. These meetings will

also provide an opportunity to identify appropriate multi-stakeholder coordination mechanisms to support the TCRMC and Myeik District CRMC (as illustrated in figure 8). The multi-stakeholder coordination and decision-making mechanisms that this output will strengthen will assist Tanintharyi Region to apply the ICZM policy guidance for Myanmar?s coastal regions/states developed under output 1.2. These mechanisms will also provide a sound basis for multi-statekholder decision-making on implementation of the ICZM strategy for Tanintharyi (developed under output 1.4) within the Myeik Archipelago ICZM field demonstration site, as explained under output 2.3 below. The multi-stakeholder body supported by the project is also expected to play a strong role in the development of the ICZM strategy under Output 1.4 as well as in the development of regional policy guidance frameworks and institutional arrangements for ICZM under Output 1.2. The multi-stakeholder body will include the private sector that are relevant to the project objectives.

Output 2.3: Expanded and improved coastal fisheries and habitat conservation management measures emplaced in the Myeik Archipelago

142. This output will support field-level implementation of key elements of the ICZM strategy for Tanintharyi Region within the Myeik Arhcipelago. The MyCoast project will coordinate with its co-financing partners and other projects/programs operating or planned in Tanintharyi to promote application of the ICZM strategy in other districts and sectors in the southern region.

143. The project will assist the DoF and FD to strengthen the management of fishery protected areas and mangrove community forest (CF) areas, through more effective enforcement of conservation regulations and greater community involvement. Integrated approaches to conservation and sustainable use strategies for both fishery resources and mangroves will be demonstrated and reported on. A similar approach will be taken to help strengthen the management effectiveness of fisheries and coral reef/seagrass habitats, including locally managed marine areas (LMMAs).

144. Coral, seagrass and mangrove habitats provide vital nursery and feeding grounds for a broad diversity of coastal fauna and it is particularly important to safeguard the connectivity between habitats because many aquatic species utilise more than one habitat type, at least during different stages of their life cycles. The project?s habitat conservation efforts will focus primarily on protecting the remaining intact ecosystems (e.g., abating or forestalling degradation), but will also support habitat restoration in prioritized areas (e.g., areas critical to vulnerable life stages of key fishery species; areas important to reducing the risk of habitat fragmentation; or areas facilitating dispersal or natural migration of flora and fauna species).

145. *ICZM Demonstration Site: s*ite-based activities will demonstrate how to align and reinforce community-involvement in coastal conservation management with region/state strategic objectives. Community-based initiatives will also be highlighted by the project to inform and improve macro-level planning. The approach will be to integrate traditional knowledge with science-based information about species, ecological processes and food production systems in the coastal zone. The project team will also ensure that community participation in site-based activities is inclusive, and that gender-related aspects of resource management and sharing of benefits are addressed, together with the particular knowledge and skills development needs of men and women.

146. Based on the criteria agreed during stakeholder consultations for selection of one or more coastal sites, and in line with the project?s alignment with the GEF focal areas of biodiversity and climate change, plus food security, a preliminary selection was made during the PPG phase identifying the mangrove-

dominated area extending south from Myeik Town into Auckland Bay and the northern coastline of Sakhanthit Island. The area proposed is bordered by the Mergui Islands to the west, Kala Island and Pathaw Island to the northwest, and the coastline adjacent to Myeik Town including the mouth of the Tenasserim River to the northeast. Selection of the site for ICZM demonstration will be confirmed during the project inception phase and approved at the first PSC meeting.

147. The focus of demonstration activities will be the mangrove ecosystem within Auckland Bay, which supports a number of traditional fishing villages and households making mangrove charcoal, including illegal production for export to Thailand. Here it will be possible to undertake social and economic valuation of mangrove ecosystem services, especially the fisheries support function of mangroves using the black mud crab *Scylla olivacea* as a key indicator species to provide firm evidence for the mangrove-fisheries relationship. This can be confirmed both scientifically and by documenting the traditional knowledge of local fishers.

148. The proposed demonstration area also has potential for the project to assist the DoF and FD to introduce improved small-scale fisheries management and low-cost, sustainable aquaculture practices that are not destructive to the mangroves. The mangrove forests in the proposed area vary in status: they include areas designated as Reserved Forest, Public Protected Forest and Community Forest within the Permanent Forest Estate (PFE); as well as mangrove areas outside the PFE, which are classified as barren land outside the jurisdiction of the FD (except for the licencing of mangrove charcoal kilns). There are also areas of former mangrove land that have been converted into aquaculture farms. The project will assess these diverse categories of mangrove forest in relation to their ecological integrity, including estimating rates of carbon sequestration/loss. Similar studies will be undertaken to compare mangrove-associated biodiversity in relation to forest land status and management practices.

149. Although the focus of demonstration will be on integrated mangrove forest and fisheries/aquaculture management, it is considered important from an ICZM perspective to also include demonstration activities in the coastal area adjacent to Myeik Town and the Tenasserim River Estuary, particularly environmental monitoring and reporting. The urban centre of Myeik is densely populated and there is rapid industrial and commercial development adjacent to the town, in the form of the harbour and waterfront area, including construction of a tall condominium. There is a large fish landing centre and ship-building yard on Pathaw Island. This is also the location of a large soft-shell crab farm, which currently is being expanded by the construction of intensive shrimp culture ponds. There is considerable boat traffic in the form of large fishing vessels including trawlers, boats for transporting goods, public ferry boats and speed boats operated by a growing number of tourist companies. With the further accelerated coastal development that can be anticipated, the project will assist the DoF, ECD and local authorities to establish a water quality and pollution monitoring system. Pollution risks from different potential sources will also be evaluated. The intention will be to provide a state of the coastal environment baseline before the risk of water pollution increases appreciably. Even low levels of water pollution could be devastating on coral reefs in the Mergui Archipelago, which are already showing signs of stress from destructive fishing activities and climate change (Howard, 2018).

Output 2.4: Improved tenure, livelihoods, food security and climate change adaptation benefits to traditional coastal resource users demonstrated at Myeik Archipelago

150. Much of the project?s ability to deliver a successful outcome under Component 2 will depend on improving the access and natural resource management tenure rights and livelihoods of coastal village householders within the field demonstration site in Myeik Archipelago, focusing on Auckland Bay, by applying an integrated coastal resources management approach. It will also be important for this output to provide a sound basis for potential replication of the benefits in other coastal villages in Tanintharyi Region. Findings from a rapid assessment of 10 villages in Kyunsu Township by the PPG team (see Appendix 11) provided the basis for the potential activities identified below. Although the majority of villages surveyed depend on mangrove-associated fisheries, two villages on Thayawthadangyi Island were also assessed in order to include communities heavily dependent on coral reef-associated fishery resources.

151. **Improved tenure for enhanced stewardship:** Participation in decision-making and natural resources management, access to resources and legitimatized tenure are necessary steps towards securing the rights and responsibilities of small-scale coastal communities in the conservation and management of the social ecological systems upon which they depend. MyCoast will work to enhance effective participation of coastal communities in ICZM planning and implementation and to strengthen tenure systems, such as the Village Forest User Groups, community fisheries/fisheries co-management groups and Locally Managed Marine Areas (LMMAs).

152. **Mangrove wood consumption:** All the coastal villages assessed are heavily dependent on fuelwood as a source of energy for cooking and other domestic purposes. Mangrove charcoal is used extensively, but this represents a significant household expense as charcoal has to be purchased, while villages with easy access to mangrove forest also collect and burn mangrove firewood. Mangrove poles and timber are also utilised in the majority of villages as construction materials. Wood removal is a major cause of mangrove degradation in Auckland Bay and therefore the project will focus on measures to reduce wood consumption, including cooperating with the Forest Department to reduce illegal charcoal-making for export. There has already been some success with the introduction of fuel-efficient stoves and gas ovens in villages in Kyunsu Township by other projects, which can help to guide the development of a strategy by MyCoast to reduce the demand for and consumption of mangrove charcoal.

153. **Improved Livelihoods:** As much as 90-95% of the economy of coastal villages in Auckland Bay is derived from small-scale fishing. Faced with declining catches in relation to fishing effort, traditional village communities urgently need help to secure resilient livelihoods and food security. Livelihood diversification can play a vital role in improving rural incomes and building resilience to impacts from climate change. The project will invest in livelihood improvement activities in selected villages, especially where livelihood support can be linked effectively to mangrove conservation management. Potential livelihood support activities will be identified in close consultation with community members and screened carefully in relation to their social, economic and technical viability and potential for sustainability. This screening will be performed in cooperation with the Village Development Committees (VDCs) and the villagers who express interest in particular livelihood options that are within the project?s scope to support. Criteria for selecting households as beneficiaries of livelihood support activities will be agreed with the VDCs and made known to all village households.

154. **Gender-related livelihood considerations:** There are major differences in the roles of men and women in traditional coastal villages in Myanmar, which must be taken fully into account when village-level interventions are planned by the project. Men are recognized as breadwinners and women as their

dependents. This traditional view results in inequality of status, whereby village women feel that their contributions, issues and needs are not properly recognized by men. Women have less access to information than men and are less involved in decision-making (= low empowerment). Fishing is generally undertaken by men, but women play important roles in pre-harvest work, seafood processing (such as drying fish and shrimp) and other post-harvest work, including product marketing, in addition to their family, home and community roles. The project will support gender assessments of the target coastal communities, by applying gender analysis[28][28] to improve understanding of the roles and needs of men and women in their multi-faceted livelihood and community governance systems, with the aim to achieve gender equality.

155. These gender role differences were reflected strongly in the views expressed by village men and women when asked about suitable additional livelihood activities by the PPG team. Reflecting their home-based role and responsibilities, women in most of the surveyed villages proposed livestock-raising and vegetable cultivation as the most suitable livelihood enhancement activities for them, followed by making snack foods and value-added processing of fishery products. In contrast, men regarded aquaculture (crab, cockle, seabass rearing) as their preferred livelihood option, followed by running a teashop, or carpentry work. Motor bike taxi services and motor bike repair work were also favoured by men in locations with road connections (Appendix XI).

156. **Livelihood risk analysis:** When screening potential livelihood support interventions, the project will give particular attention to risk-based analysis of their technical requirements and associated risks; their social and economic risks (including product marketability risks); and risks from climate change impacts. Coastal aquaculture, for example, is highly appropriate as a livelihood diversification option for small-scale fisherfolks; moreover, aquaculture products also have high value and marketability. However, coastal aquaculture carries significant technical risks and is vulnerable to climate change impacts (e.g. storms, heavy rainfall).

157. **COVID19 related impacts and project support:** Given that the national economy and local livelihoods in Myanmar have been significantly impacted by COVID 19 pandemic and related socioeconomic activites, the project will ensure that a strategy and action plans for supporting local livelihoods prioritizes quick benefit actions targeted at the most vulnerable communities. The project will build on lessons from ongoing GEF projects that FAO and other agencies are implementing to design this strategy and action plan. The project will also support activities to ensure that local communities are able to access and benefit from other government , donors and NGO actions that specifically also focus on sustainable livelihoods and economic development through linking them to those programmes, raising awareness etc.

Output 2.5: A coastal environmental and socio-economic monitoring system operating and supporting informed ICZM decision-making at field level in the ICZM demonstration site in the Myeik Archipelago

158. The project will directly support field monitoring of the coastal environment, and the status, management and use of resources, in the ICZM demonstration site within Auckland Bay, including coastal water quality monitoring in the vicinity of Myeik Town where infrastructure and commerce are developing

rapidly. This ecosystem-based monitoring program will focus particularly on mangrove-associated fisheries and mangrove forest management in relation to the local socio-economy. It will provide valuable information to support the Tanintharyi Region ICZM strategy and information management system outputs under Component 1, as well as the project M&E system.

159. A key aspect of monitoring will be to measure, report and verify (MRV) the contribution to climate change mitigation from mangrove forest conservation and restoration activities that will reduce carbon losses which would otherwise arise from mangrove conversion or degradation. This will be achieved by making careful measurements of mangrove forest biomass carbon and soil carbon in study plots representing contrasting human pressures - from conversion or severe degradation, to unexploited/fully restored.

160. The project will also work with coastal villagers to develop a replicable model for community participation in coastal environmental, social and economic monitoring activities. However, village communities must first gain an understanding of the benefits to them of supporting coastal natural resources conservation management and the importance of monitoring change. Working with VDCs and village forestry and fisheries management groups, the project will develop a small number of appropriate SMART indicators that the communities agree are most relevant to their environment and well-being, and that they are willing to help monitor and report on.

161. The five project outputs under Component 1 and the main activities anticipated to support each output are shown in Table 3.

Table 3. Component 2: Outputs and Main Activities

Output	**Activities**

Output	Activities
2.1: Integrated coastal zone management implementation capacity development and awareness programs established in Tanintharyi Region for district, township and village-tract level stakeholders	2.1.1 ICZM Capacity needs assessments of District, Township and Community stakeholders in Tanintharyi, including district CRMC members and marine/coastal security agencies (e.g. Navy, Marine Police) 2.1.2 Extension training for District and Township staff 2.1.3 Skills development training for local NGOs/CSOs 2.1.4 Knowledge-sharing workshops and seminars on key ICZM issues in Tanintharyi for district decision-makers (especially CRMC members) and managers at district and township level, including private sector 2.1.5 Awareness-raising and skills training for village leaders and community group members (VDCs, CFUGs, Women?s Groups, etc.) 2.1.6 Field-based learning and research activities to support an ICZM knowledge base for Myeik University students
2.2: Multi-sector coordination and decision-making mechanisms for coastal conservation management in Tanintharyi Region strengthened	2.2.1 Multi-sector and multi-stakeholder Working Groups established in Tanintharyi, including key private sector representatives, and supported to develop and recommend cross-sectoral solutions to coastal resources management issues 2.2.2 Support to strengthen coordination between the region and district CRMCs in Tanintharyi 2.3.3 Capacity development for village conservation groups and associations to strengthen their involvement in coastal resources decision-making 2.2.4 Coordination meetings and field visits for CRMC members, local authorities, NGOs and private sector representatives to key field sites in Tanintharyi Region

Output	Activities
2.3: Expanded and improved coastal fisheries and habitat conservation management measures emplaced in the Myeik Archipelago	2.3.1 Support to DoF to strengthen management of marine protected areas (crab and fish sanctuaries, LMMAs) and community-level fisheries co-management; and to reduce illegal fishing activities 2.3.2 Support to FD to expand and improve management of Community Forest areas involving mangroves; and to reduce the illegal production and sale of mangrove charcoal 2.3.3 Develop and operationalise community seedling nurseries for mangrove and other tree species 2.3.4 Demarcate community protected fishery and forestry conservation and sustainable use areas 2.3.5 Awareness and skills development for village conservation groups and associations in coastal resources management, financial management/accounting and monitoring and reporting
2.4: Improved tenure, livelihoods, food security and climate change adaptation benefits to traditional coastal resource users demonstrated at Myeik Archipelago	2.4.1 Enhance local natural resource tenure and stewardship through strengthening of existing and creation of new community forest and fisheries groups 2.4.2 Livelihood needs assessments conducted in selected villages within the project ICZM demonstration area 2.4.3 Identify potential additional livelihood activities for women and men and screen them for technical, social and economic risks 2.4.4 Support to implement sustainable additional livelihood activities in selected villages 2.4.5 Dedicated support for livelihood development by village women?s? groups (e.g. savings groups) 2.4.6 Climate change vulnerability analyses conducted in selected coastal villages and climate adaptation measures applied 2.4.7 Implement measures to reduce household consumption of mangrove fuelwood, especially charcoal 2.4.8 Prepare village ICZM plans within the project demonstration site 2.4.9 Facilitate endorsement of and support to village ICZM plans by Myeik District authorities

Output	Activities
2.5: A coastal environmental and socio-economic monitoring system operating and supporting informed ICZM decision-making at field level in the ICZM demon-stration site in the Myeik Archipelago	2.5.1 Identify institutional arrangements for a sustainable monitoring and reporting system for the project demonstration site 2.5.2 Identify SMART monitoring indicators of the coastal/marine environment (water quality and mangrove-fisheries indicators: mud crabs and other indicator species) in and around the project ICZM demonstration site 2.5.3 Provide water quality analysis equipment and training to Myeik University, DoF and local institutions on water quality testing and monitoring protocols 2.5.4 Develop a community-supported socio-economic and ecological monitoring program at village level within the project demonstration site 2.5.5 Estimate carbon sequestration rates by mangroves and monitor mangrove, coral and seagrass habitat changes in the project demonstration site 2.5.6 Provide regular monitoring reports to DoF and other stakeholders, including Myeik District and Tanintharyi District CRMCs

1.3.4 Global environmental benefits

162. The project will provide both direct and indirect global environmental benefits. Indirectly, national capacity-building, policy development and information-generating activities under Component 1 will support improved conservation management of more than 4.7 million ha of coastal habitat and inshore waters[29][29]. Under Component 2, the project will directly contribute to the conservation of critical biodiversity habitats, including coral reefs, mangroves and other coastal forests, mudflats and seagrass meadows. These ecosystems provide essential support to a number of rare and threatened species, e.g. hawksbill turtles (critically endangered), and leatherback and green turtles; an estimated more than 50 species of sharks; and various species of whales and dolphins, as well as dugongs. The coastline of Tanintharyi also has some of Myanmar?s most extensive beach nesting areas for sea turtles, while the Myeik Archipelago alone has over 209 bird species. However, even once common fish species such as groupers and snappers, and large invertebrates including spiny lobsters and sea cucumbers have become increasingly rare due to over-fishing and habitat degradation.

163. Mangrove forests and seagrass meadows are carbon-rich ecosystems that can sequester far more carbon per unit area than tropical terrestrial forests, as shown in figure 5. Thus, both mangroves and seagrasses have high potential to deliver climate change mitigation benefits in the form of ?blue? carbon.

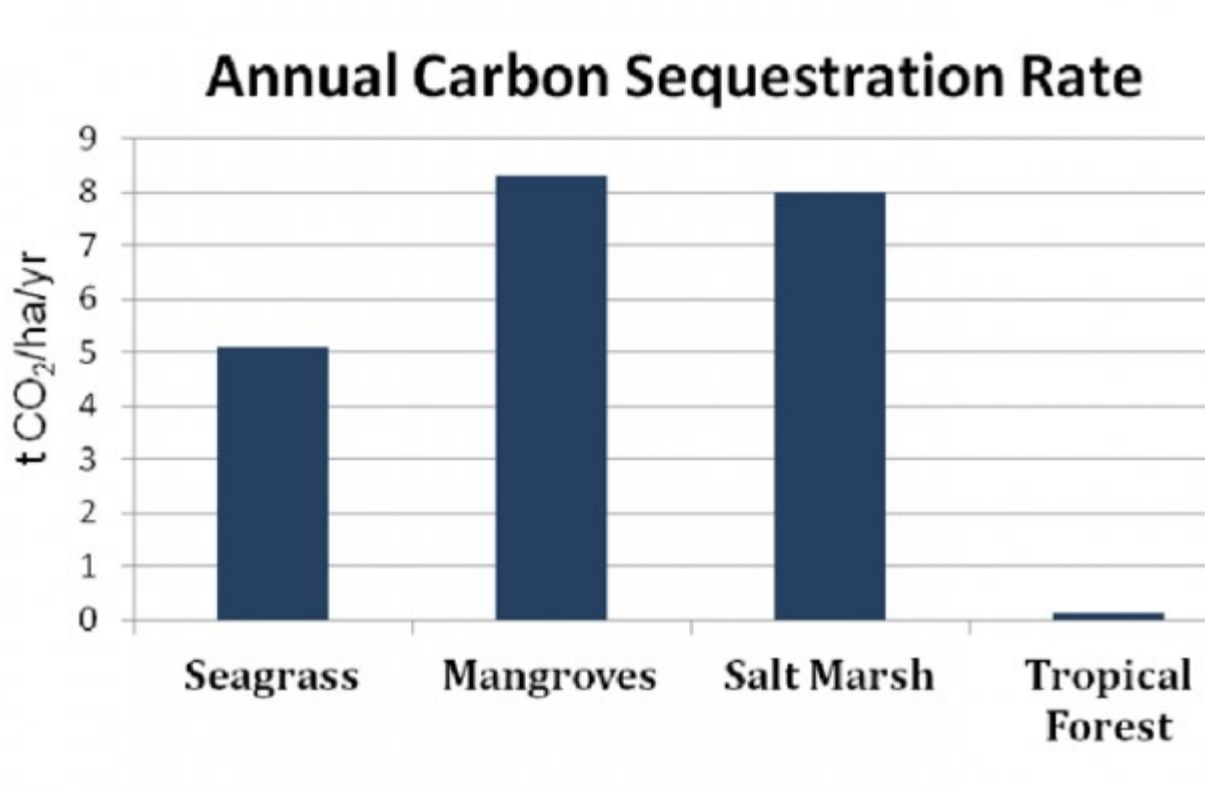
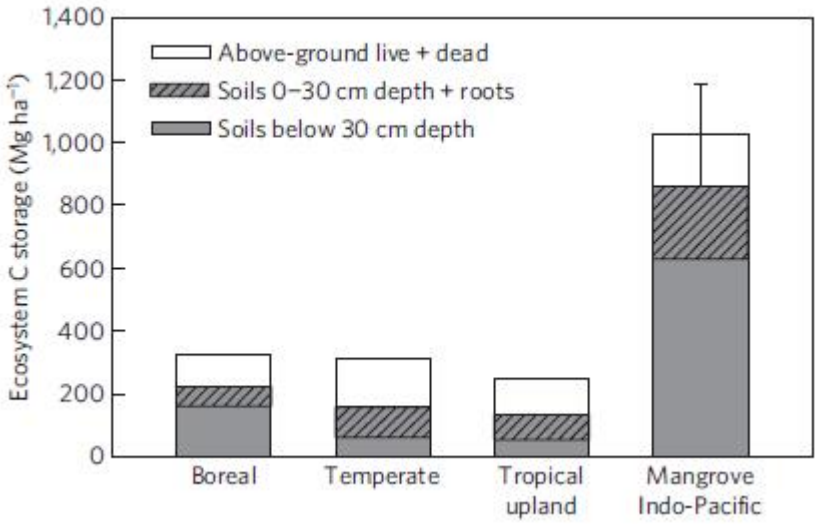


Figure 5. Comparison of the rate of carbon sequestration by mangroves, seagrasses and saltmarshes with that of tropical forests. Source: https://climatetrust.org/blue-carbon-rising/



164. A number of factors influence the amount of carbon stored by mangroves (e.g. climatic conditions, tree species, size/age and density, soil type and nutrient availability). These variables explain the wide range in stored carbon values reported for mangrove forests in Southeast Asia. A high proportion (up to 90%) of the blue carbon in mangrove ecosystems can be stored within the soil. For seagrass meadows and salt marshes the proportion of carbon stored in the sediments is even greater at 95-99%. Thus, conserving mangroves and seagrass meadows as intact ecosystems can contribute significantly to avoided carbon release. Numerous studies have shown that mangroves converted into shrimp ponds (Kauffman et al. 2014[30][30], Jonell and Henricksson 2014[31][31], Kauffman et al. 2018[32][32], Arifanti et al. 2019[33][33]) generate substantial carbon loss. Conversely, a study conducted by Duke University (Miteva *et al*., 2015) found that 14,000 hectares of protected mangrove forest in Indonesia resulted in an avoided release of 13 million metric tons (t) of CO_{2e}. or 928 tCO_{2e} per hectare.

165. The following GHG calculations are based on a figure of 240,000 ha for the total area of mangrove forest in Tanintharyi Region. It was assumed that 110,000 ha of mangrove within and around the project ICZM demonstration site just south of Myeik Town will be at risk of further degradation by wood extraction for timber and charcoal-making. And it was assumed that the other 130,000 ha will be mainly at risk from deforestation. Although forest degradation and deforestation are not exclusive processes, this was done to eliminate any risk of double-accounting in the GHG calculations. However, based on recent history, and future development plans, mangroves in Dawei and Kawthaung districts, and those north of Myeik Town are most at risk of conversion for agricultural, industrial or urban expansion (Gaw et al., 2018). A full analysis was conducted on the available estimates of carbon stored in mangrove vegetation and soils in order to determine Tier 2 values to input into the Ex-Ante Carbon balance Tool (EX-ACT) version 8.6. This analysis, which is based heavily on very recent mangrove forest studies in Myanmar, Thailand and other Southeast Asia countries, is provided in Appendix XVII.

166. The project area is characterized by a tropical climate with a wet moisture regime highly suited to mangrove growth. The dominant soil type was specified as wetlands soil according to the IPCC classification. While the project will be implemented for a period of only four years, EX-ACT will account for an additional 16-year period of capitalization, which is needed in order to capture the full impact of management and conservation strategies on biomass and soil carbon stocks[34][34].

Table 4. Estimated mangrove deforestation, degradation and reforestation, and extent of damage to seagrass meadows, with and without the project.

Mangrove deforestation		**Annual deforestation rate**	
		Without	**With**
Lower estimate		0.75%	0.25%

Higher estimate		1.75%	0.75%
Mangrove degradation	**Extent of degradation**		
	Current	**Without**	**With**
Lower estimate	40%	45%	30%
Higher estimate	65%	75%	40%
Mangrove restoration		**Area reforested (ha)**	
		Without	**With**
Lower estimate		0	1,100
Higher estimate		0	1,500
Seagrass meadow damage		**Extent of damage (area)**	
		Without	**With**
Lower estimate over 4 years (and annually)		20% (5% yr-1)	10% (2.5% yr-1)
Higher estimate over 4 years (and annually)		30% (7.5% yr-1)	15% (3.75% yr-1)

167. **Deforestation and soil conversion**: The overall rate of mangrove deforestation in Tanintharyi has been low until recently (Gaw et al., 2018), but mangroves are expected to face an increasing risk of conversion to other land uses as coastal development pressures increase in this region. A new re-analysis of the Tanintharyi mangroves estimates that 1.72% of the forest area has been lost annually from 2007 to 2016 (De Alban et al., 2020). GHG appraisal have been run using the following assumptions: without project a loss rate of 0.75% per annum is assumed (lower estimate), which will reduce to 0.25% as a result of project interventions (especially those supporting output 1.2: *Strengthened national and regional policy guidance frameworks and institutional arrangements for ICZM* We assumed that mangrove deforestation will result in loss of the upper soil layer, to one metre depth. Based on this assumption, which is considered to be conservative, the coastal wetland module in EX-ACT estimates the mitigation benefit over the project period of four years (lower estimate) will be approximately -4.109,057 tCO_2-e; and over 20 years analysis, equivalent to -205,452 tCO_2-e per year. The higher estimate for deforestation (1.75% annually without project), which is more in line with the reported annual loss of 1.72% calculated by De Alban et al. (2020), is -8,218,115 tCO_2-e, or -410,905 tCO_2-e annually.

168. **Degradation**: Almost two-thirds (66%) of the mangrove forest cover in Tanintharyi is considered to be degraded (Connette et al., 2016), however there is recent evidence that some areas of degraded mangroves are recovering by natural regeneration

(Gaw et al., 2018). Due to the continuing high exploitation of mangroves for fuelwood, including illegal export of mangrove charcoal to Thailand, it is assumed that wood extraction will increase forest degradation to 75% in area in the near future without the project. By assisting the FD to expand the areas of mangrove under Community Forest management, and by strengthening the Forest User Groups? capacity to manage and protect CF mangroves, project interventions that support and strengthen CF mangroves will greatly reduce further degradation. Through improved management and protection, CF mangrove forests should actually gain biomass, as the management system applied in CF areas includes gap-filling with mangrove seedlings. The project will support community-managed mangrove seedling nurseries and help the FD to provide signs to demarcate CF areas. For the lower estimate, we assumed conservative figures: that without project implementation 110,000 ha of mangroves will further degrade, from 40% of the biomass loss to 50%, whereas project implementation will constrain the biomass degradation level to 30%. The mitigation benefit (lower estimate) will be -10.648 million tCO_2-e over 20 years analysis, or -532,000 tCO_2-e per year. The higher estimate for mangrove degradation assumes that the current level of 65% loss will increase to 75% without project but fall to 40% with project. The mitigation benefit is -24,845,333 tCO_2-e over 20 years, equivalent to 1.24 million tCO_2-e per year.

