

Mainstreaming biodiversity conservation and restoring forest landscape connectivity in Bago Region, Myanmar

Part I: Project Information

GEF ID

10699

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Mainstreaming biodiversity conservation and restoring forest landscape connectivity in Bago Region, Myanmar

Countries

Myanmar

Agency(ies)

UNDP, WWF-US

Other Executing Partner(s)

Forest Department/MoNREC

Executing Partner Type

Government

GEF Focal Area

Multi Focal Area

Taxonomy

Biodiversity, Focal Areas, Protected Areas and Landscapes, Convene multi-stakeholder alliances, Influencing models, Strengthen institutional capacity and decision-making, Transform policy and regulatory environments, Communications, Stakeholders, Behavior change, Education, Awareness Raising, Indigenous Peoples, Private Sector, Individuals/Entrepreneurs, Civil Society, Non-Governmental Organization, Community Based Organization, Type of Engagement, Information Dissemination, Participation, Partnership, Consultation, Beneficiaries, Local Communities, Community Based Natural Resource Mngt, Terrestrial Protected Areas, Productive Landscapes, Gender Equality, Land Degradation, Sustainable Land Management, Ecosystem Approach, Integrated and Cross-sectoral approach, Sustainable Livelihoods, Restoration and Rehabilitation of Degraded Lands, Community-Based Natural Resource Management, Land Degradation Neutrality, Land Cover and Land cover change, Learning, Capacity, Knowledge and Research, Theory of change, Indicators to measure change, Adaptive management, Capacity Development, Gender results areas, Access to benefits and services, Knowledge Generation and Exchange, Participation and leadership, Gender Mainstreaming, Gender-sensitive indicators, Women groups, Sex-disaggregated indicators, Biomes, Tropical Dry Forests, Species, Threatened Species, Mainstreaming, Forestry - Including HC VF and REDD+, Tourism

Rio Markers**Climate Change Mitigation**

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 1

Duration

60 In Months

Agency Fee(\$)

658,807.00

Submission Date

9/28/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
BD-1-1	GET	2,759,451.00	11,000,000.00
BD-2-7	GET	3,500,000.00	14,500,000.00
LD-1-3	GET	863,242.00	3,630,000.00
Total Project Cost (\$)		7,122,693.00	29,130,000.00

B. Indicative Project description summary

Project Objective

To improve landscape-level land-use planning and promote community land management for conservation of globally significant biodiversity, including Asian elephants, in Myanmar

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1. Mainstream biodiversity conservation approaches in land use and development planning	Technical Assistance	<p>Outcome 1. Updated District Land-Use Plans and Ecological District Forest Management Plans and related sectoral plans to mainstream biodiversity conservation as measured by:</p> <p>-</p> <p><i>i) land-use planning committees established and operational for Bago Region Bago (at least 10 committees at District level -Actual number to be determined at PPG stage)</i></p> <p><i>ii) Increase in institutional capacity as measured by UNDP Capacity Development Scorecards by average of 50% for CFUGs, MONREC (FD, NWCD and Bago Regional Government) from baseline values</i></p>	<p>Output 1.1: Improved capacity of community forest user groups and land-use planning committees through training at District level to promote active and transparent mechanisms for stakeholder participation in decision making</p> <p>Output 1.2: Ecosystem-based Forest and Land Management plans to address the full range of forest values, harmonized with land-uses and updated, comprehensive land use maps based on forest cover change monitoring developed and applied</p> <p>Output 1.3: District & watershed level land-use plans updated and linked to OneMap, measures to improve habitat connectivity and forest intactness across the Bago Yoma region identified</p>	GET	845,945.00	4,000,000.00

iii) Ecosystem-based Forest Management Plans at district level incorporate measures to restore landscape connectivity and strengthen ecosystem services at the watershed scale (Bago Yoma landscape of 367,000 ha – excluding the 98,000 ha NZWS protected area)

iv) Township & watershed level land-use plans updated with mapping of key areas for forest conservation, including Key Biodiversity Areas (KBAs) and restoration (including areas for rewilding of 10,000 ha) within the 367,000 ha Bago Yoma landscape,

v) Number of planning instruments developed and applied to integrate biodiversity outcomes in sectoral plans and programmes at a landscape level

vi) Procedures for managing and resolving grievances are developed and operational

--

Targets and indicators will be confirmed during PPG.

Output 1.4 Guidelines, regulations and other instruments developed and applied to integrated biodiversity and natural resources management and planning (production forests and logging, forest concessionaries; forest plantation design and management) and rules for identification, planning and management of Other Effective Area-Based Conservation Measures or OECMs^[1], with capacity training for CFUGs, and and mainstreamed into other sectoral plans.

Output 1.5: Implement a best practice approach to a grievance recourse mechanism at each CF as a mechanism to build trust and cooperation with local community forest user groups.

^[1] For the purpose of this project, Other Effective Area-based Conservation Measures (OECMs) are defined as geographically defined areas other than Protected Areas managed in ways that achieve positive and sustained long-term outcomes for in-situ conservation of biodiversity with associated ecosystem objectives, functions and

services and, where applicable cultural, spiritual, socioeconomic and other locally relevant values.

Component 2. Implementing Sustainable Land Management, Biodiversity Conservation and Forest Restoration at the Landscape level	Investment	<p>Outcome 2: Biodiversity and forest conservation strengthened at a landscape level, supported by improved livelihoods as measured by:</p> <p><i>i) Initiate landscape connectivity improvement across an area of at least 367,000 ha within Bago Yoma landscape through forest restoration and re-wilding of 10,000 ha of degraded areas, 50,000 ha of Community Forests, to be anchored by the NZWS protected area of 98,000 ha with improved management (Forest restoration will be funded through co-financing by the government and other partners).</i></p> <p><i>ii) Number of forest management and sectoral plans with biodiversity objectives</i></p> <p><i>iii) Number of HECs reduced by 50%</i></p>	<p>Output 2.1: Forest management plans and other sectoral plans for landscape connectivity, degraded forest improvement condition, HEC* reduction, biodiversity mainstreaming, and restoration of ecosystem services, have been fully implemented</p> <p>Output 2.2: New Community Forests (CFs), Community Protected Areas (CPAs) and OECMs are established based on the FPIC participation of affected communities to improve forest and biodiversity conservation and forest connectivity and government guidelines for OECM established</p> <p>Output 2.3: Community Forest Enterprises and other potential commercial opportunities to improve livelihoods based on community consultation are evaluated on economic viability, market potential, community requests, and capacity needs, and are implemented, ensuring that most vulnerable</p>	GET	2,709,417.00	10,000,000.00
--	------------	--	---	-----	--------------	---------------

iv) OECMs established including community protected areas (ICCAs) and Community Forests (CFs) in the Bago Yoma landscape integrating conservation and sustainable management practices (this includes the 50,000 ha of CFs)

v) Livelihoods option discussed and improved in 20 communities, (2,500 beneficiaries with a gender representation of >30% women)

vi) Stable or increased populations of key wildlife species as a result of improvement in habitat connectivity (species and baseline to be determined during PPG e.g. Asian elephant, leopard, gaur, banteng, dhole, Asiatic black bear, Malayan sun bear, wild pig, red muntjac, sambar, pangolin, Phayre's Leaf-monkey)

vii) Illegal activities reduced by 50% over the baseline values for wildlife and timber in Bago Yoma and by 70% in NZWS (baseline to be determined during the PPG).

populations including the ones affected by Covid-19 are targeted

Output 2.4: Anti-illegal logging and anti-poaching measures for the entire landscape developed and implemented following feasibility assessments of new detection technologies, FD staff and community consultation on suitability and training on its application

--

Targets and indicators to be confirmed during PPG.

Component 3. Improve National Protected Area Management Effectiveness and Capacity Development , with emphasis on North Zamari Wildlife Sanctuary (NZWS)	Investment	<p>Outcome 3.</p> <p>Governance and management of the NZWS, and other PAs across Myanmar, strengthened through effective management and capacity building as measured by:</p> <p><i>i) 98,000 ha of protected area (NZWS) under improved management (METT Score to be completed at PPG stage and gaps addressed)</i></p> <p><i>ii) NZWS Management Plan is operationalized and financed, and the supporting infrastructure is in place</i></p> <p><i>iii) 30+ regional FD staff trained /year (200 total) at the National Training Centre to improve PA management capacity across Myanmar, with effort at equal gender balance (measured using UNDP's CD Scorecard to be completed at PPG stage)</i></p>	<p>Output 3.1:</p> <p>NZWS participatory management plan is effectively operationalized by incorporating: (a) protected area zoning arrangements; (b) desired ecological and management practices; (c) staffing and infrastructure requirements; (d) species and habitat monitoring protocols; (e) surveillance and enforcement measures and (f) management of confiscated wildlife, to inform national PA policy framework (to be funded but non-GEF resources)</p> <p>Output 3.2:</p> <p>FD staff are trained and implement best international PA management practices, with critical infrastructure and essential equipment in place to showcase protected area management in Myanmar</p> <p>Output 3.3: Myanmar Protected Area and Wildlife Training Centre curriculum uses NZWS for operational training to enhance protected area management,</p>	GET	2,549,803.00	9,930,000.00
--	------------	--	---	-----	--------------	--------------

<i>iv) Multi-stakeholder PA committee formed of key representatives from FD, other relevant government organizations, communities and local CSOs and meets 2x a year</i>	biodiversity monitoring, surveillance and enforcement patrolling and assessment of future sustainability and including focus on measures to prevent and minimize the impact of future zoonotic disease outbreaks
<i>v) Biodiversity monitoring program at NZWS for 13 focal species (as listed above) developed and operational.</i>	Output 3.4: Systematic regular biodiversity monitoring survey system established, including: (a) simplified, standardized data collection methods; (b) institutional platform to collect, catalogue and disseminate monitoring information; and (c) server facilities and training for sharing monitoring data
<i>-- Targets and indicators to be confirmed during PPG.</i>	

Component 4. Knowledge Management, Awareness, Gender Inclusion and Women's Empowerment, and M&E	Technical Assistance	<p>Outcome 4: Effective knowledge management, coordination and M & E to improve landscape management and secure globally significant biodiversity as indicated by:</p> <p><i>i) At least 50% of sampled decision makers, communities and stakeholders (of which at least 30% are women) have an improved understanding of biodiversity value, OCM approaches, landscape level planning, emergence of</i></p>	<p>Output 4.1: Knowledge Management and Communications and Gender Mainstreaming strategies developed and implemented</p> <p>Output 4.2: Improved adaptive management through management information systems to enhance information generation and knowledge sharing and strengthening of institutional capacity in adaptive management.</p>	GET	678,352.00	3,500,000.00
---	----------------------	--	---	-----	------------	--------------

<i>zoonotic diseases and health risks arising from over-exploitation of nature and unregulated wildlife trade (KAP survey);</i>	Output 4.3: Knowledge management and learning advances replication through documentation of best practices, capture of traditional knowledge, informing land use policy review and preparation of a national scaling up model for wider implementation across much of Myanmar in the future
<i>ii) At least 8 institutions and 20 staff sharing knowledge on good landscape management practices, and selected biodiversity (species, ecosystems) conservation through regional/ international fora</i>	Output 4.4: M&E system incorporating gender inclusion and women's empowerment for adaptive project management developed and implemented and management of social and environmental safeguards.
<i>iii) Develop and dissemination of at least 20 best practices for livelihoods options that promote biodiversity conservation and sustainable land management, OECM approaches, etc.</i>	
<i>Targets and indicators to be confirmed during PPG.</i>	

Sub Total (\$)	6,783,517.00	27,430,000.00
----------------	--------------	---------------

Project Management Cost (PMC)

GET	339,176.00	1,700,000.00
-----	------------	--------------

Sub Total(\$)	339,176.00	1,700,000.00
---------------	------------	--------------

Total Project Cost(\$)	7,122,693.00	29,130,000.00
------------------------	--------------	---------------

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Recipient Country Government	Forest Department	Grant	Recurrent expenditures	5,000,000.00
Donor Agency	World Bank	Loans	Investment mobilized	20,000,000.00
GEF Agency	WWF US	In-kind	Recurrent expenditures	430,000.00
GEF Agency	WWF - Myanmar	Grant	Investment mobilized	2,000,000.00
Donor Agency	FAO (EU funding)	Grant	Recurrent expenditures	1,500,000.00
GEF Agency	UNDP	Grant	Recurrent expenditures	200,000.00
Total Project Cost(\$)				29,130,000.00

Describe how any "Investment Mobilized" was identified

• Forest Department has initiated the Myanmar Reforestation and Rehabilitation Plan (MRRRP) for the period 2017-2026. • WB is developing a large loan programme to support MRRP implementation. • WWF is proposing to cooperate on its planned activities within the project site to construct the wildlife training centre (1.5M) and to directly work on elephant conservation (0.5M). • The EU-funded FAO project will undertake much of the work associated with Output 1.3 and some of Output 1.4. It will assist in developing participatory landuse plans for each of the 4 Districts in Bago

D. Indicative 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	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Myanmar	Biodiversity	BD STAR Allocation	2,689,726	255,524	2,945,250.00
UNDP	GET	Myanmar	Land Degradation	LD STAR Allocation	863,242	82,008	945,250.00
WWF-US	GET	Myanmar	Biodiversity	BD STAR Allocation	3,569,725	321,275	3,891,000.00
Total GEF Resources(\$)					7,122,693.00	658,807.00	7,781,500.00

E. Project Preparation Grant (PPG)

PPG Required



PPG Amount (\$)				PPG Agency Fee (\$)			
200,000				18,500			
Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Myanmar	Biodiversity	BD STAR Allocation	50,000	4,750	54,750.00
UNDP	GET	Myanmar	Land Degradation	LD STAR Allocation	50,000	4,750	54,750.00
WWF-US	GET	Myanmar	Biodiversity	BD STAR Allocation	100,000	9,000	109,000.00
Total Project Costs(\$)					200,000.00	18,500.00	218,500.00

Core Indicators

Indicator 1 Terrestrial protected areas created or under improved management for conservation and sustainable use

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
98,000.00	0.00	0.00	0.00

Indicator 1.1 Terrestrial Protected Areas Newly created

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

Name of the Protected Area	WDPA ID	IUCN Category	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
----------------------------	---------	---------------	----------------------------	--	----------------------------	---------------------------

Indicator 1.2 Terrestrial Protected Areas Under improved Management effectiveness

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)
98,000.00	0.00	0.00	0.00

Name of the Protected Area	WDPA ID	IUCN Category	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)	METT score (Baseline at CEO Endorsement)	METT score (Achieved at MTR)	METT score (Achieved at TE)
North Zamrari Wildlife Sanctuary	555626076		98,000.00						



Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
10000.00	0.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

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

Indicator 3.2 Area of Forest and Forest Land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
10,000.00			

Indicator 3.3 Area of natural grass and shrublands restored

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

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

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

--

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)
357000.00	0.00	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)
357,000.00			

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 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO ₂ e (direct)	6789096	0	0	0
Expected metric tons of CO ₂ 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)
Expected metric tons of CO ₂ e (direct)				
Expected metric tons of CO ₂ e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

