

Baseline Assessment Report

Ridge to Reef: Integrated Protected Area Land and Seascape Management in Tanintharyi

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August, 2016

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Acronyms

MONREC	Ministry of natural resources and Environmental Conservation
FD	Forest Department
DoF	Department of Fisheries
FFI	Fauna & Flora International
SI	Smithsonian Institution
WCS	Wildlife Conservation Society
UNDP	United Nations Development Programme
UNDP CO	United Nations development Programme Country Office
GEF	Global Environment Facility
IC	International Consultant
NC	National Consultant
USD	United States Dollar
MMK	Myanmar Kyats
PIF	Project Identification Form
PPG	Project Preparation Grant
IUCN	International Union for Conservation of Nature
NTFP	Non Timber Forest Product
FDI	Foreign Direct Investment
MoAI	Ministry of Agriculture and Irrigation
PA	Protected Area
PPA	Proposed Protected Area
CBD	Convention of Biological Diversity
KBA	Key Biodiversity Area
NSDS	National Sustainable Development Strategy
NBSAP	National Biodiversity Strategic Action Plan
TFC	Tanintharyi Forest Corridor
MPA	Marine Protected Area

1. Introduction

United Nations Development Programme (UNDP) Myanmar has been implementing UNDP Country Programme for 2013-2017 with the aim to promoting local governance, growth and sustainable development with the emphasis on rights-based, gender sensitive, inclusive and equality. This goal will be pursued through three complementary component; Local Governance, Environmental Governance and Disaster Resilience, and Democratic Governance.

The most southern of Myanmar's coastal territories, Tanintharyi Region is an area of remote beauty. IUCN has identified the southern coast of Myanmar as a major biodiversity conservation area of concern. The Wildlife Conservation Society (WCS) has declared the Myeik and southern Tanintharyi division a Key Biodiversity Area. The Tanintharyi Region is located relatively far from the nation's capital of Nay Pyi Taw and has been historically isolated. Tanintharyi Region is less than 500 kilometers from Bangkok and recent political changes are rapidly bringing development to the region.

UNDP has been closely working with the Ministry of Natural Resources and Environmental Conservation (MONREC) to improve environmental governance in Myanmar. UNDP developed a Project Identification Form (PIF) on "**Ridge to Reef: Integrated Protected Area Land and Seascape Management in Tanintharyi**" with guidance from MONREC and consultations with relevant line departments, Tanintharyi regional government and partner NGOs. The Project Identification Form (PIF) was submitted to the Global Environmental Facility (GEF) and it was approved by GEF Secretariat. A Project Preparation Grant (PPG) has been obtained to carry out necessary preparation of a fully-fledged project proposal. In consultation with the Forest Department and Department of Fisheries, Myeik District was chosen as the project site.

2. Scope of the Report

This is the baseline assessment report of the National Protected Area Policy, Planning and Management Consultant and it covers in-depth assessment of the policy framework and systemic and institutional review related to land/seascape planning and the cross-sectoral planning for terrestrial and coastal management which support development of the UNDP-GEF Full Project.

3. Baseline assessment report

3.1 An analysis of threats to biodiversity in the priority landscapes;

3.1.1 Threats to Biodiversity

According to the International Union for Conservation of Nature (IUCN), 356 species of wild flora and fauna in Myanmar are considered to be globally threatened. Threats to the Myanmar biodiversity were identified in various documents.

In January 2012, the Wildlife Conservation Society with the support of the John D. and Catherine T. MacArthur Foundation, assembled over 80 of the country's environmental experts from civil society and government to discuss the current status of the country's biodiversity, the threats it faces, and the priorities for future investment to ensure that it is sustained.

Threats were initially assessed using semi-structured interviews. The list was based on the threats originally discussed in Tordof *et al.* 2005 and supplemented with other threats highlighted by stakeholders. Threats were scored on a 5-point scale in relation to KBAs (Key Biodiversity Areas) and conservation priority species. Threats were then ranked by frequency and intensity and used during the stakeholder workshop to discuss interventions needed to reduce the most frequent and intense threats.

Primary threats identified included the commercial and subsistence exploitation and trade of natural resources including wildlife, timber, fish and non-timber forest products. In particular human settlements, agriculture and plantations are considered the greatest threats. The potential threat of expanding infrastructure development is expected to become much greater in the near future. More specific threats such as gold and other mineral extraction are more localized and therefore were not reported as frequently. Stakeholders considered the lowest threats to be invasive species and wildlife diseases.

3.1.2 Threat Frequency and Intensity

Threats	Frequency	Score
Human encroachment	134	3.6
Over-exploitation of animals (Com)	133	4
Agricultural expansion	121	3.8
Logging	113	3.7
Over-fishing (Com)	109	4.1
Conversion of forest to plantations	100	3.9
Over-exploitation of NTFP (Com)	95	3.8
Over-exploitation of animals (Sub)	89	3.2
Wildlife trade	81	4
Over-exploitation of NTFP (Sub)	75	3.1
Shifting cultivation	74	3.6
Infrastructure development	67	3.5
Over-fishing (Sub)	59	3.3
Charcoal making (Com)	55	3.7
Conversion of wetland habitats	55	3.9
Pollution	49	3.4
Gold mining	43	4.1
Over-grazing	43	2.4
Forest fire	43	2.5
Charcoal making (Sub)	42	3
Conversion of coastal habitats	27	3.2
Mineral extraction	23	3.5
Invasive species	19	3.6

Wildlife Disease	17	1.8
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Notes: (Com) Commercial, (Sub) Subsistence

Root Causes were assessed using the same system for threats listed above. Stakeholders identified and scored root causes for priority sites and for priority species. Intensity of root causes was based on a five-point scale with five being the most intense.

Poverty and the general lack of awareness of environmental issues are seen as the most frequent root causes of biodiversity loss. Although there are a broad range of weak policies combined with the lack of understanding and enforcement of these policies that are considered to also be at the root of biodiversity loss.

Climate change further threatens the future biodiversity of the country. Furthermore, recent interest in tourism development may accelerate threats to this area.

3.1.3 Root Causes Frequency and Intensity

Root Causes	Frequency	Score
Low conservation awareness	161	4.2
Poverty	157	3.9
Weak systematic biological monitoring systems	151	4
Low grassroots support for conservation	145	4.2
Weak law enforcement	143	4.1
Weak systematic threat monitoring systems	138	4.1
Weak environmental safeguards	135	4.3
Lack of comprehensive land-use policies and planning	134	4.3
Low awareness of laws	119	4
Economic growth and increasing consumption	116	4.2
Weak laws	109	2.8
Capacity constraints	72	4.1
Undervaluation	61	3.7
Global climate change	46	2.8
Lack of management plan	20	4.8

Lenya was announced as proposed national park in 2002 and Lenya extension in 2004 for the protection of Gurney's pitta, Asian Elephant, Tigers, Tapirs, Barking Deer, Sambar Deer, Mouse Deer, Wild Cats, Wild Boars, Pangolins, Hoolock Gibbons and Civet cats.

Threats: According to FD staff, the conservation status of most protected areas is good, i.e. within acceptable range of variation but requires some intervention. Significant concern has been expressed for areas like Kahilu and Lenya where large areas have been encroached or are not accessible to FD staff for security reasons.

The LPNP borders align with those of the Reserve Forest (RF) under which the land is currently classified, however its status as an RF has to date not afforded it the protection from encroachment and other destructive activities to protect the HCVs it includes.

In the forestry sector itself, promising new reforms are underway, but so far have focused only on FD-managed timber estates. The remaining natural forests in the country's resource-rich, ethnic minority areas remain outside of any effective forest management and are vulnerable to extensive logging and forest conversion (Woods 2013). The dramatic increase in agri-business concessions under the authority of multiple ministries and actors presents significant institutional and policy challenges for the FD.

3.1.4 Expansion of Commercial Agriculture

According to a 2015 Forest Trends report (Woods 2015), forest clearing for the expansion of commercial agriculture is now the leading cause of degradation. While this process has been occurring for many decades, the current rate of forest conversion for agriculture is unprecedented. Concessions were issued for 16 km² of oil palm and rubber plantations within the PFE in 2013-2014. However, this excludes all other types of agriculture concessions, as well as concessions for energy infrastructure, mining, and other uses and concessions granted by military, regional government, and non-state actors. The laws, regulations, and procedures by which these concessions are allocated, especially those involving degazetting of forest reserves or those located within forest reserves, are spread across numerous uncoordinated jurisdictions and the use of legal loopholes, specific permits, and exemptions is common.

3.1.5 Government Policies

It has been variously stated that past Government policy aimed at rapid expansion of the evolving oil palm industry in the Tanintharyi Region commencing in the year 1999. The stated purpose for expansion was the need for Myanmar to become self-sufficient in palm oil supply, to substitute imports, to improve rural industrial and social infrastructure and to create inflow of Foreign Direct Investment (FDI) into the industry. At present the country imports some 400,000 tons/annum of palm oil and the Government's target was initially to plant 500,000 acres (202,343 ha), later increased to 700,000 acres ($\pm 283,280$ ha), of oil palms by 2030 in order to offset increasing home demand with local production. Domestic production of edible oil from peanuts is some 500,000 tons/year, whilst the country's edible oil consumption is around 900,000 tons.*

Land areas have been granted by the government to large Myanmar corporations (and some foreign investors) for the purpose without much regard to land occupation by local populations, land suitability, conservation of forest reserves, water sources or endangered species. Logging operations and expansion into former ethnic Karen controlled areas may be part of the intention and the problem. There appears to have been no attempt at land use planning. The land was to be developed at a rate determined by the government rather than in accordance with logistics and careful planning. If the government determined rate of expansion on the granted land was not met by a developer, that land could be forfeited.

Government policy has thus imposed upon the industry, not only social, environmental and practical complications, but also the basis for an unsustainable and enduring poor performance of the industry.

Oil palm extension was implemented by the Ministry of Agriculture and Irrigation (MoAI) as a government project at various locations from 1970s to 1980s. Privatisation of the expanding industry commenced in 1993 when government estates were leased to private companies. In 1999 the then government initiated a military sponsored industrial oil palm development as part of its national self-sufficiency plan. By 2000, some 50,000 acres ($\pm 20,200$ ha) of oil palm plantations had been established. The plantations are principally found within a narrow belt of coastal lowlands in Myeik and Kawthoung Districts, and to a lesser extent in the drier Dawei District.