169. **Mangrove restoration**: The FD does not plan to create large mangrove plantation areas in Tanintharyi because the southern region still has extensive mangroves compared to Myanmar?s other coastal regions and states. The FD?s mangrove planting targets for years 2020 to 2024 total about 150 ha (see Table A in Appendix XVII for details). However, the project will support the FD and Community Forest groups to increase planned restoration targets by 850 or 1,050 ha over four years. In addition, it is expected that large commercial enterprises operating on coastal land can be encouraged by the project to plant mangroves - this is now a common practice in other Southeast Asian countries, where the private sectors regard mangrove restoration as a valuable activity under their corporate social responsibility programs. In addition, in some cases, mangrove planting is carried out by companies to protect their investment infrastructure e.g. as protection for aquaculture farms from storm damage, or to reduce the risk of coastal land erosion.

170. We assumed that 1,100 ha of mangroves will be restored over the four-year project period, including 150 ha of mangrove plantations already planned by the FD and 100 ha (assumed) by private enterprises encouraged by the project (lower estimate). This leads to an estimated mitigation potential of -275,598 tCO_2-e over a 20 years analysis, or about 13,780 tCO_2-e per year.

171. **Seagrass Conservation**: As proposed in the PIF, the project would aim to support the DoF and other stakeholders to improve the protection of 30,000 ha of seagrass meadows. This seemed to be a reasonable target because the total area of seagrass meadows in Tanintharyi is estimated by UNEP-WCMC to exceed 400,000 ha according to a recent wetland mapping study prepared for the Myanmar National Wetlands Inventory (NWCD, 2019). However, this estimate is based on an interpretation of satellite imagery without ground verification. The UNEP-WCMC analysis suggests that there are very large areas of seagrass meadows in the central Myeik Archipelago and northern Tanintharyi areas, but extensive field surveys by FFI, and by the Marine Science Association of Myanmar (MSAM) in association with the Myanmar Seagrass Partnership, have confirmed that the only significant seagrass meadows are in southern Tanintharyi, mainly at a Latitude close to 10?N[35][35]. Based on a much lower, but accurately determined estimate of only 600 ha of seagrass meadows in Tanintharyi by FFI and MSAM, we assumed that this seagrass area will subject to damage over 20 % of its total area over four years without-project (lower estimate), but this will be constrained to 10 %

with-project. This leads to a mitigation potential of -11,955 tCO_2-e over a 20 years analysis, or about 600 tCO_2-e per year. The higher estimate of 30% damage (without project) and 15% (with project) leads to -17,932 tCO_2-e over 20 years and about 900 tCO_2-e per year. The Tier 2 values for seagrass vegetation and soil carbon that were applied to obtain these estimates are explained in Appendix XVII.

172. All calculations done in the EX-ACT tool are reported in the results module. After a short reminder of the description module (name of the appraised project, its duration, the continent, the dominant climate, and the soil chosen by the user) including the total area of the project, the following table summarizes the GHGs sequestration and the share of the balance per GHG from the adopted scenario (Table 4).

173. The balance is the difference of GHG gross fluxes between the with-project situation and the without-project situation. Results are given in tonnes of CO_2 equivalent (tCO_2-e). Positive numbers represent sources of CO_2-e emissions while negative numbers represent sinks. The left-hand table section summarizes estimated gross fluxes and CO_2-e emissions and sinks from the scenario without-project (left column), from the scenario with-project (middle column) and the total balance (right column). The middle table details the carbon-balance under project implementation, showing the GHG fluxes from the different modules. The right-hand table details annual CO_2-e fluxes for the different activities without- and with-project implementation, and for the carbon-balance.

174. The carbon-balance of the project, which is the difference in tCO_2-e emitted or sequestered between a scenario with-project and a scenario business-as-usual (BAU or without project scenario), demonstrates the benefits of implementing the project and its different components in terms of their climate change mitigation potential.

175. The right-hand table describes the carbon balance of each project activity. It covers the activities to be deployed in the project, which will comprise of improved forest management, (reduced mangrove degradation) and improvements to coastal wetlands (reduced deforestation of mangroves; reforestation of mangroves; and reduced degradation of seagrass meadows).

Project Name	MyCoast - Tanintharyi - 202(	Climate	Tropical (Wet)	Duration of the Project (Years)	20
Continent	Asia (Continental)	Dominant Regional Soil Type	Wetland Soils	Total area (ha)	241700

Components of the project	Gross fluxes Without	With	Balance	Share per GHG of the Balance All GHG in tCO2eq CO_2 Biomass	Soil	Other	N_2O	CH_4	Result per year Without	With	Balanc
Land use changes	All GHG in tCO2eq Positive = source / negative = sink										
Deforestation	0	0	0	0	0		0	0	0	0	0
Afforestation	0	0	0	0	0		0	0	0	0	0
Other LUC	0	0	0	0	0		0	0	0	0	0
Agriculture											
Annual	0	0	0	0	0		0	0	0	0	0
Perennial	0	0	0	0	0		0	0	0	0	0
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	0	0	0	0	0		0	0	0	0	0
Livestocks	0	0	0				0	0	0	0	0
Degradation & Management											
Forest degradation	3,549,333	-7,098,667	-10,648,000	-8,470,000	-2,178,000		0	0	177,467	-354,933	-532,4
Peat extraction	0	0	0		0		0	0	0	0	0
Drainage organic soil	0	0	0		0		0	0	0	0	0
Rewetting organic soil	0	0	0		0		0	0	0	0	0
Fire organic soil	0	0	0		0			0	0	0	0
Coastal wetlands	6,187,496	1,790,886	-4,396,610	-1,242,175	-3,154,435		0	0	309,375	89,544	-219,8
Inputs & Investments	0	0	0			0	0	0	0	0	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	9,736,829	-5,307,781	-15,044,610	-9,712,175	-5,332,435	0	0	0	486,841	-265,389	-752,2
Per hectare	40.3	-22.0	-62.2	-40.2	-22.1	0.0	0.0	0.0			
Per hectare per year	2.0	-1.1	-3.1	-2.0	-1.1	0.0	0.0	0.0	2.0	-1.1	-3.1

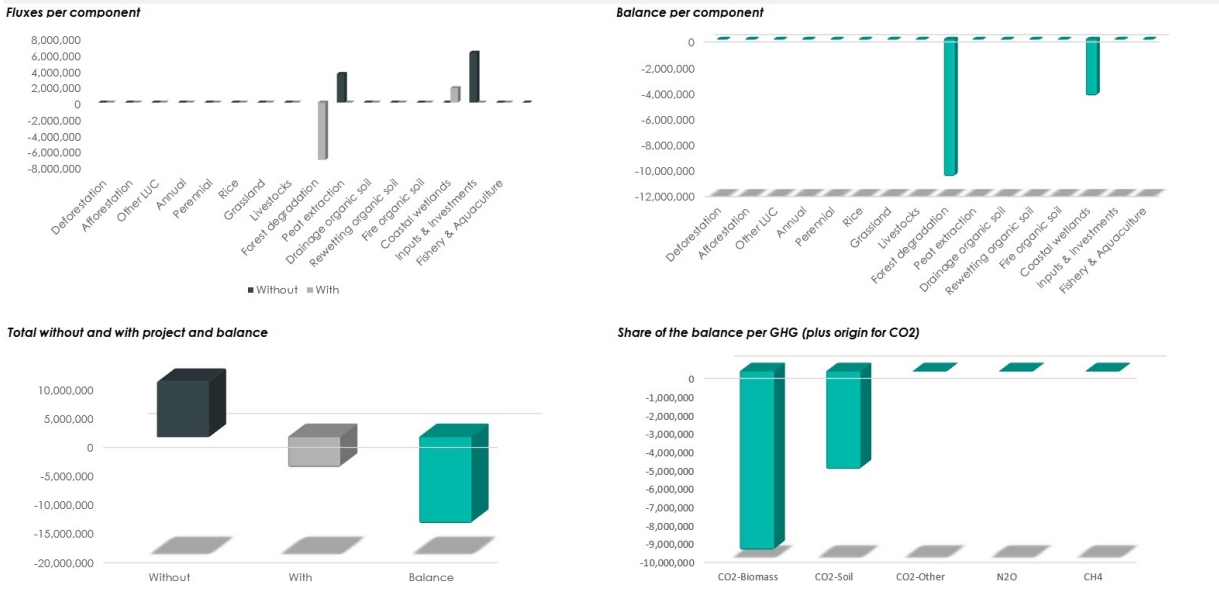


Table 5. EX-ACT screenshot of EX-ACT results.

176. The highest carbon sinks will result from improved mangrove forest management (?10,648,000 tCO_2-e) followed by coastal wetlands conservation activities (?4,396,610 tCO_2?e).

177. The total carbon balance is around -15 million tCO_2-e over a 20 years period of analysis, equivalent to about -3.1 tCO_2-e per hectare per year.

178. Since mangrove management largely drives the carbon balance, we also ran an additional GHG appraisal using the higher estimate in Table 4. The carbon balance model would then be almost 33.5 million tCO_2-e over a 20 years analysis, equivalent to about -6.9 tCO_2-e per hectare per year. The results from both estimates are tabulated below.

Compared to the lower estimate, the contribution from reduced mangrove degradation increases from 70.8% to 74..3% of the carbon balance. Thus, the project?s efforts to assist the Forest Department and Community Forest groups to reduce mangrove degradation could achieve a very significant positive impact by mitigating forest carbon losses. Conversely, seagrasses make only a minor contribution to the overall carbon balance, although their ability to sequester carbon is high on a unit area basis. The importance of reducing the exploitation of seagrass meadows in Tanintharyi stems more from their extreme sensitivity to disturbances, and the vital roles they play in supporting biodiversity and food security.

Mitigation measure	Lower estimate (tCO_2-e)	Higher estimate (tCO_2-e)
Avoided mangrove deforestation	-4,109,057	-8,218,115
Reduced mangrove degradation	-10,648,000	-24,845,333
Mangrove restoration	-275,598	-375,815
Reduced damage to seagrass meadows	-11,955	-17,932
Total (over 20 years)	**-15,044,610**	**-33,457,195**
Per hectare	-62.2	-138.2
Per hectare per year (over 20 years)	-3.1	-6.9

Innovation

1. MyCoast Project will pioneer integrated coastal zone management (ICZM) in Myanmar as an alternative to unsustainable sector-driven exploitation of coastal and marine living resources. This will be innovative, not only in Myanmar, where integrated management is a largely unknown management concept, but also at Asia regional level. It will be one of very few projects of its kind among the eight countries bordering the Bay of Bengal. In fact, Myanmar will be among the first countries in the Bay of Bengal region to develop and implement an integrated coastal zone conservation strategy.

2. The specific innovative features of the project can be summarised as follows:

a) Capacity for Integrated Coastal Zone Management (ICZM) planning and implementation will be developed at a national scale, supported by practical application of ICZM at a significant local scale.

b) ICZM will be demonstrated at a globally important site for mangroves, coral reefs, seagrass meadows and coastal/marine biodiversity in the Myeik Archipelago.

c) Cooperation between DoF and FD (as well as other government agencies) will be fostered and applied to achieve integrated, ecosystem management of coastal fisheries and mangroves. By assisting national authorities in two different ministries to work more closely together in this way, the benefits of cooperative working and integrated natural resources management will be showcased as an alternative to the present management of Fisheries and Forestry as separate sectors.

d) The project will also be innovative in reaching out strategically to gain support for coastal conservation from the many commercial sectors that are becoming increasingly significant in the coastal zone, including tourism, oil and gas, mining, agriculture and aquaculture. To this end the project will promote the principle that environmentally responsible commercial practices are also good for economic sustainability.

e) Coastal ecosystem services in Myeik District will be fully valued to support the case for balancing conservation and development from a socio-economic and societal perspective. Currently, there is almost no information on the true value of coastal ecosystem services in Myanmar, especially the various indirect and non-market values, which are often overlooked in development decision-making.

f) The project will contribute new knowledge about the ecological linkages between coastal habitats and fishery stocks, which will strengthen Myanmar?s capacity to manage fish stocks sustainably. And by establishing the first coastal environmental monitoring system in Myanmar, MyCoast will help to ensure that information on key environmental indicators is made available to decision-makers to support adaptive management in the coastal zone.

g) The project will also advance knowledge about the carbon sequestration capacity of mangroves (and if possible, also seagrasses), about which very little is known in Myanmar, despite the global significance of the country?s mangrove forest ecosystems.

3. ***Scaling up:*** This project will support the piloting of a coastal zone conservation strategy and associated support mechanisms along a relatively small percentage of Myanmar?s coastline. However, project emplaced tools and capacities will be designed for national level replication and upscaling. A set of activities under Component 2 will be designated for the specific purpose of guiding the upscaling of best practices. These will include mechanisms of working with the project?s stakeholders to capture lessons learned and generate/distribute materials required to assist other regions/states to benefit from project results and lessons learned in Tanintharyi Region. Replication and scaling up will also be facilitated through collaboration with other donor-supported coastal management projects. The project?s contributions to coastal zone management policy development and sustainable financing mechanisms will also encourage national upscaling.

4. The project is closely aligned with the programs, practices, and institutional frameworks established through BOBLME Phase 1 (2010-2015). The Tanintharyi coastal conservation strategy will deliver on Myanmar?s biodiversity and habitat commitments to the BOBLME Strategic Action Programme (2015), which will guide the second phase of BOBLME. The coastal conservation strategy can serve as a valuable case study for the BOBLME regional platform. Thus, the project will be well-positioned to contribute results and lessons learned to the BOBLME program of eight countries, including Myanmar, and to facilitate upscaling of best practices developed/applied by the project throughout the Bay of Bengal region.

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[1] Department of Fisheries Myanmar: Fishery Statistics 2018. 75pp.

[2] https://www.helgilibrary.com/indicators/fish-consumption-per-capita/myanmar/

[3] "Supporting the Application of the Ecosystem Approach to Fisheries management considering climate and pollution impacts" Programme ("EAF-Nansen Programme").

[4] DoF Directive No. 9/94 It sets the minimum width of crabs at 8.15 cm and the length at 6.15 cm, and crabs smaller than this must not be collected, traded or transported. It also instructs that crabs should be measured across the widest area of their carapace, not including the

chelipeds. The State/Division/District and Township Heads of Department of Fisheries must check the size of mud crabs upon receipt of applications for licenses for collecting, trading and transporting crabs.

[5] Giri, C., Ochieng, E., Tieszen, L.L., Zhu, Z., Singh, A., Loveland, T., Mase, J. and Duke, N. (2011). Status and distribution of mangrove forests of the world using earth observation satellite. Global Ecology and Biogeography 20: 154?159.

[6] Connette, G., Oswald, P., Songer, M. and Leimgruber, P. (2016). Mapping Distinct Forest Types Improves Overall Forest Identification Based on Multi-Spectral Landsat Imagery for Myanmar?s Tanintharyi Region. Remote Sensing, 8:88; doi:10.3390/rs8110882. (In their study ?degraded? means mangrove forest having less than 80% tree cover, with evidence of thinning visible as bare ground from above.)

[7] Text highlighted in blue are edits/ new text in response to second round of comments from the GEFSEC; whereas the text highlighted in yellow are in response to first round of comments

[8] https://www.ncddmis.com

[9] Saw Han Shein, Antt Maung, Salai Mon Nyi Nyi Lin and Zau Lunn (2013). Socio-Economics Survey in The Villages Along Thayawthadangyi Kyun Group, Kyunsu Township, Tanintharyi Region, Myanmar. Myanmar Marine Programme
Report No. 1/2013.

9 Scneider, H., Soe Thiha, Pontillas, M. and Ponce de Leon, E.V. (2014). Socio economic baseline assessment: Thayawthatangyi and Langann Islands, Myeik Archipelago, Myanmar. Tanintharyi Conservation Programme Report 10. Fauna and Flora International. 37pp.

[11] DoF Notification No. 2/2013.

[12] Older villagers in Auckland Bay recalled mangrove trees of up to 80-100cm diameter in decades past.

[13] Illegal charcoal trade threatens Myanmar?s remaining mangrove

forests. Mongabay Series: Global Forests. https://news.mongabay.com/2019/04/illegal-charcoal-trade-threatens-myanmars-remaining-mangroves/

[14] http://unfccc.int/resource/docs/napa/mmr01.pdf

[15] Howard, R. (ed.) 2018. Marine Biodiversity of Myeik Archipelago: Survey Results 2013-2017 and Conservation Recommendations. Tanintharyi Conservation Programme, a joint initiative of Fauna & Flora International, the Myanmar Forest Department and Department of Fisheries. 138pp.

[16] Howard, R. (ed.) 2018. Marine Biodiversity of Myeik Archipelago: Survey Results 2013-2017 and Conservation Recommendations. Tanintharyi Conservation Programme, a joint initiative of Fauna & Flora International, the Myanmar Forest Department and Department of Fisheries. 138pp.

[17] A phenomenon associated with a rise in average surface sea temperature due to climate change that causes the living coral animals (polyps) to die-off, leaving only the white calcareous shell mass of the coral, giving it a ?bleached? appearance.

[18] Department of Fisheries, Myanmar: Fishery Statistics 2018.

[19] A phenomenon associated with a rise in average surface sea temperature due to climate change that causes the living coral animals (polyps) to die-off, leaving only the white calcareous shell mass of the coral, giving it a ?bleached? appearance.

[20] https://www.sciencedaily.com/releases/2015/07/150723083855.htm

[21] Mittelman *et al.* (2019). Final Report: Climate Vulnerability Assessment in Myaebon and Yambye Townships, Rakhine, and Myeik Township, Tanintharyi. Mekong Economics, Consulting. 205pp.

[22] ibid

[23] In relation to Myanmar?s mangrove forests the term ?restoration? is used here in the broad sense advised by FAO (2018) to mean *?..all activities designed to bring back some form of tree cover on formerly forested lands and/or to enhance productivity and protective functions of forest ecosystems for socio-economic, ecological and/ or environmental purposes. These include tree and forest establishment and/or improvement through planting, seeding, natural regeneration (both assisted and otherwise), agroforestry, enrichment planting and silvicultural*

management.? Therefore, this definition is inclusive of activities commonly referred to as forest ?rehabilitation?.

[24] ?Community-based Mangrove Management in Wunbaik Forest Reserve (TCP/MYA/3204)?.

[25] To the extent possible, the MyCoast project will conduct capacity development activities jointly with its co-financing partners who are also working at national and Tanintharyi Region level. And it is expected that institutions and projects/programmes working in Myanmar?s other coastal regions/states will also be interested to participate, e.g. by sharing training costs and sponsoring trainees.

[26] Payment for Ecosystem Services: Getting Started in Marine and Coastal Ecosystems: A Primer. Forest Trends and the Katoomba Group (2010). 69pp.

[27] Thompson, B.S. and Friess, D.A. (2019). Stakeholder preferences for payment for ecosystem services (PES) versus other environmental management approaches for mangroves forests. Journal of Environmental Management 233: 636-648.

[28] MFF, SEI, SEAFDEC (2018). Gender Analysis Toolkit for Coastal Management Practitioners, Thailand: MFF, 50pp

[29] Consisting of approximately 4.45 million ha of coastal habitat and inshore waters in Tanintharyi Region, including 3.43 million ha in the Myeik Archipelago; together with 0.13 million ha of legally designated mangrove forests in Rakhine State and the Ayeyarwady Delta Region, and 0.16 million ha of mudflats designated as a Ramsar site in the Gulf of Mottama.

[30] Kauffman et al, 2014. Carbon stocks of intact mangroves and carbon emissions arising from their conversion in the Dominican Republic. Ecological Applications, 24(3), 2014, pp. 518?527

[31] Jonell and Henricksson 2014. Mangrove-shrimp farms in Vietnam ? comparing organic and conventional systems using life cycle assessment. Aquaculture, doi: 10.1016/j.aquaculture.2014.11.001

[32] Kauffman et al. 2018. Shrimp ponds lead to massive loss of soil

carbon and greenhouse gas emissions in northeastern Brazilian mangroves. Ecology and Evolution, DOI: 10.1002/ece3.4079
[33]Arifanti et al. 2019. Carbon dynamics and land use carbon footprints in mangrove-converted aquaculture: The case of the Mahakam Delta, Indonesia. Forest Ecology and Management, 432,17-29.

[34] The 20 years period (accounting duration) is in line with the concept that even after the point at which a new equilibrium in land use and practices is reached at the end of the implementation phase, further changes may occur as the result of the preceding interventions. For instance, for the soil C estimates, the default values are based on default references for soil organic C (SOC) stocks for mineral soils to a depth of 30 cm (Table 2.3 of IPCC 2006). When SOC changes over time (land use change or management change), a default time period for transition between an equilibrium of 20 years is assumed. These values were extracted from the IPCC 1996 and 2006 Guidelines, which were gathered from a large compilation of observations and long-term monitoring.
[35] This information was provided by U Soe Htun, a leading expert on seagrasses in Myanmar. He is the Director of MSAM and is currently working in Myeik with FFI. His estimate for the area of seagrass meadows in Tanintharyi is only around 600 hectares based on field surveys, including the use of drones (see Appendix XVII for details).

A.2. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

No

A.3. Stakeholders

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Details of stakeholders, their profiles and expected involvement in project execution are presented in Appendix IV of the full project document. Key beneficiaries of the project will include:

1.1.1 Project beneficiaries

1. **Traditional coastal communities:** The main intended beneficiaries are traditional coastal-dwellers in Tanintharyi Region whose livelihoods, food security and resilience to climate change are heavily dependent on the ecosystem services provided by mangrove forests, coral reefs and seagrass meadows. The typical profile of these beneficiaries is that they live in small villages situated along the coastline and on islands in the Myeik Archipelago, where they depend primarily on small-scale fishing and gleaning for food and income. Mangrove forests provide them with their main source of fuelwood and construction materials (timber, poles and thatching), as well as non-timber forest products (see Appendix XI).

2. The direct beneficiaries will be coastal-dwellers in Kyunsu Township where the project ICZM demonstration site will be situated. The township population is slightly more than 165,000 and is overwhelmingly rural (almost 97% based on March 2017 data). The project will adopt an inclusive approach to helping these beneficiaries, including men, women and children, ethnic minorities and indigenous people. It is also intended that the project results can be scaled up and replicated in other coastal regions and states of Myanmar. However, to achieve positive change that both protects biodiversity and improves the livelihoods and food security of traditional coastal-dwellers, significant progress towards achieving sound coastal resources governance must be made. This will require improvements in the way that coastal resources and coastal land are exploited for commercial reasons, especially by the fisheries sector, and by developers and other commercial interests; and how effectively the authorities regulate such exploitation. The growing commercial sector is identified, therefore, as a key stakeholder group in this project.

3. **Governmental institutions:** At national and sub-national (region/state) levels, the main governmental stakeholders and beneficiaries will be the Union and Tanintharyi Region Department of Fisheries, Forest Department and Environmental Conservation Department, plus the other governmental agencies that sit on the national and Tanintharyi Region and District Coastal Resources Management committees, respectively.

4. At the lower administrative levels, the MyCoast project will engage with various district and township governmental institutions, which will benefit from the project?s capacity-building activities. The Marine Science Department at Myeik University is also an important project stakeholder, partner and potential beneficiary.

5. **Private sectors:** While governmental, NGO/CSO and community stakeholders will benefit from the capacity development activities of the project, the private sectors are also crucially important as key stakeholders and potential beneficiaries. The Myanmar Fisheries Federation, representing commercial fishery interests, and the Tourism Associations in Tanintharyi representing the fast-developing coastal tourism sector, were consulted during the PPG phase. They will be engaged early in project implementation to request that their members both participate in and support project activities that they regard to be most relevant to their business interests.