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 ₂ e (direct)	6,789,096
Expected metric tons of CO ₂ e (indirect)	
Anticipated start year of accounting	2022
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	1,560			
Male	3,640			
Total	5200	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Indicator 1: The NZWS protected area is 98,000 ha and the anchor of the Bago Yoma landscape. This protected area will be brought under full management regime as a result of this project. Indicator 3: This area is the additional target that the project will provide to that already planned under the Myanmar Forest Restoration Program where 10,000 ha of degraded areas will be rewilded. Indicator 4: Of the 357,000 ha under improved management practices in the Bago Yuma landscape (this area excludes the NZWS), 307,000 ha will be under improved forest management practices and 50,000 ha under CFs. Indicator 6: The CO₂ e value was derived from the FAO Exact Tool. Please refer to Annex D. Estimates are made for a 20-Year (5 years implementation plus 15 years of capitalization) period. Of the 465,000 ha (including NZSW) Bago Yoma landscape, a total of 158,000 ha is planned for the various activities: protected areas improved management (98,000 ha), degraded land restoration (10,000 ha) and Sustainable Forest Management – outside protected areas (50,000 ha). tCO₂eq benefits are expected only from degraded land restoration (10,000 ha) and crop production improved practices (50,000 ha). In addition, it assumed that the project would reduce the rate of degradation by 50% to 1%/year (based on Khalil et al study of illegal logging rate) = 4650 ha/yr = 18,600 over 4 years (Year 1 preparatory activities only). Only 18,600 ha (out of total of 50,000 ha brought under Sustainable Forest Management) will yield full carbon equivalent benefit. No negative impacts from natural or anthropogenic disasters, expect for forest fire, are discounted in the estimates. The anticipated start year for the GHG benefit accounting is year 2022. All estimates are subject to the assumptions made during the development of EX-ANTE: EX-ACT Indicator 11: Although, 30% women's participation is defined at PIF stage. Following gender analysis at PPG stage, the intent is to identify key activities currently being undertaken by women and facilitate their further development and develop women's specific investments options at PPG stage with the intent to increase benefits to women beyond the 30%. This figure will be accordingly adjusted at PPG stage. This project specifically addresses Aichi Targets: 5, 7, 11, 12, 14, 15 & 19. Further, the project relates directly to Myanmar's NBSAP to address their targets : 5.2, 5.4, 11.3, 12.1, 12.2, 14.1, 15.1, 15.2 and 19.2

Part II. Project Justification

1a. Project Description

1a. *Project Description.*

1. Global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)

Myanmar has been one of the fastest growing economies in South East Asia, until the outbreak of the COVID-19 pandemic, which has plunged growth outlook to just 1.8% in 2020 and 6% in 2021[1]. It is classified as a Least Developed Country but has made significant strides in poverty reduction, by halving poverty from 48.2 percent in 2005 to 24.8 percent in 2017[2]. Despite this impressive performance, Myanmar continues to record a relatively high prevalence of food insecurity, especially in remote areas such as Chin, Kachin, and Sagaing[3] that have been further exacerbated by the outbreak of COVID-19 pandemic. Further, more than a third of children are chronically malnourished, and just 54 percent of children complete 5 years of primary school. Myanmar ranks 145th out of 189 countries under the UNDP's Human Development Index[4]. Lying between the largest city of Yangon, and the capital Naypyitaw, the Bago Region (about 2 million ha) is an important rural area for wildlife, forestry, and agriculture and is the "Home of Teak". Most of the remaining forest in this Region is located along the Bago Yoma (yoma = mountain, about 465,000 ha), a range of low mountains running north-south between the Ayeyarwady and Thanlwin Rivers, falling within the Ayeyarwady moist deciduous forest ecoregion, in the Bago Region of Myanmar.

The Bago Region lies within the globally important, and endangered, Indo-Myanmar (Burma) Biodiversity Hotspot. Myanmar has some of the most diverse habitats in the tropics, owing to its varied topography and north to south distinct variation in climate. As a result, Myanmar has an incredibly diverse biodiversity with more than 18,000 species including 11,800 vascular plants of gymnosperms and angiosperms, 1200 butterflies, 251 mammals, 1,056 bird species, 282 reptiles, 82 amphibians, 1540 medicinal plants, 96 bamboos, and many crop species and local variants, including endemic rice species⁶. Among these species are at least eight endemics and newly discovered species have been added as recently as 2016, including geckos, salamanders, and primates. The country has listed 128 globally endangered and critically endangered species, including 25 mammals, 25 birds, 2 amphibians, 10 fish, and 10 reptiles among vertebrates, and 32 endangered plant species[5]; many of these species occur on the proposed project area.

Deforestation and forest degradation are recognized globally as a major issue, resulting in the loss of biodiversity, loss of ecosystem services, and an increased atmospheric CO₂. Myanmar has a forest area of over 29 million ha, which covers approximately 44% of its total land area and is the largest remaining forest in mainland Southeast Asia (FAO 2015)[6]. Similar to at the global scale, however, the Myanmar forest is under numerous threats including internal conflicts, poor logging practices, land-tenure insecurity, agricultural development, demise of state timber enterprises, shortfalls in government revenue

and capacity, illegal logging, and new roads for mines and hydroelectric dams (Prescott et al. 2017)[7]. These threats coupled with a lack of landscape-level planning have resulted in high habitat loss and the fragmentation of the remaining habitat, with the consequential losses of biodiversity, especially for large-bodied mammals such as Asian elephants. A large percentage of this ongoing forest conversion is illegally done. An added issue in the Bago Yoma has been widespread historical conversion of designated degraded forest to teak and rubber plantations, which has reduced overall landscape biodiversity values and reduced forest ecosystem services, especially to local farmers (water, pollination, pest control, etc.).

During much of the last half of the 20th century, being politically and economically isolated under a series of military administrations, the government harvested teak at rates that were well in excess of sustainable annual allowable cut limits. As recently as 2008, more than 335,000 tons of teak and as much in other hardwoods were logged in Bago Region, most of it from Bago Yoma; whereas today, the harvest quota is just 12,500 tons of teak for the entire Bago Region. The most recent annual deforestation rate was 1.85% (slightly down from the 2% reported in 2015, but still at 289,000 ha/year; FAO 2020) and is among the highest rates in the world. Forest loss from long-term over-harvesting and forest habitat change from selective harvesting, fuelwood harvesting, and mono-culture plantations, coupled with increased access and illegal logging have resulted in degraded forest conditions throughout the Bago region (e.g., Win et al. 2009, 2018[8], Bhagwat et al. 2017[9]), including within the single protected forest area (North Zamari Wildlife Sanctuary). The rate and extent of fragmentation, especially of forests, is immense. At the global level, Haddad et al. (2015)[10] found that 70 per cent of forest cover is within 1 km of a forest edge (such as a road, or converted land use, such as agriculture), resulting in biodiversity reductions by as much as 75 percent and reducing associated ecosystem functioning.

Intact habitat is globally recognized as essential for the functioning of large ecological systems, as well as for ecosystem goods and services, including the cycling of water and carbon, and human health (Watson et al. 2018)[11]. Within this project landscape there remains a small intact forested area of about 2,300 km² (Bhagwat et al. 2017)¹⁰, much of it listed as a KBA, some of which is protected in the North Zamari Wildlife Sanctuary (980 km²). This area supports a small, declining but so far persistent Asian elephant population. The intactness of the Bago Yoma area has been damaged by logging and land conversion to agriculture and the Potapov et al. (2017)[12] study of remaining global intact forests flagged the Bago Yoma intact forest area as under threat of losing the remaining intactness entirely. Throughout the country, Myanmar lost a total of 2.07 million ha or 11.3% of its intact forest during 2002-14 alone, including losing over 1000 km² of the Bago intact area (Bhagwat et al. 2017, Treue et al. 2016).

Early government responses to forest degradation included clearing degraded forests and replacing them with more than 31,000 ha of teak plantations, promotion of rubber plantation, with concessions being awarded to Myanmar companies that need to be reviewed from a long-term sustainability perspective. More recently, watershed plantations have also been established. There are now over 41,000 ha of rubber plantations in Bago, many of which are either not highly productive or well-past their prime age (Myanmar Rubber Planters and Producers Assoc., 2018). According to Woods (2012)[13], government has plans to expand the country total planted to rubber to more than 6 million ha. Many of the teak plantations are also not productive, owing to inappropriate site selection (Hlaing and Teplyakov 2013)[14]. Further, a 2008 study by Maung and Yamamoto[15] in Bago found that all the incentives related to plantation projects were temporary, with limited long-term consideration for taungya farmers, which has jeopardized plans to create community forest protection and management groups. More recently, acacia and new teak plantations are being established in the Bago Region, mostly through reliance on private investments with limited community inputs and with no consideration for fully integrating long term impacts and biodiversity considerations. Regardless, recent data[16] suggests that there now may be an excess of teak plantation, with an estimated 145 million teak trees in Bago. These trees require more time

to mature, suggesting a continued period of low annual harvest, but as the plantations mature over time, harvests will increase. As noted, many teak plantations are on poor sites and there is considerable need for forest re-wilding to re-develop landscape connectivity, improve forest functioning, and recover forest structures and species composition and to provide wildlife habitats.

Over-harvesting of forests and degradation have been a standing concern in Myanmar for many years. Win et al. (2018) and Khai et al. (2020)[17] investigated legally and illegally cut stumps to reveal that the amount of illegally cut trees was much greater than legally cut trees, and that illegal cutting increased after legal cutting. After 2016, the newly elected NLD government, responded to concerns over sustainability of timber harvesting and imposed a 1-year nation-wide moratorium on logging, with a 10-year moratorium in Bago Yoma. While there is evidence that this has had a positive impact on the legal harvesting, illegal logging has continued (Hausheer and Boucher 2018)[18] to the point where it is equivalent to what to legal harvest used to be in Bago Yoma prior to the moratorium, at (27.5 m³/ha) (Khai et al. 2020). Illegal logging, of course, targets the high value species resulting in species depletions and forest degradation. A recent report called Bago Region "the epicenter of the illegal logging crisis [in Myanmar]" (Hausheer and Boucher 2018) and the Forest Department has indicated that illegal logging is the key driver of deforestation throughout the Bago Region. Based on mapped data on number of seizures, the Bago Yoma area supports much of this illegal activity: known (i.e., seized) illegal wood harvest for Bago exceeded 5500 tonnes/year for the past 4 years, with more than a quarter of all logs seized coming from Bago Yoma. Overall, Myanmar has seized an average of 40,000 tonnes/year over the past 10 years, with the amount increasing each year since 2014 (all data from Ministry of Natural Resources and Environmental Conservation (MONREC)). This amount likely represents only a small portion of the true volume of illegal wood, because of limited enforcement capacity, lack of enforcement planning, no advanced technologies, and some local sympathy for the loggers who lack alternatives by which to make a living. Management agencies lack sufficient funding, capacity, and staff to curtail these illegal operations that occur throughout the Bago Region, including within the North Zamari Wildlife Sanctuary.

In the Bago Region, ethnic Kayin (Karen) communities have historically occupied upland areas, practicing shifting cultivation, while Bamar (Burmese) have occupied lower elevations, predominantly practicing sedentary agriculture in the river valleys. As agriculture and human populations have expanded, human-elephant conflicts (HEC), including revenge-killings of elephants, are increasingly common in the Bago Yoma. Increased access has also resulted in reduced forest habitat and fragmentation of former intact areas, as well as enabling the increased illegal killing of elephants for skin and ivory for a persistent market, and for other species as bushmeat, including endangered pangolins. Elephant numbers in Myanmar have fallen from 10,000 in the 1940s to now under 2000 (<https://www.irrawaddy.com/news/burma/10-year-plan-aims-to-save-myanmars-wild-elephants-from-poachers.html>). Between 2010 and 2014, 62 poached elephant carcasses were found, and in 2017 alone, 25 individuals were found killed and skinned, with >20% of all known Myanmar elephant deaths in the Bago Yoma area. Habitat loss and poaching along access roads are the main drivers of elephant decline, and this habitat loss (deforestation >1.8%/yr) is also driving other forest species to low levels. A recent study, conducted in the North Zamari Wildlife Sanctuary (NZWS), indicated that 34 other species are also hunted in the reserve, including some that are globally endangered such as Sunda pangolin (*Manis javanica*), tiger (*Panthera tigris*), Burmese mountain tortoise (*Manouria emys*), elongated tortoise (*Indotestudo elongate*), and Phayre's langur (*Trachypithecus phayrei*), along with elephants. Much of the meat is sold and consumed locally but much is also illegally traded into China (Smiley-Evans et al. 2020). A lack of holistic landscape planning, no efforts to combat HECs, limited community co-management of resources, and lack of local technical capacity hampers conservation of biodiversity throughout Bago Yoma, and especially within the NZWS. Fragmentation and loss of the remaining forests has become a serious threat to biodiversity conservation in the country, representing some of the last available wild elephant habitat in Southeast Asia, as well as providing habitat for the large number of other globally threatened and endangered species that use the same areas (list below).

Globally, wildlife crime and illegal logging are estimated to cause damage worth more than a trillion dollars annually (GWP 2019)[19]. Further, with Ebola and other diseases possibly including Covid-19, emanating from wet-markets, global economies can be effectively shut-down for extended periods. Developing countries, including Myanmar, are highly dependent on their natural resources, including timber, wildlife, and fish, as sources of revenue and development opportunities, but generally need more effective governance, adequate policies, and law enforcement capacity (personnel, training, and technologies) to manage these assets well. In particular, relatively little effort can presently be made to reduce illegal resource-based crime. Governments have few data on the magnitude of these trans-national crimes and, in particular, the damage that they cause to local communities, national economies, and to ecosystem services. Forests and the associated biodiversity are fundamental to the socio-economic well-being of the people of Myanmar, providing local villagers not only numerous forest products to fulfill their basic needs, including wood fuel, foods, and medicines (there are known 1540 species of medicinal plants), but also contributing substantial foreign exchange earnings to the country's economy. The Bago Region, and especially Bago Yoma, is considered to be the heartland of Myanmar's commercial timber industry, where landscapes were characterized historically by large areas of mixed dry and moist deciduous forest, with a high proportion of teak. However, Murray et al. (2020)[20] and WCS listed the entire area as an endangered ecosystem, owing to logging and land conversion, mostly for agriculture.

Colonial and post-colonial administrations in Myanmar have practiced top-down management of resources, with the government assuming control of all lands under the Constitution. Consequently, an enormous proportion of the Bago Yoma is designated as either "Reserve Forest" or "Protected Public Forest". On the other hand, the role of local communities, especially in Reserve Forests, is limited and needs to be significantly strengthened. Similarly, top-down imposition of protected areas has led to the unsustainable management of protected areas, usually because of the absence of local community involvement in their administration (Kimengsi et al. 2019)[21]. The importance of protected areas to sustaining biodiversity has been well-recognized (e.g., Zimmernan and Kormos 2010, Watson et al. 2018, Putz and Thompson 2020)[22]. However, high opportunity costs have made it difficult to conserve primary forests in Southeast Asia. Where primary forests do get placed into a protected area, there is no assurance of conservation owing to considerable illegal activity (Fisher et al. 2011, Geldmann et al. 2014, Treue et al. 2016)[23]. Myanmar has about 5.8% of its land base in parks and another 2.5% in other forms of protected areas, such as wildlife sanctuaries (Myanmar's 6th National Report to the CBD, 2018) and was aiming for at least 10% by this year. However, the NZWS is emblematic of a global issue facing many protected areas in developing countries: the insufficient capacity to stop illegal activities resulting in a so-called "paper parks" and "empty forests" (e.g., Harrison 2011)[24], where there is little possibility of sustaining the local biodiversity without improved management and control. While intact tropical forests and protected areas may improve conservation results with sufficient management, ineffectual management results in high levels of illegal use, including at the NZWS (Smiley-Evans et al. 2020)[25], with resultant impacts on forest ecosystems and the services that they provide.