3.1.6 Existing situation

Data from DICD for 2014 provided indicates that a total of almost 1,000,000 acres (almost 405,000 ha) have been allocated by the Government of Myanmar to 44 Oil Palm Plantation companies to develop plantations in the Kawthoung, Myeik and Dawei Districts of the Tanintharyi region. Of that land area, almost 350,000 acres ($\pm 142,000$ ha) have been planted, some 283,000 acres ($\pm 115,000$ ha) in Kawthoung, 46,000 acres ($\pm 19,000$ ha) in Myeik, and 17,000 acres ($\pm 7,000$ ha) in Dawei District. Of the 44 companies concerned, apparently 43 are Myanmar owned (three foreign companies have Joint Venture Agreements (JVA) with local companies), and one is the result of FDI.

Deforestation from the rubber and oil palm sector (assumed to be areas > 50 acres to exclude smallholdings) is a major contributor to forest loss in Myeik (43%) and the dominant contributor in Kawthoung District (76%). Annual deforestation rates are very high in Tanintharyi and the highest deforestation rates are in areas with many oil palm concessions. The concessions may also be displacing communities inland to forested areas.

3.1.7 Main threats to biodiversity in the priority landscapes are;

Tha Gyet RF - Some village encroachment along western border. Planned coal extraction in the west of the site (near Thein Daw village)

Thein Khun RF - PPT Oil Palm Plantation (up to Lenya Extension Forest Management Unit); Takapawlu village; Expansion of Mawtaung and villages on the Mawtaung road; Tin mines in west of the site;

Lenya Extension PPA - Expansion of villages on Thailand border (Chaung Chi, further north); forest fire (particularly in the North West), Lamphane village expansion, encroachment from Khe Chaung/KNU village, Takapawlu village (on NE border of the FMU)

Lenya PPA – Due to its weak protection status and a lack of assigned staff or protection activities, there are serious threats, primarily from land conversion for oil palm and smaller-scale plantations, especially rubber and betel nut, and from hunting and wildlife trade. Expansion of the Yatanapon village, forest conversion along the Yatanapon village access road; expansion of settlements on the Lenya river; Encroachment from bordering Oil Palm plantations (South Dagon, Shwe Myay Yadana, Sweet Home); military inspection road in the South East; some limited settlement in the South East.

Nationally, the 20 PAs under NWCD management have an average annual budget of about US \$ 55,000; seven of these receive less than US\$ 30,000 per year. By comparison, some large PAs in Thailand have annual budgets close to US\$ 1 million. This requires ensuring that PA budgets are linked to conservation priorities through systematic management planning and NWCD oversight. In addition to funding gaps, there is a critical need for increased staffing, equipment, and capacity development to support implementation of international best practices for PA management.

In Myanmar there has been no discrete policy or legislation pertaining to integrated land or sea use management. In the coastal zone, this is covered on a sectoral basis under the Ministry of Livestock, Fisheries and Rural Development, Ministry of Natural resources and Environmental Conservation (MONREC) and Ministry of Agriculture and Irrigation. Agricultural management in coastal zones is carried out through agriculture supervision committee, while fisheries management through Department of Fisheries (DoF). Key challenges in this context involve no appropriate integrated planning; no collaboration within lines of horizontal or vertical level agencies (particularly forest agri and fisheries, central and regional); and no integrated land use planning.

3.2 Policy, social, regulatory, socio-economic, institutional, technical and knowledge barriers to implemented integrated land/seascape management;

3.2.1. Policy and Legal Framework

The Constitution of the Republic of the Union of Myanmar (2008) sets a clear policy direction on environmental conservation. Article 45 of the Constitution states that “The Union shall protect and conserve natural environment” and Article 390 (b) states that “Every citizen has the duty to assist the Union in carrying out the following matters:

- (a) Preservation and safeguarding of cultural heritage;
- (b) Environmental conservation;
- (c) Striving for development of human resources;
- (d) Protection and preservation of public property.

Myanmar has a number of policies and regulations to safeguard the environment, summarized below;

3.2.1.1 National Environment Policy (1994) aims to integrate environmental considerations into the development process to enhance the quality of life of all citizens and states that environmental protection should always be the primary objective of development.

3.2.1.2 Forest Policy (1995) ensures that Myanmar’s forest resources and biodiversity are managed sustainably to provide a wide range of social, economic and environmental benefits, and aims to maintain 30 percent of the country’s total land area under Reserved Forests and Public Protected Forest and 5 percent of total land area as Protected Areas. The

30-year National Forestry Sector Master Plan (2001/02 to 2030/31), prepared in the year 2000, has a goal of expanding PAs to 10 percent of the country's total land area.

3.2.1.3 Myanmar Agenda 21 (1997) is a blueprint for all natural resource management and environmental conservation work and the pursuit of the activities contribute to biodiversity conservation throughout the country.

Myanmar Agenda 21 presents a policy framework for Myanmar's sustainable development, formulated in response to the Rio Declaration on Environment and Development adopted by 178 governments at the 1992 Earth Summit. The Rio Declaration called for the development of national strategies to implement the Global Agenda 21. It encouraged governments to find a balance between economic development and environmental protection consistent with the principle of conserving non-renewable resources for future generations. At the most basic level, Myanmar Agenda 21 is evidence of Myanmar's objective to be seen to participate responsibly in the system of global governance. At the highest level, it is a key document in Myanmar's multi-dimensional nation-building strategy.

Myanmar Agenda 21 sets out four objectives. It aims to provide

- a forum and context for the debate on sustainable development and the articulation of a collective vision for the future
- a framework for negotiation, mediation, and consensus-building in the country to achieve development with due regard to the environment, to focus the entire country on a common set of priority issues
- a strategy and implementation plans for the changing and strengthening of values, knowledge, technologies and institutions with respect to environmental protection and development
- the impetus and the framework for the development of organisational capacities and institutions required for sustainable development.

The document acknowledges that implementation of these objectives will require mobilising the resources of local communities and non-government organisations, and revitalising community-based management of natural resources with the overall aim of having credible inputs into the decision-making and policy formulation processes of government.

Myanmar Agenda 21 highlighted that the existing Protected Area System (PAS) was not representative and comprehensive PAS (NCEA 1997; Myint Aung 2007). Myanmar is also obliged, as a signatory, to meet the objectives of the Convention of Biological Diversity (CBD) to expand their PAS. The identification of Key Biodiversity Areas (KBA) is considered to be a suitable approach to identify appropriate areas for further study and evaluation for PA status.

3.2.1.4 National Sustainable Development Strategy (2009) supports the goals of sustainable management of natural resources, integrated economic development and sustainable social development.

The legislation mainly concerned with the natural resources and biodiversity are presented below;

- Law relating to Aquaculture (1989)
- Pesticide Law (1990)
- Freshwater Fisheries Law (1991)
- Forest Law (1992)
- Law relating to Fishing Rights of Foreign Fishing Vessels (1989, amended in 1993)
- Myanmar Marine Fisheries Law (1990, amended in 1993)
- Myanmar Mines Law (1994)
- Protection of Wildlife and Protected Areas Law (1994)
- Fertilizer Law (2002)
- Plant Pest Quarantine Law (1993, amended in 2011)
- Seed Law (2011)
- Conservation of Water Resources and River Law (2006)
- Environmental Conservation Law (2012)
- Animals Health and Development Law (2012)

Myanmar's National Sustainable Development Strategy NSDS vision is "Wellbeing and Happiness for Myanmar People". It supports the goals of sustainable management of natural resources, integrated economic development and sustainable social development.

Three goals identified are as follows:

Goal 1: Sustainable Management of Natural Resources

Goal 2: Integrated Economic Development; and

Goal 3: Sustainable Social Development.

Sustainable management of natural resources in Myanmar, from environmental perspective, comprises 11 areas, namely:

- (i) Sustainable forest resources management;
- (ii) Biodiversity conservation;
- (iii) Sustainable freshwater resources management;
- (iv) Environmental quality management and enhancement;
- (v) Sustainable management of land resources;
- (vi) Sustainable management of coastal, marine and island ecosystems;
- (vii) Sustainable management of ecotourism;
- (viii) Sustainable management for mineral resources utilization;
- (ix) Sustainable management of agriculture, livestock and fisheries;
- (x) Sustainable energy production and consumption; and
- (xi) Sustainable industrial, transport and communication development

Lead institution and collaborating institutions are identified for each area which has objective(s) with activities to be implemented to achieve the set objective(s) within the short-, medium- , and long-terms.

To enhance conservation of Biodiversity, NSDS identified activities to be completed within 5 years and 10 years including on-going ones. Activity No. 1 in the Activities in 5-year time frame states that “Increase to 10 percent of the total area of the country as 2010 objective by addressing gaps in coverage of globally threatened species and Key Biodiversity Areas (KBAs) and as per IUCN categorization under the PAS ensuring that all notified protected areas are well managed and looked after (In-situ Conservation).”

In the same 5-year time frame activity no. 18 states; “Prioritize to conserve pristine, intact mangrove forests on Lampi Marine National Park and those intact mangrove forests on islands of Myeik Archipelago.

To promote regional coordination to protect the ASEAN Heritage Parks and Reserves and to participate actively in the ASEAN Working Group on Nature Conservation and Biodiversity, ASEAN Regional Action Plan on Trade in Wild Fauna and Flora and also to collaborate with India, China, Thailand and Bangladesh, the CITES signatories, to check illegal trade of forest and wildlife products along trans-boundary have been included in the activities to be completed within 10 years activities.

3.2.1.5 National Biodiversity Strategic Action Plan (NBSAP)

Vision of the Myanmar’s National Biodiversity Strategic Action Plan (NBSAP) is “Conserving, management and utilization of biodiversity in a sustainable manner for sound and resilient ecosystems and national posterity.

Mission statement of the Myanmar NBSAP states that “By 2020, biodiversity is valued, effectively conserved, sustainably used, and appropriately mainstreamed to ensure the continuous flow of ecosystem goods and services for the economic, environmental and social wellbeing of the present and future generation.

The most significant change of the revised NBSAP over the 2012 version is the use of the 20 Aichi Biodiversity Targets to structure the analysis. Under each global target there are several national targets. These targets were designed to be specific and realistic given the 5-year timeframe and available human resources.