6. The project will engage with a wide variety of private interests in the coastal zone, including fishing boat owners, fish dealers and other fishery enterprises; tourism companies, aquaculture farms, industrial and urban developers, the energy sector, tourism companies and other businesses. Private sector support will be essential to achieving the project?s activities and outputs, especially the development of an implementable coastal conservation strategy for Tanintharyi.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Traditional coastal communities and community groups	The PPG team consulted with village leaders and villagers in 10 coastal fishing villages within Auckland Bay and on Kadan Island and Thayawthdangyi Island in the central Myeik Archipelago (see locations in Appendix XI). In each village, an initial meeting was convened to explain the MyCoast project to village leaders, and to learn from them about the main environmental and socio-economic issues facing their village. Six of the 10 villages have community forest areas managed by a village Forest User Group (FUG) and FUG members were also present. Issues surrounding natural resources use were discussed in detail. At each village, discussions were then held separately with groups of 10-20 fishermen and 15-30 women (depending on the size of the village) to better understand these issues from a gender perspective; and also, to ask men and women about potential additional livelihood activities they considered to be most suitable for them? A meeting was also held with members of the Forest User Association, which represents the FUGs on Kadan Island. During a second visit to each village, the PPG team members conducted further interviews with natural resources users. In addition, Fishery Co-management groups were consulted in three fishing villages in Dawei District. In total, an estimated 600 villagers and their community/group leaders were consulted during the PPG, with approximately 50:50% participation by women and men. Traditional coastal communities and their representative forestry and fishery groups will be involved in the project mainly through participation in integrated natural resource planning and co-management of coastal and marine resources, but also in other project activities, especially livelihood enhancement activities. Their main interest in the success of the project is that their income/livelihoods will be made more stable and sustainable through enhanced tenure and sustainable management of the resources upon which they depend. This will include assistance to diversify their livelihood activities beyond only capture fisheries (see additional livelihood interests of village women and men in Appendix XI). These communities will influence the outputs of the project through their level of commitment and change in behaviour at the community level (i.e. through participation in planning and management and compliance with strategies and plans developed regulations). In addition, they will also be represented on the project steering committee. Women will benefit from the project through targeted planning, capacity development and livelihood activities most suitable for women. Youth will be involved at community level as local facilitators and they will be trained and supported by the project.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
local CSOs/NGOs working in Tanintharyi	Various local NGO/CSOs, have and will continue to play an important role in the project. Within each village, and in coordination with other stakeholders, the project will work with the VDCs and village groups. Relevant and experienced NGO/ CSOs will assist in the implementation of project activities, such as facilitating the formation of village natural resource management groups and the preparation of Climate change vulnerability and ICZM plans; and introducing alternative livelihood opportunities. Community mobilization and capacity development activities under the project will be undertaken by local NGO/CSO or, as required, the project will work to strengthen the NGO/CSO themselves through, for example, CSO management and skills training (e.g. on the ecosystem approach to fisheries and aquaculture, training on the use of environmental monitoring systems, and gender mainstreaming). The NGO/CSOs will also facilitate fisher-to-fisher and farmer-to-farmer sharing of information within and across the communities. The role of women will be supported and specific women?s groups will be formed as appropriate. During project implementation these methodologies will be further strengthened and a gender strategy will be developed. The knowledge these organisations have of working with local communities in Myeik District will be invaluable to the project, including as potential implementing partners. The following Tanintharyi-based CSOs/NGOs were consulted during the PPG to explain the MyCoast project to them and to confirm their willingness to work with the project and assist the traditional village communities in the project?s proposed demonstration site. Conservation Alliance of Tanintharyi (CAT): this alliance has seven member CSO organizations: Tenasserim River and Indigenous People Network; Community Sustainable Livelihood and Development; Tarkapaw Youth Group; Candle Light; Southern Youth; Karen Environmental and Social Action Network; and Tanintharyi Friends. CAT is headquartered in Dawei and its member organisations are based in Dawei or Myeik. Green Network: this is a CSO dedicated to Environmental Conservation, Human Rights Promotion and Public Education in Myeik District. It has extensive experience of supporting the development of FUGs in Kyunsu Township, which will be of great value to MyCoast. Green Network 88: is a CSO helping to create employment opportunities for local communities in Myeik; it is involved in natural resources management, including revising laws relating to fisheries and forestry. Farmers Union: this CSO advocates for farmers? rights and represents farmers affected by ?land-grab?, which is a growing problem in Tanintharyi. It also educates farmers about the land laws. ALARM: is an NGO working in Myeik District on gender equality through women?s? empowerment and natural resources governance (see details paragraph 285). Myeik University Students Union: this student group was formed recently and is just beginning activities, but the group?s interests include waste management and applied research.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Local business associations	**Myanmar Fisheries Federation (MFF):** MFF is a national level, non-profit organization with a membership of over 700 companies and 27,000 individuals. Founded in 1989, MFF represents the interests of member enterprises and associations within the fishery industry. MFF aims to promote the socio-economic life of member entrepreneurs and fishery communities, share information on economic policies and fishery technologies and advocate on behalf of the fishing industry, among other objectives. MFF has sub-federations at all state/region, district and township levels. The PPG team held discussions with MFF staff representing the federation at regional level in Tanintharyi and at district level in Dawei and Myeik. There are nine associations under MFF that deal with particular industries, namely, shrimp, fish, exporters, aquaculture feed, marine fisheries, freshwater capture fisheries, crabs, eels and ornamental fish. MFF also includes technical sub-associations for: (1) freshwater aquaculture; (2) offshore capture fisheries; (3) inland fisheries; (4) fish and fishery product export; (5) fish feed; (6) shrimp culture; (7) eel culture and export; and (8) crab culture and export. MFF is expected to play a pivotal role in facilitating consultation between the project and the various commercial fishery sub-sectors, especially by way of encouraging the involvement of MFF members in project activities. MFF can also play a vital role in helping the project and DoF to convince its members of the need to comply with fisheries regulations, especially those designed to protect coastal habitats and vital life-cycle stages of targeted fish and shellfish species. **Myeik Tourism Association** This is a local business association representing the interests of private tour operators in Myeik District. From a single tourist agency offering local tours in 2013, the number of registered agencies increased to 20 in 2017 and to 32 in 2018. This number is expected to double in the near future in response to the government?s promotion of tourism and the hoped-for lifting of restrictions currently preventing foreign tourists from staying overnight on islands in the Myeik Archipelago. The PPG team met with the chairman and some members of this association. As with the MFF, the Myeik Tourism Association can play a key facilitation role in the project on behalf of its members, especially since the association?s main objective is sustainable tourism and its main focus for tourism development is the Myeik Archipelago. Its member tour operators are already aware of the environmental impact risks from tourism and the need for strategic development planning. The project can assist the association to adopt codes of good practice by its members and help the local tourism sector to integrate better with other sectors, especially fisheries, and with local coastal communities.
Ministry of Agriculture, Livestock and Irrigation (MOALI)	This ministry was formed in 2016 by integrating Livestock, Fisheries and Rural Development with Agriculture and Irrigation. MoALI is responsible for overall development of the crop subsector, including: i) extension; ii) research and development; iii) irrigation; iv) agricultural mechanization; v) formulation of agricultural plans and policies; vi) higher education in agriculture; vii) agricultural micro-credit and loans; viii) agricultural land reclamation; ix) land development and land reform; x) biodiversity; xi) land surveying and mapping; xii) and coordination with key concerned agencies. Several departments within MoALI are highly relevant to the project, as explained below.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Department of Fisheries (DoF)	The Department of Fisheries (DoF) is the lead government department for the MyCoast Project. DoF is responsible for fisheries management and development. Its vision is sustainable development of the fisheries sector for security, improvement of the socio-economy of rural people and contribution to the economic development of the nation based on the fisheries industry. The department?s responsibilities cover five main areas: (1) Conservation and rehabilitation of fishery resources; (2) Promotion of fisheries researches and surveys; (3) Collection and compilation of fishery statistics and information; (4) Extension services; (5) Supervision of fishery sub-sectors. The DoF is involved in research programs on endangered species: such as sharks and rays, marine turtles and Irrawaddy dolphins. DoF oversees some conservation areas such as the marine component of the Thamihla Kyun Wildlife Sanctuary (a turtle conservation area) in the Ayeyarwady Region; and various protected areas for sharks and rays, Indian threadfin and mud crabs in Tanintharyi Region. DoF is also working closely with FFI and local stakeholders to develop locally managed protected areas (LMMAs) to conserve critical coral reef habitats in the Myeik Archipelago. DoF has the responsibility at national level to regulate fishing activities according to the Fishery Law. DoF offices also operate at State/Region, District and Township levels and several other agencies are involved in fisheries enforcement at sea and at fishing ports, as follows: Myanmar Navy Myanmar Port Authority Myanmar Customs Department Immigration Department Department of Marine Administration Myanmar Police Force (Maritime Police Division) As the government lead department for MyCoast, DoF has a crucial role to guide the project, and to coordinate with the above agencies, and other governmental stakeholders, especially the Forest Department, ECD and GAD. The Myanmar Navy and Maritime Police have both key responsibilities and capacity for fisheries enforcement
Department of Agriculture (DoA)	The DoA is responsible for crop management and pest control, increasing the production of major crops, improving agricultural technology e.g. developing high-yielding crop varieties, providing certified seeds to farmers and extension. There is a separate Department of Agricultural Research. DoA will be a valuable source of advice to the project on livestock and agricultural aspects of income diversification for coastal fisher communities.
Department of Agriculture Land Management and Statistics (DALMS)	DALMS is a department of MoALI responsible for maintaining land ownership and tax records; it also plays a key role in land tenure issues: DALMS is responsible for updating land use and registration, collection of land use data and crop statistics. Its main activities include i) updating land maps and registers, ii) land survey and map production, iii) collection and compilation of timely and reliable crop statistics, iv) collection and compilation of land use statistics, v) land administration and decisions on agricultural land disputes, and vi) conducting agricultural socio-economic surveys. With increasing momentum for agricultural development and transformation of Myanmar?s agriculture from a traditional resource-based one to a knowledge-based sector, DALMS will play a fundamental role in providing agricultural information and compiling key statistics. Current development activities are being set back by lack of sound statistics and an agricultural information system. The project will benefit from data available from DALMS on coastal land survey and land use, crop statistics and agricultural socio-economics. The project will share information with DALMS on agro-forestry and agro-fishery systems within the ICZM demonstration sites.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Livestock Breeding and Veterinary Department (LBVD)	The main objectives of this department are to develop the livestock sector for food security, sustainable rural development and product export. The LBVD promotes livestock rearing by organizing smallholder groups and cooperatives, with a particular aim being to upgrade the involvement of women. The expertise of the LBVD will be valuable to the project because livestock rearing was identified during the PPG phase as an important additional livelihood activity for coastal fisher households, and one which is most suitable for women.
Department of Rural Development (DRD)	DRD has responsibility for development of the rural economy and infrastructure. A World Bank financed loan is supporting some of DRD?s work in coastal villages in the Myeik Archipelago, including construction of concrete jetties and walkways. It will be important for the project to coordinate its assistance to project-supported villages with DRD, as well as the Village Development Committees (VDC). DRD staff will benefit from their involvement in project capacity building activities and from closer cooperation with DoF and FD at local level.
Ministry of Natural Resources and Environmental Conservation (MoNREC)	The Ministry of Natural Resources and Environmental Conservation (MoNREC) has responsibility over all matters relating to the environment and climate change in Myanmar. This includes the sustainable management of forest resources, national parks, and wildlife and plant conservation. MoNREC develops the forest policy and legal framework; coordinates Climate Change related policy development; and is in charge of the rules for Environmental and Social Impact Assessments. Within MoNREC, the Forest Department (FD) and Environmental Conservation Department (ECD) will be important project partners alongside DoF.
Forest Department (FD)	The Forest Department (FD) is responsible for the protection and the sustainable management of forest resources, including wildlife conservation, within the Permanent Forest Estate, which consists of Reserved Forest and Protected Areas with forests (National Parks, Wildlife Sanctuaries), and Public Protected Forests (PPFs). Management of mangrove forests is currently a responsibility of the FD Watershed Division. FD will play a pivotal role together with DoF to assist the project to apply integrated management to mangrove forests and coastal fisheries; to develop and capacitate Community Forest user groups; and to reduce the degradation of mangroves caused by fuelwood extraction. FD is also planning to build a mangrove walkway and visitor facility near Myeik Town, which will serve as a valuable focus for public awareness-raising about the importance of mangroves for biodiversity conservation and climate change adaptation/mitigation.
Environmental Conservation Department (ECD)	The ECD is responsible for implementing the National Environmental Policy, plus the planning, strategies and frameworks for integrating environmental consideration into the national sustainable development process. The ECD also has the mandate to raise public awareness on environmental issues and is the institutional focal point for climate change in Myanmar, including responsibility for monitoring and reporting on climate change. In addition, ECD is responsible for EIAs and is the GEF institutional focal point in Myanmar on behalf of MoNREC. It is expected that ECD will play an active role in MyCoast as a member of the PSC through its national responsibilities covering policies and action plans for both biodiversity and climate change. ECD will be a key beneficiary of project capacity-building activities and project-generated knowledge (e.g. the coastal conservation strategy), which can contribute to strengthening the EIA process for appraising coastal development proposals.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
General Administration Department (GAD)	Previously a department of the Ministry of Home Affairs, GAD is now under the Ministry of the Office of the Union Government. GAD has the primary responsibility for Myanmar?s public administration and provides the civil service for the states and regions. GAD also manages the district and township administrations. Led by a Township Administrator, the township offices carry out many key functions of government, including population records, land registration, taxation and licencing. The district GAD supervises the township offices and facilitates communication and coordination between the township and state/region governments. The GAD also has broad involvement in land management, including land acquisition and settling land disputes, civil works and local development projects. It also coordinates inter-agency work under the state/regional governments, as well as with international actors, including UN agencies. The project will coordinate its activities closely with the GAD offices in Tanintharyi, especially regarding the field demonstration site in Kyunsu Township, including coastal land use, as well as the project?s training activities. GAD staff can benefit technically by being involved in project training and fieldwork.
Ministry and Directorate of Hotels and Tourism	The Ministry of Hotels and Tourism (MoHT) has several objectives, including *?To develop responsible tourism activities that will contribute to the country?s sustainable development, eco-tourism and conservation of the natural environment.?* MoHT has a Directorate consisting of six departments: Hotels and Tourism Supervision, Training and Education, Planning, International and Regional Cooperation, Tourism Promotion, and Administration and Budget. Lampi Island Marine National Park is being promoted as an eco-tourism destination. There is a village community-based tourism project in Dawei, and similar projects have been identified in Myeik and Kawthaung districts. Marine and coastal tourism planning will be an important component of the ICZM Strategy for Tanintharyi and the Directorate?s staff can benefit greatly from the project?s capacity-building activities. The project will also cooperate with the Directorate to prepare guidelines on key tourism-related topics such as sustainable tourism, eco-tourism and community-based tourism. As a starting point, the Directorate already has guidelines for tour companies, including their responsibilities for supervising their staff and tour guides.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Southeast Asian Fisheries Development Center (SEAFDEC)	SEAFDEC was established in 1967 as an autonomous inter-governmental body to develop the fisheries potential of the region through rational utilization of the resources for food security and poverty alleviation. SEAFDEC has a Secretariat located in Thailand, plus five Technical Departments for Marine Fisheries Research (in Singapore), Aquaculture (in Philippines), Marine and Inland Fisheries Resources Development and Management (in Malaysia and Indonesia, respectively) and Training (in Thailand). The mission of SEAFDEC is ?To promote and facilitate concerted actions among the Member Countries to ensure the sustainability of fisheries and aquaculture in Southeast Asia.? There are currently 11 Member Countries: Brunei Darussalam, Cambodia, Indonesia, Japan, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Viet Nam. Under the SEAFDEC-Sweden ?Fisheries and Habitat Management, Climate Change and Social Well-being in Southeast Asia? project (2013-2019), cooperation between Thailand and Myanmar on fisheries management in the Andaman Sea is being promoted, including management of trans-boundary stocks and combating IUU fishing. MyCoast can benefit from the wide range of knowledge and experience on habitat and fisheries conservation management generated by SEAFDEC in its member countries. This includes management of crab banks, fish refugia, MPAs and other fisheries enhancing measures; sustainable aquaculture, climate change adaptation and enhancing coastal community resilience. Myanmar is also participating directly in the SEAFDEC project Human Resources Development (HRD) for Sustainable Fisheries (2013-2019) and, since 2016, Thahton Township in Mon State has been a pilot learning site to identify activities to improve the income of fishing communities there (e.g. stock enhancement of mud crabs); and to develop a Fisheries Management Pan for the township. Representatives from Thahton also visited Thailand to learn about crab culture operations by fisher communities in Surat Thani, with the aim of helping Thahton fishers to improve their income. Myanmar has requested SEAFDEC to consider supporting a similar initiative in a pilot site in Kawthaung District of Tanintharyi. It will be valuable for MyCoast project to exchange information and experiences with SEAFDEC.
Network of Aquaculture Centers in Asia-Pacific (NACA)	NACA is a regional intergovernmental organization formed in 1988 that promotes rural development through sustainable aquaculture and aquatic resources management. NACA seeks to reduce poverty, increase food security and improve the livelihoods of rural people, with the ultimate beneficiaries being farmers and rural communities. Myanmar is one of 18 member governments of NACA and FAO is a non-voting member of NACA?s Governing Council. NACA operates through a network of aquaculture research and development centres coordinated by a Secretariat located in Bangkok. The network consists of five Regional Lead Centres, plus numerous national institutions, with DoF being the focal agency for NACA in Myanmar. Since 2015, NACA has addressed five thematic programs, the most relevant to MyCoast are sustainable aquatic farming systems, and genetics and biodiversity. Under these two programs, activities include development of better management practices for key aquaculture production systems; and applying conservation aquaculture models to support diversification, fishery enhancement and in situ conservation of indigenous fish species. NACA?s main support to Myanmar has been capacity-building in the form of regional training courses attended by participants from Myanmar. Both NACA and SEAFDEC are also experienced in facilitating fisheries/aquaculture study tours to Thailand from neighbouring countries.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Food Security Working Group (FSWG) and Land Core Group (LCG)	The FSWG and LCG are key civil society initiatives with strong UN and NGO participation. Their areas of interest include food security, fisheries, research and development, and land tenure rights (with a focus on ethnic minority rights). These bodies also serve as resource centres, produce reviews and studies, and facilitate consultation, capacity-building, advocacy and information-sharing via publications. LCG became an independent organisation in 2015. LCG is a focal point for work on responsible land tenure in Myanmar and an influential advocate to the Myanmar government. LCG main activities include: 1) promoting equitable land and natural resource rights and use in policies, laws, and their implementation; 2) strengthening people?s ability to effectively claim their land rights through formal and informal mechanisms; and 3) serving as a hub for research, information, and coordination for land-related work in Myanmar. FSWG and LCG can be a valuable source of advice to the project on land governance issues, as well as sharing in coordination and information-sharing.
Fauna and Flora International (FFI)	Fauna and Flora International (FFI) has been supporting conservation work by local civil society organizations in Myanmar since 2008. FFI?s activities range from community-based conservation to collaborative protected area management and from site-level to landscape- and seascape-level conservation approaches. FFI works in a wide range of environments, including forests, wetlands and marine ecosystems. Projects to date have focused on conducting biodiversity assessments and conservation status reviews and strengthening local civil society organizations to protect biodiversity through protected area management.
Myanmar Environment Rehabilitation-conservation Network (MERN)	A number of civil society groups and networks were formed as a response to the loss of life and devastation caused by Cyclone Nargis in 2008. Many of these organisations became members of MERN, the Myanmar Environmental Rehabilitation-Conservation Network (currently MERN has 22 member organizations). Much of the local NGO capacity in Myanmar for mangrove rehabilitation and community livelihood support is represented among MERN?s membership. They include several groups with extensive experience of working effectively as local partners in international development projects e.g. Biodiversity and Nature Conservation Association (BANCA), Mangrove Service Network (MSN) and Activities Group (NAG). These and other groups within MERN are highly relevant to MyCoast as potential implementation partners at field level. MSN, for example, is very experienced with fuel wood saving using fuel-efficient stoves; and mangrove forest conservation (nursery operations and plantation establishment). BANCA is an implementation partner with DoF and FFI, and with FD and OIKOS, in marine conservation projects in Tanintharyi, as well as partner with HELVETAS and IUCN in the Gulf of Mottama Project.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
GIZ (German Agency for International Cooperation)	GIZ (in German: Deutsche Gesellschaft f?r Internationale Zusammenarbeit) is a federally owned organisation working in the field of international cooperation for sustainable development, with a mandate to support the development objectives of the German Government. GIZ is implementing projects in Myanmar in two focal areas: Sustainable Economic Development and Rural Development. GIZ Myanmar offers a wide spectrum of specialist knowledge and a wealth of regional expertise and implementation experience to achieve results-based solutions. The Myanmar Sustainable Aquaculture Programme (MYSAP, 2017-2021) is jointly implemented by the DoF and GIZ, with funding from the EU and the German Federal Ministry of Economic Cooperation and Development (BMZ). This project has a freshwater aquaculture component and a coastal component, which includes mangrove rehabilitation and smallholder shrimp polyculture and mud crab culture. Although MYSAP is not working directly in Tanintharyi Region, its objective ?to support sustainable intensification of aquaculture to realise this sector?s potential for livelihoods, nutrition and food security? is highly relevant to MyCoast. GIZ and the MYSAP project can be a valuable source of expertise for MyCoast on sustainable aquaculture technology most suitable for application in Tanintharyi Region.
UNDP	UNDP has a long history of supporting sustainable natural resources management in Myanmar, including community-based reforestation, sustainable forestry and agricultural management, and sustainable rural livelihoods. The current UNDP Country Program (2018-2022) is focussed on two main outcomes: 1) Peace and governance: Sustaining peace through national reconciliation and building an effective democratic State; and 2) Planet and prosperity: Promoting inclusive, resilient and sustainable development and environmental management. UNDP will continue to support MoNREC to implement the National Environmental Policy Strategy Framework and Master Plan and will assist with mainstreaming environmental considerations throughout the Government. Assistance will also be provided to MoNREC and the parliamentary Committee on Natural Resource Management and Environmental Conservation to review relevant policies and laws to strengthen environmental protection and promote a green economy, including sustainable production, consumption and use of energy resources. Of most direct relevance to MyCoast, UNDP is the Implementing Partner of the GEF project ?Ridge to Reef: Integrated Protected Area Land and Seascape Management in Tanintharyi?. The focus of the Ridge to Reef Project (2017-2023) is conservation and sustainable use of the marine, coastal and terrestrial resources of Tanintharyi Region, and this respect it can be considered as a ?sister? project to MyCoast. The Ridge to Reef Project overlaps significantly with MyCoast in its geographical coverage, objectives and approach, which will include demonstrating community-based natural resources management, participatory conservation area management and integrated management of terrestrial, coastal and marine resources. However, the two projects are highly complementary because they focus on different barriers and needs: R2R will address the under-representation of Key Biodiversity Areas (KBAs) in Tanintharyi within Myanmar?s Protected Area (PA) System and the need to strengthen capacity to manage PAs; while MyCoast will focus on building the capacity for ICZM that is lacking at all levels, national, regional and local, and on the national policy and strategic planning needs for ICZM implementation.
JICA	The Japan International Cooperation Agency (JICA) has worked in Myanmar on a range of projects relating to health, environment and economic development, including collaboration with MoNREC on an Integrated Mangrove Rehabilitation and Management Project in the Ayeyarwady Delta after Cyclone Nargis.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
World Bank	The World Bank is supporting the government's reforms that will benefit all of the people of Myanmar, including the poor and vulnerable. The bank provides a wide array of financial products and technical assistance. The World Bank?s projects in Myanmar cover many areas of reform and development: rural services and infrastructure, other public sector governance, public expenditure, financial, management and procurement, climate change, health system performance, macroeconomic management, natural disaster management, accountability/anti-corruption, participation and civic engagement.
USAID	USAID is the US embassy service for development and cooperation. USAID is engaged directly with organizations and institutions in Myanmar to support political reforms, ethnic reconciliation, and to strengthen capacity-building. The United States is committed to improving the welfare and well-being of all people in Myanmar and supporting a democratic transition that leads to the inclusive development of the country. USAID has programs to reduce maternal and child mortality and the burden of infectious diseases such as malaria, tuberculosis, and HIV, while supporting broader reforms to build a more inclusive and effective health system. USAID is deeply involved in food security, and designed a specific program for it aligned with the principles of Feed the Future, the U.S. Government?s global hunger and food security initiative. USAID also works to strengthen Myanmar?s democratic institutions and processes, promote and protect human rights, decrease intercommunal conflict, support inclusive economic development and access to basic services, and improve health and welfare.
LIFT Livelihoods and Food Security Trust Fund	LIFT is a multi-donor trust fund established in Myanmar from 2009, with the main objective of providing grass-roots assistance towards achieving the Millennium Development Goal 1: ?eradicate poverty and hunger?. LIFT is currently contributed to by 14 donor organizations. The five largest donors (DFID, EU, IFAD, USAID and Switzerland) form the Fund Board of LIFT, which makes investment decisions on behalf of all its donors. Although USD 5 million was indicated as co-financing from LIFT in the MyCoast PIF, and LIFT has previously funded coastal environmental rehabilitation projects, LIFT?s priorities have changed considerably since 2015: the fund?s focus is now on the Dry Zone and conflict areas. However, LIFT can play a valuable communication role for MyCoast by informing its donor member organisations about the project?s progress and challenges; while several of LIFT?s donors are funding coastal resources management projects on a bilateral basis.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Local universities	These are the three universities in Myanmar with Marine Science departments: Myeik, Mawlamyine and Pathein. These departments will have an important role as teaching capacity to support the project?s capacity development program. The Marine Science Department at Myeik University will also contribute as a local project partner able to undertake fieldwork and applied research in the project ICZM demonstration area. This department has valuable expertise and research knowledge on various subjects, e.g. fisheries, fish population dynamics, marine invertebrates, plankton, and coastal habitat assessment (mangroves, corals and seagrasses), but the high cost of undertaking fieldwork in the Myeik Archipelago is a constraint. The department does not conduct regular environmental monitoring, except for annual sampling of phytoplankton and some water quality analysis. Myeik University will benefit from capacity-building for its staff and students through involvement in many of the project?s activities under Component 2. Funds have been allocated in the project budget for staff and MSc student research activities to be commissioned by the project. Mawlamyine University is a partner in the Gulf of Mottama Project and has established an aquaculture research centre. Pathein University is a partner with WorldVision International in a large mangrove rehabilitation project in the Ayeyarwady Delta with the main objective of using mangroves to sequester carbon that can be traded on the Voluntary Carbon Market (VCM).

1.1.1 Project beneficiaries

1. Traditional coastal communities: The main intended beneficiaries are traditional coastal-dwellers in Tanintharyi Region whose livelihoods, food security and resilience to climate change are heavily dependent on the ecosystem services provided by mangrove forests, coral reefs and sea grass beds. The typical profile of these beneficiaries is that they live in small villages situated along the coastline and on islands in the Myeik Archipelago, where they depend primarily on small-scale fishing and gleaning for food and income. Mangrove forests provide them with their main source of fuelwood and construction materials (timber, poles and thatching), as well as non-timber forest products (see Appendix XI).

2. The direct beneficiaries will be coastal-dwellers in Kyunsu Township where the project ICZM demonstration site will be situated. The township population is slightly more than 165,000 and is overwhelmingly rural (almost 97% based on March 2017 data). The project will adopt an inclusive approach to helping these beneficiaries, who include men, women and children, ethnic minorities and indigenous people. It is also intended that the project results can be scaled up and replicated in other coastal regions and states. However, to achieve positive change that both protects biodiversity and improves the livelihoods and food security of traditional coastal-dwellers, significant progress towards achieving sound coastal resources governance must be made. This will require improvement in the way that coastal resources and coastal land are exploited for commercial reasons, especially by the fisheries sector, and by developers and other commercial interests; and how effectively the authorities regulate such exploitation. The growing commercial sector is identified, therefore, as a key stakeholder group in this project.

3. **Governmental institutions:** At national and regional levels, the main governmental stakeholders and beneficiaries will be the Union and Tanintharyi Region Department of Fisheries, Forest Department and Environmental Conservation Department, plus the other governmental agencies that sit on the national and Tanintharyi Region Coastal Resources Management committees, respectively.

4. At local level, MyCoast project will engage with various district and township governmental institutions, which will benefit from the project?s capacity-building activities. The Marine Science Department at Myeik Unversity is also an important project stakeholder and potential beneficiary.

5. **Private sectors:** While governmental, NGO/CSO and community stakeholders will benefit from the capacity development activities of the project, the private sectors are also crucially important as key stakeholders and potential beneficiaries. The Myanmar Fisheries Federation, representing commercial fishery interests, and the Tourism Associations in Tanintharyi representing the fast-developing coastal tourism sector, were consulted during the PPG phase and they will be engaged early in implementation to request that their members both participate in and support project activities that they regard as most relevant to their business interests. In particular, it is considered essential to involve key private sectors in the development of the coastal conservation strategy for Tanintharyi.

6. The project will engage with a wide variety of private interests in the coastal zone, including fishing boat owners, fish dealers and other fishery enterprises; tourism companies, aquaculture farms, industrial and urban developers, the energy sector, tourism companies and other businesses. Private sector support will be essential to achieving the project?s intended outcomes and objective, especially the development of an implementable coastal conservation strategy for Tanintharyi.

1.1.1 Stakeholder engagement process and mechanism

1. The project team will ensure strong stakeholder participation and the Free, Prior, Informed Consent (FPIC) process - as described in Appendix IV and guided by the FAO FPIC manual[1]- throughout project implementation. The planned involvement of key stakeholder and beneficiaries described in Appendix IV is also mentioned in the description of project outcomes and outputs (section 1.3.3); and is also summarized in relation to the project?s implementation arrangements in section 2.1.

2. The MyCoast Project has already benefited from substantial stakeholder involvement during the project identification stage. During the spring of 2015, FAO and the Government of Myanmar organized a one-week meeting/workshop with nearly 100 participants representing national government, local government, and coastal zone resource stakeholder groups. These groups discussed the project concept at length and provided their insights. In addition, FAO worked very closely with a cross-section of donor organizations ? including those associated with GEF ? in formal and informal settings to be certain that the project design would be aligned strategically with government and donor initiatives.

3. During the project preparation (PPG phase), the project was prepared with significant stakeholder involvement through numerous consultation meetings and four workshops, as described below.

4. With the close involvement of FAO, the PPG team conducted various workshops and meetings to consult with national, regional and local stakeholders, including Union, Region, District and Township government departments and officials; INGOs, NGOs/CSOs and key private sector representatives (Fisheries, Tourism); coastal village leaders and villager groups (fisherfolks, fish dealers, Community Forest groups, Fisheries Co-management groups and village Womens groups) in Dawei and Myeik districts. FAO and other UN agencies were consulted at both Asia regional and Myanmar country levels, as well as other development partners, managers and staff involved in other projects on coastal resources management, fisheries and/or aquaculture in Tanintharyi Region and other coastal states/regions.

5. These consultations included two Inception Workshops for the MyCoast Project: in Nay Pyi Taw and in Dawei, plus a workshop for district stakeholders in Myeik. A validation workshop was also help in Nay Pyi Taw. Two coastal field visits in Dawei District, and two field surveys conducted over a total period of 15 days in the Myeik Archipelago, were organised to enable extensive consultation with village leaders, community group members and households in 12 coastal and island-based villages. The villages visited were selected to cover the wide biogeographical diversity of Tanintharyi?s coastal zone; they were also representative in terms of village size and their range of socio-economic activities. Some of the villages selected include ethnic minority or indigenous peoples among their inhabitants. In addition to briefing village leaders about the project, focal group discussions and household interviews were arranged in each village. The village groups met by the PPG team included fisheries/fisheries co-management, community forestry and womens groups. Details of the village stakeholder analysis conducted in the Myeik Archipelago are provided in Appendix XII.

6. In Myeik District, field visits were also made to some of the islands and coral reefs being promoted as tourist attractions; to floating hatcheries for seabass and grouper breeding; and to an intensive shrimp and a soft-shell crab farm that have been developed on former mangrove land. Further consultations were held in Myeik in the form of key informant interviews with government officials and business leaders in the coastal Fisheries, Aquaculture, Forestry, Agriculture and Tourism sectors. NGOs/INGOs and CSOs working in the Mergui Archipelago were also consulted on several occasions, including a meeting held in Dawei with some member organisations in the Conservation Alliance of Taninthary representing the Kayin (Karen) ethnic minority; this meeting was attended by representatives from FAO as well as the PPG team.