In the Bago Region, the North Zamari Wildlife Sanctuary is the only large forest protected area, established primarily for the Asian elephants. While its status as a wildlife sanctuary confers the same status as a National Park, nevertheless, the area is subject to land-grabbing, poaching, and illegal logging. In addition to the endangered Asian elephants, camera trap surveys done by the Friends of Wildlife (a local NGO) and the Forest Research Institute (the research arm of the Myanmar Forest Department) have identified several important species within the sanctuary, including Asian black bear (*Ursus thibetanus*), Asian sun bear (*Helarctos malayanus*), leopard (*Panthera pardus*), leopard cat (*Prionailurus bengalensis*), marbled cat (*Pardofelis marmorata*), and dhole (*Cuon alpinus*). Other known resident endangered species include Phayre's langur, elongated tortoise, and Burmese mountain tortoise, all of which are hunted and traded. Populations of a vast array of these and other wildlife species are known or are thought to be declining both within the NZWS and throughout Bago Region, but

there is a lack of population or trend data. The following species, resident in Bago Yoma and the NZWS are *globally* listed as threatened, endangered or critically endangered: Asian elephant; Leopard, Gaur, Banteng, Dhole, Asiatic black bear, Malayan sun bear, Wild pig, Red muntjac, Sambar, Sunda Pangolin, Phayre's leaf-monkey.

Among the many ecosystem services provided by intact forests is its ecological function for healthy wildlife populations, with large self-sustaining populations that have limited contact with humans. Globally, in several regions, including central Africa and eastern Asia, there is a strong possibility that deforestation and the unsustainable use of bushmeat has very likely resulted in the transmission of zoonoses to human populations. The current Covid-19 global pandemic appears to be another of these zoonotic diseases passed from wildlife to humans, much like Ebola in Africa, where land-clearing seems to have resulted in human proximity to the virus through animal contact. Projects, such as this proposed work in Myanmar, are essential to restore ecosystem services at large scales, which includes assisting in the long-term prevention of zoonoses through the conservation, re-wilding, and sustainable management of intact forest landscapes. This will entail special efforts to reduce the potential for outbreak of zoonotic diseases through risk management, providing opportunities for improving community resilience and development of risk management strategies and recovery of intact, well managed production landscapes where wildlife harvesting will be done in an ecologically sound manner (refer Section 5 – Risk Management),

Loss of forest and associated habitats, along with their biodiversity and ecosystem services, have resulted in considerable economic and biodiversity losses in the Bago Region, requiring action to reverse. Barriers to improved management, including within protected areas, are legion and the major focal barriers include:

Barrier 1: Insufficient public engagement in land-use planning (integrated or otherwise), with limited available mapping and zonation - The primary underlying barrier to solving the problem of forest landscape degradation and loss of biodiversity in the Bago Region results from the legacy of previous government top-down land use planning, under which communities had little to no input into land-use decisions, thus exposing them to the risk of land-grabbing. Additionally, under Myanmar's Constitution of 2008, all lands belong to the State, where government agencies, private sector companies and individuals may be assigned rights to use the land for varying periods of time (in the case of government agencies, indefinitely). As forestland in the Bago Yoma region is under the jurisdiction of the Forest Department, shifting cultivators in the region normally have no documentary evidence of land rights. The land on which shifting cultivation is practiced may be Forest Land or Vacant, Fallow and Virgin (VFV) land, but without clear demarcation of the land they use, and hence they are vulnerable to the threat of potential land grabs and to potential loss of access to these lands. Past lack of community engagement and mistrust has contributed in large part to significant illegal activities and potential risk of corruption, thus imposing excessive demands on the Forest Department's law enforcement's current capacity, which needs strengthening.

The solution to this problem lies in developing a much more inclusive and participatory land use planning framework that mainstreams biodiversity conservation and forest landscape restoration, while promoting increased community awareness of ecosystem services, co-management of natural resources and sustainable alternate livelihood activities for communities. This concept applies throughout the Region including within the protected area at NZWS, where community consultation is needed as a new management regime moves forward. Evidence-based evaluations have revealed some shortcomings associated with co-management of resources; for example, where too much attention is paid to the structure of the co-management system, rather than to the

function, it has failed to yield the desired outcome. In other words, while it is important to ensure that a co-management structure is in place, it is also imperative that co-management is properly implemented, in a fully participatory fashion and with appropriate objectives. This lesson has been well-learned and will be avoided in this project by avoiding power asymmetries and ensuring that the objectives for improved management are met in a bottom-up manner through multi-stakeholder processes.

In terms of land tenure the solution is improved capacity of the CFUGs and land use planning committees to promote active and transparent mechanisms for consultation in decision-making; development of ecosystem-based district forest management plans through a participatory process, establishment of new CFs, Community PAs (ICCAs) and OECMs based on FPIC participation of affected communities and establishment of community forest enterprises and commercial opportunities to improve livelihoods based on community consultation. The participatory forest and management planning and sustainable forest management, OECM planning and ICCA planning will facilitate ensuring that community traditional rights related to shifting cultivation, market gardens and fuel wood collection are recognized.

At the same time, the current top-down land use planning framework also does not recognize the role of women as agents of positive change. Evidence shows that when women are given equal opportunities and access to resources and decision-making, they become more prosperous and can play a vital role in sustainable use of forests and biological resources and in maintaining protected areas (e.g., WWF 2012)^[26].

Barrier 2: At the regional government level and within communities there is low capacity to manage community forests and more generally to plan at a landscape level to protect forest resources and mainstream biodiversity considerations. Government at the regional level needs greater capacity to meet delegated landscape management, land planning, conservation, forest restoration, enforcement, biodiversity management, and protected areas mandates. Myanmar is going through a process of decentralization of governance to States and Regions, with further delegation there to districts and townships. However, as experienced in other countries that undertook changes of authority, the competencies of staff at the sub-national level do not yet possess all the knowledge and skills required to deliver on their new mandates. In addition, there is a residual culture within government, including the Forest Department, to rely on decisions made at the central level for implementation of such decisions at the sub-national level, without sufficient consideration of local conditions or engagement of local communities. In the specific case of CFs, these have been designed to emphasize community responsibility for forest protection rather than on a role in management, while control has been maintained by government instead of being devolved to the communities.

In the absence of a committed annual budget specifically for prevention of poaching and illegal logging and insufficient capacity for, and training of the enforcement staff, illegal activities have apparently now reached high levels. Low capacity to eliminate illegal actions is enhanced further by the lack of application of advanced technologies and decision-support systems. There is a clear need to re-think landscape planning, as well as protected area management, by ensuring policy support, community involvement, improving capacity in both government and communities and fostering improved relations between government and rural people, and to improve the technological capacities. Biodiversity is rarely considered in local forest planning and as a result, fragmentation is persistent across the region, reducing habitat for large-bodied wildlife species.

Regional and local land use planning will require decision support tools and mapping, vastly improved training for staff, and community involvement and consultation. Currently the region lacks sufficient baseline data to provide evidence-based information to support better land-use planning. This situation can partially be overcome through the use of available imagery and databases through for example, the Global Forest Database, available sequences of satellite imagery, IUCN, The UN Biodiversity Database mapping, and national NGO data on endangered species to support land planning for improving landscape connectivity, and for prioritizing re-wilding efforts to enhance forest intactness.

Beyond providing tools, there is need to foster the development of a co-management regime for the NZWS and for the CFs, as well as for communities to provide inputs to the larger landscape management planning. While there has been past training by NGOs at three existing CFs in Bago, the outcomes were not sustainable once the funding was finished, as a result of a lack of institutional and democratic underpinning. Further, there are no functioning conflict resolution mechanisms to resolve conflicts quickly and efficiently at CFs (explanation under Output 1.5). Change in management regime must involve development of formal management structures, management training and planning, as well as the sharing of knowledge for and by all stakeholders. From the government side there has to be partial devolution of management authority and tenure security for communities, with relinquishing of bureaucratic centralized state control of resource management at the CFs. These changes in policy have recently occurred, meaning that creation of new CFs is now likely to meet with greater success; this is explained further below under “Sustainable Forest Management”. Communities are better positioned to manage and benefit if they have tenure over the resources[27]. From the community side, there is abundant traditional and local knowledge about the land that could be used in better resources planning, despite the present lack of western scientific information on species’ ecologies in the area. However, harnessing this knowledge to benefit local management is an important project component that can only be accomplished through trust-building between local government and communities and with the specific involvement of the Forest Department of MONREC, to be fostered under this project.

Barrier 3: At the community level, limited livelihood possibilities creates incentives for people to illegally exploit resources, and has contributed to declining biodiversity largely through the unsustainable harvesting of wildlife and habitat loss. As noted under Barrier 3, poaching and illegal logging have reached very high levels, resulting in extensive losses of biodiversity and forest resources, owing to poverty, ready markets, and, in particular, the lack of available livelihood options. MONREC’s forest rehabilitation program and logging ban in the southern Bago Yoma may succeed in restoring some suitable habitat to support biodiversity. However, significant hunting and illegal logging pressures in protected areas, and more widely across the region, will remain in the absence of a multi-faceted approach to curtailment of illegal actions. Such actions will require increased monitoring, strengthening disincentives for illegal hunting and trading, increasing incentives for wildlife stewardship, promoting a better understanding of high-risk behaviours for zoonotic diseases (e.g., Covid-19), and support for community livelihood options in a manner that is effective in reducing illegal activities. Eliminating hunting, however, is not feasible in the Bago Yoma because of its symbolic, economic and subsistence importance. The conservation challenge is to work collaboratively with communities for long-term co-management of resources, benefitting both humans and wildlife. While improved enforcement effort using advanced technologies and planning is part of the answer to this problem, local communities also need assistance to plan and develop sustainable options for viable income-generating opportunities, especially in terms of ‘green business opportunities’ and properly run community forests. There is a general lack of awareness of such livelihood options and limited government support available to create the enabling conditions required to develop commercial opportunities. There remains a very strong reliance at all levels on international agencies and NGOs to identify and develop income-generating opportunities, with limited national, provincial, local and landowner capacity to undertake these functions. A key objective for this project will be to enhance, through training and assistance, the local livelihood options available in the region, with the development of community cooperatives based on ready markets for local products.

Barrier 4. Insufficient capacity to manage protected areas throughout Myanmar, including at the North Zamari Wildlife Sanctuary. There needs to be a major investment in training of staff and equipment for all protected areas, as well as specifically for the NZWS. NZWS exists on the map but the level of staffing and infrastructure available is grossly inadequate. Based on interviews with FD staff, NGOs and community leaders, the NZWS staff are strong in forestry, patrolling, and administration skills, but weaker in communication and community development skills. Staff could benefit from further development to help them work inclusively and effectively with communities including: community development, communications, conflict management, gender issues, and cultural sensitivity. This requires capacity building for existing staff, as well as supporting better preparation for new recruits, and working with the local community to improve management options and planning.

2. The baseline scenario and associated baseline projects

Bago Region is a 39,402 km² administrative area located between Yangon and Naypyitaw, comprised of 4 districts with rural people comprising >77% of the total for the region: Taungoo District which is 10,653 km² and was mapped in 2014 for some landscape types. Taungoo District has a rural population of 892,000; Pyaw District, with an area of 7612 km², and with a rural population of 685,000; Bago District is 13,855 km² and has a population of 771,000; and Tharyarwady District is 7261 km² with a rural population 790,000. (all data from MIMU). The project will cover an area of approximately 465,000 ha, primarily in the Bago Region. Landscape restoration activities will be implemented primarily in the Bago Yoma (Yoma = mountains) including within the NZWS, with advanced planning for most of the region and the NZWS.

Landscape Management:

Landscape management has not previously been implemented in Myanmar, although policies exist to support the techniques. A lack of landscape mapping and limited compiling of local data and knowledge have been the main deterrents, along with the need for more training at regional and state levels of government. Policies exist for landscape planning and management, including under the revised Land Use Policy (2016), Forest Law (2018), the Conservation of Biodiversity and Protected Areas Law (2018) and the Myanmar Forest Restoration and Recovery Plan (MRRP). Current planning is affected at small and independent scales resulting in forest fragmentation, loss of landscape connectivity, encroachment into wildlife habitats, location of some plantations on poor sites, and with a lack of coordination among planning teams across the Region.

Sustainable Forest Management:

The underlying socio-economic needs in the Region results in people in the small communities viewing forest ecosystems as a source of short-term economic gain through exploitation, rather than as a prerequisite for their long-term ecosystem services, based on proper management, protection and conservation. This is underpinned by inadequate integration of long-term resilience benefits (or loss avoided) in public investment plans and strategies (both at national and sub-national levels). Without interventions leading to improved landscape planning and livelihoods that will help alleviate poverty, it is certain that the rate of loss to illegal activities, both of forests and biodiversity, will continue to increase, resulting in continued landscape degradation and even greater loss of globally important biodiversity.

In its 6th National Report to the CBD (2018), Myanmar noted that it was well short of several forest-related targets, including reducing the rate of deforestation (which is now among the highest in the world), reducing effectively illegal timber harvesting, and the national area of dry deciduous forest placed under protection. They did, however, report exceeding the target of 130,000 ha of community forest (CF) created, of which 30,908 ha are in the Bago Region, suggesting that when properly implemented, OECMs are a viable management strategy. CFs are a part of recent efforts to achieve greater community involvement in natural resource management and is consistent with Decision CBD/COP/14/8 to reduce forest fragmentation.

Launched in 2017, the new Myanmar Forest Restoration and Recovery Plan (MRRP) has a target of 900,000 ha of CF to be established by 2026, with ambitious targets for reforestation and restoration of degraded forests. Consistent with the move towards greater community engagement, the targets include significant areas of community plantations and community forests. The revised Community Forest Instructions of 2019 also established the potential for Community Forest Enterprises, of which there are only a few examples in Tanintharyi, Rakhine, Shan and Bago Regions.

For Bago Region, over the period of its implementation (2017-2026), the MRRP calls for:

- Ø 53,700 hectares of assisted natural regeneration;
- Ø 11,700 hectares of enrichment planting;
- Ø 18,400 hectares of community forests;
- Ø 4,200 hectares of plantation restoration;
- Ø 17,400 hectares of new commercial plantations (almost all of teak);
- Ø 6,000 hectares of village supply plantations;
- Ø 203 hectares of watershed protection plantations.

There are numerous lessons that have been, and are being learned from current and failed CFs in Myanmar (e.g., Lwin et al.[\[28\]](#), Tint et al.[\[29\]](#)): including the need for capacity-building for CFUGs, community inclusiveness to establish the basis for adequate self-management to benefit all households, need for grievance mechanisms, unequal sharing of benefits, exclusion of some community members, insufficient funding, poor location with no profit potential, and the need for government follow-up and monitoring of progress. Most current CFs are under-funded, lack user-group capacity to implement planning, and lack viable enforcement. The barrier resulting from a lack of training to CF members renders the value of the current CFs far less than they could be, especially for biodiversity mainstreaming and planning. Within user groups, there is often an unequal sharing of benefits such that some households feel that they are being excluded. This is a part of the need for a grievance mechanism, that needs to be a formal process for conflict resolution available to all CFUGs to impartially and adequately deal with issues that arise before they become divisive within the group. There are also some cases of local officials having provided inaccurate information on CF establishment (for example, advising that “CF’s cannot be established on Vacant, Fallow and Virgin Land”) (as reported to UN-REDD Programme by FD officials, 2019), indicating the need for better government staff training to assist in CF development. Government also needs to provide support to the CFUGs to assist with capacity training, establishing markets for products, developing value chains, and providing monitoring services. As stated in the Myanmar NBSAP: the “CF Rules need to be applied through a simplified process, which can be achieved by issuing supplemental regulations”.