Most of the activities being implemented by respective ministries appear to be in line with the objectives of the NBSAP. Although biodiversity conservation activities are being mainstreamed into relevant sectors including forestry, agriculture, mining, trade, health, education and science and technology, better integration of NBSAP’s actions into respective departmental plans is still needed. NBSAP is still not being implemented at a national scale. Myanmar is planning to soon update the NBSAP.

To date, Myanmar has designated 39 Pas covering 38,906 km², 5.75% of Myanmar’s land area. Seven additional areas have been proposed, which would cover a further 1.09%. Myanmar’s 30-year National Forestry Master Plan set the national target for PA coverage at 10% of total land area by 2030.

The Protection of Wildlife and Protected Areas Rules (2002) only recognizes one management type (IUCN Category II), and one governance type (management by government). Amending the Protected Area Law or Rules, or revising the relevant instructions, would provide the legal basis for these changes. Recognizing co-management, community conserved areas, and sustainable use will require revisions and modifications of both policy and practice.

Gap analyses of PA coverage indicate that a few large Pas contribute disproportionately to national PA coverage. An assessment of ecoregion coverage also indicates which ecosystems are disproportionately well-represented, and which are under-represented.

Several Sundaic mammal species in Southern Myanmar are not found inside existing PAs. Of the 37 globally threatened bird species that are found outside of Pas (Out of 132 globally threatened bird species found nationally), the largest unprotected group is comprised of Sundaic species. This gap could be filled by the establishment of Taninthayi National Park, Lenya national Park, and Lenya National Park Extension, which together form a discontinuous Taninthayi Forest Corridor (TFC).

In phase 1, several species-focused PAs could be established including Lenya National park (Asian elephant, tiger, tapir) and in phase 2, the new PAs would include Taninthayi National Park and Lenya National Park Extension of TFC.

Establishment of new PAs should be carried out with public participation and approval, respecting customary tenure and striving to build feelings of local ownership.

PA establishment plan in Myanmar up to 2020-2021

Phase	Name	Area (km2)	Sub-total (km2)	Coverage (%)	Cumulative Coverage %
1	39 existing PAs	38,906	38,906	5.75	5.75
	Lenya National Park	1,766	3,246	0.48	6.23
	Mahamyaing Wildlife Sanctuary	1,180			
	Inkhine Bum National Park	300			
2	Taninthayi National Park	2,590	4,223	0.62	6.85
	Lenya national Park (extension)	1,399			
	Pan Thi Taung national Park	234			
3	Imawbum National Park	1,563	6,557	0.97	7.82
	Za Loon Taung Protected Area	216			
	Hkakaborazi National Park SE	4,778			
	Total	52,932	52,932	7.82	

Two national targets and seven actions have been set for the Aichi Targets 6 have been identified in the Myanmar NBSAP.

The Aichi Target 11 states that; “**By 2020, at least 17 per cent of terrestrial and inland water areas, 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.”

National targets and priority actions for Aichi Target 11 have been described in the following table.

National targets and priority actions for Aichi Target 11.

Target and Action		Lead
Target 11.1: By 2020, 8% of Myanmar’s land area is conserved within PAs, including ICCAs		
Action 11.1.1	Approve proposed Lenya National Park, Lenya National park Extension , Mahamyaing Wildlife Sanctuary and Inkhine Bum National Park	FD
Action 11.1.2	Establish Taninthayi National Park, Pan The Taung National Park	
Action 11.1.3	Establish Hkakaborazi National park SE, Imabum National Park and Za Loon Taung Protected Area	
Target 11.2: IUCN governance categories and management categories are recognized in policy and practice		
Action 11.2.1	Conduct a review of opportunities for recognizing governance and management diversity, including ICCAs, within the current legal and governance framework, including forests, protected area categories, and other area-based conservation approaches	FD
Action 11.2.2	Recognize additional governance types and management categories using appropriate legal tools, including amendments of laws and revisions of implementing rules and regulations	
Action 11.2.3	Pilot governance types and management categories by establishing co-management PA systems, recognizing ICCAs, and developing PA zonation	
Target 11.3: By 2020, the management effectiveness of Myanmar’s PA system has significantly improved, with 15 PAs implementing SMART, at least 5 PAs implementing management plans, and local communities are involved in management activities in at least 5 PAs.		
Action 11.3.1	Complete METT survey in at least 20 PAs	FD
Action 11.3.2	Implement SMART in at least 15 PAs	
Action 11.3.3	Implement management plans addressing conservation priorities and investment in at least 5 PAs	
Action 11.3.4	Implement pilot projects in at least 5 PAs involving local communities in designating buffer zones and co-management providing incentives for conservation and compensation for restricted area	FD, I/NGOs
Action 11.3.5	Expand community-based participatory biodiversity	

	monitoring in and around PAs	
Target 11.4:	By 2020, Myanmar's sites of premier conservation value are recognized by relevant international designations, through the designation of one natural WHS, three additional Ramsar sites, and one Biosphere Reserve	
Action 11.4.1	Nominate at least one natural site for inclusion on the UNESCO World Heritage list	FD
Action 11.4.2	Nominate at least two additional Ramsar sites	FD
Action 11.4.3	Nominate at least one additional Biosphere Reserve	FD
Target 11.5:	By 2020, a Marine spatial plan with nested MPAs is prepared for the Myeik Archipelago	
Action 11.5.1	Pilot marine spatial planning by developing a spatial plan for the Myeik Archipelago through a multi-stakeholder process	DOF
Action 11.5.2	Establish at least one additional MPA that can together with Lampi Marine National Park serve as a model and pilot for future MPA management	DOF, FD

DOF = Department of Fisheries

FD = Forest Department

Locations in bold lie in Tanintharyi region

There are currently serious deficiencies in national capacity for PA management, including budgeting, staffing, equipment and capacity to implement collaborative management approaches.

3.2.1.6 Fifth National Report to the Convention on Biological Diversity

The Fifth National Report to the Convention on Biological Diversity (CBD) is composed of three main parts, providing the latest information on the country's implementation on biodiversity conservation since the Fourth National Report in 2009.

Part I provides the latest information on the Status, Trends and Threats to the different types of Biodiversity in Myanmar.

Part II presents the current degree of implementation of the National Biodiversity Strategy and Action Plan (NBSAP), and the achievements of mainstreaming biodiversity into relevant sectoral and cross-sectoral strategies, plans and programmes.

Part III examines the linkages and contribution of Myanmar's NBSAP implementation towards the 2020 Aichi Biodiversity Targets and the 2015 Targets of the Millennium Development Goals.

The report mention that the major threats to biodiversity in Myanmar are improper land use, illegal hunting and trade, the introduction of invasive species, infrastructure development and climate change. Underlying factors include poverty, economic growth and increasing consumption, increased demand on natural resources from neighbouring countries, limited environmental safeguards, lack of comprehensive land-use policies and planning, undervaluation of ecosystems, ecosystem services and biodiversity (particularly in development planning) and limited grassroots support for conservation. Participation of

local communities in the conservation and sustainable use of Myanmar's natural resources is essential in order to effectively protect the country's biodiversity.

The implementation of the CBD Programme of Work in Myanmar is tabulated in the Appendix 3 of the report. Implementations related to the marine protected area related to the present R2R project are described in the following table –

APPENDIX 3: Implementation of the CBD Programme of Work.

Implementing the Programme of Work on Protected Areas (PoWPA)

Targets	Implementation
Programme Element 1: Direct actions for planning, selecting, establishing, strengthening, and managing, protected area systems and sites	
Target 1	<p>By 2010, terrestrially, and 2012 in the marine area, a global network of comprehensive, representative and effectively managed national and regional protected area system is established as a contribution to (i) the goal of the Strategic Plan of the Convention and the World Summit on Sustainable Development of achieving a significant reduction in the rate of biodiversity loss by 2010; (ii) the Millennium Development Goals - particularly goal 7 on ensuring environmental sustainability; and (iii) the Global Strategy for Plant Conservation.</p>
Target 2	<p>By 2015, all protected areas and protected area systems are integrated into the wider land-and seascape, and relevant sectors, by applying the ecosystem approach and taking into account ecological connectivity and the concept, where appropriate, of ecological networks.</p> <ul style="list-style-type: none"> • PAs in Myanmar cover diverse ecosystems and vegetation types but gap analysis is still needed to understand the representativeness of PAs. • Myanmar Forest Policy (1995) mandates to establish Pas at 5% of the country's area, but is intended to double to 10% under the National Forestry Master Plan (2001-2031). • No. of PAs increased from 34 (3.86% of land area) in 2009 to 38 (5.61%) in 2013. <ul style="list-style-type: none"> • A “reef to ridges” program is being implemented in the Sundaic bioregion in collaboration with Fauna and Flora International. This program is the first landscape/seascape approach in conservation of Myanmar, and consists of marine and terrestrial PAs.