7. The general findings from the stakeholder consultation process were as follows:

a) All stakeholders consulted were very aware of the causes of coastal ecosystem degradation, with over-fishing and illegal destructive fishing methods identified as the chief issue, which is made worse by a lack of adherence to or enforcement of fishery regulations. Felling of mangrove trees for timber, poles and fuelwood, especially for charcoal-making, was noted as a widespread cause of mangrove degradation.

b) Stakeholders at Union and Region levels were very aware of the need for integrated coastal zone management (ICZM) and understand that it is a priority in government policy. The fact that MyCoast will operate at all levels from local to district, regional and Union was regarded as structurally important to facilitate communication between the tiers of government and administration, especially policy to practice knowledge-sharing.

c) Development partners agreed that, despite the growing number of projects now addressing coastal conservation and sustainable development issues in Myanmar, there is still an important role and need for MyCoast without duplicating the work of other projects. Moreover, because there is little coordination of effort between donor-supported projects the partnership-building role proposed by MyCoast in this regard will be especially welcome and beneficial.

d) There is very little understanding of ICZM and ecosystem-based management among stakeholders at all levels. And even traditional coastal fisherfolk are little aware of the functional (ecological) relationships between mangrove forests or coral reefs and the fishery stocks their livelihoods are largely dependent.

Government capacity for extension work is extremely limited due to very low staffing levels in line departments (e.g. there is only one Fishery Officer in each township), particularly in the Myeik Archipelago where travel to remote islands is a major constraint for time and cost reasons.

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[1] http://www.fao.org/3/a-i6190e.pdf

Documents

Title	Submitted
Appendix IV	

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement.

Conservation Alliance of Tanintharyi (CAT); the seven CAT member organizations (Tenasserim River and Indigenous People Network; Community Sustainable Livelihood and Development; Tarkapaw Youth Group; Candle Light; Southern Youth; Karen Environmental and Social Action Network; and Tanintharyi Friends); and other local NGOs/CSOs working in Tanintharyi such as ALARM and Green Network	A range of NGO/CSOs, have and will continue to play an important role in the project. These include village and community groups such as community Forest User Groups. Within each village, and in coordination with other stakeholders, the project will work with the VDCs and village groups. Relevant and experienced NGO/ CSOs will assist in the implementation of project activities, such as in facilitating the formation of natural resource management groups and the preparation of Climate change vulnerability and ICZM plans; and introducing alternative livelihood opportunities. Community mobilization and capacity development activities under the project will be undertaken by local NGO/CSO or, if needed, will work to strengthen the NGO/CSO themselves through, for example, CSO management and skills trainings (e.g. training on the ecosystem approach to fisheries and aquaculture, training on the use of environmental monitoring systems, and gender mainstreaming). The NGO/CSOs will also facilitate fisher-to-fisher and farmer-to-farmer sharing of information within and across the communities. The role of women will be supported and specific women?s groups will be formed as appropriate. During project implementation these methodologies will be further strengthened and a gender strategy will be developed. The knowledge these organisations have of working with local communities in Myeik will be invaluable to the project, including as potential implementing partners. ALARM and Green Network are both located in Myeik and both have extensive experience of the sort of community support activities that the project will implement.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

Member of project steering committee or equivalent decision-making body;

Executor or co-executor;

Other (Please explain) Yes

CSO stakeholder	***Profile, Responsibilities and Expected Involvement with the Project***

CSO stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Conservation Alliance of Tanintharyi (CAT); the seven CAT member organizations (Tenasserim River and Indigenous People Network; Community Sustainable Livelihood and Development; Tarkapaw Youth Group; Candle Light; Southern Youth; Karen Environmental and Social Action Network; and Tanintharyi Friends); and other local NGOs/CSOs working in Tanintharyi such as ALARM and Green Network	A range of NGO/CSOs, have and will continue to play an important role in the project. These include village and community groups such as community Forest User Groups. Within each village, and in coordination with other stakeholders, the project will work with the VDCs and village groups. Relevant and experienced NGO/ CSOs will assist in the implementation of project activities, such as in facilitating the formation of natural resource management groups and the preparation of Climate change vulnerability and ICZM plans; and introducing alternative livelihood opportunities. Community mobilization and capacity development activities under the project will be undertaken by local NGO/CSO or, if needed, will work to strengthen the NGO/CSO themselves through, for example, CSO management and skills trainings (e.g. training on the ecosystem approach to fisheries and aquaculture, training on the use of environmental monitoring systems, and gender mainstreaming). The NGO/CSOs will also facilitate fisher-to-fisher and farmer-to-farmer sharing of information within and across the communities. The role of women will be supported and specific women?s groups will be formed as appropriate. During project implementation these methodologies will be further strengthened and a gender strategy will be developed. The knowledge these organisations have of working with local communities in Myeik will be invaluable to the project, including as potential implementing partners. ALARM and Green Network are both located in Myeik and both have extensive experience of the sort of community support activities that the project will implement.
Myanmar Fisheries Federation (MFF)	MFF is a national level, non-profit organization with a membership of over 700 companies and 27,000 individuals. Founded in 1989, MFF represents the interests of member enterprises and associations within the fishery industry. MFF aims to promote the socio-economic life of member entrepreneurs and fishery communities, share information on economic policies and fishery technologies and advocate on behalf of the fishing industry, among other objectives. MFF has sub-federations at all state/region, district and township levels. It also includes sub-associations for in: (1) freshwater aquaculture; (2) offshore capture fisheries; (3) inland fisheries; (4) fish and fishery product export; (5) fish feed; (6) shrimp culture; (7) eel culture and export; and (8) crab culture and export. There are nine associations under MFF that deal with particular industries, namely, shrimp, fish, exporters, aquaculture feed, marine fisheries, freshwater capture fisheries, crabs, eels and ornamental fish. MFF is expected to play a pivotal role in facilitating consultation between the project and the various commercial fishery sub-sectors, especially by way of encouraging the involvement of MFF members in project activities. MFF will also have a vital role in helping the project and DoF to convince its members of the need to comply with fisheries regulations, especially those designed to protect coastal habitats and vital life-cycle stages of targeted fish and shellfish species.

CSO stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Myanmar Environment Rehabilitation-conservation Network (MERN)	A number of civil society groups and networks were formed as a response to the loss of life and devastation caused by Cyclone Nargis in 2008. Many of these organisations became members of MERN, the Myanmar Environmental Rehabilitation-Conservation Network (currently MERN has 22 member organizations). Much of the local NGO capacity in Myanmar for mangrove rehabilitation and community livelihood support is represented among MERN?s membership. They include several groups with extensive experience of working effectively as local partners in international development projects e.g. Biodiversity and Nature Conservation Association (BANCA), Mangrove Service Network (MSN) and Activities Group (NAG). These and other groups within MERN are highly relevant to MyCoast as potential implementation partners at field level. MSN, for example, is very experienced with fuel wood saving using fuel-efficient stoves; and mangrove forest conservation (nursery operations and plantation establishment). BANCA is an implementation partner with DoF and FFI, and with FD and Oikos, in marine conservation projects in Tanintharyi, as well as partner with HELVETAS and IUCN in the Gulf of Mottama Project.

A.4. Gender Equality and Women's Empowerment

Please briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Myanmar ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1997 and the government is committed to implementing the provisions of this convention. In support of this commitment, a National Strategic Plan for Advancement of Women (NSPAW) was developed in 2013 with 12 priority areas, including, women and livelihood, women and the economy, Women and decision-making, Women and environment. The Ministry of Social Welfare, Relief and Resettlement is the focal ministry for the implementation of NSPAW. However, implementation of the convention has been limited to date and Myanmar?s sectoral development plans are not well-aligned with the need for gender mainstreaming.

The PPG team visited 10 coastal villages within Kyun Su Township in the Myeik Archipelago, which is the proposed geographical focus for the project?s field-level activities within Tanintharyi, and where the project ICZM demonstration area will be located. In each village, focal group discussions and questionnaire-based interviews were conducted with village leaders and community forest groups comprising of both men and women. This was followed by gender-specific group discussions. For men, the topics covered related to their fishing activities (a male-specific occupation) environmental issues and their interactions outside of their village. The discussions with women focused on their roles within the village community and issues that most affect women and children.

The total population of Kyun Su Township is slightly more than 165,000 and is overwhelmingly rural (almost 97% of the population; based on March 2017 data). There is a high proportion of female-

headed households (16.1% in 2017). The village women tend to have a slightly lower education attainment compared to men and have less access to information because their lives are more centered within their village, whereas men travel out for fishing and therefore have more contact with others outside the village. Consistent with traditional norms about gender roles in rural Myanmar, the villagers interviewed by the PPG team described men as breadwinners and women as housewives for child care and domestic work. According to the respondents, the domestic activities of women are not recognized as work. Some participants responded that women have no jobs because domestic duties and child care do not earn income and therefore their work is not counted as employment.

Although only men go fishing, women family members are involved with catch-sorting, drying fish and shrimp, making shrimp paste and in some cases selling fishery products. However, the main village-based fish buyers are nearly all men. It is the women who collect firewood for cooking in the household, whereas the more commercial production of charcoal is a male-dominated activity because the kilns are situated in the mangroves well outside the villages. Women tend to be less active than men in village decision-making, being less free to leave the home than men and are also more reluctant to speak at public meetings. However, in fishing villages where there has already been NGO/CSO-led support, the women were found to be more forthcoming in this regard.

When asked about potential ways to improve their livelihoods, men suggested better fishing equipment, controlling other fisherfolks entering village fishing grounds and aquaculture. Women expressed interest in small livestock-rearing (chickens, pigs), value-added fish processing and growing vegetables in home gardens. Stemming from their predominant role collecting firewood and cooking for the family, women also showed interest in fuel-efficient stoves, which have already been piloted by NGOs in some villages in the archipelago. Some women have experience of participating in village womens? savings groups and they requested help to learn basic financial and book-keeping skills to improve group management.

Village women also commented to the PPG team that their contribution, needs and other issues are still not well-recognized. In most cases, village needs were identified by men and the responses were biased towards male-specific needs. The village women were less forthcoming about their needs in the presence of men. According to tradition, parents give priority to boys in education compared to girls and previous studies have found that the school dropout rate for girls is higher. Girls leave education earlier than boys for many reasons, such as inadequate household income for schooling, or to take care of younger siblings, or work to contribute to the household income.

The project will organize workshops/ consultation meetings with village women and girls to further identify issues affecting the status of women in the ICZM demonstration area and their ability to participate equally with men in decision-making and livelihood activities. The project will advocate with policy-makers and decision-makers to include gender provisions in policies and laws to promote women livelihoods including women SMEs. The outcome statements from project workshops/ consultations will be used to advocate for policy strengthening.

The PPG team also met with local NGOs and CSOs working in Myeik District to learn about their work and their approach to gender mainstreaming. Some organizations seem to have misinterpreted gender mainstreaming/gender equality - understanding it simply to mean that they should invite equal numbers of men and women to attend project activities, such as training courses, but without considering if the training actually fits with the needs of both women and men? MyCoast will include

capacity-building for all local stakeholder groups (government departments, NGOs/CSOs and private sector) on gender mainstreaming and the importance of gender responsive activities.

Gender and vulnerability to Climate Change

A recent vulnerability assessment recorded the priorities expressed by coastal village men and women to improve protection of their village infrastructure, household assets and livelihood resources from severe weather events; and mitigating against their increased vulnerability from continued mangroves degradation and loss[1]. Overall, both women and men identified the need for actions to conserve and rehabilitate adjacent mangrove forests, but women in particular stressed that their livelihood needs must also be safeguarded. The most commonly identified actions to increase village and household resilience were:

1. Support for the prohibition of illegal activities in local mangrove forests.

2. Support for the legal designation and delineation of mangrove forests conservation areas and community forests.

3. Support to formalize legal community rights under the Community Forestry Instruction to protect, rehabilitate and sustainably utilize mangrove forests.

4. Support for poor households currently engaged in pursuing livelihood activities in local mangrove forests to establish alternative livelihood activities to replace those in mangrove forests.

5. Initial cash subsidies for poor households whose livelihood activities in local mangrove forests would be displaced to enable mangrove forest restoration and reforestation.

6. Support for the development of community-based forest restoration and conservation organizations.

7. Priorities for *other* types of life and livelihood support included: advanced technology for aquaculture, training and financial support for development of alternative livelihoods, fuel efficient cooking stoves.

Among respondents in three coastal villages assessed in Myeik District, three times more men than women prioritized actions 1-3 above on strengthening the legal basis for mangrove conservation, while twice as many women as men gave priority to household livelihood support (4 and 5 above). Men and women gave similar priority to community-based mangrove restoration and conservation, and to the need for other livelihood support activities (6 and 7 above, respectively). These findings concur well with the PPG team?s observations that women are particularly concerned about household income security and home-based livelihood improvement; while men give more emphasis on community rights over mangrove forests and mangrove-dependent livelihoods.

Gender equality and HRBA

The need for gender equality within a human rights-based approach (HRBA) to the small-scale fisheries sector in Southeast Asia has been recognized and advised upon by SEAFDEC (2018). The

project will apply these approaches in all its work involving coastal communities in Tanintharyi, where up to 95% of village economies are derived from small-scale fishing and gleaning of aquatic products like crabs and snails. The principles of HRBA most relevant to these types of community include: the right to food, nutrition and livelihood security; the right to equitable access to resources (land and fisheries); the right to participate in managing the fishery resources they depend on; the right to an adequate standard of living, including water, sources of energy, education, health services and access to information; the right to decent work; the right to equal access of men and women to services such as savings, credit and market access; and the rights of coastal communities, specifically women, indigenous peoples and other vulnerable groups[2].

There are various potential interventions that the project implementation team will consider in order to support HRBA and gender equality in coastal fishing communities within the ICZM demonstration site, including:

? Ensuring the participation of both men and women in coastal communities in the development of fisheries policies and management frameworks in support of small-scale fisheries;
? Implementing measures to promote conservation and sustainable use of fishery resources, while also protecting the rights of people who derive their livelihoods from small-scale fisheries;
? Increasing the benefits from small-scale fisheries to women, indigenous communities and other vulnerable groups;
? Improving the resilience of fishing communities and the social-ecological systems they depend on to help mitigate the adverse effects of climate change;
? Preventing or resolving conflicts within the small-scale fisheries sub-sector, between small-scale and larger scale fisheries, and among multiple sectors demanding space and access to resources in coastal areas.

The project team will work with coastal communities and NGO/CSO partners to identify activities that could contribute to achieving some these desirable outcomes within the project ICZM demonstration site. Particular attention will be given to the active participation of women in mangrove Community Forest groups; and to the special needs of female-headed households in the project-supported villages.

A preliminary Gender Plan for the project is provided in Appendix XVI. A full gender strategy will be developed early in the implementation period.

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[1]

[2] SEAFDEC, 2018. POLICY BRIEF: Applying Human Rights-based and Gender Equality Approaches to Small-scale Fisheries in Southeast Asia. Southeast Asian Fisheries Development Center, Bangkok, Thailand, 16pp.

Documents

Title Submitted

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes

If yes, please upload document or equivalent here

Outputs	Gender Plan - Suggested Actions
1.1: An ICZM training and capacity development program for national and sub-national (region/state) stakeholders especially from Tanintharyi	? The existing ICZM Training Course Module 2 includes a session on ?*Gender Equality and Women?s Empowerment* ?Revise this session to make it as relevant to gender issues in Myanmar as possible; and ensure that gender aspects of EAFM and EAA are also highlighted in the revised course materials. ? Encourage both male and female trainers to attend the ToT courses; conduct gender dis-aggregated analysis of trainer feedback ? Ensure that women and men have equal opportunity to attend project-supported courses; conduct gender dis-aggregated analysis of participant feedback ? Provide invitations to workshops/seminars to both male and female decision-makers; and (where relevant) include a gender focus and analysis of the topics presented ? Provide gender training to project staff and implementation partners ? Give equal opportunity for both women and men to benefit from field visits and study tours
1.2 Strengthened national and regional policy guidance frameworks and institutional arrangements for ICZM	? Identify any aspects of laws/policies/action plans that disproportionately affect women and men ? Compare how women and men are affected by ecosystem degradation and over-exploitation ? Include gender-relevant guidance in the policy and best practice documents ? Identify how men and women may be affected differently by coastal development projects
1.3 Sustainable financing mechanisms for coastal conservation identified and tested	? Include any gender-related findings and lessons learned from the review ? Include both men and women in the consultations; and consider any gender-specific aspects of the financing mechanisms presented ? Seek the views of both men and women among the potential sellers and buyers of ecosystem services
1.4: An Integrated Coastal Zone Management strategy for Tanintharyi Region	? Aim for a gender balance among the Working Group members ? Consult with both male and female stakeholders ? Ensure that gender equality and women?s empowerment are well-researched and presented in the draft strategy
1.5: An IMS operating to support informed ICZM decision-making and adaptive management	? Include gender-relevant topics and analysis in the IMS ? Include feedback from both women and men ? Invite both male and female stakeholders; present gender-disaggregated results and experiences

Outputs	Gender Plan - Suggested Actions
1.6: A project monitoring and evaluation system reporting on progress, results, lessons learned, achievements and impact.	? To the extent possible the M&E system will enable collection of gender disaggregated information ? Compare the effectiveness of project for women and men, and identify the reasons for any gender-related differences, using gender-disaggregated data on results, lessons learned, achievements and impact ? Terms of Reference for the Mid-term Review and Final Evaluation will include consideration of gender-related issues and achievements
Output 2.1 Integrated coastal zone implementation capacity development and awareness programs established within Tanintharyi Region for district, township and village-tract level stakeholders	? Consider the particular capacity development needs of women and men ? Ensure that women and men have equal opportunity to attend project-supported training; give priority to women extension workers and NGO/CSO staff; conduct gender dis-aggregated analysis of participant feedback ? Ensure that village female leaders and group members have the same opportunity to attend as men ? Provide equal opportunity to male and female students
Output 2.2: Multi-stakeholder coordination and decision-making mechanisms for coastal conservation management in Tanintharyi Region strengthened	? Aim for a gender balance among the Working Group members ? Give priority to increasing women?s representation and strengthening women?s empowerment ? Give equal opportunity for both women and men to benefit from field visits ? Ensure that these visits include representatives with a good understanding of the issues affecting women as well as men, and that gender-related issues in village communities are addressed effectively
2.3: Expanded and improved coastal fisheries and habitat conservation management measures emplaced in the Myeik Archipelago	? Consider how strengthened MPA management may affect the livelihoods of men and women in different ways, especially any negative impacts on women and children ? Identify how the roles of both men and women in Community Forest management can be improved; ? Provide equal opportunity for women and men to participate in and benefit from awareness-raising activities ? Ensure that female group members have the same opportunity to attend as men; give priority to Women?s Groups and to skills training of most value to women
Output 2.4: Improved tenure, livelihoods, food security and climate change adaptation benefits to traditional coastal resource users demonstrated at Myeik Archipelago	? Analyse the livelihood needs of both women and men; give particular attention to the needs of female-headed households ? Identify potential livelihood activities that are most suitable for women and men; and give priority to low-risk additional livelihood activities for women and women?s groups ? Analyse how risks from climate change may differ for men and women; identify the most vulnerable groups in the villages ? Focus on the views of women regarding alternatives to mangrove fuelwood for domestic cooking; and their willingness to support piloting of fuelwood-saving measures ? Identify how climate change risks to both individuals and the village communities, their assets and infrastructure, can be reduced within a village ICZM plan

Outputs	Gender Plan - Suggested Actions
Output 2.5: A coastal environmental and socio-economic monitoring system operating and supporting informed ICZM decision-making at field level in the ICZM demonstration site in the Myeik Archipelago	? Ensure that both women and men are able to contribute to the selection of suitable socio-economic and ecological indicators at village level; disaggregate by gender the socio-economic data collected ? Involve both women and men in monitoring training, and in monitoring and recording of the selected indicators ? Ensure that feedback on results from the monitoring system, and management decisions arising from the monitoring reports, are provided to both women and men and document any gender-specific views they communicate in response

If possible, indicate in which results area(s) the project is expected to contribute to gender equality:

Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Will the project?s results framework or logical framework include gender-sensitive indicators?

Yes

A.5. Risks

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being, achieved, and, if possible, the proposedmeasures that address these risks at the time of project implementation.

Section A: Risks to the project

Risk description	Worst case consequence for the project	Risk Score		Mitigating action	Action owner
		Impact	Likelihood		

Government support for integrated, coastal zone management will not be maintained.	Government fails to adopt ICZM approaches: sectoral management continues unchanged and the project?s investment does not produce sustainable results	4	1	The project design is the product of inputs from all major stakeholders, including all levels of government, private sector and coastal fisher communities in Tanintharyi. The project has been aligned closely with the climate change policies and action plans of the Government of Myanmar: these give high priority to integrated coastal zone management and to building resilience to climate change via community-based mangrove restoration, sustainable fisheries and environmentally compatible aquaculture systems. Although Myanmar faces a host of environmental challenges, the country is committed to ensuring that coastal communities continue to benefit from the broad range of vital ecosystem services that mangroves, coral reefs and seagrass meadows provide. The project will coordinate with and support the work of the National, Regional and District Coastal Resources Management Committees through capacity-building activities, provision information and results, and field fact-finding visits.	PMU and FAO management units, and reported to PSC

Government financial and other support will be insufficient to implement ICZM effectively, even if ICZM remains a priority	Weak ICZM implementation prevents the project achieving its intended results and benefits	4	3	The Government of Myanmar has very little financial, human resources and technical capacity to manage the country?s vast coastal zone. However, the project is designed to catalyse improvements that would otherwise not be possible. The project will generate substantial capacity development across a wide platform of stakeholders at all levels: national, regional and local. One of project outputs is to identify and test potential sustainable financing mechanisms for coastal conservation and sustainable use management. Each of the project outcomes will be supported by a comprehensive hand-over plan, which will include a sustainability plan: this will detail the human, technical and financial resources required to carry-forward project emplaced outputs, processes and achievements.	PMU and FAO management units, and reported to PSC

Government agencies will not be committed to implement ICZM polices and strategies, or to enforce conservation and natural resources management regulations.	If ICZM is not implemented, and over-fishing/IUU fishing and habitat degradation and conversion are not brought under control, the project?s conservation targets will not be achieved	5	4	The Government - at all levels - has expressed a strong desire to address issues affecting sustainable management of the coastal zone. This project responds directly to the Government?s request for assistance, including capacity-building and support to policy development, strategic planning and implementation. However, it is recognized that significant improvements in coastal governance will be required to bring coastal resources use back to a sustainable level; and especially to control over-fishing/IUU fishing. Governance issues will be communicated to the government-appointed Coastal Resources Management Committees ay Union, Region and District levels, and to the PSC (which will include DoF and Myanmar Fisheries Federation). The project will contribute to current collective international efforts to regulate the Myanmar marine fisheries sector, including a new Marine Fisheries Law (in preparation) and introduction of a Vessel Monitoring System (VMS) for offshore fishing boats.	PMU and FAO management units, and reported to PSC

Commercial interests and economic development pressures will dominate over conservation and sustainable use of natural resources in the coastal zone	ICZM policies adopted, but other conflicting development policies and influence or pressure from commercial interests, project is unable to demonstrate ICZM implementation	4	3	The commercial sectors are included as important stakeholders in the project. Through consultation and awareness-raising they will be encouraged to appreciate the benefits of supporting sound coastal governance and conservation objectives. Using case studies and examples of sustainable socio-economic and environmental practices, the project will make the business case for safeguarding coastal ecosystem services (e.g. sustainable raw material supplies benefit fish processors; healthy coral reefs and clean beaches benefit tourism operators). The project will also provide scientifically-based knowledge to help the ECD to improve Myanmar?s EIA criteria and requirements for assessing coastal development projects.	PMU and FAO management units, and reported to PSC

Poverty and lack of alternative livelihood opportunities will continue to drive over-exploitation of coastal aquatic resources and degrade mangrove, coral and seagrass habitats	Socio-economic benefits to local communities from project activities will not be realized and ecosystem services will continue to decline	4	4	The project will support community-level mechanisms to improve coastal resources management, including fisheries protected co-management and community aquaculture production areas, community forest user groups and LMMAs. Efforts will be made to demarcate these areas and to inform local authorities about encroachment or illegal activities Good practices in environmental resources stewardship will be encouraged and supported at pilot level in the ICZM demonstration site; followed by dissemination of results and lessons learned to promote replication in other coastal areas. To alleviate poverty in the ICZM demonstration area, the project will also support fishery post-harvest and non-fishery-based livelihood improvements, especially for women (e.g. livestock raising).	PMU and FAO management units, Local Authorities
Conflicts between local communities over resource use areas, and between inshore and offshore fisherfolks, will reduce the effectiveness of coastal resources management efforts	Full implementation and acceptance of ICZM approaches will not be achieved, resulting in low impact and sustainability from project actions.	4	3	One of the main reasons for this risk is the lack of demarcation of managed resource areas, together with no, or ineffective, information dissemination to resource users coming from outside the managed areas. The project will help village groups to demarcate their resource management areas and to inform others of the ?ownership? status of these areas. The project will facilitate dialogue between coastal fisher communities, local authorities and the Myanmar Fisheries Federation (representing the fisheries sector), to reduce fishery conflicts in the ICZM demonstration site.	PMU and FAO management units, Local Authorities and reported to PSC

Gender equality in terms of women?s? engagement with the project, and benefits to women from the project, will not achieved	Women will not engage in project activities and the project?s gender strategy will fail	3	1	Gender mainstreaming is a cross-cutting theme in FAO?s work and the project?s approach to achieving gender equality and human rights is detailed in section 3.6. Women will be actively encouraged to participate in project activities. The special needs and interests of women at village level have been documented (Appendix XVI) and will be further assessed and responded to early in the implementation period. The project will develop and monitor a gender strategy with the assistance of a gender specialist. Project staff, local government and NGO/CSO partners and community leaders will receive gender awareness training.	PMU, Project Gender Specialist, NGO/CSO partners and reported to PSC
Some local communities, ethnic groups and their civil society represent-atives may feel excluded from the project, or its planning processes	Lack of local acceptance of project approaches resulting in failure to adopt ICZM	4	2	The project has been prepared following FPIC principles and the project team will continue to apply FPIC throughout its implementation. The project will build the capacity of local communities, ethnic groups and their representatives to take part in the broader planning processes of the project.	PMU. FAO management units, Local authorities, and reported to PSC

Climate change, especially severe storms, tidal surges and flooding may impact on target villages in the ICZM field demonstration site and impede project field level activities	Extreme events could destroy any progress made by the project to improve the livelihoods and security of villagers in the ICZM demonstration site	4	2	Tanintharyi Region has a wet tropical climate, but the weather pattern is highly seasonal due to the influence of the southwest monsoon, which brings heavy rains and storms during the months of June to September. The project will consult with the Department of Meteorology and Hydrology (DMH) on weather forecasting and an early warning system to alert coastal communities about severe weather events in the project demonstration area. A climate vulnerability assessment will be conducted in each target village, and a climate hazard response plan will be prepared as part of a strategy to build resilience to climate change in each village. To the extent possible, the project team will plan fieldwork in the drier, calmer months of the year. There is a calm dry season from November/December to February/March.	PMU, Local authorities, DMH
Rising sea temperature due to climate change will result in massive coral ?bleaching? mortality, even if coral reefs are conserved and well-protected	This is unlikely to have direct impact during project implementation, but the consequences of rising sea temperature on coral ecosystems may be severe in the longer-term.	4	3	Coral bleaching can occur if sea surface temperatures rise by more than 1?C above their average monthly level. There is consequently little scope for direct mitigation at the project level, but the project will support the following indirect measures: a) reducing other pressures on corals from human activities (e.g. physical impacts, pollution); b) giving high conservation status to coral reefs with the greatest diversity, in order to include temperature-resistant species; c) maintaining connectivity between coral reefs to promote larval exchange and recruitment between coral communities.	PMU, DoF, DMH

COVID19 related health and socioeconomic impacts will greatly limit community interest to support environmental conservation and sustainable natural resources use	This is likely to happen in some locations ? as people may prioritize short term benefits over longer term economic and environmental gains	3	2	The project will prioritize actions in affected communities that bring short term benefits, without compromising environmental integrity. Stronger links will be forged with other projects providing community socioeconomic support.	PMU, DoF, DMH, FD
Travel restrictions related to COVID19 will limit or significantly impact on the ground activities - - -	This is a likely scenario at project start	4	4	The project will mobilize local government offices and locally based organizations to support actions on the ground. Lessons from ongoing FAO led LDCF and GEF projects are expected to provide valuable lessons on how to implement the project during such restrictions. The contracting and supervision of local teams to operate in field locations is now necessary, with international or regional backstopping provided remotely. It is expected that the impact of this situation will gradually improve during the project lifetime.	PMU, DoF, DMH, FD

Section B: Environmental and Social Risk Management Plan

1. Overall Risk Category: Moderate Risk

The project is considered moderate risk based on the following risks based on FAO?s ESM framework.