While there are CF rules, many communities report that the time required and the complexity of the CF establishment process is a deterrent to further development of CFs and Community Forest Enterprises (CFEs). CFs need to be established where there is a chance for success, rather than on wholly degraded lands. Further, most existing CFs in Myanmar are very small, averaging only 182 ha for 49 forests for those in the Bago Region, with 925 CF User Group (CFUG) members in total, suggesting little land for many interested people.

Compared with many other countries in the region, Myanmar came to CF relatively late. The original CF Instructions (1995) envisaged a major role for the FD, and early CF's were often established in locations where the FD wanted them, sometimes with influential non-locals serving in key roles in the CFUG. Another characteristic of early CF's was that they were mostly focused on afforestation. Not surprisingly, many of the early CF's did not succeed, and communities became suspicious of any proposals for a CF. However, revisions of the CFI in 2016, and again in 2019 focused on making the concept and the process much more bottom-up, and culturally sensitive. For example, the 2019 revision introduced "Natural forests and mangrove forests conserved by the local communities in accord with their tradition" as an area suitable for CF's. This was not included in the 1995 or 2016 versions. The policy environment has now evolved – but only since 2019 – to make CF's much more attractive moving forward. In line with general government decentralization, authority for establishing and supporting CF's is increasingly devolved to local FD offices.

Furthermore, in early CF's, communities were very restricted in the uses they could make of forest resources, being limited largely to local, non-commercial uses. The 2016 revision, and even more so, the 2019 revision, allows the development of "Community Forest Enterprises" (CFE's), which offer a genuine opportunity for communities to diversify and increase household incomes.

Biodiversity and Protected Areas:

As a result of habitat loss, decline in intact forest area, general forest degradation, and illegal wildlife killing, there has been a large decline in biodiversity throughout Bago Region, including reduced populations of flagship emblematic species such as Asian elephants, several species of cats, pangolins, and all of the primates. The Myanmar Elephant Conservation Action Plan (MECAP), announced in 2018, is the country's response to global concerns over the decline of its (and other) Asian elephant populations. Elephant density is estimated at less than 1.5/km², but overall, there continues to be a dire lack of reliable baseline information on elephant population size and trends nationally and locally. Human-elephant conflicts (HEC) are on the rise across Myanmar, as a result of logging and loss of intact habitats where agriculture is in close proximity to elephant populations. Bago Yoma also has the highest incidence of human-elephant conflicts (HECs) in the country. The number of HECs is especially elevated in Kyaukdaga and Tharyawady townships of the Bago Yoma area, as a result of deforestation for agriculture and fragmentation of elephant habitats. Current efforts at avoidance are not well-managed and do not employ recent advanced techniques. Part of MECAP calls for maintaining intact landscapes but few remain. However, the project area represents a strong possibility where landscape intactness can be restored, the illegal killing curtailed, and the NZWS better managed.

Similar to many protected areas in Myanmar, the NZWS is under-managed and under-staffed. At NZWS, only limited and very basic infrastructure currently exists, with three ranger stations located along the road passing through the wildlife sanctuary. There is no electricity, except limited basic solar power, and there is no radio communications network. The 12 protected area staff (for the 98,000 ha area) have only four motorbikes. Consequently, this protected area suffers from encroachment, poaching, illegal logging, and over-harvesting of non-timber forest products. During the visits made by WWF to the NZWS in 2019,

it was discovered that staff are very often elsewhere occupied and that there is little emphasis on the protection of wildlife inside the sanctuary. More broadly within Myanmar, there is no place that injured or illegally-caught live wildlife can be taken for care and rehabilitation, prior to re-release. This problem results in no attempt to rehabilitate injured or seized animals in this or any protected area, leading to limited action by government agencies when seizing live wildlife from poachers, or indeed from check points from elsewhere in the country. Along with this project, there is, however, some ongoing planning for improved management of this area (see *Section 6. Coordination* below) under other complementary projects. A site for development of a Wildlife Ranger College training centre has been selected in North Zamari WS and approved by the MONREC Minister. The design for a purpose-built training facility has been approved by the Director General of the Forest Department, and the construction plans are in progress. WWF has secured funds for: the first phase of construction in early 2021 (COVID-19 situation dependent); development of curriculum; and initial training of trainers during 2021. WWF and the Forest Department have also earmarked some funding for equipping the college. The staff of the Forest Department and the NZWS have been consulted to identify their needs and constraints. The centre is being planned to train local staff, but is also meant over the longer term to train staff from across Myanmar's PA system, and to continue to train both new staff as they are hired, as well as provide ongoing up-to date-training to current staff. It is currently envisioned that the curriculum will cover PA management, including biodiversity monitoring, and law enforcement. METT will be a key consideration of the curriculum design, as will the IUCN PA competencies framework, and there is discussion on inclusion of human rights focused approaches to management in the curriculum.

There is no updated and accurate national land use thematic map and no complete forest inventory for Bago Yoma or the NZWS. Land related information based on national forest cover assessments from MONREC are not sufficient to provide for land use planning. Updated land use maps are crucial for decision makers in order to develop strategy and policy regarding to balancing among social needs, economic development and environmental sustainability. However, in 2013-2015, an EU-funded pilot project was completed by MONREC Forest Department, using acquired satellite imagery to map part of Taungoo District. The project used 22 land use classes, and found that of the 10,000 km² area mapped, agriculture and degraded forest covered about 4500 km² each. They also found ready participation by communities, as long as the community leaders were engaged, suggesting broad community support for this kind of work.

'Capacity Building for developing REDD+ in the context of sustainable forest management' was a project funded by ITTO and implemented by the Forest Department. The project area covered parts of four townships: Yedashay, Taungoo, Oat Twin, and Phyu in Taungoo District and ended in 2016. They developed some pilot plantations, while mapping forest inventory and developing capacity for local stakeholders. There was also a project funded in Bago Yoma through Hiroshima University in 2016 to develop a socio-economic survey related to plantation forests for climate mitigation under REDD+, but for which no details are available. Similarly, there was a small Korean Forest Service REDD+ initiative at the NZWS, which ended in 2019 for which no reports are yet available. International aid from Norway will assist in the development of a management plan for the NZWS in 2020-21.

Combating Land Degradation:

In terms of specific actions taken by Myanmar in the context of addressing its LDN obligation under UNCCD, these are the following:

- several actions relevant to climate change mitigation in the 2016 Nationally Determined Contribution (NDC) of Myanmar where the target related to forest and land use include - by 2030, 30% of the national land area is to be put under the Reserve Forests (RF) and Protected Public Forests (PPF) while 10 % is to be organized as the Protected Area System (PAS).
- The vision of ADS (June 2018) which is "an inclusive, competitive, food and nutrition secured and sustainable agricultural system contributing to the socio-economic well-being of farmers and rural people and further development of national economy" sets a target of land productivity (GDP/harvested area) is to be increased by 50% on a base line of USD 1200/ha.

- To combat the drought and to provide the safe drinking water, “National Strategy for Rural Water Supply, Sanitation and Hygiene (WASH)” was developed in 2016 by 3 government departments: Department of Rural Development, Department of Basic Education, and Department of Public Health. It aims to set out the way to meet the needs of the rural populations for water supply services, access to improved sanitation with elimination of open defecation, improved hygiene behavior by the Year 2030. The Strategy was supported by Investment Plans covering the period 2016 to 2030.
- The Dry Zone Greening Department is set up with a main objective of combating desertification, land degradation and drought in the central dry zone of Myanmar and to raise the resilience of the people to the effects of draught.
- The Ministry of Agriculture, Livestock and Irrigation (MOALI) is collaborating with internal and external organizations to acquire needed technology, construct basic infrastructures, and uplift capacity of concerned departments and organizations - aiming at mitigating losses and damages caused by natural disasters; and implementing climate resilient agriculture, livestock and fishery activities.
- To mainstream desertification and land degradation (DLDD) as appropriate into economic, environmental and social policies with a view to increasing the impact and effectiveness of the implementation of the Convention - the Government adopted the new National Environmental Policy with the aim of mainstreaming environmental considerations into economic and social development. The Policy provides long-term guidance for government organizations, civil society, the private sector and development partners on achieving environmental protection and sustainable development objectives in Myanmar.
- Drought risk management, and monitoring early warning systems and safety-net programmes to address DLDD – are established through 63 Meteorological Stations, 28 Hydrological Stations, 39 Meteorological and Hydrological Stations, 17 Agro-meteorological Stations, 8 aviation weather stations and 1 upper air station under the Department of Meteorology and Hydrology (DMH).
- To facilitate networking and best practices and approaches to drought management, MOALI established Call Center to solve the agricultural problems for farmers and local communities. The Center provides production technology packages for specific crops to get national target crop yield and sustainable crop management practices.

Baseline projects

There are several recent and current projects in the Region that this proposed GEF project can complement and leverage to improve outcomes and add incremental value. International aid from Norway will assist in the development of a management plan for the NZWS in 2020-21, although the planned amount will be insufficient to complete the required needs of the sanctuary and there would be no action to implement the plan. This project will build on that effort to finalize management planning for the NZWS and in the context of the broader landscape of Bago Yoma and implement management planning in the NZWS. WWF is supporting establishment of National Wildlife Ranger Training Centre in NZWS, has conducted a biodiversity survey in 2020, funds and provides training to two community patrol units, and supports elephant protection patrol teams in southern Bago Yoma and has conducted elephant movement tracking surveys year-round, since 2017.

There is no updated and accurate national land use thematic map and no complete forest inventory for Bago Yoma or the NZWS. Land related information based on national forest cover assessments from MONREC are not sufficient to provide for comprehensive land use planning. Updated land use maps are crucial for decision makers in order to develop strategy and policy regarding to balancing among social needs, economic development and environmental sustainability. However, in 2013-2015, an EU-funded pilot project was completed by MONREC Forest Department, using acquired satellite imagery to map part of Taungoo District. The project used 22 land use classes, and found that of the 10,000km² area mapped, agriculture and degraded forest covered about 4500 km² each. They also found ready participation by communities, as long as the community leaders were engaged, suggesting broad community support for this kind of work. This project would include that the knowledge gained from that effort to expand it over the much larger Bago Yoma area.

As noted above, the Myanmar Government plans to spend about \$5 million in Bago for its Myanmar Forest Restoration and Recovery Plan (MRRP) over the next 5 years. This proposed GEF-funded project will further build on that country-led initiative for forest restoration by augmenting the area under CFs in Bago Region and the area originally planned for reforestation, as well as enhance their efforts through the mapped planning work to strategically plan areas for planting that will enhance landscape connectivity. A Korean Forest Service REDD+ initiative at the NZWS, which ended in 2019, resulted in some additional reforestation within the sanctuary itself contributing to habitat intactness. 'Capacity Building for developing REDD+ in the context of sustainable forest management' was a project funded by ITTO and implemented by the Forest Department. The project area covered parts of Taungoo District, ending in 2016. They developed some pilot plantations, while mapping forest inventory and developing capacity for local stakeholders, and this project would assimilate those data into the landscape mapping component.

3. Proposed alternative scenario with a brief description of expected outcomes and components of the project.

The proposed alternative scenario involves a substantively more democratic, inclusive, and participatory approach to landscape-level land-use planning, which includes all segments of society, under which trust is built between government and local communities. This inclusive planning extends to the CFs, the NZWS, and inputs to the broader landscape plan to be developed. The project goal is to promote sustainable and integrated landscape management across the entire Bago Region for the conservation of globally significant biodiversity (list above) through improved forest landscape connectivity and management, cooperative consultative community-based landscape planning, and anchored by improved management of the NZWS. Under this scenario, local communities will assume a greater role in: land management planning across the Region, managing of community forests and community protected areas as ICCA's (Indigenous and Community Conservation Areas – as defined under Myanmar law), increased responsibility against illegal activities, provide inputs to help manage the NZWS, and in diversifying their livelihoods through Community Forest Enterprises, other possible livelihood options, and other effective area-based conservation measures (OECMs). These changes will be achieved through better policy, capacity building and participatory governance. Establishing vested interests among the communities in their forests and the protected area, with the support of government, will help to ensure long-term sustainability of biodiversity and ecosystem services.

This project forms a part of a broader current effort, both within Bago and across Myanmar to move forward to develop an economy in a peaceful and sustainable manner, with inclusivity and gender sensitivity, to develop and implement better planning under the Myanmar Sustainable Development Plan, 2018-2030 (MSDP). The country plans to take a functioning ecosystem-based approach to sustain its economic development. This change represents a substantially transformed environment to direct development that will enable sustainable development at a regional scale. To complement the MSDP, a series of new policies and laws pertaining to biodiversity and forest management form the basis for change and for this project, including: the 2018 revised Forestry Law, the 2018 Conservation of Biodiversity and Protected Areas Law, the 2016 revised National Land Use Policy (2016), the Myanmar Reforestation and Rehabilitation Program (2018), the Myanmar Elephant Conservation Plan, and the national Risk Reduction and Climate Change Action Plan. Taken together these instruments provide policy and legal support for a new inclusive and consultative natural resources management regime, as Myanmar continues to emerge as a democratic and participatory nation. The government has shown considerable proactive movement towards more inclusive land planning processes, for example by initiating Local Community Protected Areas in two regions (Phar Baung Taung Nature Reserve in Mon State, and the Phat Baung Taung Community Conserved Protected Area). Further, government is much more open to the community management of forest areas as CFs, with many such areas now established in Myanmar and exceeding its own NBSAP target. The government target for Bago is to add 18,400 hectares of CF, (which this

project will markedly increase). National-level policies are relatively slow to be implemented at a regional scale and local managers have considerable latitude in local policy implementation. This project will have a high influence through training local managers on landscape planning and by demonstrating successful management practices.

The project will, for the first time, implement cross-sectoral, multi-stakeholder collaboration for integrated landscape level management planning and monitoring at a District to Region level, through a new participatory planning process guided by a regional policy framework. To accomplish landscape planning, a robust mapping exercise will be conducted to assimilate existing data, incorporate remote imagery, and map local knowledge together, with overlaying known threats, into a landscape description. This landscape description would then be used to identify 'hotspots' at which to reduce threats, that is, areas for priority actions including re-wilding, forest management planning, areas for agro-forestry, reducing illegal activities through smart patrolling and improving livelihoods, establishing CFs, and re-establishing broad landscape connectivity, all anchored by the NZWS. These zones would then be presented to and discussed with the communities to develop the long-term management plans and the best location for livelihood projects. A number of planning instruments will be developed and applied to integrate biodiversity outcomes into sectoral plans and programmes at the landscape level and implement them in the Bago Yoma area. The project will implement landscape management systems that build on the National Land Use Policy (NLUP) including: establishing a regulatory and operational foundation to implement the NLUP; establishing sustainable land use planning information and coordination system and tools at national level and within the project landscapes; and developing region level SLM plans that are integrated into development planning at the districts and local levels. The overall expected outcome will essentially reflect the basic values of an IUCN Class IV area for much of the region that includes a significant intact forest area, by intentionally managing for the mainstreaming of conservation of biodiversity, while sustaining economic production and ecosystem services. The landscape is anchored by the NZWS, building on the recommendation by Putz and Thompson (2020)²⁴ that SFM must, and can only, be accomplished at a landscape scale, including protected areas. At the NZWS, improved management will raise the class of the sanctuary to IUCN Class II, with a focus on stopping illegal activities through improved training, capacity-building, and better infrastructure. Under this project the NZWS will have a management plan in place, well-trained Sanctuary staff, and a much more active enforcement presence in the area. The Sanctuary will form the centre of an area of restored habitat that will be connected across the managed landscape.