Target 4	<p>All protected areas to have effective management in existence by 2012, using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring programmes, drawing upon existing methodologies and a long-term management plan with active stakeholder involvement.</p>	<ul style="list-style-type: none"> • Park offices are setup at 20 PAs in Myanmar and will follow five-year operational action plans. However no scientifically based park management plans have yet been developed. • In collaboration with Istituto Oikos, an Italian NGO, the FD has prepared a draft management plan for Lampi Marine National Park through a multi-stakeholder consultation process and is awaiting final validation and approval from MOECAF. FD has prepared guidelines for park management plan preparation based on IUCN guidelines, but Myanmar needs to strengthen human resources and finances before developing individual plans.
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Programme Element 2: Governance, Participation, Equity and Benefit Sharing

Target 6	<p>Establish by 2008 mechanisms for the equitable sharing of both costs and benefits arising from the establishment and management of protected areas.</p>	<ul style="list-style-type: none"> • In Myanmar, PAs belong to the Union Government, which provides 100% of funding; currently no mechanism for sharing of costs and benefits exists. • However, Myanmar is looking to REDD+ and PES as opportunities for funding Pas and sharing economic benefits from conservation with local communities.
Target 7	<p>Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management</p>	<ul style="list-style-type: none"> • Although the rights of indigenous and local communities are fully respected in PA management, the participation of indigenous and local communities in management is still lacking in the current legal framework. • Recently, the government is

	<p>of existing, and the establishment and management of new, protected areas.</p>	<p>encouraging a more people-centred approach, which should present a good opportunity for including indigenous and local communities in future PA management.</p> <ul style="list-style-type: none"> • Zoning in the Lampi Marine National Park Management Plan (draft) is mainly based on consultation with local communities.
Programme Element 3: Enabling Activities		
Target 8	<p>By 2008 review and revise policies as appropriate, including use of social and economic valuation and incentives, to provide a supportive enabling environment for more effective establishment and management of protected areas and protected areas systems.</p>	<ul style="list-style-type: none"> • PAs in Myanmar are managed mainly under the Myanmar Forest Policy (1995), and the Protection of Wildlife and Protected Areas Law (1994) and accompanying Rule (2002). • The policy and legal framework for PA management includes social integration, although economic valuation is still lacking.
Target 9	<p>By 2010, comprehensive capacity building programmes and initiatives are implemented to develop knowledge and skills at individual, community and institutional levels, and raise professional standards.</p>	<ul style="list-style-type: none"> • A needs assessment for capacity building among relevant government staff. • Capacity building trainings, joint research and surveys with international organizations. <p>☒ In collaboration with the Norwegian Environment Agency, the FD conducted a training of trainers (ToT) programme for biodiversity and PA management.</p>
Target 10	<p>By 2010 the development, validation, and transfer of appropriate technologies and innovative approaches for the effective management of protected areas is substantially</p>	<ul style="list-style-type: none"> • A needs assessment of PA management revealed the use of spatial information in conservation and management is very limited, though these are crucial. Data management systems are also

	improved, taking into account decisions of the Conference of the Parties on technology transfer and cooperation.	currently lacking in Myanmar's PAs. • Trainings for the application of the PA Spatial Monitoring And Reporting Tool (SMART) have been conducted in collaboration with WCS. ☒ SMART is now being promoted in PAs for law enforcement and monitoring.
Target 11	By 2008, sufficient financial, technical and other resources to meet the costs to effectively implement and manage national and regional systems of protected areas are secured, including both from national and international sources, particularly to support the needs of developing countries and countries with economies in transition and small island developing States.	• The Union Government is providing funding for PAs, but the funding mainly covers staff salaries and infrastructure maintenance. ☒ In comparison to other developing countries, Myanmar currently receives very low levels of international assistance for biodiversity conservation.
Target 12	By 2008 public awareness, understanding and appreciation of the importance and benefits of protected areas is significantly increased.	• In Myanmar, patrolling and public education are the major tools for biodiversity conservation and PA management. • Between 2009 and 2013, education activities were conducted among communities living around the PAs on 296 occasions.
Programme Element 4: Standards, assessment, and monitoring		
Target 13	By 2008, standards, criteria, and best practices for planning, selecting, establishing, managing and governance of national and regional systems of protected areas are developed and adopted.	• Myanmar has its own procedures for PAs selection, establishment and planning mainly based on the Protection of Wildlife and Natural Areas Law/ Rules. • PA governance is hierarchical, with Park offices following orders

		of the Ministry. Stakeholder participation in PA governance has only recently been piloted.
Target 14	By 2010, frameworks for monitoring, evaluating and reporting protected areas management effectiveness at sites, national and regional systems, and transboundary protected area levels adopted and implemented by Parties.	<ul style="list-style-type: none"> Management effectiveness is mainly assessed based on the implementation of operational action plan. Each PA submits monthly patrolling reports to the FD. Standardized framework for monitoring, evaluating and reporting protected areas management effectiveness has not been developed but some PAs are implementing SMART, a useful tool for monitoring and evaluating PAs' effectiveness.
Target 15	By 2010, national and regional systems are established to enable effective monitoring of protected-area coverage, status and trends at national, regional and global scales, and to assist in evaluating progress in meeting global biodiversity targets.	<ul style="list-style-type: none"> Monitoring of PA land cover, status and trends has not been conducted, primarily due to the lack of standard PA management plans. Some site-level assessments of deforestation and forest degradation within and outside Pas are available, but are ad hoc and limited in scope.
Target 16	Scientific knowledge relevant to protected areas is further developed as a contribution to their establishment, effectiveness, and management.	<ul style="list-style-type: none"> In collaboration with international organizations, the FD is conducting research and scientific surveys in PAs across the country, and the findings are used to improve PA management.

As described in an implementation for Target 7, selection, establishment and planning have been done by Forest Department based on the Protection of Wildlife and Natural Areas Law/ Rules. Myanmar is working to conserve its biodiversity through its protected area network, stakeholder engagement, and enforcement of laws and regulations.

3.2.2 Existing Institutional Arrangements

Ministry of Natural Resources and Environmental Conservation (MONREC), formed from the Ministry of Environmental Conservation and Forestry in April 2016, is the focal ministry for environmental and biodiversity related matters. The Forest Department (FD), Environmental Conservation Department (ECD) and Dry Zone Greening Department (DZGD) under MONREC are focal organisations of three Rio Conservations: Convention on Biological Diversity (CBD), UN Framework Convention on Climate Change (UNFCCC) and UN Convention to Combat Desertification (UNCCD), respectively.

Other Key Ministries involved in conservation, management and utilization of natural resources and biodiversity are:

- Ministry of Agricultural and Irrigation
- Ministry of Livestock, Fisheries and Rural Development
- Ministry of Science and Technology
- Ministry of National Planning
- Ministry of Mines (now merge with MONREC)
- Ministry of Health and Sport

Furthermore, a goal has been set by the government to achieve harmony and balance between economic development and environmental conservation across multiple sectors via the coordination efforts of the Environment Conservation Committee (ECC). In 2011, the ECC was initially formed as National Environmental Conservation Committee (NECC), and it was reformed as ECC in 2014. ECC is chaired by the MONREC Minister, and its members include deputy ministers from related ministries.

There are five working committees (WC) under the ECC:

- Policy, Law, Rules, Procedures and Quality Standard
- Industry Planning, Urban and Rural
- Natural resource and Cultural Heritage Conservation
- Climate Change Adaptation and Mitigation
- Environmental Education and Awareness Raising.

ECC also has Special Task Forces (STF) as presented below:

- Land Use
- Rivers, Streams and Wetlands
- Industrial Projects, large Industries and Urban and Rural Areas
- Environmental Policy, Law and Procedures
- Environmental Education and Awareness: Climate Change.

3.2.3 International Cooperation for Biodiversity Conservation

Myanmar is party to several regional and International environment agreements, treaties and protocols on natural resources, ecosystems and biodiversity conservation, management and utilization.

International and regional environmental agreements, treaties and protocols signed by Myanmar.

Agreements/Treaties/Protocols	Date of Signature/Ratification/Acceded
Regional	
Plant Protection Agreement for the Southeast Asia and the Pacific Region	4 November 1959
ASEAN Agreement on the Conservation of Nature and Natural Resources	16 October 1997
ASEAN Agreement on Transboundary Haze Pollution	13 March 2003
International	
United Nations Framework Convention on Climate Change (UNFCCC)	25 November 1994
Convention on Biological Diversity (CBD)	25 November 1994
International Tropical Timber Agreement (ITTA)	31 January 1996
Vienna Convention for the Protection of the Ozone Layer	24 November 1993
Montreal Protocol on Substances that Deplete the Ozone Layer	24 November 1993
London Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer	24 November 1993
The Convention for the Protection of the World Culture and Natural Heritage	29 April 1994
United nations Convention to Combat desertification (UNCCD)	2 January 1997
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	13 June 1997
Cartagena Protocol on Biosafety	11 May 2001
Kyoto Protocol to the Convention on Climate Change	13 August 2003
Stockholm Convention on Persistent Organic Pollutants (POPs)	18 April 2004
Nagoya Protocol on Access to genetic Resources and the Fair and Equitable Sharing of benefits Arising from their Utilization to the Convention on Biological Diversity	9 January 2014

4 The developmental context (Key business sectors, socio-economic development, political environment) and its current and future impacts on the biodiversity conservation in the land/seascapes;

4.1 The Developmental context

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

Department of Fisheries (DoF) has been working in cooperation with governments and international organizations to promote its performance in fisheries sector. It has been closely cooperated with Food and Agriculture Organization (FAO). The latest effort is preparing a project proposal titling "My Coast: Ecosystem Based Conservation of Myanmar's Southern Coastal Zone", to submit to the GEF6.

Project effort will focus primarily upon the Tanintharyi Region and the Myeik Archipelago with project emplaced results leading to upscale across Myanmar's coastal zone. The coastline of Tanintharyi is 900 km long, extending from the Gulf of Mottama south to the mouth of the Pakchan River. The widest point from coast to border is approximately 100 kilometers. The Division represents approximately 6.5% of Myanmar's total territory and has total population of less than 2 million. The Myeik Archipelago of Tanintharyi covers more than 34,000 km² and includes over 800 individual islands.

The project objective will be to improve coastal zone management to deliver marine biodiversity, sustainable forest management, food security and climate change benefits. The project will be built around two inter-related components. Under Component One, national capacities will be built to develop and implement strategic coastal conservation. Under Component Two, local capacities will be built and demonstrations implemented. Demonstrations contributing to holistic coastal zone management will be conducted within a specific geographic area (southern Tanintharyi Division and Myeik Archipelago) to allow for measurement of impact on an ecosystem level. Demonstrations will be used to inform and improve adaptive management.

The FAO/GEF Bay of Bengal Large Marine Ecosystem Project (BOBLME)

Bay of Bengal Large Marine Ecosystem (BOBLME) Project had a total estimated budget of USD 31 million for an initial period from 2008 to 2015. Partners to the project who are active in Myanmar include the Government of Myanmar, IOSEA, SEAFDEC, IUCN, FFI, and WorldFish. A vast number of project reports relevant to marine fisheries, marine ecosystems and environmental status of Myanmar are available through its website (Bay of Bengal Large Marine Ecosystem Project Web page). The BOBLME Project engages all eight nations that rim the Bay of Bengal, namely 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 the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries. The executing agency is the FAO Regional Office for Asia and the Pacific, based in Bangkok, and the FAO is also involved in project components directly relating to fisheries and resource management. Principal funding is from the Global Environment Facility (GEF), the government of Norway, the Swedish

International Development Agency (SIDA), and FAO, participating governments and the National Oceanic and Atmosphere Administration (NOAA).