Risk identified	Risk Classification	Risk Description in the project	Mitigation Action (s)	Progress on mitigation action

3.2 - Would this project provide seeds/planting material for cultivation? YES .	Medium	This project will support the Forest Department and local communities to establish mangrove nurseries to provide seedlings for mangrove forest restoration (?gap-filling? or ?assisted restoration? in natural forests), plus a small area (100ha) for mangrove plantation creation on deforested sites. All the planting materials will come from the local forest as seeds, propagules or wild seedlings. There will be no introduction of species not found within the target project field area	1. The overall project has been designed with a strong focus on promoting biodiversity conservation. Therefore, all of the project activities will be done in a way that enhances biodiversity of global significance. The project will NOT promote any planting materials that will undermine local biodiversity values. 2. Seeds and planting materials will be locally sourced, as far as possible, to ensure suitability to local context.	To be reported annually on progress reports
3.4 - Would this project establish or manage planted forests? YES	Medium	Only 100 ha and this will be managed within the safeguards regarding planting materials explained in 3.2	See above	To be reported annually on progress reports

7.2 - Would this project operate in sectors or value chains that are dominated by subsistence producers and other vulnerable informal agricultural workers, and more generally characterized by high levels "working poverty"? YES	Moderate		1. The right to Decent Work and productive employment is a stated priority of the project. Poor fisher households at the bottom of fishery market chains will be assisted to improve the value of their products, including through better handling and processing, and additional livelihood opportunities based on diversification through aquaculture, livestock and agroforestry production will be assessed and supported. Particular support will be given to village women?s groups and home-based livelihood activities most suitable for women. Women will also be encouraged to be more involved in livelihood-related decision-making in their communities and women?s groups will receive specific skill development training that has been (or will be) requested e.g. on financial management, animal husbandry, home gardens.	To be reported annually on progress reports
7.7 - Would this project involve sub-contracting? YES	Moderate		2. This will only apply to locally experienced and respected INGOs/NGOs and CSOs who already have a good track record of working with the local fisher communities to reduce their vulnerability: including awareness-raising, skills training, empowerment and livelihood improvement. The project will screen potential sub-contractors carefully to ensure that they competent for the required work	To be reported annually on progress reports

9.2 - Are there indigenous peoples living in the project area where activities will take place? YES	Moderate	There is a very small minority of indigenous peoples, the Salon (=Moken), who number less than 700, which is less than 1% of the majority rural population that they live amongst. The project is designed to ensure conformity with the GEF Principles and Guidelines for Engagement with Indigenous Peoples[1] and the environmental and social safeguards of the FAO, which specifically relate to safeguards that respect traditional knowledge and the rights of these communities (FAO Safeguard 9: Indigenous Populations and Cultural Heritage).	Please see Annex on project?s planned FPIC approach in this project document. In addition to applying FPIC throughout implementation, the project has also specified the need for a particularly sensitive approach to engagement with Moken people (who do not have a written language). This will be done by: ? appreciating the need to use forms of communication appropriate to the Moken?s language and culture; ? taking sufficient time to build trust with them and to fully understand their needs and concerns; ? explaining clearly to Moken people the project?s purpose and its potential benefits to them; ? facilitating their participation in project-supported activities; 3. ? ensuring that none of the project activities will disadvantage Moken communities or indiv	To be monitored and reported during project implementation

				4. The PPG team met with the members of the Conservation Alliance of Tanintharyi (CAT), which represents the interest of the Kayin people to explain the project and to seek their views. Kayin villages were also visited during field site selection to inform the communities about the project and to learn about the livelihood issues of most concern to them (see Appendix XI). 5. All planning and proposed actions by the project will be performed in a participatory manner and will be based on full free prior consent (FPIC) by the relevant communities - including women and youths living in the target locations. 6. FPIC will be embedded in all aspects of project implementation throughout the life of the project. Local communities will be made aware of the requirement for the project to obtain FPIC for all planned activities, and if they feel that their consent is not being sought, they will be made aware of the project?s grievance mechanism. 7. While communication with and informing Kayin people will be straightforward, and they are supported by several NGO/CSOs, as explained in ProDoc section 3.7, special attention will be given to informing the Moken people, specifically by: - appreciating the need to use forms of communication appropriate to the Moken? language and culture; - taking sufficient time to build trust with them and to fully understand their needs and concerns; - explaining clearly to Moken people the project?s purpose and its potential benefits to them; - facilitating their participation in project-supported activities; - ensuring that none of the project activities will disadvantage Moken communities or individuals. 8. The project will hire community facilitators, supervised by a project Field Manager based in Myeik, to visit the target village communities regularly to ensure that FPIC is followed throughout project implementation; and to	

A.6. Institutional Arrangement and Coordination

Describe the Institutional arrangementfor project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

1.1 IMPLEMENTATION ARRANGEMENTS

1.1.1 Institutional and management arrangements

1. 1. The Department of Fisheries (DoF), Ministry of Agriculture, Livestock and Irrigation (MoALI) will be the main government counterpart. The DoF will be the lead Executing Partner, with FAO providing technical oversight as the GEF Agency. The DoF will coordinate all efforts to implement the project?s components, aligning with other initiatives and assuring that all deadlines are achieved and that the project?s results are discussed throughout all national and local institutions involved.

2. The Food and Agriculture Organization (FAO) will be the GEF Implementing Agency for the proposed project, and as such, will provide project cycle management services as established in the GEF Policy. FAO will be responsible for providing oversight, technical backstopping and supervision of project implementation to ensure that the project is being carried out in accordance with agreed standards and requirements. Technical backstopping will be provided by FAO in coordination with government representatives participating in the Project Steering Committee. As the GEF Agency, FAO will:

a) Administrate funds from GEF in accordance with the rules and procedures of FAO;

b) Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;

c) Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned;

d) Conduct at least one supervision mission per year; and

e) Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

3. As requested by the government, FAO will provide direct project services. FAO and the participating governments acknowledge and agree that those services are not mandatory, and will be provided only upon written government request. The direct project services would follow FAO policies on the recovery of direct project costs related to GEF funded projects.

4. The other main governmental institutions involved in the project are: Department of Fisheries (DoF), Ministry of Agriculture, Livestock and Irrigation (MoALI); the Forest Department (FD), Ministry of Natural Resources and Environmental Conservation (MoNREC); and the Environmental Conservation Department (ECD) of MoNREC.

5. FAO and the MyCoast project partners will work with the implementing agencies of other programs/projects to identify opportunities and mechanisms to facilitate cooperation and synergies together. This partnership approach will be achieved through: (i) informal communications between GEF bodies and other partners implementing other relevant programs/projects; (ii) exchange of information, results and lessons learned; (iii) identification of possible shared activities, especially related to capacity-

building for national to local stakeholders. Details of programs/projects with high potential for coordination and partnership with MyCoast are provided in section 2.2.

6. The project structure is described below and illustrated in the organogram in figure 8.

7. A Project Steering Committee (PSC) will be established and chaired by the Department of Fisheries (DoF). It will comprise of Department of Fisheries, the Forest Department (FD) and Environmental Conservation Department (ECD), Tanintharyi Regional Government, FAO Myanmar, the National Project Director and project CTA, Myanmar Fisheries Federation (MFF), Myeik University and an NGO representative. The National Project Coordinator (see below) will serve as Secretary to the PSC.

8. The PSC will meet at least once per year to ensure:

a) Oversight and assurance of technical quality of outputs;
b) close linkages between the project and other relevant projects/programmes;
c) timely availability and effectiveness of co-financing support;
d) sustainability of key project outcomes, including up-scaling and replication;
e) effective coordination of government partner work under this project; and
f) to approve the six-monthly Project Progress and Financial Reports, and the Annual Work Plan and Budget.

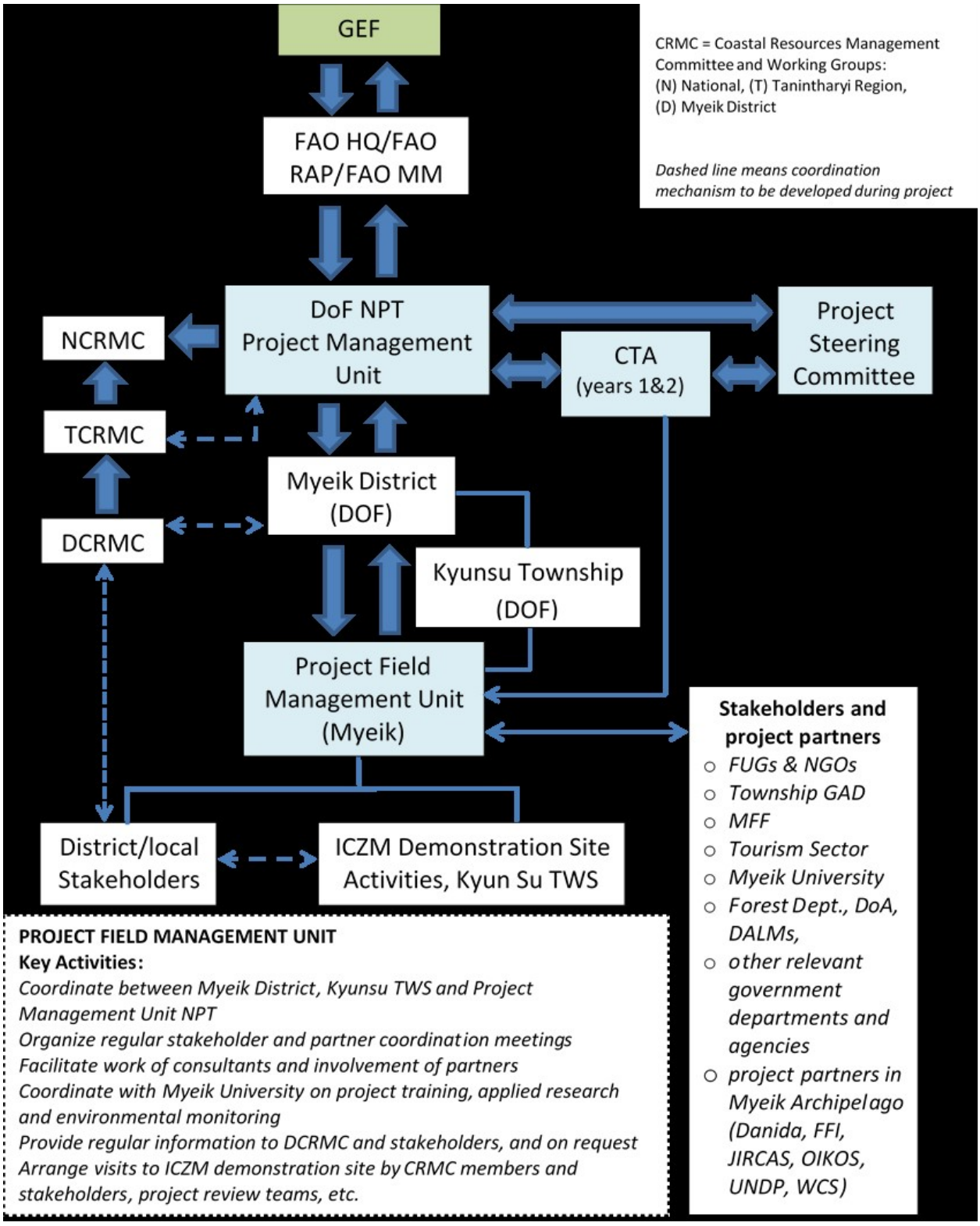
9. The members of the PSC will each assure the role of a Focal Point for the project in their respective agencies. As Focal Points in their agency, the concerned PSC members will (i) technically oversee activities in their sector, (ii) ensure a fluid two-way exchange of information and knowledge between their agency and the project, (iii) facilitate coordination and links between the project activities and the work plan of their agency, and (iv) facilitate the provision of co-financing to the project.

10. The government will designate a **National Project Director (NPD)**. The NPD will be a Department of Fisheries staff member and will be have the responsibility of supervising and guiding the Project Coordinator (see below) on the government policies and priorities. He/she will also be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. He/she will be responsible for requesting FAO the timely disbursement of GEF resources that will allow the execution of project activities, in strict accordance with the Project Results-Based Budget and the approved AWP/B for the current project year.

11. **Chief Technical Adviser: a** full-time Chief Technical Adviser (CTA) will support the project during the first two years of implementation to ensure that the principles and practices of ICZM are firmly established by the project and well understood by its main stakeholders. The CTA will also supervise the work of the NPC and PMU/field PMU, especially their coordination, information management and communication roles. As part of the mid-term review, which will coincide with the end of the CTA?s engagement with the project, any needed adjustments to the project?s management systems and staff responsibilities will be recommended.

12. A **Project Management Unit** (PMU) will be created and funded operationally by the GEF. The main function of the PMU, following the guidelines of the Project Steering Committee, will be to ensure the coordination and execution of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU will be located in Nay Pyi Taw and managed by the National Project Coordinator (NPC) who will work full-time for the project lifetime, with advice from the CTA during project years one and two. In addition, the PMU will include a secretary/interpreter.The NPD may officially designate other government officials to assist the PMU with day to day project management tasks

Figure 8. Project Management Structure



13. There will also be a Field Management Unit (FMU) in Myeik Town in Tanintharyi Region. A **Field Manager** will be responsible for managing the FMU and for project activities in Myeik District, supported by a **Technical Assistant**. The FMU will be suitably located to facilitate close coordination with DoF and other Myeik District government institutions, the MFF District office and Myeik University.

14. The **National Project Coordinator** (NPC) will be in charge of daily project management and technical supervision including: (i) coordinating and closely monitoring the implementation of project activities; (ii) day-to-day project management; (iii) coordination with related initiatives; (iv) information management; (v) ensuring a high level of collaboration among participating institutions and organizations at the national and local levels; (vi) tracking the project?s progress and ensuring timely delivery of inputs and outputs; (vii) implementing and managing the project?s monitoring and communications strategies; (viii) organizing annual project workshops and meetings to monitor progress; (vix) preparing the Annual Budget and Work Plan (AWP/B); viix) submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PSC and FAO; viii) preparing the Project Implementation Review (PIR); ix) supporting the organization of the mid-term and final evaluations in close coordination with the FAO Budget Holder and the FAO Independent Office of Evaluation (OED). Likewise, under FAO rules and procedures and in conformity with this project document, the NPC will identify expenses and disbursements that should be requested to FAO for the timely execution of the project. The NPC will be accountable for monitoring, providing technical support and assessing the outputs of the project national consultants, who will be hired with GEF funds, as well as the products generated in the implementation of the project, including products and activities carried out by project consultants.

15. A **Budget and Operations Officer** (BOC) will be seated at the FAO Representation. He/she will be responsible for the day-to-day financial management and operation of the project including raising contracts and procure other needed inputs in accordance with the approved budget and annual work plans. The Budget and Operations Officer will work in close consultation with the NPD, PC, Budget Holder (BH, see below), Lead Technical Officer (LTO, see below) and project executing partners, and will take the operational responsibility for timely delivery of needed inputs to produce project output.

16. The draft Terms of Reference (TOR) for the Project Coordinator (PC) and Project Team are provided in Appendix VI.

1.1 COORDINATION WITH OTHER INITIATIVES

1. 1. The MyCoast project will coordinate extensively with other coastal projects and programs to combine efforts and experiences with other donor-supported initiatives in Myanmar and more widely in the Bay of Bengal and Southeast Asia regions. Through active partnership with other on-going and planned initiatives, cost-savings will be achieved; results and lessons learned will be shared; and, most importantly, duplication of effort can be avoided and agreement reached on the selection of best practices and implementation guidelines to recommend to stakeholders. Other forms of cooperation will also be considered during the MyCoast inception period.

2. There are several other GEF-financed projects in Myanmar that are highly relevant to MyCoast, including: the UNDP/GEF Ridge to Reef Project: Integrated Protected Area Land and Seascape Management in Tanintharyi; FAO/GEF FishAdapt: Strengthening the adaptive capacity and resilience of fisheries and aquaculture-dependent livelihoods in Myanmar; UNDP/GEF: Adapting Community Forestry landscapes and associated community livelihoods to a changing climate, in particular an increase in the frequency and intensity of extreme weather events. The FAO/GEF Sustainable Management of the Bay of Bengal Large Marine Ecosystem (BoBLME) Project is a key regional initiative that MyCoast will coordinate closely with.

3. **GEF/UNDP Ridge to Reef: Integrated Protected Area Land and Seascape Management in Tanintharyi.** Recognizing that the Tanintharyi Region contains about 20% of Myanmar?s Key Biodiversity Areas (KBAs) grouped under the Tanintharyi Range and Tanintharyi Marine Corridor, this project will apply a ridge to reef approach to the conservation management of the diverse ecosystems within these connected landscapes and seascapes. This project will also demonstrate community-based natural resources management and participatory management of conservation areas.

4. **GEF/FAO FishAdapt: Strengthening the adaptive capacity and resilience of fisheries and aquaculture-dependent livelihoods in Myanmar:** The objective of FishAdapt is to assist the Government of Myanmar ?*to enable inland and coastal fishery and aquaculture stakeholders to adapt to climate change by understanding and reducing vulnerabilities, piloting new practices and technologies, and sharing information?*. Like MyCoast, FishAdapt applies an ecosystem approach to fisheries and aquaculture (EAF/EAA) and seeks to identify and encourage a balance between ecological and human well-being through improved resource governance. These two FAO/GEF projects are also highly complementary because they are working in different coastal regions/states (for FishAdapt these are Yangon Region, Ayeyarwady Region and Rakhine State), but both projects give similar focus to addressing Myanmar?s NAPA (2012) priorities for the coastal zone, including: (i) adaptation to climate change through Integrated Coastal Zone Management (ICZM), (ii) community-based mangrove reforestation for building climate-resilient ecosystems and rural livelihoods in degraded coastal areas, (iii) community based eco-friendly aquaculture systems (e.g. mud crab, clam); and (iv) small-scale aquaculture and mangrove buffer demonstration sites for transferring adaptation technologies to coastal communities. The region/state focus for coastal fisheries and aquaculture FishAdapt is Yangon Region, Ayeyarwady Region and Rakhine State

5. **Bay of Bengal Large Marine Ecosystem (BoBLME) Programme**: Myanmar is one of eight member countries of this GEF/FAO regional programme. All the countries have signed the BoBLME Strategic Action Programme (2015), which was the result of nearly five years of comprehensive, stakeholder-driven consultation during BoBLME phase 1 (2009-2017). MyCoast project fits well with the objectives and priority actions of this strategy. The overall SAP objective is *?A healthy ecosystem and sustainable use of marine resources for the benefit of the people and countries of the Bay of Bengal Large Marine Ecosystem?*. MyCoast can both benefit from the results and lessons learned from BoBLME and support the four main themes of the SAP, which will guide the second phase of BoBLME, which is in preparation: 1) Fisheries and other marine living resources are restored and managed sustainably; 2) Degraded, vulnerable and critical marine habitats are restored, conserved and maintained; 3) Coastal and marine pollution and water quality are controlled to meet agreed standards for human and ecosystem health; 4) Social and economic constraints are addressed, leading to increased resilience and empowerment of coastal people. BoBLME Phase 2 will provide an excellent platform for MyCoast to share knowledge, results and experiences between Myanmar and the other Bay of Bengal countries.

6. **Danish Development Assistance (DANIDA):** the Denmark-Myanmar Country Programme 2016-2020 includes the components `Sustainable Coastal Fisheries` (SCF) and `Climate Change Adaptation: Improved Management of Mangrove Forests` (CCA). In cooperation with DoF, fisheries co-management is being developed by SCF in coastal villages in Myeik and Dawei districts. The CCA engagement is assisting FD to expand the area of coastal mangrove under Public Protected Forest status in Myeik District. Both the SCF and CCA engagements also include emphasis on building capacity for project implementation and financial management within the DoF and FD, respectively.

7. **SWISS COOPERATION:** Gulf of Mottama (GoMP) is a project supported by the Swiss Agency for Development and Cooperation (SDC), which is implemented by a consortium led by HELVETAS Myanmar and including IUCN, NAG and BANCA. **HELVETAS** is a Swiss and German registered INGO committed to improving the living conditions for disadvantaged people in developing countries. HELVETAS has broad areas of focus including environment and climate change, governance, capacity development, advocacy for knowledge and prioritizing gender equality and social equity. In Myanmar, HELVETAS has a strategy (2018-2021) on improved livelihoods, empowerment and enabling conditions to assist three main beneficiary groups: smallholder farmers and fisherfolk, young women and men, and migrants, with a focus on skills development to help people in these over-lapping groups to obtain decent employment.

8. GoMP has a similar objective and aims to those of MyCoast: namely to conserve the biodiversity of the Gulf of Mottama and improve livelihood security for vulnerable people in the targeted coastal areas through sustainable and equitable use of natural resources and livelihood diversification. Now in its second phase (2018-2021), GoMP also mirrors the MyCoast project?s focus on integrated coastal management and improved governance, capacity-building and appreciating the value coastal wetland

ecosystem services. GoMPs experiences in the neighbouring coastal areas to Tanintharyi (Mon State and Bago Region) since 2015 will be of immense value to MyCoast and there are considerable opportunities for partnership and cross-project learning.

9. **Flora and Fauna International (FFI)** is implementing the Tanintharyi Conservation Programme, which has surveyed the marine biodiversity of Myeik Archipelago, especially coral reefs and their associated fauna. FFI has established Locally Managed Marine Areas (LMMAs) in the archipelago and has proposed LMMAs as a conservation approach at other sites. FFI is also supporting capacity development of the Marine Sciences Department of Myeik University and is a partner in the UNDP-GEF Ridge to Reef Project: Integrated Protected Area Land and Seascape Management in Tanintharyi (2017-2023). FFI has published various reports on the results of extensive surveys of coral reefs, sea grass beds and mangrove forests in the Myeik Archipelago, and their associated fish fauna. These reports have provided valuable information that was used during preparation of the MyCoast Project, especially with regard to the ?project intervention area? and ?main environmental threats? sections. FFI has also produced detailed maps showing the distribution of coastal habitats, and other key features e.g. locations of conservation areas, pearl oyster farms, and oil and gas fields. FFI has a wealth of knowledge about conservation and the marine biodiversity of Myeik Archipelago, which will be invaluable to the project implementation team. FFI is also an implementation partner in the GEF/UNDP Ridge to Reef Project.

10. **Wildlife Conservation Society (WCS)** was the first international conservation NGO to work in Myanmar, with a program that started in 1993. WCS has contributed significantly to identifying Myanmar?s 132 Key Biodiversity Areas (KBAs) and the national Protected Areas System. WCS has a memorandum of understanding with both MoNREC and MoALI and it has collaborated with the DoF for many years to develop and manage the DoF?s first aquatic protected area, the Ayeryarwady Dolphin Protected Area on the Ayeyarwady River upstream of Mandalay. The marine program of MCS covers four main topics: Marine Spatial Planning (MSP) and capacity development for MSP; fishery co-management; species conservation ? sharks, rays, dugongs; environmental safeguards and private sector engagement. It has included classification and mapping of coastal habitats within the Tanintharyi Marine Corridor, an area of global biodiversity importance covering virtually the whole length of Tanintharyi Region; and a Myanmar Marine Biodiversity Atlas. WCS collaborated recently with both DoF and ECD to produce a Marine Spatial Planning Strategy (MSPS). This is highly relevant to MyCoast, not only in terms of the MSPS document, which WCS regards as a ?roadmap? to guide MSP, but also because WCS plans a significant follow up by working with key sectors in the Tanintharyi coastal zone, including the energy sector, using Dawei District as a pilot site. Together with IUCN, WCS is also providing ICZM training support to government staff.

11. **Instituto OIKOS** is an Italian NGO which has been working in Lampi Marine National Park (MNP) in Myeik District since 2010. Lampi is the only marine national park in Myanmar and is supporting not only a rich biodiversity, but also important settlements of ethnic minority sea nomads, or Moken. The COAST Project (2014-2017) ?Building Local Capacity for Conservation and Tourism Development in the Myeik Archipelago? promoted local involvement in biodiversity conservation and natural resources management. A General Management Plan (2014-2018) was developed and implemented, including the building of a multi-purpose MNP Visitor Centre.

12. OIKOS has started a new project called STAR: Innovative Strategies for Environmental Conservation and Social Inclusion through the Development of a Responsible Ecotourism Model? (2018-2021). This project will help to develop a Tourism Management Plan for Kawthaung District, establish several village-level tourism committees, and prepare a new General Management Plan for MNP (2018-2022). The COAST and STAR projects have been funded by the Italian Agency for Development Cooperation.

13. **Japan International Research Center for Agricultural Sciences (JIRCAS):** in collaboration with DoF, MFF and Myeik University, Japanese scientists are implementing the project ?Development of Sustainable and Environmentally Friendly Aquaculture Techniques in Coastal Waters in Myanmar? (2016-2021). The target species for aquaculture development are oysters (*Crassostrea*), blood cockles (*Anadara*) and hard clams (*Meretrix*) in Myeik District.

14. **Advancing life and regenerating motherland (ALARM)** is an NGO registered in 2012 that transformed from the Ecologically Progressive Ecosystem Development (ECODEV) organization, which was established in 1994 to catalyze democratic change in Myanmar. ECODEV was a member of MERN and implemented various community based natural resource management activities, including coastal projects in the Ayeyarwady Delta following Cyclone Nargis. ALARM has developed a prominent role in contributing to improved environmental governance in Myanmar. ALARM is active in Myeik District where it is implementing a project funded by Trocaire (Irish Aid) on Natural Resource Governance with Women?s Empowerment (2017-2022). This project is highly relevant to MyCoast due to its location in the Myeik Archipelago and its focus on gender equality through womens? empowerment and natural resources governance. Through this project, ALARM is also providing support, including fuel-efficient stoves, to some villages within the proposed MyCoast ICZM demonstration site within Auckland Bay.

15. **IUCN/Mangroves for the Future Initiative**: co-chaired by IUCN and UNDP, this was a donor-funded regional post-tsunami initiative implemented from 2006 to 2018 as a collaborative platform to enable multiple stakeholders to work together from regional to local level to promote investment in coastal ecosystems as a form of natural infrastructure. This initiative expanded from six member countries in 2007 to 11 countries by the end of its third phase in 2018, including Myanmar, which joined in 2015. A National Strategy and Action Plan (NSAP) developed by IUCN/MFF Myanmar continues to serve as a guiding document on coastal ecosystem management and identification of priorities for new projects. Consistent with the approach taken in the design of MyCoast, IUCN/MFF has promoted the principle that healthy coastal ecosystems contribute significantly to human resilience and well-being, including food security, across the coastal regions of South and Southeast Asia. Through a small grant mechanism, IUCN/MFF funded hundreds of grass-roots projects that have directly assisted coastal communities to restore mangroves, protect coastal habitats and resources, and/or diversify their livelihoods, including three small grant projects in Tanintharyi. The small grant project reporting (available from IUCN) provides a wealth of valuable results and lessons learned from countries across Asia that MyCoast can benefit from. IUCN continues to support ICZM capacity-building at national and state/regional levels in Myanmar, including ICZM curriculum development in Myeik, Pathein and Mawlamyine universities. IUCN is a partner with Helvetas in the Gulf of Mottama project and was recently selected by the Forest Department to develop a National IZCM Program for Myanmar, as well as regional/state ICM programs for Tanintharyi and Rakhine. Close cooperation involving the MyCoast project, IUCN, DoF and FD will be highly advantageous to ensure that IZCM capacity development and related activities are well-coordinated in support of a single, jointly agreed ICM strategy so that duplication is avoided. Other active collaboration with IUCN will also be valuable to MyCoast, both within Myanmar and regionally through knowledge-sharing (IUCN has a Regional Office for Asia located in Bangkok).