This proposed project is planned as a landscape and forest management model for wider implementation across much of Myanmar into the future. The project would be designed to first develop capacity to change how landscapes are planned and managed, especially by involving communities; second, to ensure mainstreaming of biodiversity conservation into all planning processes across sectors (agriculture, tourism, etc.); third, implementing sustainable, biodiversity-friendly land-use and forest plans, including the promotion of community-managed OECM's, landscape restoration, and application of technologies with plans to arrest illegal logging and poaching; and fourth by ensuring that experiences generated are applied fully in Bago Region and, later on, throughout the country. Over time, the expected results are improved governance, better capacity to manage, substantially reduced illegal losses, and increased biodiversity and supply of ecosystem services at sustainably managed levels, consistent with the GEF priority to improve spatial and land-use planning to ensure that land and resource use is appropriately situated to maximize production, without undermining or degrading biodiversity, while mainstreaming biodiversity across sectors and within production landscapes. Landscape planning to be accomplished in the project is an essential first component in moving towards a green economy, consistent with Myanmar's "Green Economy Policy Framework" (2020) that recognizes the need for better landscape planning as a basis for fostering green growth.

Myanmar's NBSAP 2015-2020 anticipates the necessity to focus on forest restoration under their Target 15.2, stating that: "A large scale forest restoration initiative is needed, under Forest Department (FD) leadership, which builds on and adapts successful models to the Myanmar context". This proposed project would accomplish exactly that goal, by working with local communities and the FD for win-win outcomes that include improved land, tree and forest tenure security, guaranteed economic benefits in the short, medium, and long terms, and prioritization of mainstreaming wider ecosystem service benefits (e.g., biodiversity, hydrology, fuelwood, livelihoods, and carbon). Forest restoration, as envisaged here, would be focused on a range of management models, including underplanting with native species as assisted natural regeneration (i.e., re-wilding with only endemic species) and carbon-based initiatives, with priorities accorded to areas that will serve to sustain or restore landscape connectivity and forest intactness. This objective will be accomplished through guidance and assistance to the FD's ongoing forest restoration plan, through assisted natural regeneration to reduce the total area of degraded lands.

Under this alternative scenario, OECMs (including CFs, for example) can have a significant role in the conservation of biodiversity and ecosystem functioning, through objectives that are nationally important to meet SDG 15 and revised CBD targets under the Post-2020 Framework. The project will work with Government to provide training and technical support, as well as leadership in terms of assisting communities to improve the potential benefits from their forests. Many existing Myanmar community forests are smaller than 100 hectares (in Bago, the mean is 182 ha) and lack funding and have limited capacity for management planning. To address the imminent threats to Myanmar's forests more broadly, at least another 800,000 hectares need to be brought under some form of community management or FD co-management, which implies the allocation to communities of much larger areas of forest. Establishment of the CFs will pay close attention to the lessons learned from earlier CFs and highlighted earlier. To this end, the proposed initiative would have clearly established institutional and policy elements including: CFI rules being streamlined and adapted to cover much larger areas, involvement of all households in a community, a formal grievance mechanism to resolve possible conflicts, and barriers to registration removed; biodiversity considerations will be mainstreamed into planning; and FD would expand its role in forest restoration toward the provision of technical support for community participation. CFs will be established on areas that provide a reasonable opportunity for CFUG success, including sufficient existing forest that can be managed. This project is proposing to more than double the Forest Department commitments in this regard by 2022 in Bago Region.

The project will also focus on expanding the area of habitat for focal wildlife species, including elephants, in part by reducing human-elephant conflicts (HEC) through improved forest habitat conditions, proactive management, and better landscape planning, and working towards landscape connectivity and intactness. Landscape restoration will also seek to restore connectivity across the Bago Yoma where feasible, and anchored to the NZWS, to increase the area of the present intact forest landscape that is currently under threat (as noted by Potapov et al. 2017)¹¹. These biodiversity concerns would be mainstreamed into the overall landscape planning objectives, among which methods to reduce illegal activities would be part of the larger planning process. The 2018 Myanmar National Elephant Conservation Action Plan (MECAP) calls for areas of secure high-quality elephant habitat in priority sites and landscapes that are as large as possible, and for these sites to be treated as Managed Elephant Ranges (MERs), connected to other priority sites and landscapes. The restoration of connectivity on the Bago Yoma landscape, planning for careful management of forests adjacent to the NZWS, and restoring forest intactness, would include management by replanting and supplemental planting of degraded forest areas and re-wilding abandoned or neglected rubber plantations to increase native species richness and diversify forest age structures, to re-create a more natural forest condition and improve habitats for a wide range of species, many of which are globally endangered (elephants, primates, turtles, large cats, and pangolins, among others – list above).

An important component of the proposed landscape management plan will be planning efforts to reduce anti-illegal logging and anti-poaching activities throughout the project area. In this regard, the project will move forward with a four-pronged approach: regional policy improvement, improved enforcement with the application of advanced technologies, training of government staff and communities on the value of biodiversity for ecosystem services, and the development of livelihood options (see discussion under 2.3 below). A main objective is to broadly raise the awareness among local people of the importance of sustaining functioning ecosystems to deliver the ecosystem services that people require to live. This will be accomplished in through training at the community forests and with protected areas ranger training at the NZWS Training Centre.

Theory of change considerations

- o If community members are more involved in government planning processes that concern them, then there will be increased trust in government and subsequent buy-in to the designation of OECMs and related management plans and to landscape planning overall.
- o if a participatory approach is used for planning and zonation, local knowledge, data and best practices will be incorporated and lead to improved landscape planning.
- o If national land use plans are improved in this regard, then regional planning will also be positively influenced at the district level, leading to integration with other sectoral, forest and community forest management plans.
- o if communities begin to understand better the role that ecosystem services can play in their lives, and they have improved capacity for community forest management and are given tools and technologies, the forests will be better conserved and globally significant biodiversity across the landscape.
- o if community members have increased capacity and awareness to pursue monitoring and enforcement activities including livelihood options that are conservation-friendly, this will lead to better management of resources and increase in income.
- o if the Forest Department and protected area staff are trained in enforcement-related activities and given equipment and technology to do so, illegal poachers and loggers will be deterred by the improved enforcement.
- o If the NZWS management plan is operationalized, and NZWS staff capacity to implement the management plan is increased, NZWS management will improve.
- o if a national wildlife ranger training center is established at NZWS with corresponding curriculum, and if all rangers and protected area managers are trained at this center, then NZWS will serve as a model to share lessons learned and best practices. As protected area staff are trained in PA management and enforcement, best practices will be replicated and scaled up throughout the protected areas in Myanmar.
- o Overall, if there is improved landscape-level and district level planning; improved management of community forests and OECMs; increased capacity among the forest department staff, PA managers, rangers and communities; and operationalization of the NZWS management plan and other sectoral management plans; then zoning will improve leading to less fragmented landscapes.
- o These results will also lead to improved enforcement, which together with conservation-friendly livelihood options, will help alleviate the need to exploit natural resources, reducing behaviors such as illegal poaching and logging, poor agricultural practices, and conversion of forests for teak/rubber.
- o If these threat behaviors are reduced, then the forest quality, connectivity and biodiversity of Bago region forests will be conserved, allowing the dispersal and conservation of globally endangered wildlife.

- o If the forests and wildlife are conserved, the ecosystem services will be maintained leading to improved security, wellbeing and livelihoods for surrounding communities.
- o Within Myanmar, if the project is implemented as planned it will become a model for landscape-level management that will be successfully scaled-up to other production landscape across Myanmar.

[1] <https://www.adb.org/countries/myanmar/economy>

[2] <https://www.mm.undp.org/content/myanmar/en/home/library/poverty/mlcs-2017-poverty-report.html>

[3] <http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/133859/filename/134070.pdf>

[4] <http://hdr.undp.org/en/countries/profiles/MMR>

[5] MONREC. 2018. Myanmar's 6th National Report to the CBD.

[6] FAO. 2020. Global Forest Resources Assessment Report. Rome. Italy. <http://www.fao.org/forest-resources-assessment/past-assessments/fra-2015/en/>

[7] Prescott, G.W., Sutherland, W.J., Aguirre, D., Baird, M., Bowman, V., Brunner, J., Connette, G.M., Cosier, M., Dapice, D., De Alban, J.D.T. and Diment, A., 2017. Political transition and emergent forest-conservation issues in Myanmar. *Conservation Biology* 31:1257-1270.

[8] Win, R.N., Reiji, S. and Shinya, T., 2009. Forest cover changes under selective logging in the Kabaung Reserved Forest, Bago Mountains, Myanmar. *Mountain Research and Development*, 29: 328-338.

Win, Z.C., Mizoue, N., Ota, T., Wang, G., Innes, J.L., Kajisa, T. and Yoshida, S., 2018. Spatial and temporal patterns of illegal logging in selectively logged production forest: A case study in Yedashe, Myanmar. *Journal of Forest Planning* 23: 15-25.

[9] Bhagwat, T., Hess, A., Horning, N., Khaing, T., Thein, Z.M., Aung, K.M., Aung, K.H., Phyo, P., Tun, Y.L., Oo, A.H. and Neil, A., 2017. Losing a jewel—Rapid declines in Myanmar's intact forests from 2002-2014. *PloS one*, 12(5), p.e0176364.

[10] Haddad, N. M. et al. 2015. Habitat fragmentation and its lasting impact on Earth's ecosystems. – *Sci. Adv.* 1: E1500052.

[11] Watson, J.E., Evans, T., Venter, O., Williams, B., Tulloch, A., Stewart, C., Thompson, I., Ray, J.C., Murray, K., Salazar, A. and McAlpine, C., 2018. The exceptional value of intact forest ecosystems. *Nature Ecology & Evolution*, 2: 599-610.

[12] Potapov, P., Hansen, M.C., Laestadius, L., Turubanova, S., Yaroshenko, A., Thies, C., Smith, W., Zhuravleva, I., Komarova, A., Minnemeyer, S. and Esipova, E., 2017. The last frontiers of wilderness: Tracking loss of intact forest landscapes from 2000 to 2013. *Science advances*, 3(1), p.e1600821.

[13] Woods, k. 2018. The political ecology of rubber production in Myanmar. <https://www.mmlandreporting.info/files/view/d8ba0de4-29e8-45ff-9a66-1822cc3d763a>

- [14] Hlaing, Z.C. and Teplyakov, V.K., 2013. The Growth of Teak (*Tectona grandis* Linn. f) Plantations at the age of 10, 15 and 20 Years Old in Bago and Paukkaung Townships. Myanmar For. Dept. Report.
- [15] Maung, T.M. and Yamamoto, M., 2008. Exploring the socio-economic situation of plantation villagers: a case study in Myanmar Bago Yoma. *Small-scale Forestry*, 7: 29-48.
- [16] Calculations conducted by the UN-REDD/Myanmar Programme conducted in 2019.
- [17] Khai, T.C., Mizoue, N. and Ota, T., 2020. Post-Harvest Stand Dynamics over Five Years in Selectively Logged Production Forests in Bago, Myanmar. *Forests*, 11: 195.
- [18] <https://blog.nature.org/science/2018/07/09/illegal-logging-energy-shortages-pressure-myanmars-forests/>
- [19] Global Wildlife Programme, World Bank. 2019. <http://pubdocs.worldbank.org/en/482771571323560234/WBGRReport1017Digital.pdf>
- [20] Murray, N.J., D.A. Keith, A. Duncan, R. Tizard, J.R. Ferrer-Paris, T.A. Worthington, K. Armstrong, N. Hlaing, Win Thuya Htut, Aung Htat Oo, Kyaw Zay Ya, and H. Grantham. 2020. Myanmar's terrestrial ecosystems: status, threats and conservation opportunities. *bioRxiv* doi: <https://doi.org/10.1101/2020.08.18.256750>
- [21] Kimengsi, J.N., Aung, P.S., Pretzsch, J., Haller, T. and Auch, E., 2019. Constitutionality and the co-management of protected areas: Reflections from Cameroon and Myanmar. *International journal of the commons*, 13(2).
- [22] Zimmerman, B.L. and Kormos, C.F., 2012. Prospects for sustainable logging in tropical forests. *BioScience*, 62: 479-487.
- Watson, J.E., Evans, T., Venter, O., Williams, B., Tulloch, A., Stewart, C., Thompson, I., Ray, J.C., Murray, K., Salazar, A. and McAlpine, C., 2018. The exceptional value of intact forest ecosystems. *Nature ecology & evolution*, 2: 599-610.
- Putz, F.E. and I.D. Thompson 2020. Defining sustainable forest management in the tropics. Blaser, J. and P.D. Hardcastle, editors. *Achieving Sustainable Management of Tropical Forests*. Burleigh Dodds Science Publishing, Cambridge, U.K.
- [23] Fisher, B., Edwards, D.P., Larsen, T.H., Ansell, F.A., Hsu, W.W., Roberts, C.S. and Wilcove, D.S., 2011. Cost-effective conservation: Calculating biodiversity and logging trade-offs in Southeast Asia. *Conservation Letters*, 4(6): 443-450.
- Geldmann, J., Joppa, L.N. and Burgess, N.D., 2014. Mapping change in human pressure globally on land and within protected areas. *Conservation Biology*, 28: 1604-1616.
- Treue, T., Springate-Baginski, O. and Htun, K., 2016. Legally and Illegally Logged out: Extent and Drivers of Deforestation and Forest Degradation in Myanmar. University of Copenhagen: København, Denmark.
- [24] Harrison, R.D., 2011. Emptying the forest: hunting and the extirpation of wildlife from tropical nature reserves. *BioScience*, 61: .919-924.

[25] Evans, T.S., Myat, T.W., Aung, P., Oo, Z.M., Maw, M.T., Toe, A.T., Aung, T.H., Hom, N.S., Shein, K.T., Thant, K.Z. and Win, Y.T., 2020. Bushmeat hunting and trade in Myanmar's central teak forests: Threats to biodiversity and human livelihoods. *Global Ecology and Conservation*, 22, p.e00889.

[26] https://d2ouvy59p0dg6k.cloudfront.net/downloads/women_conservation_overview_2012.pdf

[27] WWF (2006) Community-based natural resource management manual. Wildlife Management Series. WWF-World Wide Fund for Nature. WWF-SARPO, Harare, Zimbabwe

[28] Lwin, K.M., Zin, L.W.S., Nyan, C.T. and Myint, E.S., 2014. Measuring Good Governance in Certified and Traditionally Managed Community Forests at Nyaung Oo Township.

[29] Tint, K. et al. 2011 (update 2017). Community Forestry in Myanmar: Progress & Potentials. https://namati.org/wp-content/uploads/2017/04/Tint-2011_Community-Forestry-Myanmar.pdf

The project theory of change is illustrated in the following two diagrams, one with substantial details and the second to provide a simplified overview.