Mangrove for the Future (MFF)

Myanmar became the 11th MFF member country in October 2014. National Coordination Body was officially formed in 2014 and it comprised of Government, UN agencies, International Organizations, NGOs and Academia and private organization. Forest Department functions as the National Secretariat. The Myanmar National Strategy and Action Plan (NSAP) has been formulated upon the agreements with Line Ministries, Non-Government Organizations, Academia, International Organizations and Private Sector. These efforts summarize many of the macro-level issues related to improving coastal zone management and create precedence for collaboration. It has been submitted to the MFF Secretariat in October 2014.

The Myanmar National Strategy and Action Plan (NSAP) highlighted the threats to natural resources in Section III that “Myanmar is home to high biodiversity and known for diverse renewable and non-renewable resources. People living in coastal zones - who are mostly living below the poverty line – often cause man-induced stress in the coastal zones e.g. overfishing, aquaculture, tin mining and waste disposal. Given that two thirds of the population derives their livelihoods from forestry and fishery, loss of forest resources, coastal land-use change, overfishing and IUU fishing, and climate change represent key environmental challenges.”

There are six threats to Natural resources.

1. Coastal Land use Change
2. Overexploitation of Mangroves for Fuelwood and Charcoal Production
3. Overfishing
4. Illegal, Unreported and Unregulated (IUU) Fishing
5. Potential Tourism Development and
6. Climate Change and Natural Disaster

In the Coastal Land Use Change giving the evidence that “Population growth by increased resource utilization as well as the ever-increasing demand for resources from neighbouring countries have put biodiversity in Myanmar under severe pressure. The country remains one of the ten countries in the world with the largest annual net loss of forest area and among the five countries (Indonesia, Australia, Myanmar, Madagascar and Mozambique) with the largest net loss of mangrove area during the period 2000-2010 (Food and Agriculture Organization (FAO), 2010). It is reported in the NBSAP (2011) that people from upstream areas simply migrated to mangrove areas for firewood collection and charcoal making. Once forests were clear-cut, they cultivated the land for growing paddy. When

paddy yield declined, land was converted for shrimp farming. When shrimp farming was affected by increased acidification and water pollution, people encroached into another mangrove area for repeating the process of mangrove exploitation. In Tanintharyi Region, palm oil concessions have been granted in large forest areas and rubber plantations have almost doubled in coastal areas from 1990 to 2010. Replacement of natural forest by oil palm and rubber plantations can result in increased erosion and decreased groundwater retention which subsequently increase runoff and sedimentation. Moreover, nitrification from agricultural chemicals can multiply adverse consequences on Myanmar marine ecosystems.”

In Section IV, Steps forward to Sustainable coastal management, introduce Integrated Coastal Management (ICM)- concepts and principles that ‘ICM is an adaptive, multi-sectoral governance approach, which strives to a balanced development, use and protection of coastal environments. Importantly, it acknowledges the interrelationships that exist among coastal and ocean uses and the environments they potentially affect, in both public and private sectors, according to an agreed upon set or resource management policies and practices.’

In Myanmar there has been no discrete policy or legislation pertaining to management of the coastal zone, rather subsumed under Ministry of Livestock, Fisheries and Rural Development, MONREC and Ministry of Agriculture and Irrigation. Agricultural management in coastal zones is carried out through agriculture supervision committee, while fisheries management through DoF (Food and Agriculture Organization (FAO), 2006a). Key challenges in this context involve no appropriate integrated planning; no collaboration within lines of horizontal or vertical level agencies (particularly forest and fisheries, central and regional); and no coastal land use planning.

Accordingly, Community Forestry Instructions (CFIs) issued by the Forest Department (FD) in 1995 was a remarkable initiative in the aspects of partnership, participation and decentralization in managing the forests including coastal forests and mangroves in Myanmar. The instruction grants the local communities trees and forest land tenure rights for an initial 30-year period that is extendable based on the success of implementation. The FD provides technical assistance and plays the leadership role in the exercise of community forestry. Only recently the importance of Myanmar coastal habitats and marine living resources and the need for sustainable resources management for biodiversity conservation, livelihoods and security have been increasingly and widely recognized.

Based on the comprehensive discussion from the consultative workshop on *Conservation and Sustainable Management of Coastal and Marine Ecosystem in Myanmar*, strategic framework and priorities for intervention are:

- environmental profiling;
- capacity development;
- ICM policy development; and
- civil society engagement in conservation.

The interventions identified in the previous consultation process have not mentioned MPAs management although limited capacity of relevant government agencies to effectively manage existing MPAs in Myanmar has been recognized. With the awareness of this issue, it is important for MFF to encourage management effectiveness of MPAs and promote transboundary ecosystem management.

Regarding MFF small grants, it has already contracted with Myanmar Forest Association - MFA and Mangrove Service Network started from 1-Aug 2016 to 31 July 2017. The proposed project by Myanmar Fishery Federation is under proceeding.

Myanmar Forest Association – Small Grant

Project Title: Sustainability of Pyinbugyi Village Tract's Ecosystem through Community Based Mangroves Conservation and Coastal Bank Protection

Project Site: Pyinbugyi Village Tract, Palaw Township, Myeik District, Tanintharyi Region, Myanmar

Project Scale: National

Implementation agency: Myanmar Forest Association (MFA), Forest Compound, Bayintnaung Road, West Gyoegone, Insein Township, Yangon, 0925023143947, Email:mmforestassociation@gmail.com

Implementing Partners: Green Island Group (GIG), Pyinbugyi Village,

Authorized representatives from Implementing Agency: U Tin Aye, Secretary, Myanmar Forest Association

Project Objective: "To increase resilience of Ecosystem-Dependant Pyinbugyi Village Tract coastal Communities through establishing Community Based Mangroves Conservation and Coastal Bank Protection Models"

Brief Project description: MFA has conceived this project to carry out community based mangroves conservation and coastal bank protection activities in the 3 villages of Pyinbugyi Village Tract and some of the following main outputs will be delivered through this project and they are:

1. targeted communities has increased knowledge on the importance of ecosystem in building human resilience;
2. initial stage on environmental governance is set up in the targeted villages;
3. a pool of villagers are trained on mangrove nursery practices;

4. One mangroves nursery is established, 4 mangroves conservation areas are demarcated and established;
5. Three acres of mangrove plantation for coastal bank erosion protection are undertaken etc.

Context (Geographical and ecological and socio-economic context): The targeted communities belong to Pyinbugyi Village Tract which is under administrative arm of Palauk subtownship of Palaw Township, Myeik District, Thanintharyi Region..

The number of households in Pyinbugyi Village tract is 1,235 with the total population of 6,145 of which 2,059 number refers to under 18 and 4,086 number refers to above 18. The average family size is 5.

Pyinbugyi Village tract has a total land areas of 33, 920 acres which consists of village settlement (30 acres), garden land (3,544 acres), unclassified forest (1,136 acres), fallow and virgin land (209 acres) and others (29, 000 acres).

Fishery is the main livelihood and some of the households possess paddy lands and other garden land. Mostly women are involved in selling fishes in the local market apart from house works. Some young adults migrate into Thailand for better secured paid. Most of villagers work as labours in others fishing boats and a few are involved in rubber plantation but lately due to decline of rubber price villagers could not afford to pay labour charge.

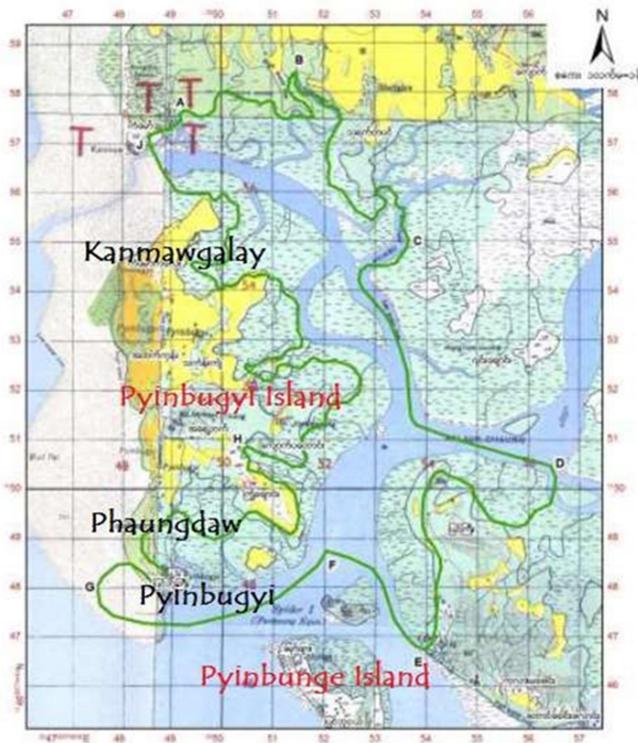
Lately intrusion of offshore fishing into inshore further compounded by unsuitable sue of fishing nets and felling of mangroves for fuel woods and charcoal business deplete and degrade marine habitats of coastal areas. Some farmlands are destroyed by saline water intrusion to farmland.

The water way is the only mode transportation to the mainland since Pyinbugyi Village Tract is located in the two islands.

There is a proposal by the Thanintharyi Region Forest Department to allot Protected Public Forest in the Palaw township, and a part of Pyinbugyi Village Tract is also proposed to be a apart of the would-be Protected Public Forest. The government proposed Protected Public Forest can built upon the project initiated by MFA.

Pyinbugyi Village Tract is one the 10 village tracts under the administration of Palauk Sub township, and Pyinbugyi Village Tract consists of 10 villages of which 7 villages belong to Pyinbugyi island and 3 villages to Pyinbunge island.

Three MFA target villages namely Pyinbugyi village, Phaungdaw Village and Kanmawgalay village, belong to Pyinbugyi island.



Mangrove Service Network – Small Grant

Project Title: Community Capacity Building, Promoting the Use of Fuel –efficient Stove and Creation of Alternative Livelihood Opportunities for Local Community in the Tanninthayi Region

Project Site: 10 villages in Pyinbugyi village tract, Palaw township, Tanintharyi Region

Project Scale: National

Implementation agency: Mangrove Service Network (MSN) No. 101 Ground Floor.Bldg (8), Ayeyikemon 2 street, ward (3) Hlaing Township, Yangon, Myanmar.