16. **Myanmar-Norway Fisheries Development Program (MYANOR-FISH):** this new program, which is funded by NORAD and implemented by IMR, will operate from 2019 to 2024. It has a broad objective to build capacity in the DoF to improve offshore fisheries management and to develop marine aquaculture sustainably. MYANOR-FISH can benefit from MyCoast?s program of capacity-building for ICZM, while MYANOR-FISH?s focus on training in subjects including environmental monitoring, aquaculture, computing, statistics and English, will be beneficial to MyCoast. MYANOR-FISH and MyCoast also have a common aim to strengthen governance by improving the legal and policy frameworks for offshore fisheries and inshore marine living resources, respectively. MYANOR-FISH will assist the DoF to improve surveillance, control and management of the offshore fisheries in the Myeik area where MyCoast?s field activities will also operate. Thus, both initiatives will be working with many of the same stakeholders in Myeik District (not only DoF and other district government staff, but also Myeik University, MFF and the fisheries sector more broadly). Close coordination of Myeik-based activities by MYANOR-FISH and MyCoast will therefore be most desirable, while it will be highly beneficial to share results and lessons learned. The MyCoast Field Management Unit (FMU) in Myeik Town can also be helpful to the MYANOR-FISH consultants as a source of local knowledge and advice. I. Effective coordination and lessons learning between this project and other government, donor and NGO efforts to support communities mitigate health and other socioeconomic impacts from COVID19 will be a top priority for the project.

Additional Information not well elaborated at PIF Stage:

A.7. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels. How do these benefits translate in supporting the achievement of global environement benefits (GEF Trust Fund) or adaptaion benefits (LDCF/SCCF)?

The project is expected to directly benefit at least 3000 households or 15000 persons - 50% of which will be women. Myanmar?s coastal regions provide multiple socio-economic benefits to local communities and the national economy from a wide range of ecosystem services. Tanintharyi Region is renowned for its beautiful islands and beaches, some of which are used by nesting turtles; while there are also extensive mudflats and sand flats serving as important habitat for edible cockles and clams, as well as feeding grounds for wading birds. These productive coastal and marine ecosystems provide essential socio-economic services to the region?s human population, particularly services supporting fisheries-based livelihoods; they also have the potential to provide other substantial economic and climate-change benefits if they are managed sustainably. Coastal tourism, for example, is a new and fast-developing economic sector in Tanintharyi.
Existing capture fisheries and coastal agro-forestry systems sustain the economies of the great majority of coastal villages in Myanmar, even though incomes from fishing, forest resources and small-holder agriculture may be declining.

The project will support key actions to assist the local authorities and village communities to manage coastal resources sustainably for food, fuelwood and timber, climate-change mitigation, tourism, etc. This will benefit the livelihoods of the most vulnerable resource-dependent coastal-dwellers, who include women, indigenous communities and other disadvantaged groups. A sustainable development awareness program will be designed to enhance coastal village communities? knowledge about the ecological and socio-economic services provided by coral reef, sea grass bed and mangrove forest ecosystems. This will aid the potential replication of project benefits in other coastal villages in Tanintharyi Region.

The project will also inform decision-makers in government and the commercial sectors about the full economic value of coastal ecosystem services and the true socio-economic and environmental costs of resource over exploitation and unsound coastal development.

A.8. Knowledge Management

Elaborate on the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives (e.g. participate in trainings. conferences, stakeholder exchanges, virtual networks, project twinning) and plans for the project to assess and document ina user- friendly form (e.g. lessons learned briefs, engaging websites, guidebooks based on experience) and share these experiences and expertise (e.g. participate in community of practices, organize seminars, trainings and conferences) with relevant stakeholders.

1.1 KNOWLEDGE MANAGEMENT AND COMMUNICATION

1. Knowledge management and effective communication are most critical to the success of MyCoast because the project will have important capacity-building and coordinating roles. For this reason, the project will develop a comprehensive knowledge management and communication (KMC) strategy capable of delivering existing and new knowledge to support capacity development for ICZM, as well as

for communicating between multiple levels and diverse stakeholders within Myanmar society -from the Union, Region and District levels - to the Townships, rural communities and commercial sectors in the coastal zone of Tanintharyi. The KMC strategy will extract, synthesise and package knowledge for dissemination. The focus will be on analysing results and experiences from MyCoast. The strategy will apply a lessons-learned approach based on the ICZM five-stage process cycle taught in the ICZM training programs at national to region and district to community levels (Outputs 1.1 and 2.1, respectively). The-five stage ICZM cycle is part of Module 3 of the ICZM curriculum. Entitled ?Management Approaches and Tools for ICZM? (see Appendix XV). In summary, Module 3 teaches trainees how to (1) plan, (2) resource (including financing), (3) implement, (4) evaluate and (5) learn from ICZM projects and programs.

2. The goal of the project KMC strategy will be to: *Generate, disseminate and apply knowledge to support sustainable management of coastal ecosystems and their living resources*. This goal will be achieved through a number of actions:

a) Strengthening the knowledge and information base available to the Union and Region/State authorities to plan and apply ICZM in Myanmar;
b) Providing knowledge and information to meet the specific capacity development and awareness-raising needs of policy-makers, resource managers, commercial sectors, coastal communities and civil society;
c) Integrating traditional knowledge and practices with relevant scientific evidence-based information;
d) Promoting effective use of knowledge, especially best practices in coastal ecosystems management;
e) Communicating effectively, both within the project?s management structure, including to its key implementing partners; and externally to other stakeholders and partners within Myanmar and the Bay of Bengal region. Two-way communication and knowledge-sharing between the project and its stakeholders and partners will be strongly encouraged.

3. The KMC strategy will also gather knowledge on ICZM planning and implementation by analysing results and lessons learned from other coastal projects in Myanmar and the South and Southeast Asia regions, as well as from the MyCoast project process. This knowledge will be invaluable in supporting the project?s capacity development activities. The KMC strategy will both enhance and be supported by an ICZM information management system, which is one of the outputs under Component 1.

Knowledge management

4. The National Project Coordinator and Chief Technical Adviser will work closely together to keep national stakeholders well-informed at all levels, especially the government bodies represented on the National and Tanintharyi Region and Myeik District Coastal Resources Management Committees, and members of the Expert Groups set up under the NCRMC (see section 1.2.4 for details). The project?s technical team will be tasked with ensuring that best international principles and practices are reflected in the reporting of all project activities and outputs. The project will utilise various knowledge generation and delivery products, including management and monitoring templates, questionnaires, training materials and public information resources (e.g. brochures, posters, videos), including social media, (a project Facebook page will be created). The project will apply knowledge-building and knowledge-sharing mechanisms that best meet the particular interests and needs of its diverse stakeholder groups. All knowledge products will be made available in both English and local languages, as appropriate to their target audiences.

5. The project will hold an annual lessons-learned workshop to share results and lessons with its main stakeholders; and to coordinate and exchange experiences with other coastal projects/programs and development partners. As required, new knowledge will be generated through applied research funded by the project and undertaken by university departments, or other competent institutions and experts. Seminars will be organised to review research findings and convey results to a wider audience. Seminars will also be arranged to present information on coastal resources management topics of most relevance to key commercial sectors operating in the coastal zone, such as fisheries, aquaculture, tourism, energy and coastal industries.

6. The project will operate a coastal zone conservation and management website, which will be accessible in both English and Myanmar languages. This website will serve to inform readers about the project, including its structure, activities and progress; it will also be the main knowledge repository for project outputs and results, as well as for information on coastal zone management topics more generally, both within Myanmar and regionally. The website?s content will have a focus on successes and best practices in coastal conservation management; and on lessons learned from project implementation, including contributions from project partners and other related projects/programs.

7. To ensure that the main intended beneficiaries of the MyCoast project are fully considered and acknowledged, locally relevant reporting, such as ?stories from the field?, will highlight important aspects of the lives of Myanmar?s traditional coastal dwellers and the local environment; these reports will be uploaded onto the project website and Facebook page.

8. An eNewsletter will also be circulated by email every two months to those who wish to sign up to receive it; and they will also be able to provide feedback and to contribute. The eNewsletter will focus on news, events, current issues and emerging topics in ICZM, with links to the MyCoast website and other information sources for readers who want to access further details. (eNewsletters are particularly effective for communicating topical information to decision-makers who may not have the time to access websites for information, but do want to be kept well-informed.)

1.1.1 Communication

9. A wide range of stakeholders were consulted about the project during the PIF and PPG stages, including all levels in government, the UN and other development agencies, donor representatives, academic institutions, INGOs/NGOs, CSOs and coastal community groups and households. A series of start-up workshops will be convened as part of the project?s initial implementation activities in order to consult further with these various stakeholders and to formulate a communication plan that will keep them well-informed about project activities and results. This will include agreements regarding the format and mechanisms of communication with them. Through stakeholder dialogue, the project team will also identify the most effective ways to use web-based and social media to raise the profile of the project?s activities and to encourage local sustainability of its supported actions. Particular attention will be given to addressing the knowledge and information needs of rural stakeholders, and to facilitating their active involvement in project initiatives, as guided by the FAO Communication for Rural Development Sourcebook (2014).

10. A knowledge management and communication plan incorporating all appropriate communication modes and stakeholders will be developed during the project inception phase and submitted to the first PSC meeting for approval. The project will include a plan to ensure that the results and lessons learned from this project will be shared widely with GEF (including with other focal areas, e.g. through the GEF International Waters Learning Exchange and Resource Network, IWLEARN); this will encourage uptake by other coastal IW projects facing similar challenges and by other relevant projects. IWLEARN is a well-established platform that promotes learning among project managers, implementing agencies and partners through the collection and sharing of best practices, innovative solutions and lessons learned. The substance matter of MyCoast is well-suited for information-sharing via IWLEARN and the project can benefit from the wide range of learning formats offered by this platform.

11. The cost of implementing the KMC plan has been budgeted for under the Output 1.5 ?*An information management system operating to support informed ICZM decision-making and adaptive management*`.

B. Description of the consistency of the project with:

B.1. Consistency with National Priorities

Describe the consistency of the project with nation strategies and plans or reports and assessements under relevant conventions such as NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Consistency of the project with national priorities

Myanmar has prepared several strategies and action plans to coordinate national efforts to address climate change, achieve sustainable fisheries and forestry management, and conserve biodiversity within the country?s national framework for delivering sustainable development.

MyCoast is fully in line with and supportive of the Myanmar Sustainable Development Plan (2018-2030), which includes *?Natural Resources & the Environment for Posterity of the Nation?* as one of its five goals. The project will support several of the strategies to achieve this goal, together with their action plans and outcomes; for example:

- Strategy 5.1: Ensure a clean environment with healthy functioning ecosystems; Action 5.1.1: Promote broad-based environmental awareness, with a focus on integrating conservation practices into development and planning processes at all levels, including national accounting and reporting systems; Strategic Outcome: Underlying causes of biodiversity loss are addressed through mainstreaming biodiversity across government and society.

- Strategy 5.2: Increase climate change resilience, reduce exposure to disaster and shocks while protecting livelihoods, and facilitate a shift to a low-carbon growth pathway; Action 5.2. 2: Adopt climate-resilient and environmentally sound adaptation technologies and climate-smart management practices in all sectors; Strategic Outcome: Climate-resilient productivity and climate smart responses promoted in the agriculture, fisheries and livestock sectors while also promoting resource-efficient and low-carbon practices.

- Strategy 5.5: Improve land governance and sustainable management of resource-based industries ensuring our natural resources dividend benefits all our people; Action 5.5.5: Strengthen and enforce environmental safeguards and regulatory controls regarding natural resource-based industries; Strategic Outcome: Environmental and Social considerations mainstreamed into investment decisions.

Climate change

On a global basis, Myanmar ranks third among the countries most at risk from climate change. A majority of the population lives on the coastline and in the central dry zone, where both the people and their primarily natural resources-based economy are vulnerable to the slow onset impacts from sea level, increasing mean temperatures and changing weather patterns; they are also exposed to rapid onset events including cyclones, storms surges, flooding and land-slips.

The Environmental Conservation Department (ECD) in the Ministry of Natural Resources and Environmental Conservation (MONREC) is the national Focal Point for climate change. Recognizing that Myanmar is highly vulnerable to climate change, a National Environmental Conservation and Climate Change Central Committee was formed in 2016 and a dedicated Climate Change Division was created within ECD in 2017. The ECD coordinates and guides several climate change adaptation programs and action plans, as described below.

MCCA: the Myanmar Climate Change Alliance (MCCA) program (2013-2018) was implemented to help mainstream climate change into Myanmar?s policy development and reform programs, with the specific objectives to a) strengthen the climate change related institutional and policy environment through sharing of technical knowledge and best practice, training and institutional support; and b) promote evidence-based planning and policy making through pilot integration of climate change into sub-national and local level development planning initiatives.

The MCCA has focused on three result areas: 1) Government, civil society and the private sector in Myanmar are more aware of the implications of climate change; 2) Government has the capacity and support needed to integrate climate change considerations into policies, strategies, plans and operations and civil society capacity to contribute to climate change activities is enhanced; and 3) Lessons drawn on climate change from sub-national and local level activities inform policy-making and are communicated to decision-makers in the relevant sectors. MyCoast will support all three result areas, and particularly 3) by providing lessons on climate change from local level activities within the coastal conservation management demonstration site in the Myeik Archipelago.

NAP: Myanmar?s National Adaptation Plan (NAP) was established by UNFCCC in 2010 as a mechanism to enhance country-led planning and preparedness for adaptation to climate change. Myanmar?s INDC identifies the importance of the NAP to *?plan, cost and guide actions to meet adaptation objectives and priorities?* for the country. Myanmar?s NAP process was initiated in 2015 with support from GEF, UN-Habitat, EU, IIED, WWF and bilateral donors, and is guided by a dedicated Climate Change Division within ECD. Capacity-building is recognized as a key need for climate change adaptation planning. The project will play a strong role in this regard by providing a knowledge base to support training and awareness-raising on the role that healthy coastal ecosystems can play as an ecosystem-based adaptation response to climate change.

NAPA: Myanmar ratified the UNFCCC and prepared its National Adaptation Programme of Action (NAPA) in 2012. The project addresses NAPA priorities for Forests (a first priority level sector), the Coastal Zone (a third level priority) and Biodiversity (a fourth level priority). Under Forests, the project will support two of the four priority actions: (i) Building the resilience of degraded/sensitive forest areas to climate change impacts through reforestation; and (iii) Community-based mangrove restoration for climate-resilient ecosystems and rural livelihoods in vulnerable and degraded coastal regions. The project is consistent with all four priority actions in the Coastal Zone: (i) adaptation to climate change through Integrated Coastal Zone Management (ICZM), (ii) community-based mangrove reforestation for building climate-resilient ecosystems and rural livelihoods in degraded coastal areas, (iii) community based eco-friendly aquaculture systems (e.g. mud crab, clam, shrimp and tilapia) for enhancing the climate change resilience of rural livelihoods and supporting the recovery of mangrove forest ecosystems and (iv) small-scale aquaculture and mangrove buffers demonstration sites for transferring adaptation technologies to Tanintharyi coastal communities. The project will also support the priority actions under Biodiversity, especially (i) Buffering marine habitats and sustaining fish populations under climate change conditions through community-based MPA management and ecosystem sensitive fishery practices at the Sister Group of islands of the Myeik Archipelago.

Climate Change Adaptation: based on the adaptation needs identified by vulnerable coastal communities, Myanmar?s NAPA[1] lists the potentially most effective adaptation measures to apply to reduce the vulnerability of communities and economic activities in the coastal zone:

? restoring mangrove forest shelter belts and establishing mangrove plantations and other coastal vegetation using appropriate species to buffer coastal communities against the impacts of extreme weather events such as storm surges and tropical cycles;

? using ecosystem sensitive harvesting (of timber, crabs, shrimps, etc.) and aquaculture practices to promote the recovery of mangrove ecosystems;

? replacing current detrimental activities and livelihoods with sustainable alternatives;

? building capacity to promote/support autonomous responses to external pressures, e.g. farmers switching to salt-tolerant crops; and

? developing mechanisms (seawalls, dykes) to protect coastal communities and agricultural land from sea-borne extreme weather events such as storm surges and cyclones.

The above adaptation priorities have been incorporated in the NAPA into nine potential projects for implementation, the highest ranking one being*: ?Adaptation to climate change through the implementation of Integrated Coastal Zone Management (ICZM) for the Myeik Archipelago, Tanintharyi Region?*. In addition to directly supporting this project topic, the MyCoast Project will also contribute significantly to climate change mitigation by reducing carbon losses/increasing CO_2 sequestration from carbon-rich mangrove forests and sea grass beds.

INDC: the project will support CC mitigation priorities as expressed in Myanmar?s Intended Nationally Determined Contribution (INDC, 2015) prepared for the UNFCCC ahead of COP-21 and the Paris Agreement. The INDC lists the following policy objectives under Forest Management: (i) decrease the rate of deforestation so that a significant mitigation contribution from the sector can continue to be realized; (ii) preserve natural forest cover to maintain biodiversity and ecosystems in Myanmar; (iii) realize the co-benefits of the policy such as reducing soil erosion, thereby decreasing the risk of floods and landslides that may occur near river; (iv) increase the resilience of mangroves and coastal Communities which are at risk of flooding; and, (v) increase capacity for Sustainable Forest Management. Mangroves are mentioned as one of the specific elements of the INDC policy priorities in forest management *?Developing a coastal zone management plan to effectively conserve terrestrial and under water resources including mangrove forests.?*.

MCCSAP: Myanmar?s Climate Change Strategy and Action Plan (MCCSAP, 2017-2030) has a goal to achieve climate resilient development and pursue a low-carbon development pathway by 2030 to support inclusive and sustainable development. MyCoast will support MCCSAP?s strategic objective to increase the adaptive capacity of vulnerable communities and sectors so that they are resilient to the adverse

impacts of climate change. The project is directly relevant to two of the strategy?s six key sector entry points: Climate Smart Agriculture, Fisheries and Livestock for Food Security; and Sustainable management of natural resources for healthy ecosystems.

Fisheries

MyCoast is closely aligned with and supportive of the national fisheries policy and legal framework in Myanmar. The vision of the Department of Fisheries (DoF) is to ?ensure a sufficiency of fish supplies not only for the present entire national people but also for future generations by conserving of the fisheries resources with sustainable fisheries at all times.? To support this vision the DoF has adopted five broad mission/ policy statements relating to: conservation and rehabilitation of fisheries resources; promotion of fisheries research and surveys; collection and compilation of fishery statistics and information; extension services; and supervision of the fishery sectors. The national legal framework for marine fisheries, and directives that apply to fisheries conservation in Myeik District, are described in Appendix 13.

Myanmar is a member country of the Committee on Fisheries (COFI), a subsidiary body of the FAO Governing Council. COFI has two main functions: a) to review the programs of work of FAO in fisheries and aquaculture, and their implementation; and b) to conduct periodic general reviews of fishery and aquaculture problems of an international character and appraise such problems and their possible solutions with a view to concerted action by states, FAO, inter-governmental bodies and civil society. COFI has endorsed the *?Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication*? (2015)[2], which were established as the result of a participatory process facilitated by FAO. They are highly relevant to ensuring sustainable and equitable exploitation of coastal small-scale fisheries in Myanmar. The project will be supportive of these guidelines and will apply many of its approaches, e.g. *?States should, as appropriate, develop and use spatial planning approaches, including inland and marine spatial planning, which take due account of the small-scale fisheries interests and role of integrated coastal zone management.?*

Forestry

National Reforestation and Rehabilitation Programme in Myanmar: MONREC initiated this 10 year programme (MRRP, 2017-2026) with a goal to enhance environmental and economic conditions in Myanmar by a) recovering the ecosystem services lost through forest degradation; and b) by improving the income of local communities. The MRRP programme includes a number of targets for specific types of forest, including planting about 12,000 ha of mangroves and 14,000 ha of watershed forest, as well as establishing over 300,000 ha of community-owned forest, including community mangrove areas.

Community Forestry Instructions (2016): Community Forestry (CF) means forestry operations in which the local community is involved in sustainable forest management and utilization. This recent notification replaces the earlier Community Forestry Instructions (1995). Households irrespectively of status, ethnicity and religion have the right to join a CF user group if they have lived within five miles of forests for five years continuously, or if the forest area has been managed traditionally by local people under customary rights.

The CF Instructions (2016) have five objectives:

1. To support forest-related basic needs such as wood and non-wood forest products for local communities*;*

2. to reduce rural poverty through employment and income opportunities for local communities;
3. to increase forest cover area and to ensure the sustainable utilization of forest products;
4. to promote forest management systems with peoples? participation;
5. to enhance environmental services that can support climate change mitigation and adaptation by protecting against deforestation and forest degradation.

The project?s focus on mangrove forest conservation and sustainable use is closely aligned and strongly supportive of both the MRRP and CF targets, which seek to expand the areas of community-owned forests, recover the ecosystem services lost as a result of forest degradation and promote sustainable use through community-based management. The project will also protect and enhance carbon sequestration - primarily in mangrove forest ecosystems, but with some benefits also from the conservation of sea grass beds and other types of coastal forest, including nypa palm. In this way, the project will directly support mitigation-focused management practices relating to Land Use, Land Use Change and Forestry (LULUCF). Conservation of mangrove forests and other coastal ecosystems will also have complimentary climate change adaptation benefits including biodiversity conservation and ecological support to fish stocks (and therefore enhanced food security).

Biodiversity

NBSAP: the National Biodiversity Strategy and Action Plan (NBSAP, 2015-2020) has national targets for conserving ecosystems, natural resources and species structured around the Aichi Global Biodiversity Targets developed by the CBD in 2010. The NBSAP includes a focus on conservation of coastal and marine biodiversity; conservation of coastal, marine and island ecosystems, and the sustainable harvesting of marine living resources. This strategy will be achieved through the following measures: protecting and checking environmental damage to coastal areas of Myanmar; halting fishing for species at risk until they are restored to their normal numbers or status; banning destructive fishing practices such as dynamiting, poisoning, electrocution, or other unauthorized fishing methods and gear; developing new practices to replace them; conducting constant patrols and encouraging research and long-term monitoring of unauthorized fishing; conducting a survey of fish diversity; and developing participatory approaches for community-based fishery resource conservation and management. A coastal and marine research centre has also been proposed, using a university marine sciences department as the nucleus.

By strengthening the capacity for integrated coastal zone management and aligning it with Myanmar?s declared conservation objectives, the project will contribute to the realization of a number of Aichi Biodiversity Strategic Goals and targets, and the associated targets of the NBSAP (2015-2020). The project?s alignment with these targets, and its expected contribution towards achieving them, are summarised in Table 6.

Alignment to the Sustainable Development Goals

The Sustainable Development Goals (SDGs) are now the main reference for development policies and programmes at national level. This project is aligned particularly with SDGs 13 (Climate Action), 14 (Life below Water) and 15 (Life on Land), and it is also supportive of SDGs 1 (No Poverty), 2 (Zero Hunger), 5 (Gender Equality), 8 (Decent Work and Economic Growth), 10 (Reduced inequalities) and 16 (Peace, Justice and Strong Institutions (figure 7).

Figure 7. MyCoast and the Sustainable Development Goals

Table 6. Alignment of the MyCoast Project with Aichi and NBSAP targets; and the expected project contributions to these targets.

Selected Aichi and NBSAP Targets	Project Contribution/Alignment with Aichi and NBSAP targets
Aichi Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society	
Aichi Target 1: By 2020 at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably NBSAP Target 1.1: awareness of biodiversity values in key decision makers and line agencies has been improved NBSAP Target 1.2: the private sector has an enhanced understanding of the value of biodiversity and relation to business practices	Stakeholder awareness of the values of biodiversity and potential steps for conservation and sustainable use will be built through the project?s capacity building, training, and awareness activities at all levels. Awareness activities will be specially tailored to provide information of most relevance to the private sector by making the business case for conserving biodiversity and other ecosystem services. This will include sector-specific guidelines on environmentally sound business practices.
Aichi Target 2: By 2020 at the latest, biodiversity values have been Integrated Into national and local development and poverty reduction strategies and planning processes and are being Incorporated Into national accounting, as appropriate, and reporting systems NBSAP Target 2.1: Myanmar has made a formal commitment to natural capital accounting and has taken significant steps to integrate the value of biodiversity and ecosystem services into its national accounts.	The project will quantify to the extent possible all the socio-economic values of coastal ecosystem services in one or more demonstration sites in Myeik Archipelago. The ecosystem value results will be informed to decision-makers and will also be used as evidence-based knowledge to support training and awareness-raising.
Aichi Target 4: By 2020 at the latest, governments, business and stakeholders at all levels have taken steps to achieve or have Implemented plans for sustainable production and consumption and have kept the Impacts of use of natural resources well within safe ecological limits. NBSAP Target 4.1: SEA conducted and guidelines prepared for mining and energy sectors	The project is designed specifically to assist stakeholders at all levels to maintain coastal zone biodiversity and natural resources use within sustainable limits. For each of the main economic sectors operating in the coastal zone of Tanintharyi Region, including sand mining and energy, the project will provide guidelines on environmentally sound business practices that also have a sound economic basis.
Aichi Goal B: Reduce the direct pressures on biodiversity and promote sustainable use	
Aichi Target 5: By 2020 at the latest, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation Is significantly reduced NBSAP Target 5.3: all wetland areas surveyed and prioritized for conservation value	The project will help reduce the loss of natural habitats through improved planning, use, and conservation, especially coastal mangrove forests. By analysing the ecological and socio-economic values of coastal wetland ecosystem services, the project will provide an evidence-base for prioritising high-value conservation areas

Aichi Target 6: By 2020, all fish and Invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem-based approaches, so that over-fishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits. NBSAP 6.1: states/regions have approved laws allowing for community and/or co-managed fisheries NBSAP 6.2: total commercial marine catch reduced to more sustainable levels	Ecosystem-based management of coastal ecosystems and resources is the core approach of the project. Fishery-ecosystem linkages will be researched (e.g. life cycle, food and habitat use analyses for key species) in the demonstration site(s), and where possible the relationships will be quantified, so that sustainable levels of exploitation can be determined and legislated for. The project will work with fishing villages and other projects (e.g. by DoF-Danida and DoF-FFI) within the demonstration site(s) to develop community-based or co-managed fishery and aquaculture models.
Aichi Target 7: By 2020, areas under agriculture, aquaculture, and forestry are managed sustainably, ensuring conservation of biodiversity NBSAP Target 7.2 5% of fish and shrimp aquaculture by volume follows International best practices for sustainable management	By setting in place a coastal zone conservation strategy that takes into account fisheries, aquaculture and mangrove conservation, the project will help to ensure that aquaculture and mangrove forests are managed on an integrated and more sustainable basis. In addition, in the project mangrove-fisheries demonstration site, best practices for seabass, cockle and mud crab culture will be piloted.
Aichi Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and Biodiversity.	The project?s efforts to support improved planning and management of potential tourism development and other point and non-point sources of pollution within the coastal zone are within levels that maintain ecosystem integrity.
Aichi Target 10: By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems Impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning. NBSAP Target 10.1: 15 per cent of Myanmar's coral reefs conserved within MPAs, including LMMAs and other area-based conservation measures.	The project?s efforts to improve conservation of and minimize anthropogenic impacts to the region?s globally significant coral reefs will directly promote the achievement of this target.
Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity	
Aichi Target 11: By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	The project?s focus is on conservation management and sustainable use of coastal ecosystems, thereby contributing to the target of 10% of important coastal and marine areas better conserved, managed, and benefitting from improved connectivity.
Goal D: Enhance implementation through participatory planning, knowledge management and capacity building.	