Figure 1: Detailed project theory of change diagram

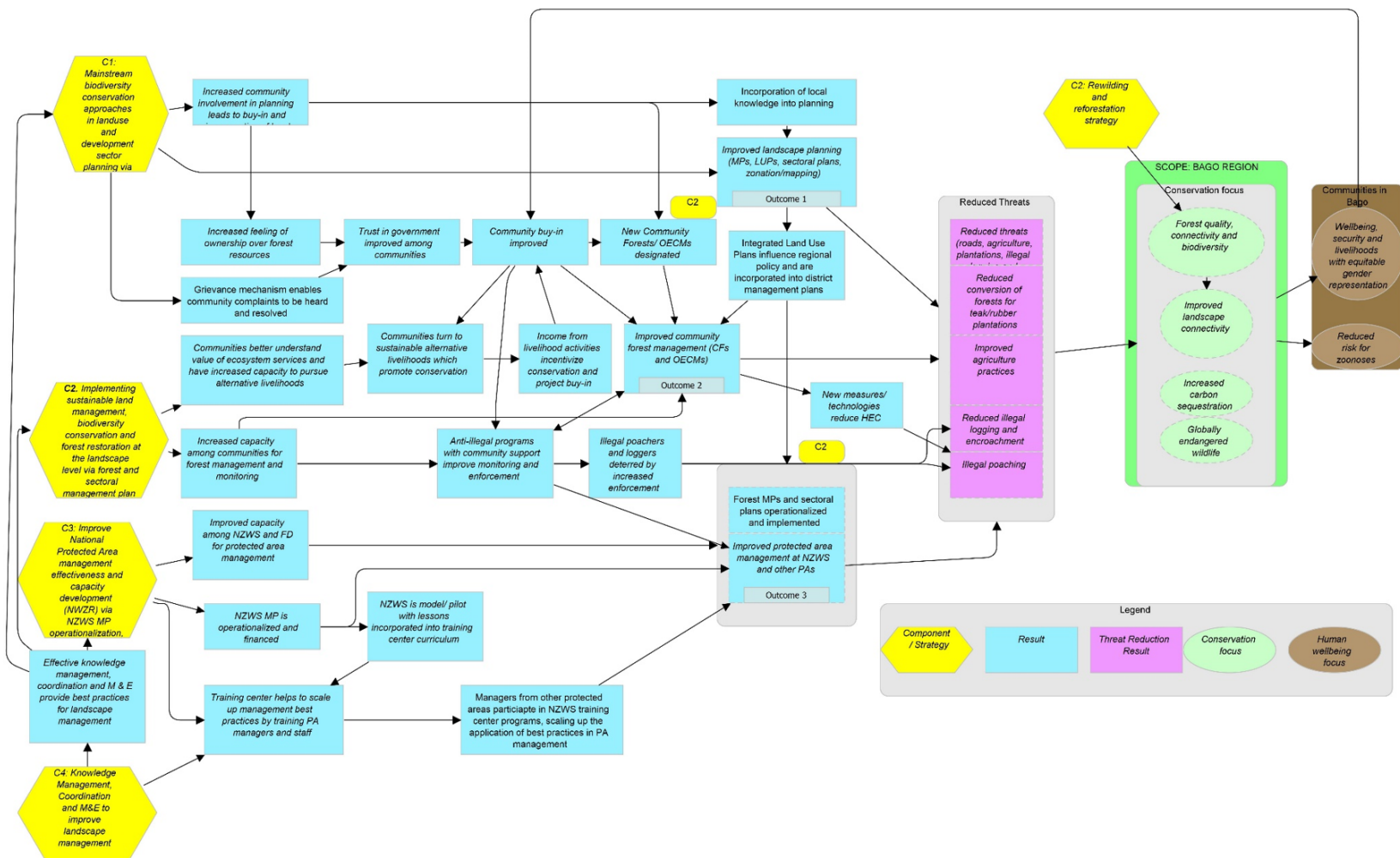
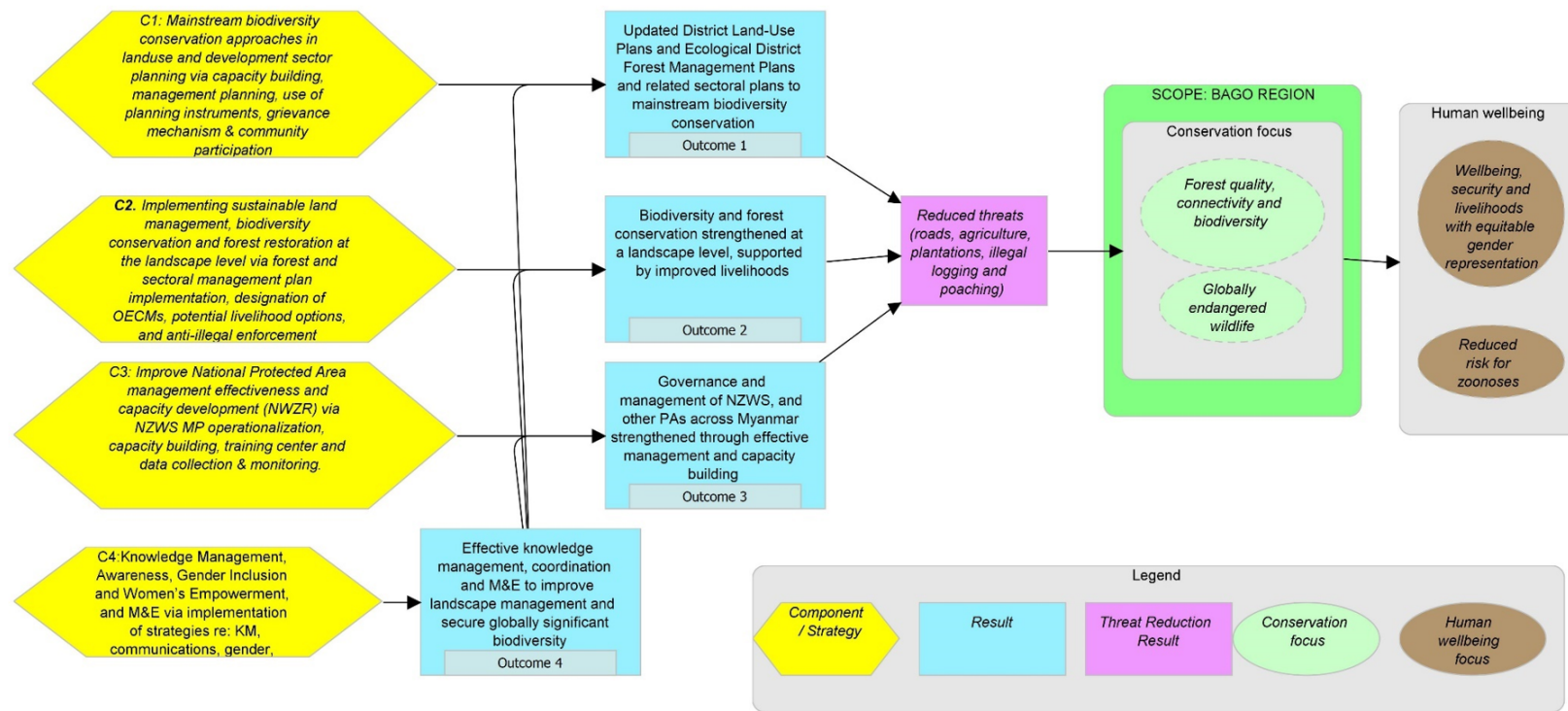


Figure 2: A schematic project overview



Component 1: Mainstream biodiversity conservation approaches in land use and development sector planning

Outcome 1. Updated District Land-Use Plans and Ecological District Forest Management Plans and related sectoral plans to mainstream biodiversity conservation

This component seeks to establish a new system for managing lands in the Bago Yoma region that involves the establishment of District and Township^[1] multi-stakeholder management committees and regional policies and procedures under which these committees can function. The intended processes will support the self-selection of representatives by stakeholders' groups and training in the competencies required to become effective committee members. The component will work towards the establishment of trust between local people and government through a series of workshops and discussion fora, during which possible management options will be presented. These meetings will form the foundation for large-scale landscape management by ensuring multi-stakeholder inclusivity, partnership, and knowledge-sharing, and with the formal participation of women. Sharing of information on CF's and CFE's will assist in

overcoming barriers to their establishment in Bago and elsewhere in Myanmar. For example, some communities have reported that, after approaching their local forest officer with a known issue, often no action is taken. A management information system will highlight where actions are required but not being delivered and so contribute to greater participation and democracy. Through this component, the old (and failing) model of top-down, command-and-control land management by government alone will be replaced by a more bottom-up participatory and inclusive model, including women and ethnic groups, with a strong focus on community management of forests and the establishment of Community Forest Enterprises and other enterprises, managed by user groups, that can diversify livelihoods. Increasing the capacity of government staff to inform communities about the ecosystem values and services from biodiversity will assist to mainstream biodiversity within government and the planning committees. Improved planning, landscape zonation, re-wilding of degraded forests and abandoned plantations will, over time, result in improved habitat quality and increased associated biodiversity, especially for Asian elephants and other 'landscape' species that are in decline.

A main focus of the project under Output 1 is to provide increased training on biodiversity values and ecosystem services, with the integration of these values into planning for Community Forest User Groups, Regional Forest Department staff, and the NZWS staff. Under this component, the project would also incorporate the integration of KBAs and community participation mechanisms into forest management and land-use planning. The KBA concept has become a globally important tool as a means to protect important wildlife habitats. WCS in Myanmar produced an updated KBA map in 2018, and under this project that map, as well as other areas identified by the local planning committees, will be incorporated into the regional planning and mapping exercise. Along with KBA's, other important habitat features based on local knowledge, such as habitats for flagship species, areas of elevated human-wildlife conflict, areas with high illegal activity, and realistic areas for connectivity will be included in the planning maps.

Output 1.1: Improved capacity of community forest user groups and land-use planning committees through training at District level to promote active and transparent mechanisms for stakeholder participation in decision making.

- This output seeks to establish effective community forest user groups with land use planning committees as envisaged under the National Land Use Policy, especially at a District and Township level, and to support those committees by promoting transparency. The project intends to enhance awareness among local communities of the ecosystem services provided by forests to people, in terms of day to day lives, including: water quality and retention, forest products (wood, honey, bamboo, rattans, valued timbers), and ecosystem services such as pollination/insect predation services to surrounding agricultural areas. CFUG and FD staff will be trained in the application of ecosystem service assessment, and species at risk and supported to map the Bago region and to identify drivers of forest and land conversion and management practices to restore degraded forests, increase forest cover, reduce soil degradation, improve land productivity and soil organic content, and other soil and water conservation measures. Training provided to the CFUGs will then assist them to apply this knowledge in management of their respective forest areas, as guided early on through this project. Training of FD staff in the application of ecosystem service assessment, species at risk, and the importance of managing and sustaining KBAs and OECMs is essential to allow them to play their designated role in providing technical support to communities whose roles in forest and land management are enhanced.

Output 1.2: Ecosystem-based Forest and Land Management plans to address the full range of forest values, harmonized with land-uses and updated, comprehensive land use maps based on forest cover change monitoring developed and applied.

- This output is a main mechanism to mainstream biodiversity and ecosystem services into landscape-level planning. A new approach to ecosystem-based District Forest Management Plans has been piloted in other parts of the country through a GEF-funded project (FAO: Sustainable Land Management), and this approach will be adopted here but at a much larger scale. This output will include an updated high-quality mapping of the project area covering land uses, ecosystem types based on the WCS typology, soil types, wildlife habitats, hotspots of illegal logging and poaching to form the basis for consultations on zonation and increasing forest intactness. The output makes full use the FD national plan to restore forests across Myanmar and within Bago, by mainstreaming biodiversity objectives into choices for species mixes, types of restoration actions to be undertaken, and long-term large-scale planning. This mapping/planning component will work directly with MIMU's OneMap Project to democratize landscape mapping of resources. These plans will fully integrate the implementation of the Land Degradation Neutrality (LDN) target that the government has committed to UNCCD[2]. The work on voluntary target setting is currently underway and this will output will elaborate on the implementation of the targets in the project design.

Output 1.3: District and watershed level land-use plans updated and linked to OneMap, measures to improve habitat connectivity and forest intactness across the Bago Yoma region identified.

- The main objective of this output is to strategically plan for the long-term establishment of improved forest connectivity across Bago Yoma to ensure that large wildlife species continue to persist. The FD has previously recognized the importance of watershed protection through replanting and this output will expand that concept to ensure water-based ecosystem services and reduce flooding, but with a view to biodiversity protection. The District and Township land-use plans developed through the inclusive participatory processes for which capacity is developed, will include a focus on biodiversity concerns, community values and partnership, and ensuring that attention is paid to women's concerns.

Output 1.4 Guidelines, regulations and other instruments developed and applied to integrated biodiversity and natural resources management (production forests and logging, forest concessionaries; forest plantation design and management) and rules for identification, planning and management of Other Area-Based Conservation Measures (OECMs), with capacity training for CFUGs, and mainstreamed into other sectoral plans.

- This output includes the review and updating of existing policies, guidelines and planning tools to identify key gaps in promoting socially and biodiversity-friendly developments, with the emphasis on enhancing biodiversity conservation, improving habitat connectivity and promoting an integrated approach to improve conservation measures outside the protected area. These conservation measures would be achieved through stakeholder consultations, with key sector agencies, local communities, NGOs and private plantation enterprises (teak, rubber, acacia, etc.) and forest concessions and through technical support to develop/update tools for integration of biodiversity. Training for all CFUGs and at OECMs will be provided based on SFM principles, which include outcomes for biodiversity, as well as using the revised guidelines. Planning for biodiversity conservation at a landscape level requires that other influential sectors, such as agriculture and tourism, also mainstream biodiversity considerations into planning. The project will work with regional planners in this regard when developing the landscape plan to ensure that key sectors draw biodiversity considerations into their plans.

Output 1.5: Implement a best practice approach to a grievance recourse mechanism at each CF take action on grievances to build trust and cooperation with local community forest user groups.

– This output is important to assist in building trust between community forest user groups and the government. Based on past experiences and lessons learned at existing CFs, grievances among members, from non-members about CF operations, and between the CFS and government do sometimes occur. Currently, no mechanisms are available to communities or within CFUGs to resolve problems in a collective and non-confrontational, unbiased manner. Lack of this mechanism can result in friction within communities and within CFUG members and can lead to poor performance at a CF. The actual mechanism will be established by government for the CFUGs under the CF Rules, but it needs to be arm's length and binding.

Together, these five outputs will ensure the establishment of a new management framework for the Region that is inclusive, has well-trained CFUG members, and under which the local communities, including women, are fully invested.

[1] The administrative hierarchy in Myanmar is nation – state/region – district – township – village tract – village (not officially recognized)

[2] https://www.unccd.int/sites/default/files/inline-files/124%20countries_list_LDN%20TSP_for%20web.pdf

Component 2. Implementing sustainable land management, biodiversity conservation and forest restoration at the landscape level

Outcome 2. Biodiversity and forest conservation strengthened at a landscape level, supported by improved livelihoods

The systemic, institutional, and individual capacities delivered under Outcome 1 will provide an enabling environment for improved local to regional forest management, the design of land management plans and improved capacities to assess (and, where necessary, map) landscape characteristics such as ecosystem services and biodiversity values. Outcome 2 is designed to deliver forest management and land-uses that will, over the long-term, result in increased forest cover with resultant biodiversity improvements and increased ecosystem services in a coordinated fashion across the landscape. This outcome represents the nexus of improved management and planning, ameliorated forest conditions, improved forest habitats, and the mainstreaming of biodiversity and ecosystem services, resulting in much improved outcomes for biodiversity and the ecosystem services that it provides across the Bago Yoma landscape.

A focus will be on reversing the loss of forest intactness by enhancing the quality of habitats for the large-bodied species requiring large intact forest areas to sustain persistent populations (elephants, primates, large cats, hornbills, among others), reducing human-wildlife conflicts, and promoting the value of OECMs and CFs. Overall connectivity and intactness objectives will be established largely based on requirements of the Asian elephant population (because this is a globally-recognized flagship landscape endangered species and a focal species in the country) but also with habitat considerations for other key species as warranted, which include pangolins (e.g., sunda pangolin which is critically endangered), Eld's deer (critically endangered and is probable at NZWS), several cat species (e.g., fishing cat and jungle cat, both critically endangered), hornbills, and several primates (e.g., Phayre's langur). The main objective, i.e., community forest establishment, is consistent with the national Myanmar Reforestation and Rehabilitation Programme (MRRP) of increased community forestry. To this end, the project will result in the establishment of 10 new community forests, where the ecosystem services concept and biodiversity considerations are mainstreamed into management action plans.