Implementing Partners: Green Inland Group (GIG), Township Forest Department (FD),

Authorized representatives: U Win Sein Naing, Chairman, Mangrove Service Network (MSN)

Project Objective:

1. To develop community capacity through organizing village environmental conservation committee and train CBO management and environmental conservation.
2. To enhance livelihoods of local communities through introducing environmental friendly income generating techniques and provide supply inputs to the local community.

3. To promote participation of local communities in natural resource conservation through utilizing fuel-wood saving stoves.

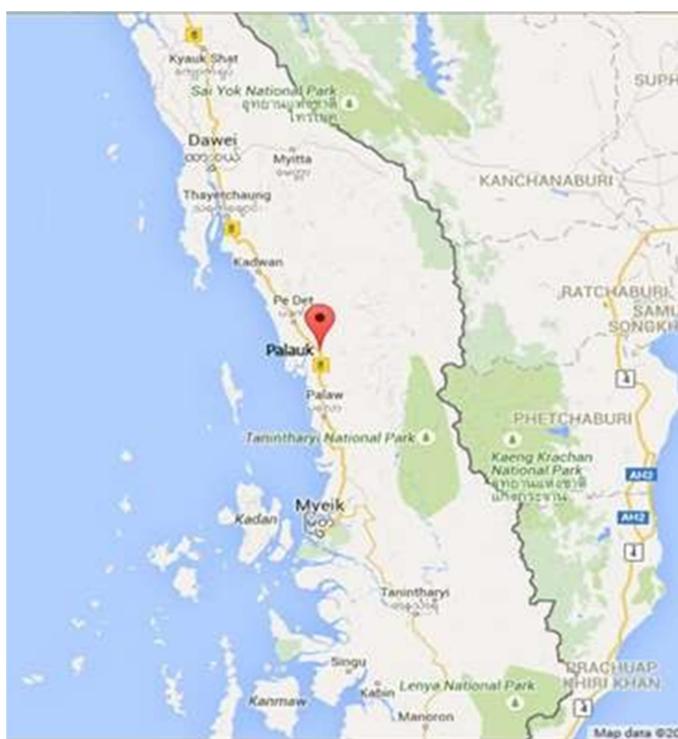
4. To lead the communities on a sustainable and responsible way of approach on natural resources conservation and livelihood development.

Context:

The targeted area is located in Palaw Township which has 1,300 square miles including water area (1,017 square miles if water area is excluded). It is situated between 12° 20' and 13° 28' in the North and 98° 33' and 98° 58' in the East. The target area has a tropical monsoon climate. The land that is located nearest to the Equator in Myanmar is one year round with the only slight changes in temperature. The highest temperature of Dawei (nearest town) is 100° F and lowest temperature is 65° F. Average annual rainfall of the area is 200 inches.

Pyinbugyi village tract is occupied as one of the village tracts under the administration of Palauk Sub-township which is comprised of 10 villages namely Kyat Chaung, ThingyanKye, KyaukPadaung, Phaung Taw, Ah Shae Phet, Pyinbunge, Pyinbugyi, Kan Maw Nge, Ah Htet Kone and U Yin Kan etc. The villages under Pyinbugyi village tract are separately lying on two islands. Seven villages viz. Kyat Chaung, ThingyanKye, KyaukPadaung, Phaung Taw, Ah ShaePhet, Pyinbugyi, Kan Maw Nge are located on Pyinbugyi island and remaining three villages, viz. Pyinbunge, Ah HtetKone and U Yin Kan are situated on Pyinbunge island.

Description of project area



Myanmar Fisheries Federation – Small Grant

Project Title: Demonstration of mangrove friendly crab culture as alternative livelihood and promoting community fisheries management at coastal area

Project Site: Pyinbugyi village tract, Palaw township, Taninthayi Division, Myanmar

Project Scale: National

Implementation agency: Myanmar Fisheries Federation
Bayint Naung Road, West Gyogone,
Insein Township, Yangon, Myanmar

Implementing Partners: Network Activities Group (NAG)

Authorized representatives: U Htin Aung Kyaw
Secretary (4), Myanmar Fisheries Federation

Project Objective:

- To promote mangrove friendly crab culture with women employment to increase income for rural people in project area
- To promote community fisheries management to utilize aquatic resources with sustainable manner and prevent depletion of aquatic resources at coastal area
- To enhance awareness on fisheries policies and regulations at the fisher communities
- To conduct mussel culture as trial to investigate survival rate, yield and income that will promote as potential livelihood at the project area in future

Context: Geographical context

Pyinbugyi village tract is occupied as one of the village tracts under the administration of Palauk Subtownship which is comprised of 10 villages namely Kyat Chaung, Thingyan Kye, Kyauk Padaung, Phaung Taw, Ah Shae Phet, Pyinbunge, Pyinbugyi, Kan Maw Nge, Ah Htet Kone and U Yin Kan etc. The villages under Pyinbugyi Village tract are separately lying on two islands. Seven villages viz. Kyat Chaung, Thingyan Kye, Kyauk Padaung, Phaung Taw, Ah Shae Phet, Pyinbugyi, Kan Maw Nge are located on Pyinbugyi island and remaining three villages, viz. Pyinbunge, Ah Htet Kone and U Yin Kan are situated on Pyinbunge island. The number of households in Pyinbugyi Village tract is 1,235 with the total population of 6,145.



Project area of Pyinbugyi village tract in Palaw township

Fauna and Flora International Organization (FFI)

Fauna and Flora International (FFI) supports a range of biodiversity conservation programmes in Myanmar, including community forest programmes and collaborative PA management initiatives in Kachin, which led to the discovery of the snub-nosed monkey. FFI supported the Myeik and Kawthoung Districts Forest Department in development of the District 10 years forest management plan (2016-2025). The FFI Tanintharyi Programme has been conducting forest research and supporting conservation efforts with various stakeholders in the area since 2014.

FFI is now initiating to implement the “Tanintharyi Tiger Conservation Landscape Project” in Tanintharyi region (Proposed area include the Lenya Proposed National Park, Lenya Extension and the Tagyet-Thein Khun Reserved Forest Complex which is a joint initiative of FFI Myanmar and the Myanmar Forest Department.

The Project will run for an initial three years (2016-2018), and aims to establish and support tiger and prey monitoring, community patrolling, improved law enforcement, support for village forest management and ecotourism pilots for the protection of that iconic species in southern Myanmar. It also seeks to improve cooperation on law enforcement and training with Thailand.

Smithsonian Institution (SI)

Scientists from the Smithsonian Institution have been studying the biodiversity and ecology of Myanmar over the last 20 years, and since 1993, Smithsonian has trained more than 300 MOECAF staff, completed 50 research projects, 150 science publications, aiding in the discovery of over 70 species new to science, and has located and identified hundreds of critical species.

Wildlife Conservation Society (WCS)

The Wildlife Conservation Society (WCS) supports strengthening the country's capacity for conducting biological surveys, monitoring populations of key wildlife species, supporting establishment of protected area and management actions. WCS supported the Dawei District Forest Department in development of the 10 years forest management plan, and has supported Tanintharyi Nature Reserve development and management by developing the park management plan and introducing the SMART patrol system.

4.2 Political Environment

Myanmar is in the process of devolving power from the national government to regional and local governments. In 2013, the Region or State Parliament Law was promulgated. It is envisaged that an increasing level of authority and responsibility will be decentralized to the regional and state governments, including natural resource management. The government is also in the process of developing the National Land Use Policy. Related to this, MOECAF started an initiative called One Map Myanmar Programme to harmonize the spatial planning data required for land use planning at the national and regional levels. Tanintharyi has been selected as a pilot region under the programme.

After the 2015 election, the winning Democratic Party formed the new government and political commitment become stronger on environmental issues and also prioritize on peoples' desire.

Tanintharyi regional government also focuses on environmental conservation and following are the some of the political will as strengths to the project.

- Chief Minister inspect fish powder factories in Myeik Township and temporarily shut off 2 out of 6 factories for not following the disciplines to protect pollution.
- Check illegal mining.
- Check oil palm plantations.
- Ban charcoal production in the whole Tanintharyi Region. (But it is not clear for the domestic consumption, domestic charcoal consumption is around 130,000 cu.ton for Myeik District and 75,000 cu.ton for Kawthoung District annually. FD calculate

base on consumption of 2 cu.ton per household per year(note - charcoal making is the main threat to destroy the mangrove forests and the main markets are Yangon and Thailand.)

- Forest Department plans to supply fuelwood and charcoal from natural forest, village fuelwood plantations, home-gardens and community forestry.

5 The spatial distribution, and conservation status of forest reserves and protected areas;

5.1 Myeik District:

District area = 4,981,118 acres (\pm 2,016,646 ha)

4 Townships namely;

1. Myeik
2. Kyunsu
3. Palaw
4. Tanintharyi

Forest Cover;

- | | |
|-----------------|-----|
| • Closed Forest | 31% |
| • Open Forest | 15 |
| • Degraded | 15 |
| • Agriculture | 7 |
| • Mangrove | 3 |
| • Water body | 29 |

Conservation status;

Sr.	Status	No.	% of total district land area	Area(ac)	Area(ha)
1	RF	13	26.72	1,331,029	538,878
2	PPF	5	4.80	238,777	96,670
3	PPA	2	19.79	985,600	399,028
4	PF	-	13.01	684,282	277,037
			64.32		1,311,613

RF= Reserved Forest, PPF= Protected Public Forest

PPA= Proposed Protected Area, PF= Public Forest

Special features;

• Mangrove Working Circle -	435,971 acres ($\pm 176,506$ ha)
• Bird Nest Collecting Working Circle	
- Mali island, Palaw T/S	918 acres (± 371 ha)
- Ye Aye island, Kyunsu T/S	491 acres (± 198 ha)
Total	1,409 acres (± 569 ha)

5.2 Kawthaung District:

District area = 2,269,281 acres ($\pm 918,737$ ha)

2 Township namely;

1. Kawthoung
2. Bokepyin

Forest Cover;

• Closed Forest	30%
• Open Forest	35
• Degraded	8
• Others	14
• Mangrove	7
• Water body	14

6 The spatial extent and development of satellite images and maps of the proposed priority landscapes;



7 Baseline information for each of the priority landscapes

7.1 Tanintharyi Region:

The country's southern-most Tanintharyi Region is a relatively undeveloped area with high biodiversity and endemism that provides invaluable ecosystem services. Approximately 20% of Myanmar's Key Biodiversity Areas (KBAs) are located in Tanintharyi. The whole Tanintharyi region, as well as a small part of the Mon and Kayin States, fall under the Sundaic Subregion Priority Corridor. The corridor includes the largest areas of lowland wet evergreen forest remaining in the Indo-Myanmar (Indo-Burma) Hotspot.