Aichi Target 14: By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable. Aichi Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	The project is designed to help maintain and restore the coastal ecosystem services vital to traditional coastal dwellers and important to many other stakeholders. This will include taking full account of the needs of women and ethnic and indigenous communities. The project will build climate change resilience and mitigation by developing a coastal conservation strategy for Tanintharyi, including a major focus on conserving mangrove forests and enhancing their carbon storage capacity.
Goal E: Enhance the benefits to all from biodiversity and ecosystem services	
Aichi Target 18: By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels. Aichi Target 19: By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	The project will contribute substantially to the monitoring of Myanmar?s coastal zone and its ecosystem services values, including how indigenous, ethnic minority and local communities use biological resources, based on their intimate traditional knowledge. The project will support a strong science base of knowledge, with a focus on the ecological support role of coastal habitats to biodiversity and fishery stocks, and the total socio-economic values of coastal ecosystem services.

[1] Myanmar?s National Adaptation Programme of Action (NAPA) to Climate Change 2012.

[2] The Guidelines are available on FAO website: http://www.fao.org/3/a-i4356e/index.html

C. Describe The Budgeted M & E Plan:

1.

Main M&E activities	Responsible Parties	Time-frame	Budget USD) (excl. project staff time)
Inception Workshop	FAO Country Office	Within two months of project document signature	5,500
Project Inception Report	CTA/Project Management Unit (PMU)	Within two weeks of inception workshop	2000
Project M&E plan	M&E Specialist/CTA	Within three months of project start up, plus annual review	40 800 (M&E specialist salary)
Baseline surveys and follow up results/impact assessments	PMU, consultants, DoF, FD and other partners involved in project implementation	Beginning within three months of project start up;	Specific survey, assessments and technical reports are allocated under project output costs
Project Steering Committee (PSC) meetings and reporting	PSC members, assisted by CTA/PMU	Annually	12,000 (meetings)
Supervision visits, Co-financing reports	FAO country office, LTO, FLO and relevant government agencies	Annually	Under Agency fee
AW/B and Project Implementation Review report (PIR)	PMU/CTA	Annually	Within TOR of M&E Specialist
Project Progress Reports (PPR)	PMU/CTA	Six-monthly	Within TOR of M&E Specialist
Project Implementation Review report (PIR)	PMU/CTA	Annually (July)	Within TOR of M&E Specialist
Co-financing Reports	FAO Country office	Annually	Under Agency fee
Mid-term Review	FAO Office of Evaluation	At the mid-point of project execution (24 months after start up)	40,000

Main M&E activities	Responsible Parties	Time-frame	Budget USD) (excl. project staff time)
Terminal evaluation	FAO Office of Evaluation	At least three months before operational closure	50,000
TOTAL (excluding project staff time):			**150300**

PART III: Certification by GEF partner agency(ies)

A. GEF Agency(ies) certification

GEF Agency Coordinator	Date	Project Contact Person	Telephone	Email
Alexander Jones				

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Project Objective: *Improved coastal zone management to benefit marine biodiversity, climate-change mitigation, and food security*	Project delivers measurable Global Environmental Benefits in line with GEF Focal Area Outcomes for Biodiversity and Climate Change Mitigation by maintaining the integrity of coastal ecosystems (coral reefs, mangrove forests and seagrass meadows) and expanding the areas under conservation management	Baseline = tbd	Documentation of actual/ expected results from all coastal conservation management initiatives by government agencies, partners and other stakeholders cooperating with MyCoast A draft ICZM Strategy for Tanintharyi Region Annual measurement of mangrove forest biomass and carbon sequestered	Project activities promote improved conservation management of up to 4.7 million hectares of coastal habitat and inshore waters 900 km of Tanintharyi coastline covered by Marine Spatial Plans, fishing vessel monitoring, or management plans that include biodiversity conservation, sustainable fisheries management or climate change mitigation/adaptation 15 million tCO_2-e sequestered as a result of specific project-and partner supported mangrove conservation and restoration measures	Information from the National and State/Region Coastal Resources Management Committees Project and partner reporting An ICZM Strategy for Tanintharyi Region Decisions of the Tanintharyi Region Coastal Resources Management Committees EX-ACT monitoring and related reporting Terminal Evaluation	National and state/region governments, local authorities, coastal communities and private sectors are committed to applying ICZM principles and good practices that protect biodiversity and coastal ecosystem services Learning from the project will be applied/replicated by governmental and program/ project partners in Myanmar?s other coastal regions/states

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Component 1: National and sub-national (region/state) institutional capacity to develop and implement a large-scale coastal zone conservation strategy						

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Outcome 1: Strengthened national and sub-national (region/state) institutional capacity for ICZM, including improved national policies, strategic planning and a sound knowledge base for informed decision-making	Number of national and region/state decision-makers/managers involved in project ICZM capacity-building activities (disaggregated by gender, m/f) Evidence of increased knowledge and capacity on ICZM among key stakeholders at national and state/region levels (m/f) Number and institutional position/role of personnel assigned to ICZM policy and planning tasks Evidence of inter-sectoral and multi-stakeholder cooperation in strategic coastal policy development, planning and implementation (m/f)	Baseline = 0 TBD from Stakeholder analysis and Institutional Capacity Needs Assessment	2000 persons trained (at least 40% women) Stakeholders who attend capacity-building events become familiar with basic ICZM principles, approaches and tools A multi-sectoral and multi-stakeholder working group advising on an ICZM Strategy for Tanintharyi Region Potential sustainable financing sources and mechanisms identified	4000 (at least 40% women) Stakeholders who have attended capacity-building events are applying knowledge and skills gained in their work An ICZM Strategy for Taninthayi Region An approved sustainable financing plan for coastal zone conservation management	Stakeholder analysis and capacity needs assessment reports Reports on learning events, with details of participants, dis-aggregated by gender Post-training workshops and questionnaires Implementation and coordination mechanisms detailed in the strategy Financing plan	Key stakeholders will agree to attend project capacity-building events The project?s capacity-building programs will contribute to improved coastal conservation management in practice DoF, FD, ECD and other departments/ agencies will be able to harmonise their policies/action plans and agree targets consistent with ICZM principles Government continues to give priority to ICZM planning and implementation, including long-term financing arrangements

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
1.1: An ICZM training and capacity development program for national and sub-national (region/state) stakeholders especially from Tanintharyi	No. and type of training courses/study visits conducted No of qualified ICZM Trainers No. of men and women completing ICZM training	Existing ICZM training courses and trainers identified (tbd)	ICZM course adapted: modules finalised, packaged and translated Training of Trainers course completed	ICZM training adopted in DoF, FD and other training institutions, especially stakeholders from Tanintharyi At least 40% of trainers and participants are women	Training course reports, including participant lists (m/f) Trainee and trainer feedback Information on Institutional training programs Field and Study visit reports	GoM training institutions are able to include ICZM as a subject in their training programs Women are encouraged to attend training and field/study visits
1.2 Strengthened national and regional policy guidance frameworks and institutional arrangements for ICZM	Conservation-orientated policy decisions supporting coastal zone management	Existing policy and institutional frameworks (tbd)	ICZM policy development tools prepared (guidelines, decision support tools)	ICZM principles applied in development planning and EIA procedures	Decisions of National and Regional Coastal Resources Management Committees (NCRMC/ TCRMC)	Government will continue to give priority to ICZM policy development
1.3 Sustainable financing mechanisms for coastal conservation and management identified and tested	Sustainable financing in place	Existing financial support (tbd)	Potential sustainable financing mechanisms identified	Potential sustainable financing mechanisms tested	Review of potential financing mechanisms and documentation of stakeholder feedback	Stakeholders will accept the principle of Payment for Ecosystem Services

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
1.4: An integrated coastal zone management strategy for Tanintharyi Region	An implementable and approved ICZM strategy	Existing conservation maps/spatial plans for Dawei, Myeik & Kawthaung districts (tbd)	A draft ICZM strategy based on extensive stakeholder consultation	An ICZM strategy endorsed by multiple stakeholders and approved by GoM	The strategy document	Strategy will be approved within the project timeframe
1.5: An information management system (IMS) operating to support informed ICZM decision-making and adaptive management	Well-informed ICZM decision-making and adaptive management	Identification of any existing ICZM relevant information platforms	IMS is established and modified regularly in response to user feedback	A smoothly operating and user-friendly IMS	Project progress reports Examples of knowledge-based decision-making	Key decision-makers and managers make use of the IMS to support their work
1.6: A project monitoring and evaluation system reporting on progress, results, lessons learned, achievements and impact.	A well-monitored project	Baseline = 0	Project M&E system designed and operating	M&E system provides close and detailed monitoring of project performance, achievements and impact	M&E reports	

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Component 2: Organizational capacity and action to implement strategic coastal zone conservation management in Tanintharyi Region, with special focus on the coastal habitats and biodiversity in the Myeik Archipelago						

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
Outcome 2: Strategic coastal zone conservation management providing measurable environmental and socio-economic benefits demonstrated in Tanintharyi Region	Total area of coastal habitat brought under improved conservation management via Community Fishery/Forestry User Groups and LMMAs Area of existing mangrove forest in Tanintharyi showing reduced degradation Area of reforestation/ enriched forest Number of coastal forestry and fisheries dependent households benefiting from project livelihood activities Reduced dependency on fishing and mangrove fuelwood in target villages Increased involvement of women in coastal management planning processes in target villages Increase in abundance/size of key biodiversity and fishery indicator	Baseline = 0 Baseline tbd from sample plots Baseline = 0 tbd from village PRA assessment tbd from village PRA assessment Indicator species tbd	100,000 ha (includes 50,000 ha mangrove as below) 50,000 ha 400 ha At least 1,000 households Dependency on fishing and mangrove fuelwood reduced by 10-20% Increase in involvement of women by 10-20%	210,000 ha (includes 110,000 ha of mangrove as below) 110,000 ha 1100 ha At least 3,000 households Dependency on fishing and mangrove fuelwood reduced by 20-30% Increase in involvement of women by 20-30%	FD, DoF and User Group monitoring data; remote sensing and field verification data FD and DoF monitoring data; remote sensing and project field verification data Village and household surveys, dis-aggregated into male and female headed households Project study reports and evaluations Reporting on coastal management decisions involving village community participants Biodiversity and fisheries monitoring data from DoF, village respondents and project partners	DoF and FD, other departments, the private sectors and local communities will agree to cooperate to change resource use from unsustainable exploitation to a conservation and sustainable use basis Awareness-raising, coupled with improved livelihood opportunities will reduce the pressure on coastal fishery and mangrove resources Women willing to become more involved in coastal management planning and governance processes, including resource management groups

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
2.1: Integrated coastal zone implementation capacity development and awareness programs established in Tanintharyi Region for district, township and village-tract level stakeholders	No. and type of capacity and awareness programs No. of men and women participating	Existing capacity in Myeik University, plus previous awareness activities by project partners	Programs designed and operating and encouraging women to participate	Programs reach a wide and inclusive range of stakeholders Equal numbers of women and men participate	Trainee and trainer feedback Project reporting	Capacity development and awareness raising will lead to improved coastal resources management
2.2: Multi-sector coordination and decision-making mechanisms for coastal conservation management in Tanintharyi strengthened	Effective coordination between different societal and economic sectors, and from the region to within district levels	Existing coordination mechanisms (tbd)	Project is actively supporting multi-stakeholder coordination and region to district communication	Role of the project is well-recognised and encouraged by different sectors and the Tanintharyi Region and District Coastal Resources Management Committees (TCRMC and DCRMC)	Reports from multi-stakeholder consultation meetings; Communications with and information from the TCRMC and DCRMC	sectors will be positive towards the aims of the project and will agree to cooperate
2.3: Expanded and improved coastal fisheries and habitat conservation management measures emplaced in the Myeik Archipelago	Increase in area of conserved fishery/habitat: fishery/habitat areas are better managed and protected	Existing area of conserved habitat (tbd)	Improved management of existing areas and 50% increase towards expanded area target	100% of target area reached and under improved management	DoF and FD data Community feedback Field inspections	DoF, FD and Local Authorities will enforce conservation management regulations

Results Chain	Indicators	Baseline	Mid-term milestone	Target	Means of Verification (MOV)	Assumptions
2.4: Improved tenure, livelihoods, food security and climate change adaptation benefits to traditional coastal resource users demonstrated at Myeik Archipelago	No. of members of legally-recognised community fishery/forestry groups Reduced household consumption of mangrove fuelwood Increased and diversified household incomes	Baseline surveys in target communities	Increase in community fishery/ forestry group members; households reduce mangrove fuelwood consumption by 10-20%; average household incomes show measurable increase over baseline	Fuelwood consumption reduced by at least 30% in participating households; Average household income increased by at least 30%	Village socio-economic surveys	Households will accept fuel-efficient stoves or alternatives to fuelwood for domestic cooking
2.5: A demonstration level coastal environmental and socio-economic monitoring system operating and supporting informed ICZM decision-making at field level in the ICZM demonstration site in the Myeik Arcjhipelago	A well-designed monitoring system operating to provide information to the Coastal Resources Management Committees and relevant agencies	Existing monitoring activities (tbd)	Environmental monitoring indicators selected, monitoring protocols established and training provided	Monitoring program is operational and being used to generate reports helpful to ICZM decision-makers	Environmental monitoring data and reporting	Information from monitoring will be made available and used by decision-makers

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

GEF Secretariat Comments

Question	GEFSec Comment	Response
Does the PIF sufficiently indicate the drivers2 of global environmental degradation, issues of sustainability, market transformation, scaling, and innovation?	FI, 8/5/2016: Yes for PIF stage. However, further information on how innovativeness, sustainability and upscaling will be achieved is requested by CEO Endorsement stage.	ProDoc section 3.4 lists seven innovative aspects of the project. Upscaling is in-built in the project?s design as it has 1) a national component for capacity development; and b) a component in Tanintharyi where ICZM strategic planning and implementation will be demonstrated in practice. Upscaling and replication will also be promoted through wide dissemination of ICZM best practices and lessons learned via the projects IMS and Communication system. BoBLME Phase 2 will be a valuable partner project to upscale results regionally among the other Bay of Bengal countries.
	Please also discuss at CEO Endorsement stage whether engagement with communities will contribute to sustainability, and how.	Traditional coastal communities are identified as the primary beneficiaries of this project (ProDoc section 1.4.1. Given the very limited government capacity (or even commitment?) to enforce conservation management measures, these communities must at least share in stewardship of the natural resources their livelihoods depend on. The Government recognises this through shared-governance mechanisms e.g. Community Forest User Groups, Fisheries co-management, LMMAs. However, sustainability can only be achieved by also strengthening community groups in these roles, via empowerment, training, operational support (e.g. resource mapping and demarcation, patrolling, enforcement). Component 2 provides for such support from the project.

Question	GEFSec Comment	Response
Are socio-economic aspects, including relevant gender elements, indigenous people, and CSOs considered?	By CEO endorsement: Please provide a clearer profile of the "10,000 households" that will be more food secure as a result of this project. The PIF only mentions the Salon community, but their population is 2000-3000. Please also provide details on engagement (on activity design and implementation) with community groups (including women's groups)	Traditional coastal communities are identified as the primary beneficiaries of this project (ProDoc section 1.4.1. Given the very limited government capacity (or even commitment?) to enforce conservation management measures, these communities must at least share in stewardship of the natural resources their livelihoods depend on. The Government recognises this through shared-governance mechanisms e.g. Community Forest User Groups, Fisheries co-management, LMMAs. However, sustainability can only be achieved by also strengthening community groups in these roles, via empowerment, training, operational support (e.g. resource mapping and demarcation, patrolling, enforcement). Component 2 provides for such support from the project.

Question	GEFSec Comment	Response
		The project will directly benefit 3,000 households in the ICZM demonstration area, including support for additional livelihood activities; and in total at least 12,000 households will benefit from awareness-raising and improved fisheries and mangrove and coral reef management in Kyunsu Township where the demonstration site will be located. The ProDoc describes the socio-economic status of households in 10 representative coastal villages in Kyunsu (Appendix XI), including a gender comparison. Gender issues are described further in ProDoc section 3.6, which also contains a preliminary project gender action plan. There are two ethnic minority groups: Moken who number 655 in Kyunsu; and Kayin (Karen) who number 6000-7000 out of a township population of 165,500 dominated by Bamar people (2017 data). These minorities are described in section 1.1.2 (Project intervention area). NGOs/CSO with experience of working with these communities were consulted extensively, and they will be essential as implementation partners in the project. They include the Conservation Alliance of Tanintharyi, which consists of 7 NGOs/CSOs assisting the Kayin. The particular challenges in helping the Moken are dealt with further in section 3.7 Indigenous peoples.

STAP comments

Comment	Response

Comment	Response
One of the most important threats to Myanmar's fisheries is the overexploitation of the resources, primarily from international commercial fishing vessels. The PIF states that the maximum sustainable yield should be reduced to 0.1Mt/year, while it currently stands at 2 Mt/year. This project proposes to develop and implement a large-scale coastal zone conservation strategy, which we assume would address the legal/policy frameworks required to enable this significant reduction. Component 2 also addresses the issue of fisheries management, yet only seems to engage with small-scale fishers. While the proposed interventions are important in managing illegal fishing and further degradation of the resources, it does not address the larger issue outlined here. At this stage, it remains unclear how the project will effectively address the issue of commercial overfishing, in particular the awareness raising and enforcement of potentially new regulations arising from the coastal zone conservation strategy.	This major issue is beyond the project?s direct scope and capacity to resolve alone, but it will cooperate with other donors and projects that are also assisting the DoF, especially regarding combating over/fishing and IUU (illegal, unreported and unregulated) fishing. Current and planned measures include reduction in the offshore fishing effort; preparation of a new Marine Fisheries Law (assisted by DANIDA?s support to the Sustainable Coastal Fisheries (SCF) project; European Commission global action against IUU; fisheries resources surveys and introduction in Myanmar of a Vessel Monitoring System supported by Norway.

Comment	Response
As the PIF correctly points out, there is currently a ?free-for-all' approach to exploitation of Myanmar's coastal resources. Artisanal fishers combine with commercial exploiters, while the agencies tasked with management are relatively ineffective. In such a situation, it is essential that a full stakeholder analysis be carried out using political economy/ecology principles. It will be insufficient simply to list stakeholders without understanding their power relationships and linkages. The PIF has a stakeholder table, but this is almost completely populated by state-run institutions. The stakeholder analysis being suggested by STAP will drill deeper into the communities and groups, including the role of men and women, actually involved in resource exploitation and who will necessarily be part of any ICZM process fir Myanmar. A useful starting point is the World Bank guidance on its anti-corruption pages - http://www1.worldbank.org/publicsector/anticorrupt/PoliticalEconomy/stakeholderanalysis.htm There are also a number of purpose-built tools to conduct stakeholder analysis ? see for example, on the euoropa.eu website a Stakeholder Analysis Tool; this has an excellent ?actor assessment matrix' that includes the interests, resources and power-base of all stakeholders. A social science input here would be very relevant	The stakeholder table in the ProDoc gives more attention to non-state actors, including fisheries and other commercial sectors responsible for over exploitation. Commercial fishing (and aquaculture) interests are represented by the Myanmar Fisheries Federation (MFF), which has a significant presence and influence in Myeik District, as well in Dawei at Tanintharyi Region level. The ProDoc (1.4.1) explains the importance of MFF in the context of this comment: *?MFF is expected to play a pivotal role in facilitating consultation between the project and the commercial fishery sector, especially by way of encouraging the involvement of MFF members in project activities. MFF will also have a crucial role in helping the project and DoF to convince its members of the need to comply with fisheries regulations, especially those designed to protect coastal habitats and vital life-cycle stages of targeted fish and shellfish species.?* The PPG also conducted a fairly detailed analysis of coastal village stakeholders, including the roles of women and men (Appendix XI), as well as preliminary capacity needs assessments of all main stakeholders (Appendices XIII and XIV).

Comment	Response
It appears there may have been a minor oversight in the Table under section B, Component 2, Potential Indicators, when listing the conservation of coral reefs as delivering CC benefits. We assume CC benefits refer to a reduction in greenhouse gas emissions, yet coral reefs are a source of carbon dioxide in the atmosphere through the calcification process (see for instance Suzuki et al., 2004, available here: https://www.terrapub.co.jp/e-library/kawahata/pdf/229.pdf).	Agreed ? this potential indicator was removed from consideration during the PPG phase. Conserved/rehabilitated mangrove forests and sea grass beds will provide CC mitigation benefits through reduced GHG emissions, but not coral reefs. The aim of coral reef conservation in the project is chiefly for BD protection and food security. Maintaining connectivity between healthy reefs and mangroves/sea grass habitats also safeguards their vital fisheries support function because many aquatic species move between habitats, including at different stages of their life cycles. However, the physical barrier that intact coral reefs provide against storm-driven wave surges can play an important mitigation role in relation to CC (i.e. coastline protection against wave surges) and even tsunamis. https://www.researchgate.net/publication/235407231_TSUNAMI_OF_2004_AND_CORAL_REEF_ENVIRONMENT_OFTHE_SOUTHEAST_COAST_OF_INDIA

Comment	Response
Although the climate change mitigation measures relating to climate change risks presented on p.31 are commendable, more explicit considerations for climate change impacts will be necessary in the identification of conservation interventions, especially with respect to the habitat conservation efforts as presented under Component 2. For instance, while the mangrove forests of Myanmar are some of the least likely to be submerged due to climate change induced sea level rise by the end of the 21st century in the Indo-Pacific region (see Lovelock et al., 2015, available here: http://www.nature.com/nature/journal/v526/n7574/full/nature15538.html?foxtrotcallback=true), there are a number of threats to mangroves posed by climate change which should be taken into account in this project (see Feller et al., 2017, available here: https://link.springer.com/article/10.1007/s10750-017-3331-z).	The Tanintharyi mangroves are not at any significant risk from the main CC threat to mangroves, which is reduced freshwater inflow=elevated salinities. This will be most severe in arid regions with prolonged droughts, whereas rainfall is high and protracted in Tanintharyi Region and CC predictions suggest a future trend of increased rainfall. Similarly, Tanintharyi is not a high-risk region for CC-exacerbated storm impacts, therefore the risk of storm damage to mangroves is also low. The main CC threat to mangroves in Tanintharyi is sea level rise (SLR). Intact mangrove forests can build the shore elevation at rates of up to about 6 mm/annum. If annual SLR exceeds 6mm then mangroves will experience greater submergence; and this risk is increased greatly by mangrove degradation and ?coastal squeeze? meaning that mangroves cannot move landwards in response to SLR because of physical barriers e.g. roads, land conversion. These points have been explained in the ProDoc and will be mitigated to the extent possible by the project activities, which include *inter alia* village CC vulnerability assessments and ICZM plans (Activities 2.2.4.5 and 2.2.4.7)

Comment	Response
Up-scaling and replication is an important part of the proposal according to paragraph 61 of the PIF. STAP supports this but suggests that this is linked to a Knowledge Management Strategy for ICZM. As presently planned at paragraph 115, KM is somewhat vague and insubstantial. A good KM Strategy is essential. STAP has provided the GEF already with recommendations on this ? see **http://www.stapgef.org/knowledge-management-gef**	A more detailed account of the project?s approach to KM is presented in ProDoc section 1.7.1. The KM approach is also summarised in section A8 of this document

GEF ID
9261
Countries
Myanmar

Project Title
My-Coast: Ecosystem-Based Conservation of Myanmar?s Southern Coastal Zone
GEF Agency(ies)
FAO

Agency ID
GEF Focal Area(s)
Multi Focal Area

Program Manager
Leah Karrer

PIF
CEO Endorsement
Project Design and Financing

1. If there are any changes from that presented in the PIF, have justifications been provided?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) The few changes are discussed in the next question.

Response to Secretariat comments

A response to the Secretariat comments 2-12 is provided below. The comments are much-appreciated and in most cases the ProDoc has also been edited in line with the Secretariat?s comments and suggestions.

2. Is the project structure/ design appropriate to achieve the expected outcomes and outputs?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) No, the following issues need to be addressed:

1. A critical aspect of this project is the establishment of ICZM strategies at national, regional and local levels. In the PIF Component 1, Outcome 1.1, noted that there would be ?national and division policies in place.? The Pro Doc Component 1 (national and regional), notes ??implementation of a coastal conservation and management strategy? and Outcome 1.1 notes ?? implementation of an ICZM strategy??; however, the subsequent Output and Activities at a national level focus on capacity building, not developing a national ICZM strategy. The Results Matrix in Appendix A does not have a national ICZM strategy as an indicator. National ICZM plans need to be reinserted into the outputs, activities and indicators.

2. There is a related concern for Component 2 (local ? within Tanintharyi) in which Outcome 2.1 is ICZM implemented in southern Myanmar. The majority of the Outputs and Activities are related to capacity building, coordination and monitoring. Output 2.2.3, which is most directly related to ICZM instead focuses on siloed activities and does not reflect the core concept of integrated coastal zone management. Fisheries and habitat measures are clearly important; however, it would seem that a relevant indicator would also be ICZM plans within Tanintharyi that ensured cohesion across the set of otherwise siloed activities.

3. The 3rd identified barrier in the Theory of Change is ?low awareness of the true environmental, socioeconomic and society values?? yet there is virtually no mention (only briefly noted in 1.1.2.2) of plans to assess these aspects. The socioeconomic aspects also need to be incorporated into ICZM plans and the information management system.

4. The project description is inconsistent in its explanation of plans between national, regional and local efforts. Para 113 states Component 1 will focus on national capacities while Component 2 will focus on local capacities within Tanintharyi region. Yet, in reading through C1 and C2, Output 1.1.2 is ?strengthened national and Tanintharyi Region policy frameworks?? and Output 1.1.4 is an ICZM plan for Tanyintharyi. Component 2 is noted as ?Capacity-building and implementation of CZM in Tanintharyi Region? and Output 2.1.2 highlights the Tanintharyi CRMC. Further, outputs 2.2.1 and 2.2.2 are noted as ?regional?. The scale of activities needs to be clarified in order to prevent duplication of efforts. The Tanintharyi level activities need either be in C1 OR C2 - not both. If C1 is meant to be national and regional in scale and C2 is meant to be local efforts WITHIN Tanintharyi Region (not the overall region), then the description of plans needs to be revised accordingly.

5. One of the concerns previously noted by STAP and in the PIF review was the importance of stakeholder engagement, particularly engagement with community members. The discussion regarding stakeholder engagement indicated there were ?numerous consultation meetings and four workshops? (para 188). From reading the Appendix IX: Stakeholder Engagement Plan it seemed the vast majority of the meetings were with government officials. There is one table titled ?Township and Village level assessment and consultations? which includes nearly 20 meetings overall several days; however, it is unclear who participated in these meetings which are note simply as ?Community/village level assessments and consultations.? This description needs clarification as to whether community members, business leaders and/or CSO reps participated; otherwise it seems government

representatives were the focus of discussions. In considering the list of identified stakeholders (p132-141), it is almost entirely governments or international NGOs. Reconsideration needs to be given to identifying community and private sector participation, including community groups and local business alliances (e.g. fisher associations, tourism). There is discussion of the community process under FPIC procedures, but it is disconnected from the previous text outlining the stakeholders and how they will be engaged.

6. In reviewing the gender representation during the stakeholder engagement discussions there is a heavy skew toward male participation. This inequity needs to be discussed and measured to address this concern identified in the Pro Doc.