Management planning will have identified priority strategic areas for re-wilding, enhancing connectivity and increasing forest intactness based on the Restoration Opportunities Assessment Methodology (ROAM), produced by IUCN and the World Resources Institute (WRI). This tool provides an example of a flexible framework to rapidly identify and analyse areas for forest landscape restoration (FLR) and to identify specific priority areas at a sub-national level that will be employed in this project. In particular, re-establishing the large intact forest area, managed partly as an OECM, is a priority to improve habitat conditions for biodiversity. The project will assess implementing an OECM in the forests immediately adjacent to the North Zamari Wildlife Sanctuary to improve buffer zone management, sustaining the biodiversity values within protected areas and enabling corridors for the dispersal from the Sanctuary into the rest of the landscape. A major result to be achieved under Outcome 2 is the reduction of illegal activities by restoring access roads to forest cover, improving disincentives against illegal activities, and increased income opportunities through various livelihood options.

Output 2.1: Forest management plans and sectoral plans for landscape connectivity, degraded forest improvement condition, human-elephant conflict reduction, biodiversity mainstreaming, and restoration of ecosystem services, have been fully implemented.

- This output seeks to assist the FD in the strategic implementation of the Myanmar Forest Restoration and Recovery Plan in the Bago Yoma area, based on the areas selected for forest recovery under Outcome 1. Guidance based on mapping would be provided to the FD for the actual planting, based on the criteria of increased forest intactness, best outcomes for biodiversity, poor or abandoned plantations, and associated community forest locations. This output takes a long-term view to the management of the Bago Yoma area to ensure the protection of ecosystem services and the restoration of forest intactness. Under this Output, forest habitat for biodiversity is improved through forest restoration, re-wilding, and re-establishing landscape connectivity, and would begin by 2022, once agreement is reached on the landscape plan and zonation, following mapping and local consultation. Forest restoration will largely be accomplished over 10,000 ha of degraded forest areas (which will be supported by the government and partners' co-financing) to improve the productive capacity by using native site-adapted species to produce more natural forests through intensified silvicultural practices, including guided natural regeneration, enrichment planting and reforestation. Other sectoral plans where biodiversity concerns will be mainstreamed include: tourism, human health, road planning, ABS, agriculture, and inland fisheries. Part of this program will be specifically implemented to improve forest conditions and management of the forests at the north end of the North Zamari Wildlife Sanctuary.

Output 2.2: New Community Forests (CFs), Community Protected Areas (CPAs) and OECMs are established based on the the Free, Prior and Informed Consent (FPIC) participation of affected IP communities to improve forest and biodiversity conservation and forest connectivity and policy and guidelines for OECM's established

- Community participation is a significant aspect to the long-term success of forest and biodiversity management in Myanmar and can be accomplished in part through the implementation of CFs, CPAs and OECMs whereby community user groups have ownership in the success of the projects. This project will assist communities to identify and develop OECMs and CFs. Based on experiences in similar landscapes in Rakine and Mon, it is anticipated that there will be community interest in new large (600 ha each) community forests – subject to the new participatory planning processes and based on FPIC with IP communities and consultation with other affected communities. The experience from Rakine and Mon shows that the existing strong legal foundation for community forestry and community forest enterprise development, the growing area of forests under community management, the substantial amount of goodwill that exists, and the presence of a growing pool of skilled and champions has raised significant interest and support for its scaling up elsewhere in Myanmar. Other types conservation mechanisms could include community protected areas such as ICCA's, as covered under the Myanmar Law on protected

areas, and again fully based on community consultation and FPIC and support of the affected communities. OECMs can also be instituted under livelihood options where feasible, including agro-forests where biodiversity objectives and mainstreamed and watershed protection areas (some of which currently planned under the FD reforestation plan). The project will work with communities to locate a suitable area for at least one (or potentially more) community protected area (referred to as LCCAs in Myanmar). The project intends to assist government to develop a national OECM policy and guidelines for OECM development in the country based on project experiences.

Output 2.3: Community Forest Enterprises and other potential commercial opportunities to improve livelihoods based on community consultation are evaluated on economic viability, market potential, community requests, and capacity needs, and are implemented, ensuring that most vulnerable populations including the ones affected by Covid-19 are targeted.

- It will be important to consult directly with communities to determine the kinds of economic opportunities that may be possible, and the support that would be required, in order to ensure the sustainability of proposed livelihood projects. Programmes could be implemented in as many as 20 communities (see Output 2.4, linking this output to reducing illegal activities) as part of the overall effort to improve livelihoods on the project area. Past lessons learned will form the basis for this project output, including: extensive consultation with communities, working with existing industries, collaborative planning with communities, ensuring realistic objectives, clear support from government, value chain analysis, and regular monitoring of progress. This output would particularly entail the following design features: (i) criteria for determining the eligibility of livelihood and enterprise investments that takes into consideration technical feasibility, social acceptability, environmental sustainability, equitable benefit distribution, gender equity, and institutional and financial feasibility; (ii) there is a clear and transparent linkage between improving conservation (or reducing threat) and/or sustainable resource use and the proposed livelihood and/or enterprise investments; (iii) identification of measurable actions that beneficiaries agree to, that supports conservation (and/or threat reduction) and sustainable use of natural resources; (iv) training and capacity development to support the livelihood and enterprise investments and create awareness of linkages between conservation impact and livelihoods; (v) participatory consultative framework that ensures that the livelihood and/or enterprise activities are selected and owned by local communities; (vi) monitoring framework that supports participatory monitoring of livelihood (and enterprise) impacts, community commitments to conservation (and/or threat reduction) and on-the-ground conservation impacts.

There are many examples for developing incentives and options for communities that will support a pathway to sustainable livelihoods, aside from OECMs. For example, some early analysis (<https://oxfordbusinessgroup.com/myanmar-2019/tourism>) suggests that the eco-tourism industry in Myanmar is still in its infancy, but owing to unique opportunities for bird-watching and wildlife viewing, community forests would be well-positioned to develop such possibilities. The viability of ecotourism in the region will be further assessed via feasibility studies that link community forests with protected areas and known natural history attractions. For example, the Bago Region is also home to an 'elephant camp' and demonstration plantations of teak, but there are no demonstration forests or a museum for teak management. Linking ongoing forest management, the elephant camp and a museum dedicated to teak management could be of sufficient interest to assist in ecotourism in the area. Other possible concepts to be evaluated for their feasibility might include the improved development of bicycling tourism (e.g., <https://www.bikemap.net/en/I/1300463/>), projects for orchid culture, cooperatives for bamboo handicrafts, tree nursery development, and home-stay initiatives. Enhancing ecotourism is possible with improved marketing and training for communities. All of these latter alternatives have proven successful, effective, and sustainable in Thailand and Cambodia (e.g., see

https://www.itto.int/direct/topics/topics_pdf_download/topics_id=5393&no=1&disp=inline), and can readily be employed in Myanmar, if properly designed relative to available markets based on research at the PPG stage. Experience elsewhere has shown that a surprising amount of income to a village can be generated by intelligent, targeted projects that employ local cooperatives, for example through bamboo handicrafts and orchid culture. Agro-forestry, especially for sustainable coffee and thanakha, is a strong possibility given the burgeoning coffee and cosmetics industries that are developing in Myanmar. For this output, it is imperative to ensure that the options selected can be linked to reductions in illegal activities, are based on the wishes of the community, and have a realistic expectation of success based on market analyses.

With the current global impacts of Covid-19 on tourism, an assessment will be undertaken during the PPG stage to evaluate the state and projections for recovery of the tourism market and identify specific disease risk mitigation/prevention measures that are needed in case there is some post-Covid19 recovery of the tourism industry. The assessment will be undertaken in alignment with UNWTO guidelines and technical assistance package on tourism recovery. Additionally, options for promoting national tourism and other income generation activities would be investigated with financial options that might be available through a number of innovative financial instruments for biodiversity conservation and local livelihood improvement available for supporting the poor and economically disadvantaged, who are likely to be most affected by zoonotic disease outbreaks.

Output 2.4: Anti-illegal logging and anti-poaching measures (including in North Zamari Wildlife Sanctuary) developed and implemented following feasibility assessments of new detection technologies, FD staff and community consultation on suitability and training on its application.

- The mapping exercise undertaken in Component 1 to facilitate identification of locations for CFs, ICCAs and other OECMs under Output 2.2 will also help identify poaching and IWT 'hotspots' across the entire landscape where increased enforcement action will be most required to effectively reduce illegal activities, partly through SMART (focussed) community patrolling.

Activities under this Output will include feasibility assessments for the deployment of new detection technologies using a combination of on the ground possibilities, such as open cell networks and machine to machine technologies, drone technology, as well as available satellite technologies. Detection devices will most likely include the use of wireless tracking devices such as "Invisible Track", which uses machine-to-machine (M2M) technology. The devices pass movement location information, with a range of 32 km, from the module on a tree to a central server, via the local cellular networks with alerts sent to government enforcement staff. Another recent technology would be the deployment of old Android phones, powered by small solar panels, which continuously monitor sounds in the forest. The noise from chainsaws (and firearms) within a half-km radius of each phone would be received and the phone will transmit signals to a central internet database, with warnings to government staff. Other likely initiatives will use applications, such as TIMBY, to report observations by individuals. TIMBY's reporting app allows community groups to report illegal deforestation activities and to upload images. Drone technologies can be employed by members of CFUGs themselves, thus avoiding concerns about government overwatch, modelled after the successful deployment by communities in Indonesia. In addition, existing enforcement training modules adapted to Myanmar to provide enforcement training to Forest Department staff and community members, including manuals and data support systems will be delivered.

Improved enforcement could potentially result in increased illegal activities outside of the project area. The question of leakage or displacement of such illegal actions is difficult to estimate at this stage, but would be evaluated carefully during the PPG stage. The project design calls for working with communities to develop livelihood options, as a main focus to reduce and offset the need for having to illegally harvest forest resources for income. While baseline data for illegal actions are largely absent, government does maintain some indicator statistics by district, such as illegal wood seized and number of dead elephants. These data will be monitored to determine if there has been increased illegal activity outside of Bago Yoma.

Component 3. Improve National Protected Area Management Effectiveness and Capacity Development, with emphasis on NZWS

Outcome 3: Governance and management of the North Zamari Wildlife Sanctuary (NZWS), and other Protected Areas across Myanmar, strengthened through effective management and capacity building

As the only large forested protected area in the region, the NZWS represents an important component of the overall proposal for restoring forests and re-wilding of the project landscape. Currently however, the Sanctuary is under-staffed, under-capacitated, and lacks the sufficient basic infrastructure to be more than a paper park. The NZWS is threatened as a result of increasing illegal activity and insufficient capacity to stop it. A management plan will be developed, in part supported by Norway, and a training centre is being established by the Forest Department and WWF, as part of a broader overall strategy to support the valued biodiversity that NZWS currently sustains. This project represents a major step forward for this important protected area, by developing and operationalising a management plan, working to secure long-term funding for the park, developing the required infrastructure, upgrading skills of the staff through on-site training, instituting a monitoring programme, and assisting staff to manage confiscated wildlife (non-GEF funding is being requested for operating a wildlife rescue and rehabilitation facility). A central aspect to the new management regime at NZWS will be community involvement in decision-making, as a part of a formal participatory management committee. At the broader scale in Bago Region, the NZWS serves as an anchor to the entire Bago Yoma area as source populations for biodiversity, including flagship species, such as endangered Asian elephants. Therefore, for the project to be successful the management regime for the protected area needs to improve considerably for it to meet its regulated function, and is the objective of this component. METT scores will be determined for the area at PPG and the gaps as determined from the results will help to inform the implementation of the management plan.

Output 3.1: NZWS participatory management plan is effectively operationalized by incorporating: (a) protected area zoning arrangements; (b) desired ecological and management practices; (c) staffing and infrastructure requirements; (d) species and habitat monitoring protocols; (v) surveillance and enforcement measures; and (vi) management of confiscated wildlife, to inform national PA policy framework.

– An objective of this project is to develop the NZWS into a world-class protected area that can demonstrate the effectiveness of proper PA management within Myanmar. The management plan for the NZWS is currently under development and will be operationalized under this project through training and provision of the necessary infrastructure. The project will train staff and provide senior managers with a model for improving protected areas governance. Innovations will include a formal local management committee for public advice, implementing best practices, securing the area from illegal activities with active management, and maintaining a highly trained staff. The enabling legislation to involve local people on the management committee is under Chapter 2 of the 2018 Conservation of Biodiversity and Protected Areas Law requires formation of regional/state, district, and township-level supporting committees for the administration of PA management in areas that have PAs within their jurisdiction, and village-level committees “may be formed if necessary”. The intent of

the management plan is to incorporate: (a) protected area zoning arrangements based on landscape mapping; (b) desired ecological and management practices; (c) staffing needs and infrastructure requirements; (d) species and habitat monitoring protocols; (e) surveillance and enforcement measures, (f) forest inventory methods, and (g) public education and development of educational materials. Implementing the plan will incorporate all these elements into the training curriculum at the training centre currently under construction. The management of confiscated wildlife, to inform national PA policy framework will be funded by non-GEF resources.

Output 3.2: FD staff are trained and implement best international PA management practices, with critical infrastructure and essential equipment in place to showcase protected area management in Myanmar.

– Current staff (at NZWS and from across Myanmar) are not well-trained in protected area management and are often pre-occupied with forest management in the surrounding areas. Improved enforcement is discussed under 2.4 above. Further, the NZWS lacks much of the critical infrastructure to make the Sanctuary a fully operational protected area, including buildings, vehicles, radios, and advanced technologies. The project will work to upgrade the staff capacity and provide the facilities to enable proper management so that the Sanctuary is recognized as a well-run protected area and known as a showcase for protected area management in Myanmar. Specifically, three small wooden ranger stations will be constructed to provide improved facilities for patrol teams throughout the NZWS, and a small office will be added to support on-site administration.

Output 3.3: Myanmar Protected Area and Wildlife Training Centre curriculum uses NZWS for operational training to enhance protected area management, biodiversity monitoring, surveillance and enforcement patrolling including focus on measures to prevent and minimize the impact of future zoonotic disease outbreaks.

– A main contribution of WWF to the overall project is the current ongoing establishment of a national protected areas Training Centre at the NZWS. The concept for the training centre is to make detailed use of the NZWS as a part of the curriculum for operational aspects of staff training. The field training will be used as an aspect for managing the sanctuary, for example with respect to wildlife monitoring and enforcement patrolling. The training centre will serve as a mechanism to improve the capacity of PA staff from all protected areas in Myanmar, both in the classroom and through hands-on experience at NZWS. The majority of the 5-year start-up phase activity costs are to be financed through international sources, largely via WWF donors, though with some co-finance by the Myanmar Forest Department covering some construction costs, land donation, and instructor salaries. After 5 years, costs will be a combination of mainly operational expenses (salaries paid by Forest Department) and running costs of the training centre facilities will be shared between Forest Department and other partners, e.g., WWF and other non-GEF donors. A sustainability assessment will be completed prior to project end to ascertain options for financially sustaining the Training Center beyond the life of the project, and might include government, private sector and NGO collaboration, revenue generation through offer of national, regional and international training, ecotourism etc.

Output 3.4: Systematic regular biodiversity monitoring survey system established, including: (a) simplified, standardized data collection methods; (b) institutional platform to collect, catalogue and disseminate monitoring information; and (c) server facilities and training for sharing monitoring data.