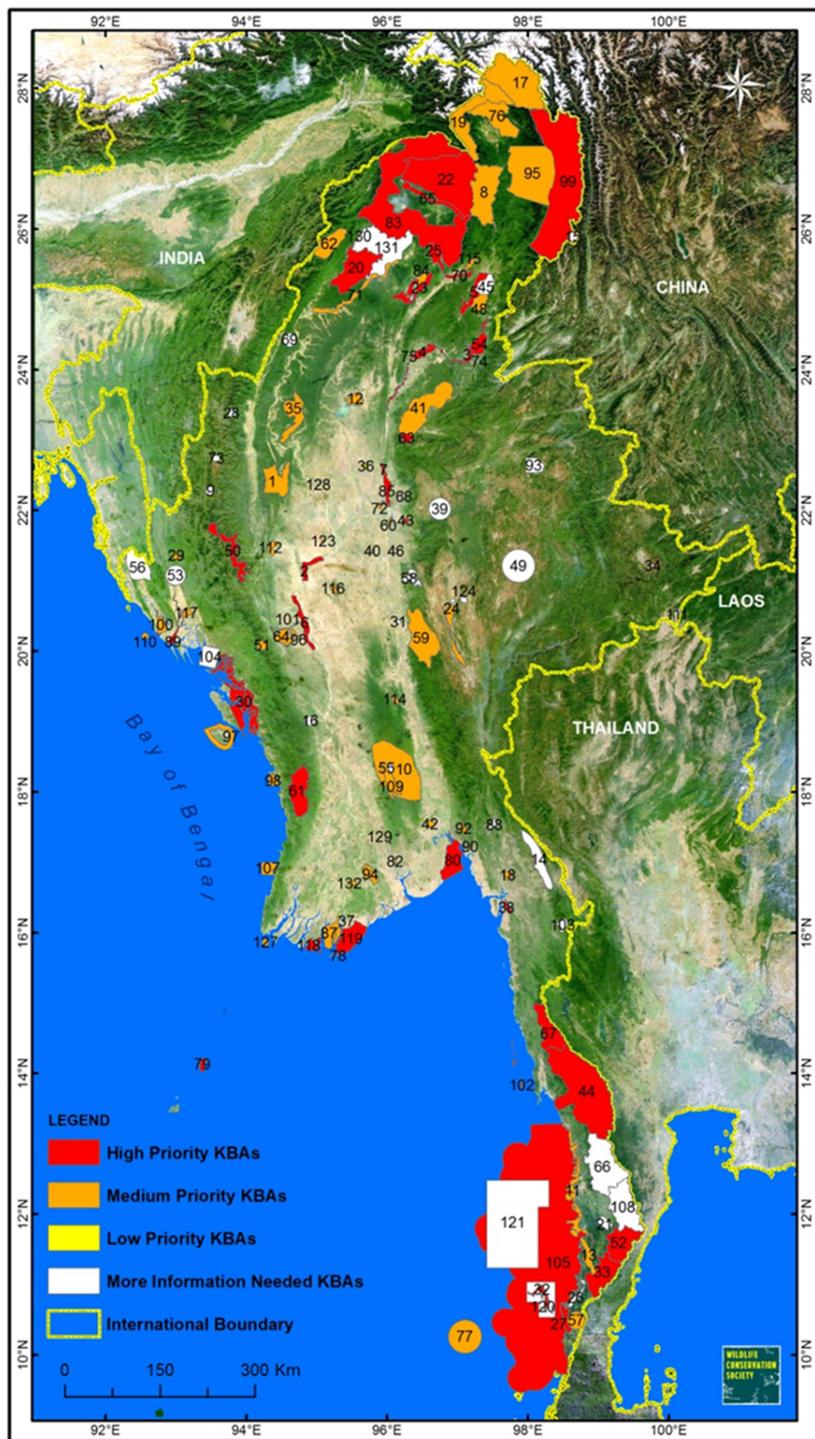
The Priority Corridor also includes a significant portion of coastline, a large number of offshore islands and significant areas of key wetland habitats, including mangrove and intertidal mudflats. It includes the Moscos Islands and the Myeik Archipelago which consists of over 800 islands in the Andaman Sea Marine Ecoregion.

Although the Priority Corridor has received little recent biological study, there are indications that it supports rich lowland evergreen forest communities and globally threatened wildlife, such as Asian tapir (*Tapirus indicus*) and plain-pouched hornbill (both are Vulnerable). Coastal habitats support Mangrove Terrapin (Critically Endangered) and are thought to be important for migratory water birds. Of greatest significance, the Priority Corridor supports the bulk of the world population of Gurney's pitta (Critically Endangered), a species endemic to the Tanintharyi Region and a small part of peninsular Thailand (Anon. 2003, Eames et al. 2005). The highlight is the discovery in 2008 by BLI of 9,300-35,000 Gurney's Pitta (*Pitta gurneyi*) territories in the Lenya area. This bird species was considered extinct until the rediscovery of a population in Thailand in 1986. After this discovery the species was downlisted by IUCN from "critically endangered" to "endangered" and 99% of the population is in Myanmar. The lowland extension of Lenya National Park will contain much of the Gurney's Pitta population, thus ensuring the species' long-term survival.

Moreover, the Priority Corridor is thought to support a relatively large population (approximately 50 individuals) of tiger (Endangered). The potential of the Sundaic Subregion for the long-term conservation of landscape species, such as Asian elephant, tiger and plain-pouched hornbill, is enhanced by the existence of significant areas of contiguous natural habitat in western and peninsular Thailand, including significant portions which are already protected and managed.

7.2 Key Biodiversity Areas (KBAs)

A total of 132 Key Biodiversity Areas (KBAs) identified for Myanmar.

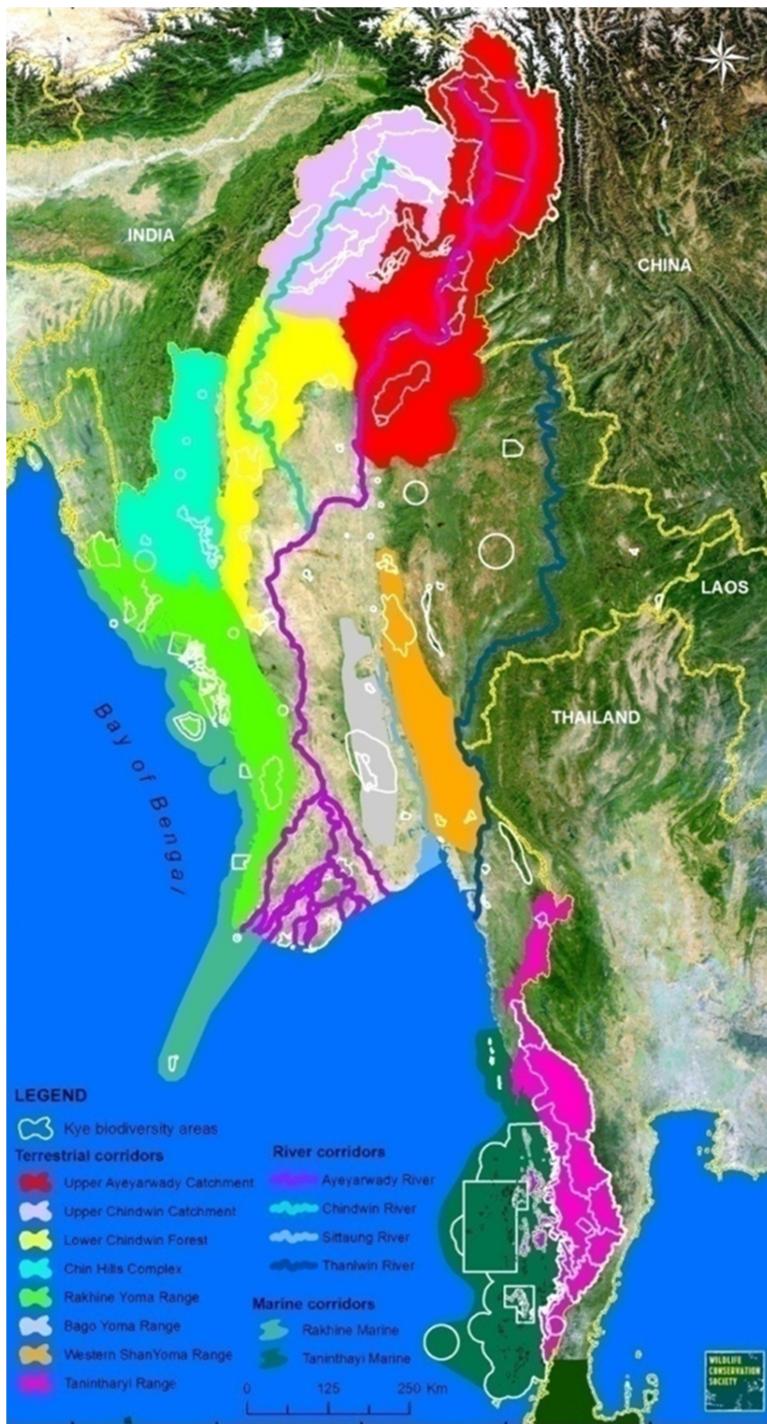


7.2.1 Key Biodiversity Areas in Myanmar

Particulars	KBAs
High Priority KBAs	42
Medium Priority KBAs	56
Low Priority KBAs	1
More Information needed KBAs	33
Total	132

There are conservation corridors between those KBAs to maintain biodiversity and ecosystem.

Taninthayi conservation corridor is the one of (14) corridors in Myanmar.