Response to Secretariat comments

1. In designing the MyCoast Project, the PPG has followed the PIF Project Description as closely as possible. The PIF, and therefore the ProDoc, focus on capacity-building as the principle requirement to achieve the Project Objective to *?Improve [integrated] coastal zone management??* This priority to support ICZM capacity development is identified by the two components in the PIF ?Component 1: ?*National institutional capacity to develop and implement a large-scale coastal zone conservation strategy?* and Component 2: *?Local level organizational capacity and action to implement strategic coastal zone conservation management.?*

Our interpretation of Component 1 and its single Outcome *(?National and subnational (region/state) capacity built to design and sustain implementation of an integrated coastal zone conservation strategy?*) is that the ??large-scale coastal zone conservation strategy? refers to the Tanintharyi Region only, not to a national ICZM strategy. This important point is confirmed by PIF Output 1.1. *?Model coastal zone conservation strategy for the southern coast?* and the PIF potential indicators for Component 1, which include *?Five hundred (500) kilometres of marine coasts and associated habitat monitored to promote conservation of ecosystem services?* This indicator is sub-regional in scale, as the coastline of Tanintharyi is about 900 kms, whereas the total coastline of Myanmar exceeds 2,400 kms. Moreover, the three main coastal regions of the country, Tanintharyi, the Ayeyarwady Delta and Rakhine State differ so markedly in their biogeographical, climatic, socio-economic and other characteristics that it would be beyond a single project, or single strategy, to cover the entire coastline. Thus, the approach taken in the ProDoc is to support the development of the national capacity, policies and sustainable financing mechanisms required for ICZM, while formulating an ICZM strategy for Tanintharyi as a ?model? that can be replicated/adapted to other coastal states/regions. This interpretation is consistent with the PIF para. 44: *?The project will build capacities to generate a model coastal zone conservation strategy covering the southern Tanintharyi Region, including the Myeik Archipelago.?* And PIF para 47 states that: *?The strategy will ?Provide a spatial plan for the Tanintharyi coastal zones??*. The PIF also recognizes (para. 49) that *?Development of the coastal conservation strategy will be approached as a capacity building and training exercise for regional and national decision-makers?*.

Based on the above interpretation of the PIF, but also taking comment 2.1 into account, the ProDoc text has been edited to make the distinction between national, Tanintharyi Region and local plans, and other project activities clearer:

113. The project?s objective is ***improved coastal zone management to benefit marine biodiversity, climate-change mitigation, and food security***. The project will have two inter-related components, each supported by one outcome and several outputs. Under Component 1, national and state/region capacities will be developed for the planning and implementation of strategic, integrated coastal zone management (ICZM) and a model ICZM strategy will be generated for the southern Tanintharyi Region of Myanmar. Under Component 2, equivalent local capacities will be built within the Tanintharyi Region and strategic coastal conservation management will be demonstrated in practice in a representative site selected within the Myeik Archipelago. An important feature of the project is that it will operate at all levels from national, to sub-national (state/region) and local (district/township/village) levels.

Consistent with the above, the title of Component 1 has also been revised back to its exact wording in the PIF:

Component 1:

116. National institutional capacity to develop and implement a large-scale coastal zone conservation strategy

It is also considered advisable to keep the ProDoc output 1.1.4 **?**An integrated coastal zone management strategy for Tanintharyi Region? under Component 1 (as in the PIF), because of its recognized capacity-building value at national as well as regional level. Furthermore, preparation and approval of an ICZM strategy for Tanintharyi Region will depend heavily on national support, especially development of a national policy framework for ICZM, as well as financial and other assistance from key departments of the Union Government, and especially guidance and approval from the National Coastal Resources Management Committee (NCRMC).

2. It is agreed that, in Component 2, the Outputs and Activities do also focus strongly on capacity-building, as well as on coordination and monitoring (as noted in the Secretariat comments), but this is intentional in order to support this component?s aim *?local level organizational capacity and action to implement strategic coastal zone conservation management?* (PIF page 2).

Moreover, the Secretariat comments at #11 seem to endorse this approach: *?The sustainability of the project is ensured through the heavy emphasis on capacity building and institutional coordination?.*

Regarding ProDoc Output 2.2.3, the activities listed are only ?potential? ones, but they include those identified by local stakeholders as the most urgently needed ones: namely reducing illegal coastal fishing activities and mangrove wood extraction in the proposed ICZM demonstration site. The project will support village level community-managed fishery and mangrove forest conservation and sustainable use areas to help recover and safeguard coastal fishery and forestry resources. It is agreed, as per the Secretariat comment 2.2 that these activities do not constitute a demonstration of ICZM in *senso stricto*, but they are fundamental to achieving the project?s coastal conservation aims of biodiversity protection, climate change mitigation and food security. However, it is also explained in ProDoc para 149 that an ICZM approach will still be applied and demonstrated:

?Although the focus of demonstration will be on integrated mangrove forest and fisheries/aquaculture management, it is considered important from an ICZM perspective to also include demonstration activities in the coastal area adjacent to Myeik Town and the Tenasserim River Estuary, particularly environmental monitoring and reporting. The urban center of Myeik is densely populated and there is rapid industrial and commercial development adjacent to the town, in the form of the harbour and waterfront area, including construction of a tall condominium. There is a large fish landing centre and ship-building yard on Pathaw Island?etc.?

The Secretariat?s point that *??a relevant indicator would also be ICZM plans within Tanintharyi?*? is also well taken. In response, an ICZM plan for the Myeik demonstration site within Tanintharyi has been added into the project?s design as both an activity and indicator.

3. The identified barrier ?low awareness of the true environmental, socio-economic and societal values?? is addressed by project activities suggested not only in 1.1.2.2, but also by Outputs 2.1.3 and 2.2.5. Reference to project efforts to overcome this barrier are also made in paras. 105, 106, 123, 135, 321, 326, 327, 333. The importance of including socio-economic valuation in the project?s work is also highlighted in para. 111 under Lessons Learned: ?It is essential to have a solid knowledge base to support coastal conservation initiatives, not only knowledge about the target ecosystems and species for conservation, but also an intimate understanding of their socio-economic importance to resource-dependent communities, including the most vulnerable groups.?

The specific activities needed to overcome this significant barrier will be designed by an International Environmental Economist (16 person weeks are budgeted for), supported by a National Environmental Economist (22 person weeks). In response to this Secretariat?s comment, potential activities to address this barrier have been added to Table 2 and socio-economic considerations have been included in the ICZM plans and information management system.

4. As explained in response to Secretariat comment 1., the ProDoc text has been edited to more clearly identify national, regional (Tanintharyi) and local (within Myeik District) plans and activities.

5. This comment is well received and has been addressed as follows: In Appendix IV: Stakeholder Engagement Plan details of the village community consultations have been added; and it is explained that in the 10 coastal villages surveyed by the PPG team in-depth discussions were held with community leaders, followed by separate meetings with male and female village members, so that women were able to express their views without influence from the presence of men. Engagement with the private sector has also been explained more clearly in the Stakeholder Engagement Plan (the PPG team had meetings with the Myanmar Fisheries Federation and Myeik Tourism Association as key private sector stakeholders).

A FPIC process was followed to the extent possible when engaging with local communities during the PPG phase, which included informing village and village group leaders, as well CBOs/NGOs supporting them, about the project and seeking their views on coastal environmental issues affecting their livelihoods and food security. The community meetings were conducted on an ?open? basis and many villagers also attended to both listen and contribute to the discussions. From project start up,

FPIC will be implemented with due diligence before any project activities take place that may directly, or indirectly, affect local communities in and around the project sites.

Appendix IV (revised content)

Stakeholder	***Profile, Responsibilities and Expected Involvement with the Project***
Traditional coastal communities	The PPG team consulted with village leaders and villagers in 10 coastal fishing villages within Auckland Bay and on Kodon Island and Thayawthdangyi Island in the central Myeik Archipelago (see locations in Apprendix XI). In each village, an initial meeting was convened to explain the MyCoast project to village leaders, and to learn from them about the main environmental and socio-economic issues facing their village. Six of the 10 villages have community forest areas managed by a village Forest User Group (FUG) and FUG members were also present. Issues surrounding natural resources use were discussed in detail. At each village, discussions were then held separately with groups of 10-20 fishermen and 15-30 women (depending on the size of the village) to better understand these issues from a gender perspective; and also, to ask men and women about potential additional livelihood activities they considered to be most suitable for them? A meeting was also held with members of the Forest User Association, which represents the FUGs on Kodon Island. During a second visit to each village, the PPG team members conducted further interviews with natural resources users. In addition, Fishery Co-management groups were consulted in three fishing villages in Dawei District. In total, an estimated 600 villagers and their community/group leaders were consulted during the PPG, with approximately 50:50% participation by women and men. Traditional coastal communities and their representative forestry and fishery groups will be involved in the project mainly through participation in integrated natural resource planning and co-management of coastal and marine resources, but also in other project activities, especially livelihood enhancement activities. Their main interest in the success of the project is that their income/livelihoods will be made more stable and sustainable through enhanced tenure and sustainable management of the resources upon which they depend. This will include assistance to diversify their livelihood activities beyond only capture fisheries (see additional livelihood interests of village women and men in Appendix XI). These communities will influence the outputs of the project through their level of commitment and change in behaviour at the community level (i.e. through participation in planning and management and compliance with strategies and plans developed regulations). In addition, they will also be represented on the project steering committee. Women will benefit from the project through targeted planning, capacity development and livelihood activities most suitable for women. Youth will be involved at community level as local facilitators and they will be trained and supported by the project.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
local CSOs/NGOs working in Tanintharyi	Various local NGO/CSOs, have and will continue to play an important role in the project. Within each village, and in coordination with other stakeholders, the project will work with the VDCs and village groups. Relevant and experienced NGO/ CSOs will assist in the implementation of project activities, such as facilitating the formation of village natural resource management groups and the preparation of Climate change vulnerability and ICZM plans; and introducing alternative livelihood opportunities. Community mobilization and capacity development activities under the project will be undertaken by local NGO/CSO or, as required, the project will work to strengthen the NGO/CSO themselves through, for example, CSO management and skills training (e.g. on the ecosystem approach to fisheries and aquaculture, training on the use of environmental monitoring systems, and gender mainstreaming). The NGO/CSOs will also facilitate fisher-to-fisher and farmer-to-farmer sharing of information within and across the communities. The role of women will be supported and specific women?s groups will be formed as appropriate. During project implementation these methodologies will be further strengthened and a gender strategy will be developed. The knowledge these organisations have of working with local communities in Myeik District will be invaluable to the project, including as potential implementing partners. The following Tanintharyi-based CSOsNGOs were consulted during the PPG to explain the MyCoast project to them and to confirm their willingness to work with the project and assist the traditional village communities in the project?s proposed demonstration site. Conservation Alliance of Tanintharyi (CAT): this alliance has seven member CSO organizations: Tenasserim River and Indigenous People Network; Community Sustainable Livelihood and Development; Tarkapaw Youth Group; Candle Light; Southern Youth; Karen Environmental and Social Action Network; and Tanintharyi Friends. CAT is headquartered in Dawei and its member organisations are based in Dawei or Myeik. Green Network: this is a CSO dedicated to Environmental Conservation, Human Rights Promotion and Public Education in Myeik District. It has extensive experience of supporting the development of FUGs in Kyunsu Township, which will be of great value to MyCoast. Green Network 88: is a CSO helping to create employment opportunities for local communities in Myeik; it is involved in natural resources management, including revising laws relating to fisheries and forestry. Farmers Union: this CSO advocates for farmers? rights and represents farmers affected by ?land-grab?, which is a growing problem in Tanintharyi. It also educates farmers about the land laws. ALARM: is an NGO working in Myeik District on gender equality through womens? empowerment and natural resources governance (see details paragraph 285). Myeik University Students Union: this student group was formed recently and is just beginning activities, but the group?s interests include waste management and applied research.

Stakeholder	*Profile, Responsibilities and Expected Involvement with the Project*
Local business associations	**Myanmar Fisheries Federation (MFF):** MFF is a national level, non-profit organization with a membership of over 700 companies and 27,000 individuals. Founded in 1989, MFF represents the interests of member enterprises and associations within the fishery industry. MFF aims to promote the socio-economic life of member entrepreneurs and fishery communities, share information on economic policies and fishery technologies and advocate on behalf of the fishing industry, among other objectives. MFF has sub-federations at all state/region, district and township levels. The PPG team held discussions with MFF staff representing the federation at regional level in Tanintharyi and at district level in Dawei and Myeik. There are nine associations under MFF that deal with particular industries, namely, shrimp, fish, exporters, aquaculture feed, marine fisheries, freshwater capture fisheries, crabs, eels and ornamental fish. MFF also includes technical sub-associations for: (1) freshwater aquaculture; (2) offshore capture fisheries; (3) inland fisheries; (4) fish and fishery product export; (5) fish feed; (6) shrimp culture; (7) eel culture and export; and (8) crab culture and export. MFF is expected to play a pivotal role in facilitating consultation between the project and the various commercial fishery sub-sectors, especially by way of encouraging the involvement of MFF members in project activities. MFF can also play a vital role in helping the project and DoF to convince its members of the need to comply with fisheries regulations, especially those designed to protect coastal habitats and vital life-cycle stages of targeted fish and shellfish species. **Myeik Tourism Association** This is a local business association representing the interests of private tour operators in Myeik District. From a single tourist agency offering local tours in 2013, the number of registered agencies increased to 20 in 2017 and to 32 in 2018. This number is expected to double in the near future in response to the government?s promotion of tourism and the hoped-for lifting of restrictions currently preventing foreign tourists from staying overnight on islands in the Myeik Archipelago. The PPG team met with the chairman and some members of this association. As with the MFF, the Myeik Tourism Association can play a key facilitation role in the project on behalf of its members, especially since the association?s main objective is sustainable tourism and its main focus for tourism development is the Myeik Archipelago. Its member tour operators are already aware of the environmental impact risks from tourism and the need for strategic development planning. The project can assist the association to adopt codes of good practice by its members and help the local tourism sector to integrate better with other sectors, especially fisheries, and with local coastal communities.

6. It is acknowledged that the greater participation of men compared to women among government and private sector stakeholders during the PPG phase is likely to continue unless the project is

proactive in empowering women and encouraging their participation in project activities. For this reason, a detailed gender equality strategy will be prepared early in the project implementation phase by an International Gender and Rural Socio-economic Development consultant (12 person weeks are budgeted for), supported by equivalent National consultant (also for 12 person weeks). Appendix XIV of the ProDoc provides a preliminary Gender Plan with suggested actions to achieve gender equality.

Activities under Output 2.2.4: **?**Improved tenure, livelihoods, food security and climate change adaptation benefits to traditional coastal resource users demonstrated at site level? include identification of and support to additional livelihood activities most suitable for women, plus dedicated support for livelihood development activities by village womens? groups (e.g. savings groups).

3. Is the financing adequate and does the project demonstrate a cost-effective approach to meet the project objective?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) No, The following issues need to be addressed:

1. The co-financing is not indicated in the budget. The over $9M co-financing contributions need to be reflected in the budget.

2. The budget is fine except there is not a position for knowledge sharing, which is not the same as communications. KS requires distilling, synthesizing, analyzing and then sharing lessons learned from the project experience with ICZM; whereas communications is focused on reporting activities (e.g. meetings, events). The communications position could disseminate the knowledge findings, but would require different skills for eliciting the lessons learned.

3. The budget totals to $3,052,347; whereas the proposed total for the grant is $3,046,347.

Response to Secretariat comments

1. The co-financing figures now show a higher level of grant funding.

2. This point is well made. In project year 1, the priority will be to a) communicate a clear understanding of the project to stakeholders (especially regarding ICZM); and b) to develop an effective communication system between the project and its stakeholders and partners. An international Information Management System (IMS) consultant (4 person weeks) will advise on the setting up and operation of the project?s IMS in years 1 and 2.

Once communications are well-developed, and project results are emerging, there will be a growing need for knowledge management (as noted by the comment), including eliciting lessons learned. A national Communications Specialist (104 person weeks) is specified in the budget to assist the project staff with reporting activities; and there is another national consultant position to support Information Management and IT (also 104 person weeks). Recognizing that national consultants or project staff with the skill sets required for Communications, Information Management and Knowledge-Sharing in the environmental field may be in very short supply in Myanmar, it is preferred to give the project team the flexibility to use these person weeks to build the best available team for these tasks.

It is also our experience from other projects, that the CTA and international consultants are well-placed to draw out lessons learned from project results, and through stakeholder consultation and feedback. Project Knowledge-sharing workshops (16 are budgeted for) have been included as a dedicated mechanism for knowledge dissemination.

3. USD 6,000 has been cut from the project budget to match the PIF figure of USD 3.046,347. This has been taken from ?Miscellaneous and contingencies? budget line.

4. Does the project take into account potential major risks, including the consequences of climate change, and describes sufficient risk response measures? (e.g., measures to enhance climate resilience)

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) Yes, Climate change concerns are addressed throughout the project plans.

Response to Secretariat comments

None

5. Is co-financing confirmed and evidence provided?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) No, Of the $9.3M co-financing, only $100K is grant. The remaining amount is $9.2M is in-kind. There needs to be a higher commitment to this project by contributing real funding beyond this small amount of in-kind support.

Also, as noted in question 3, the co-financing needs to be indicated in the budget.

Response to Secretariat comments

As noted above, the project grant co-financing is now higher. The co-financing is also now also shown in the budget.

Norway has recently signed a new five-year fisheries development program (MYANOR-FISH). Discussion between FAO and Norwegian fisheries experts from IMR has identified several areas for cooperation with MyCoast and they have expressed a clear wish to coordinate activities, share information and provide project grant co-financing. These opportunities will be revisited when both initiatives have begun implementation.

6. Are relevant tracking tools completed?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) No, these are not included. They are available here for BD and here for CCM. Please include in revision.

Response to Secretariat comments

Tracking tools are not required

7. Only for Non-Grant Instrument: Has a reflow calendar been presented?

Secretariat Comment at CEO Endorsement

Not Relevant

Response to Secretariat comments

None

8. Is the project coordinated with other related initiatives and national/regional plans in the country or in the region?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) Yes, The project is aligned with national commitments related to CCM, CCA, Fisheries, BD, Forestry and SDGs. Further, the section on institutional coordination indicates that the project will work with the BOBLME project and this commitment is reiterated in the knowledge management section. However, it would have been useful to note in the opening section the linkages with the BOBLME Strategic Action Programme, which are actually noted in para 276.

Response to Secretariat comments

Reference to the BoBLME SAP has been added in the section National Context (paragraph 13).

9. Does the project include a budgeted M&E Plan that monitors and measures results with indicators and targets?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) Yes. These are clearly articulated in Table B and Appendix I: Results Matrix. The related STAP concerns have been addressed.

Response to Secretariat comments

None

10. Does the project have descriptions of a knowledge management plan?

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) No, The project plans to develop a comprehensive knowledge management and communication strategy, which will be an important aspect of the project. It is also useful to see that consideration has been given to HOW to share lessons ? e.g. workshops, social media, posters, website, newsletter etc. as noted in para 246 and 247. The description also notes these lessons will be shared with stakeholders within the project and well as with other projects, which is important as well. One point ? it is important in addition to the one way communication informing stakeholders of experiences, to also have two-way interactions which are far more conductive to learning and adopting new approaches. Two-way interactions can include interactive webinars, focus groups and workshops.

That said, the description of the KMC does not state WHAT knowledge will actually be shared. This is extremely important. Para 244 lists a series of actions; yet only sub-bullet 244d notes the knowledge refers to ?best practices in coastal ecosystems management.? Presumably the knowledge will be lessons learned in how to plan and implement ICZM (the focus of the project). Ascertaining these lessons will require distilling, synthesizing and sharing the lessons from the project process of ICZM. To be clear research involving data collection and analysis of fish stocks, water quality, use patterns, demographics

etc are not part of knowledge management. Para 247 implies research findings will be the focus of knowledge management, which needs correcting. Also it should not be communicating that meetings occurred and reports were prepared ? the knowledge needs to be focused on learnings from the project experience of developing and implementing ICZM plans - what were the key barriers, how were these overcome, who were key players, what role did they play, what opportunities instilled change, what processes would you recommend (or not recommend) for other projects. In summary ? in the revision of the Pro Doc the substance of what knowledge will be shared needs to be detailed.

The KS plans, including the analysis of lessons learned, need to be reflected in the project activities. Component 1 activity 1.1.5.4 references an annual workshop to share experiences which is great, but there is no mention of an analysis of lessons learned. Activity 1.1.6.7 notes ?lessons learned developed?, which implies an analysis of project experience but this is not explicit. It needs to be clear that there will be analysis and communication of the project ICZM experiences. Similarly, Component 2 does not indicate that there will be any analysis or sharing of the project ICZM experience. This analysis and communication needs to be reflected in the C2 activities.

Finally, while this project is funded through BD and CC, the substance is highly relevant to International Waters, which has the IWLEARN knowledge platform. This project is strongly encouraged to share experiences through IWLEARN, which includes participating in conferences (IW Learn biannual, LME annual), trainings, workshops, webinars, listserve discussions, results and experience notes, twinning and cross-project synthesis products.

Response to Secretariat comments

These are all helpful comments and they have reflected in the revised ProDoc text. IWLEARN was mentioned (paragraph 252), but the value to the project of information-sharing via IWLEARN has now been elaborated.

243. Knowledge management and effective communication are most critical to the success of MyCoast because the project will have an important capacity-building and coordinating role. For this reason, the project will develop a comprehensive knowledge management and communication (KMC) strategy capable of delivering existing and new knowledge to support capacity development for ICZM, as well as for communicating between multiple levels and diverse stakeholders with Myanmar society from the Union, Region and District levels to the Townships, rural communities and commercial sectors in the coastal zone of Tanintharyi. The KMC strategy will extract, synthesise and package knowledge for dissemination. It will apply a lessons learned approach based on the ICZM five-stage process cycle taught in the ICZM training programs at national to region and district to community levels (Outputs 1.1.1 and 2.2.1, respectively). The-five stage ICZM cycle is part of Module 3 of the ICZM curriculum. Entitled ?Management Approaches and Tools for ICZM? (see Appendix XV), Module 3 teaches how to plan, resource (including financing), implement, evaluate and learn from ICZM projects and programs.

244. The goal of the project KMC strategy will be to: *Generate, disseminate and apply knowledge to support sustainable management of coastal ecosystems and their living resources*. This goal will be achieved through a number of actions:

a) Strengthening the knowledge and information base available to the Union and Region/State authorities to plan and apply ICZM in Myanmar;
b) Providing knowledge and information to meet the specific capacity development and awareness-raising needs of policy-makers, resource managers, commercial sectors, coastal communities and civil society;
c) Integrating traditional knowledge and practices with relevant scientific evidence-based information;
d) Promoting effective use of knowledge, especially best practices in coastal ecosystems management;

e) Communicating effectively, both within the project?s management structure, including to its key implementing partners; and externally to other stakeholders and partners within Myanmar and the Bay of Bengal region. Two-way communication and knowledge-sharing between the project and its stakeholders and partners will be strongly encouraged.

245. The KMC strategy will gather knowledge on ICZM planning and implementation by analysing results and lessons learned from other coastal projects in Myanmar and the South and Southeast Asia regions, as well as from the MyCoast project process. This knowledge will be invaluable in supporting the project?s capacity development activities. The KMC strategy will both enhance and be supported by an ICZM information management system, which is one of the outputs under Component 1.

The following project activities have also been reworded to emphasize the importance of two-way interaction and analyse lessons learned:

1.1.5.4 An annual workshop to interact with key stakeholders and other projects/programs and development partners, and share results, experiences and analyse lessons learned from ICZM implementation and other project experiences.

1.1.6.7 Project achievements and lessons learned (from Activity 1.1.5.4) packaged and communicated in appropriate formats to meet the learning needs of different target audiences

Agency Responses

11. Has the Agency adequately responded to comments at the PIF stage from:
GEFSEC

Secretariat Comment at CEO Endorsement
(lkarrer July 2019) Yes, the Pro Doc addresses the identified at the PIF review as needing to be addressed during PPG. Appendix X articulates how these are addressed. In addition:
1. Regarding how innovativeness, sustainability and upscaling will be achieved, the Pro Doc highlights the unique aspect of ICZM particularly for Myanmar and its community in section 3.4. Regarding scaling, the local to regional to national aspects of the project ensures lessons will be shared for scaling up to other areas throughout Mynamar. In addition, ties to regional projects, including BOBLME SAP implementation project, will help scale the project to other countries. The sustainability of the project is ensured through the heavy emphasis on capacity building and institutional coordination.

2. The concerns regarding engagement with communities were addressed as noted in Question 2.

3. Regarding the number of households that will benefit, this number has been reduced to 3,000 which is in keeping with the affected population.

Response to Secretariat comments

None

STAP

Secretariat Comment at CEO Endorsement

(lkarrer July 2019) Yes, These comments are adequately addressed in the response (Appendix X) except:
While ICZM is the central principle of the project, there still tends to be a focus on forestry and MPA focus with very little discussion of fisheries (both small scale and commercial). In particular para 130 provides a list of elements for ICZM which are heavily focused on protected areas, biodiversity and forestry with no mention of fisheries. The response indicates that commercial is beyond the scope of the project; however, at least small-scale fisheries needs to be considered for ICZM to be effective.

Response to Secretariat comments

This comment is well-taken, and para. 130 has been edited as shown below:

d) Identify sites of highest biodiversity conservation importance, including critical coral, seagrass, and mangrove forest areas; describe the priority conservation and management needs and actions for each; evaluate the socio-economic importance of these ecosystems to traditional resource users ? especially inshore fishers and gleaners; and estimate the full socio-economic value of their ecosystem services to society.

e) In relation to the socio-economic dependency of inshore fishers and gleaners on coastal ecosystems, evaluate and prioritize potential expansions of marine protected areas (MPAs) and other spatial management tools, such as Locally Managed Marine Areas (LMMA), and initiatives to increase the connectivity between different protected areas;

We would also like to point out that the strong focus on mangroves is for several reasons: (a) there is still time to ?save? the mangroves in Tanintharyi, without which the highly sensitive coral reef and seagrass ecosystems would become much more vulnerable to smothering and mortality from sediments that the mangrove forests otherwise trap and consolidate; (b) all the coastal villages in the proposed ICZM demonstration site in the Auckland Bay area of Myeik depend on mangrove-associated fish, shrimp and crabs; and all the households use mangrove wood for fuel; and this is also the case throughout coastal Myanmar: (c) ICZM can only be achieved in the country by assisting the government to change away from its strongly sector-based management system to a more integrated one; (d) mangrove conservation and rehabilitation are vital as a means of protecting the far more vulnerable coral reef and sea grass ecosystems, which are at great risk from land-based sedimental, pollution and climate change. Moreover, since mangroves come under a different ministry and department (MoNREC and Forest Department) to fisheries, which are under MoALI and Department of Fisheries, the focus in the project on managing mangroves to conserve both their fishery and forestry resources should provide a strong incentive for these ministries and departments to cooperate much more than they have traditionally.

GEF Council

Secretariat Comment at CEO Endorsement
(lkarrer July 2019) There were no Council comments.

Response to Secretariat comments

None

Convention Secretariat

Secretariat Comment at CEO Endorsement
(lkarrer July 2019) There were no Convention comments.

Response to Secretariat comments

None

Recommendation

12. Is CEO endorsement recommended?
Secretariat Comment at CEO Endorsement
(lkarrer July 2019) NO, The above points need to be addressed.

Response to Secretariat comments

The points have been responded to as detailed above

ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS.

A. Provide detailed funding amount of the PPG activities financing status in the table below:

Activity	GEF Grant	Spent	Committed
Activity 1. Stakeholder consultation	20,000	18,000	2,000
Activity 2: Elaborate Component 1	30,000	28,500	1,500
Activity 3: Elaborate Component 2	30,000	25,800	4,200
Activity 4. Analysis and definition of execution arrangements and stakeholder engagement plan	10000	10000	0
Activity 5. Preparation of full project document	60,000	50,702	9,298
Total	150,000	133,002	16,998

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

ANNEX E: GEF 7 Core Indicator Worksheet

Use this Worksheet to compute those indicator values as required in Part I, Table G to the extent applicable to your proposed project. Progress in programming against these targets for the program will be aggregated and reported at any time during the

replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF and SCCF.

ANNEX F: Project Taxonomy Worksheet

Use this Worksheet to list down the taxonomic information required under Part1 by ticking the most relevant keywords/topics//themes that best describes the project

ANNEX G: Project Budget Table

Please attach a project budget table.

Please see Excel sheets uploaded.