7.2.2 Conservation Corridors for KBAs

Terrestrial Corridors

1. Chin Hills Complex
2. Bago Yoma Range
3. Western Shan Yoma Range
4. Upper Chindwin Catchment
5. Lower Chindwin Forest
6. Taninthayi Range

7. Rakhine Yoma Range
8. Upper Ayeyarwady Catchment
9. Thanlwin River
10. Chindwin River
11. Ayeyarwady River
12. Sittaung River

Marine Corridors

13. Rakhine Marine
14. Taninthayi Marine

7.2.3 Key Biodiversity Areas: those found in Tanintharyi Region

Approximately 20% of Myanmar's Key Biodiversity Areas (KBAs) are located in Tanintharyi.

Sr.	No.	KBA Name	Conservation Priority	Km ²
1	13	Chaungmon-Wachaung	Medium	516
2	21	Htaung Pru	Data deficient	285
3	26	Karathuri	Data deficient	238
4	27	Kawthaung District Lowlands	High	414
5	32	Lampi Island Marine NP	High	274
6	33	Lenya NP	High	1,846
7	45	Myitkyina-Nandebad-Talawgyi	Data deficient	554
8	52	Ngawun/Lenya NP (Extension)	High	1,851
9	57	Pachan	Medium	608
10	66	Tanintharyi NP	Data deficient	3,663
11	67	Tanintharyi NR	High	1,619
12	77	Burmabank	Medium	2,139
13	102	Moscos Kyun WS	High	57
14	105	Myeik Archipelago	High	31,664
15	108	North Lenya	Data deficient	2,650
16	120	Shark PA	Data deficient	1,706
17	121	Shark PA	Data deficient	11,734

Source: Myanmar Biodiversity Conservation Investment Vision (WCS 2013)

Myeik/Kawthoung Districts and their priority for conservation areas are described in the following table.

Table. List of Key Biodiversity in Myeik District

No.	KBA Name	Priority	Area (km ²)
1	Lenya Extension PPA	High (MMR 52)	1,399
2	Tanintharyi PPA	High (MMR 66)	2,590
3	North Lenya (2RFs)	Data deficient (MMR108)	2,650

Table. List of Key Biodiversity in Kawthoung District

No.	KBA Name	Priority	Area (km ²)
1	Lenya PPA	High (MMR33)	1,766

Source: Wildlife Conservation Society, NBSAP 2015, (Area source: from District management plan)

7.3 Myeik District

Tanintharyi Region is also the southernmost region of Myanmar and it has three districts - Dawei, Myeik and Kawthaung Districts. Myeik District comprises four townships – Palaw, Myeik, Kyunsu and Tanintharyi Marine Townships. Myeik is a coastal city and it is famous for fisheries. Myeik city can be accessed by land, air and sea. According to the latest census in 2014, population of the Myeik District is 692880.

Table . Population of Myeik District, Tanintharyi Region.

	Total	Urban	Rural
Myeik District	692880	151229	541651
Myeik Township	284037		
Kyunsu Township	171514		
Palaw	93720		
Tanintharyi	106884		
Palauk Subtownship	36725		

Source: Department of Population.

Myeik District Land use 2016. (area ha.)

Sr .	Township	Reserved Forest	PPF	Forest cover land, Land at the disposal of gov.	PA	Agri/ taungya	Other	Total
1	Myeik	5558	24844	19446	-	16361	75640	141849
2	Tanintharyi	473734	-	570539	-	14912	75753	1134938
3	Kyunsu	18191	62718	22027	-	7529	365902	476367
4	Palaw	41394	9109	49479	-	18006	145504	263494
		538877	96671	661761	-	56808	662799	2016647

Source: Myeik District forest department. PPF= Protected Public Forest, PA= Protected Area.

Myeik District revenue and expenditure for the past 10 years in US\$. (1\$=1000MMK)

Sr.	Particular	Revenue		Expenditure	
				Capital	Current
1	Union	669,045		17,735	323,519
2	Regional	262,984,883		-	510,283,798

Source: Myeik District forest department

Job opportunities in Myeik District by sector wise.

Sr.	Sector	Job opportunity
1	Agriculture	1228
2	Fishery	28084
3	Forest	1058
4	Mining	335
		30705

Source: Department of Labour, Myeik District.

Land use Changes in the past 10 years and plan for the next 10 years in Myeik District.

Past 10 years

Increase 1 RF 40824 ha.
 2PPF 12126 ha.

Exclude 6 RF 4982 ha.
 3PPF

Next 10 years

To increase 2 RF 19174 ha.
 9 PPF 738779 ha.
 5 PA 719605 ha.

Source: Myeik District, 10 year forest management plan.

Myeik District Private Plantation.(area in ha.)

Sr.	Township	Oil Palm	Rubber	Remark
1	Myeik	400	5122	
2	Tanintharyi	13462	970	
3	Kyunsu		1142	
4	Palaw		300	
		13862	7534	21396

Source: Myeik District Forest Department.

Comparism of Working Circle area in the past and next plan, Myeik District.(area in ha.)

Sr.	Extracti on	Plantat ion	Local supply	Bird Nest collecti on	Mangr ove	Waters hed	Minor forest product	Protecte d Area	Area Not Included In WC
Past	316726	6824	484160	0	0	1746	46093	207269	436482
Plan	128339	56602	803878	570	177963	31139	94859	637703	3191

Source: Myeik District Forest Department

Remarks;

- Decrease in extraction area.
(No more Modified Procedure – contract to others)
(Extraction Ban in fiscal year 2015-2016)
(Extraction Cota will be under AAC- annual allowable Cut)
- Increase in Local supply (for the community, basic needs)
- Prioritize mangrove forest
- Prioritize and increase watershed area
- More minor forest product area to substain natural resources
- Increased Biodiversity conservation

Myeik District Organization.

Under the Myeik Assistant Director Office, there are 4 Townships, 2 A grade level and 2 B grade level and their strength are as follows;

Sr.	Organization	Set up	Existing	Remarks
1	AD Office	25	12	
2	Myeik T/S	47	20	A grade
3	Tanintharyi T/S	47	25	A grade
4	Kyunsu T/S	22	16	B grade
5	Palaw T/s	22	15	B grade
		163	88	

7.4 Kawthoung District

Kawthoung is one of the District under the Tanintharyi region. It has 2 townships namely Kawthoung and Bokepyin. Kawthoung is a coastal city and it is famous for fisheries. It can be accessed by land, air and sea. According to the latest census in 2014, population of the Kawthoung District is 221,738.

Table. Population of Kawthoung District, Tanintharyi Region.

	Total	Urban	Rural
Kawthoung District	221,738	79,148	142,590
Kawthoung Township	140,020	68,706	71,314
Bokepyin Township	81,718	10,442	71,276

Source: 2014 Kawthoung District, Immigration Department.

Kawthoung District Land use 2016. (area ha.)

Sr .	Township	Reserved Forest	PPF	Forest cover land, Land at the disposal of gov.	PA	Agri/ taungya	Other	Total
1	Kawthoung	12714	4223	22298	-	53770	62474	269908
2	Bokepyin	193513	14430	16977	20457	74878	176078	648830
		320656	18652	192064	20457	128648	238552	918738

Source: Kawthoung District forest department. PPF= Protected Public Forest, PA= Protected Area.

Kawthoung District revenue and expenditure for the past 10 years in US\$. (1\$=1000MMK)

Sr.	Particular	Revenue		Expenditure		Remark
				Capital	Current	
1	Union	685,240		20,025	217,910	06-07 to 14-15
(2	Regional	128,347		197,260	377,892	11-12 to 14-15

Source: Kawthoung District forest department

Job opportunities in Kawthoung District by sector wise.

Sr.	Sector	Job opportunity	Percentage
1	Livestock	5805	10.02
2	Agriculture	4563	7.88
3	Forest	146	0.25
4	Rubber	584	1,01
5	Oil Palm	23149	39.37
6	Trade	5118	8.84
7	Industry	3221	5.54
8	Others	15347	26.50

Source: Department of Labour, Kawthoung District.

Land use Changes in the past 10 years and plan for the next 10 years in Kawthoung District.

Past 10 years

Increase 7 PPF 18,652 ha.

Exclude 2 RF 1,240 ha.
 1 PPF
 1 PA

Next 10 years

To increase 1 RF 11,621 ha.
 7 PPF 46,501 ha.
 1 PA 143,995 ha.

Source: Kawthoung District, 10 year forest management plan.

Kawthoung District Private Plantation. (area in ha.)

Sr.	Township	Oil Palm	Rubber
1	Kawthoung	27087	3837
2	Bokepyin	7278	81
		34365	3918

Source: Kawthoung District Forest Department.

Comparism of Working Circle area in the past and next plan, Kawthoung District.(area in ha.)

Sr.	Extracti on	Plantat ion	Local supply	Bird Nest collecti on	Mangr ove	Waters hed	Minor forest product	Protecte d Area	Area Not Included In WC
Past	146957	44108	43885	0	0	224	35	197205	217832
Plan	62374	106218	55251	108	54715	10966	62374	164324	218

Source: Kawthoung District Forest Department

Remarks;

- Decrease in extraction area.
(No more Modified Procedure –MP = contract to others)
(Extraction Ban in fiscal year 2015-2016)
(Extraction Cota will be under AAC- annual allowable Cut)
- Increase in Local supply (for the community, basic needs)
- Prioritize mangrove forest
- Prioritize and increase watershed area
- More minor forest product area

Kawthoung District Organization.

Under the Kawthoung Assistant Director Office, there are 2 Townships (A grade level) and their strength are as follows;

Sr.	Organization	Set up	Existing	Remarks
1	AD Office	8	8	
2	Kawthoung T/S	40	24	A grade
3	Bokepyin T/S	40	27	A grade
		88	59	

Lampi Marine National Park.

Location	North latitude	from 10 degree 41 minute to 10 degree 59 minute
	East longitude	from 98 degree 04 minute to 98 degree 18 minute

Bokepyin Township, Kawthoung District.

Area 79.09 sq mile

Gazetted 28th February, 1996 Cabinet approved no (8/96).

Admin Park Warden office in Bokepyin township.

Staff	Park Warden	1
	Staff	6
	Contract labour	3

Status ASEAN Heritage Park – 2013

- Activities
- 1. Patrolling
 - a) Regular patrolling
 - b) Surprise patrolling
 - 2. Conservation
 - a) Tree species counting
 - b) Wildlife species recording
 - c) Marine species counting
 - 3. Public Awareness raising
 - 4. Capacity Building
 - 5. Bird species research
 - 6. Setting Education and Prohibition sign-post.

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