– Some species as biodiversity indicators have been identified (see Table B indicators) and data collected to establish a baseline against which success of the programme can be evaluated. The basis for a monitoring programme will be established through the selection of mammal and bird species to monitor progress (including at least 13 flagship or focal endangered or threatened species (Asian elephant, leopard, gaur, banteng, dhole, Asiatic black bear, Malayan sun bear, wild pig, red muntjac, sambar, pangolin, Phayre's Leaf-monkey) and the establishment of baseline values for each. A reporting schedule will be established, and wherever possible, local citizens will assist through a 'citizen science' approach. The monitoring system will be based on the theory of change for the management tools to be implemented, and use indicators that will enable clear assessment of the outcomes. Standard monitoring techniques will be employed to develop trends over time, including continuing existing monitoring of elephants with satellite-monitored radio-collars, use of 'Spartan' camera traps (that share real-time images via the cell phone network), and auditory and aerial census of important avian species. Monitoring data will be held, managed, and analysed for FD staff once training has been completed. This work will be included as a part of the curriculum for the training centre that is currently being established at NZWS. The intent is that the systematic regular biodiversity monitoring survey system will include the development of simplified, standardized and data collection methods, along with methods to collect, catalogue and disseminate monitoring information; and server facilities and training for sharing of information.

Component 4: Knowledge Management, Awareness, gender inclusion and women's empowerment, and M&E

Outcome 4: Effective knowledge management, coordination and M & E to improve landscape management and secure of globally significant biodiversity.

This Outcome will focus on consolidating and disseminating results from the other components as part of the knowledge management and supported by national-level knowledge management platforms so that similar approaches can be implemented elsewhere.

Output 4.1: Knowledge Management and Communications and Gender Mainstreaming strategies developed and implemented through (i) development and implementation of communication strategy to improve awareness of government officials, stakeholders and community to support land use planning, restoration, wildlife protection, human-wildlife conflict management, livelihood possibilities, and reduce poaching as measured by KAP (Knowledge, Attitudes and Practices); (ii) design of advocacy/ communication materials and programs with strong focus on links between illegal and unregulated wildlife trade and the outbreaks of zoonotic diseases, and highlight the potential future risks of new diseases emerging from damaged ecosystems to enable timely response; and (iii) Implementation of gender mainstreaming action plans to enhance the role and representation of women in decision-making, addressing issues related to discrimination and vulnerability of women to climatic changes and potential zoonotic disease outbreaks.

Output 4.2: Improved adaptive management through management information systems to enhance information generation and knowledge sharing and strengthening of institutional capacity in adaptive management.

- Improved adaptive management will be accomplished through the (i) development of simplified, standardized and dedicated user-friendly management information systems to enhance information generation and knowledge sharing; (ii) strengthening of institutional capacity in adaptive management through training at the Forest Department's Training and Extension Division; and (iii) increased capacity for adaptive management to respond to changing situations and priorities

Output 4.3. Knowledge management and learning advances replication through documentation of best practices, capture of traditional knowledge, informing land use policy review and preparation of a national scaling up model for wider implementation across much of Myanmar in the future

This Output would support the analysis, documentation and dissemination of best practices and lessons learned that deliver tangible improvements in biodiversity and natural resources status, provide inputs to future land use policy review and practice to provide examples for replication. It would also entail participation in regional and international workshops, including GWP events, conferences and field visits for national and sub-national staff to improve learning and exchange of experiences in mainstreaming biodiversity considerations, and integrated landscape and biodiversity management, protected area management and sectoral planning and practices. Based on these best practices and lessons learned, including from NZWS, the project will support the preparation of a replication strategy for developing a national scaling up model for wider implementation across much of Myanmar in the future. The replication strategy will assess the required institutional and coordination arrangements, financial and human resources and partnership commitments necessary for ensuring replication across the country. This strategy will form the basis for consultation with government (national and provincial), private sector and NGOs to develop a roadmap for national scaling up.

Key activities under this Output will include (i) documentation and dissemination of case studies, including IP cultural systems and traditional knowledge; (ii) development of policy guidance based on project lessons, including guidance and inputs for future land use policy review; (iii) technical reports, publication, public engagement pages and knowledge management products; (iv) national and local level workshops to enhance information sharing; (v) support for institutionalizing and upscaling best practices through capacity building and technical support; (vi) replication and scaling-up strategy supported by preparation of an Manual and Lessons learned guiding document that captures the process of landscape and PA planning implementation, Integrated land use planning strategies for biological landscapes, OECM approaches, sustainable livelihood options, and mainstreaming of biodiversity in sector planning at sub-national level, etc. within biological landscape; and (vii) end-of-the project national seminar to disseminate lessons and reach agreement on institutional, financial and political support for replication in the country.

Output 4.4: M&E system incorporating gender inclusion and women's empowerment for assessing impacts of project activities, facilitate feedback on project activities, and enable timely adjustment and course corrections. - The effective M&E system will help to ensure project impact and adaptive management and adequate consideration of gender inclusion and women's empowerment and monitoring of social and environmental safeguards.

4. Alignment with GEF focal area strategies

This project is multi-faceted, and aligns with GEF focal priority areas strategies for biodiversity and land degradation as summarized below:

- BD-1-1: Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors
- BD-2-7: Address direct drivers to protect habitats and species and improve financial sustainability, effective management, and ecosystem coverage of the global protected area estate

- LD-1-3: Maintain or improve flows of ecosystem services, including sustaining livelihoods of forest-dependent people through Forest Landscape Restoration (FLR) and through proper zonation to sustaining agro-ecosystem services through sustainable landscape management. In addition, the project has a substantial carbon storage aspect.

For the first focal area, mainstreaming biodiversity, the intent of the project is to mainstream biodiversity considerations into spatial planning across this large production landscape where, previously, the focus has been primarily on agriculture and forest plantation management, while reducing land degradation through re-wilding and proper landscape zonation. Zonation, assessment of past plantation quality for possible rewilding, and community forestry will ensure that the project will provide benefits to biodiversity through true landscape-level sustainable management, while benefits to local agriculture will accrue owing to increasing ecosystem services from the forest. The NZWS (980 km²), which is a somewhat intact forest that continues to be degraded under the current business-as-usual scenario, is a focus for improved management as an anchor to improving management across the entire landscape. The possibility exists to consider developing the KBA into a national park in the future, if the value of the area to local communities can be demonstrated. Myanmar currently has <6.0% of its lands in PAs, but does aim (under the NBSAP, Target 11.1) to increase this area to at least 8% by 2020, as the country's contribution to Aichi Target 11.

The project provides an indirect effect for the Sanctuary, through improved management of forests adjacent to the protected area. More broadly, an increased amount of forest habitat overall, will reduce HECs through reduced contact with agricultural zones, saving animals from direct mortality. Communities will be incentivized to manage forests through the CF system, which includes biodiversity mainstreaming, resulting in long-term biodiversity benefits by reducing degradation and poaching, while at the same time improving the financial sustainability of these communities through improved forest conditions that lead to opportunity for tourism, for example. Under the CF outcome, the project will invest in local communities through training and governance structures to improve management of forest areas as well as to conserve the globally significant wildlife species in the area (elephants, pangolins, primates, cats, reptiles, etc.). Through implementing the knowledge management plan and the training plan, communities and government will learn integrate knowledge on biodiversity into planning objectives to achieve conservation and sustainable resource management.

The project will directly address the key drivers of biodiversity loss, including lack of large-scale planning, illegal logging, illegal killing of wildlife, loss of forest landscape intactness, and habitat degradation, through mapping, and developing OECMs and instituting SFM in community forests. These key drivers are responsible for overall landscape degradation under the little- or no-planning scenario that currently exists on this large landscape (i.e., BAU), which does not mainstream biodiversity considerations. Project components include improved planning processes and addressing direct mortality and habitat loss by increasing habitats through SFM, CFs, capacity-building, and re-wilding, at a landscape scale. This project deals with both the ultimate factors responsible for land degradation, i.e., inadequate policies, capacity, and planning, as well as the proximate factors resulting in deforestation and forest degradation, such as poverty and capacity, by applying a comprehensive approach, with substantial local community involvement, in both the planning and implementation components.

By addressing BD 1-1 and 2-7, the project will be able to contribute in a major fashion to sustaining globally important biodiversity. IUCN lists 14 globally threatened or endangered mammals and reptiles on the project landscape, and it is likely that there is also at least 5 endangered avian species (data uncertain as yet). The importance of this project cannot be understated with respect to these species because forest cover is still disappearing globally at an alarming

rate, and by ca. 2%/year in Myanmar itself. This landscape represents an opportunity to reverse this decline, recover forest intactness and enable especially large-bodied animal populations to recover. The NZWS falls within the Central Bago Key Biodiversity Areas and in the recent Threatened Ecosystems of Myanmar assessment (Murray et.al., 2020)²², the Bago semi-evergreen forest (which extends across much of the Bago region) is classified as one of only two critically endangered forest ecosystems in Myanmar, therefore indicating the urgency for large scale conservation interventions in this region. Biodiversity surveys and peer-reviewed published data are extremely limited in Myanmar, especially in comparison to its neighbours, India and Thailand, where there is a much longer history of research and the institutions established to support such research. Nevertheless, recent surveys in NZWS (unpublished reports, FOW, WWF) suggest that the large mammal assemblage in NZWS, and likely also in the surrounding forest landscape, is significant and declining in the absence of formal protection measures.

As for the land degradation programming directions LD-1-3 to “Maintain or improve flows of ecosystem services, including sustaining livelihoods of forest-dependent people through Forest Landscape Restoration (FLR)”, the project will focus on identifying drivers of forest and land conversion and management practices to restore degraded forests, increase forest cover, reduce soil degradation, improve land productivity and soil organic content, and other soil and water conservation measures. While the government has committed to setting the Land Degradation Neutrality (LDN) Target ^[1], the country does not yet have the LDN targets for the respective sectors. The project will assist Myanmar to achieve LDN target and is consistent with the LD programming directions on alignment to LDN and putting in place an enabling environment for LDN, taking a landscape-scale approach, focus on smallholders, and on scaling up. STAP guidelines on LDN will be followed to inform project design.

This project directly addresses SDG Goal 15 for most of its targets through: Target 15.1 (conservation and restoration of the forest landscapes in Bago Region), 15.2 (sustainable management and forest restoration across the Region, and especially in the intact forest area), 15.4 and 15.4.1 (sustaining and improving mountain ecosystems at Bago Yoma), 15.5 (reducing degradation through SFM), 15.7 and 15.C (illegal killing of wildlife and endangered wildlife through better enforcement and improved livelihoods, and for several globally endangered species), 15.9 (mainstreaming biodiversity objectives in landscape planning as a major overarching project objective), and 15.A (mobilizing resources from several sources as outlined). The project will also contribute to attaining several other SDGs including: 1.1 and 1.4 to eradicate poverty through community livelihood options, 5.5 (Women’s participation and rights to resources) through inclusive management of resources in CFs, and 13.2 by integrating climate adaptation considerations into landscape-level planning.

5. Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF and co-financing

The 'business-as-usual' scenario described in the baseline situation above, essentially consists of the programmatic work of the Forest Department. While the budget of this Department has increased in recent years, it has not sufficient capacity to control illegal logging and stop poaching and insufficient funding for community forests and training of staff, including within the NZWS. In the absence of the proposed GEF intervention, it is unlikely that any significant replicable and scalable benefits would accrue, especially for biodiversity conservation and the NZWS will continue to languish and degrade due to persistent deforestation and forest degradation, as well as high levels of illegal activities that have been experienced throughout the Bago Region, which will require systematic interventions to reverse.

The proposed GEF project will build on recent government environmental policy and laws some of which are under finalisation, such as the National Environmental Master Plan, National Environmental Strategic Framework, Environment, Climate and Disaster Risk Reduction Mainstreaming Strategy the Land Planning Policy, the Biodiversity and Protected Areas Law, and the new Forest Law, to test new approaches at CFs, ICCAs and mainstreaming of biodiversity in sector and local planning at the landscape level. In the absence of this project, such implementation is unlikely in the near future because of competing government priorities and financial constraints. This project will draw together multiple components (planning, zoning, PA management, SFM, enforcement, livelihood options), based on new mapping and participatory planning, to improve landscape connectivity, habitat conditions, and wildlife protection to achieve global benefits for a suite of globally endangered wildlife, and using the NZWS as an anchor and refugium. Under this GEF project, the NZWS becomes a fully functioning well-managed protected area, serving as a model for other protected areas in the country with improved management planning, capacity development and biodiversity monitoring.

The alternative scenario requires support for increased participation and representation in planning processes and for implementation of identified measures to restore landscape connectivity, improve management at NZWS, and to increase rural incomes. Existing funding for MRRP activities in Bago (described in the Baseline, section 2), can be reprogrammed to some extent, but are insufficient for the proposed large increase in CF's and OECM's, nor for the re-wilding activities.

As of 2018, Myanmar has 42 Protected Areas (PAs), which cover over 52,946 km² or 8.1% of the land area of Myanmar. The most recent National Biodiversity Strategy and Action Plan (NBSAP, 2015-2020) proposes seven additional Protected Areas by 2021. Myanmar's 30-year Forest Master Plan (2002-2031) has established a target for Protected Areas to increase up to 10%. Although the expansion of PAs is desirable, there are several issues that need to be addressed in order for these to be properly managed and contribute towards achieving conservation goals. Expansion of PAs mean a comparable increase in the number of staff that will need to be recruited in an environment where the presence of qualified staff is already lacking. There is also a need for management plans, basic infrastructure and equipment/technology to effectively monitor and address threats of encroachment, poaching, logging and over-harvesting of non-timber forest products. The Training Centre being built by WWF for his project will not only look at increasing the quality and quantity of staff available to manage PAs but will also contribute to the overall governance of the PA system in Myanmar through building the capacity needed to manage PAs effectively.

Although Myanmar has enacted regulations against the capture of wildlife (Protection of Wildlife and Wild Plants and Conservation of Natural Areas Law of 1994, CITES international treaty in 1973, and recent Conservation of Biodiversity and Protected Areas Law, 2018), poaching remains common all across Myanmar as well as in the Bago Yoma region. Moreover, Myanmar's neighbour, the Peoples Republic of China has been observed as a large market for products from flagship forest species, such as tigers and leopards. Poaching of endangered Asian elephants for their skin has also increased dramatically in Myanmar, driven by demand in China where it is being used for medicines and decorations. According to MONREC, the second highest incidence of elephant poaching occurred just 1 year ago in the Bago region (although April 2019 was a key milestone, representing 1 year of Zero Poaching of elephants). Meanwhile, border areas often are not under effective government control due to the presence of armed insurgent groups, resulting in limited enforcement of restrictions on wildlife capture and poaching and creating incentives for widespread wildlife capture. NZWS has not escaped the impacts of demand for wildlife and wildlife products, as well as serving as an unsustainable source of income and food for local communities.

A specific challenge in Myanmar is the lack of facilities to house and rehabilitate confiscated wildlife. This situation causes inaction by government agencies when faced with situations where live animals are detected in the trade across the country, and in border crossing areas. A future network of wildlife rescue and rehabilitation facilities, similar to those established in neighbouring countries, would facilitate more effective law enforcement to tackle illegal wildlife trade.

Overall, the GEF grant will leverage almost \$4 for each \$1 spent. Based on a GEF grant of \$7,112,693 and co-financing of \$28,932,000 a total area of 465,000 ha is covered, the per hectare cost estimate comes to around \$80 (and \$16/ha as per GEF financing), and the cost /tCO₂e is a very low \$5.00 (including GEF and co-financing) especially considering that much of the amount is from avoided forest loss. The actual amount dedicated to any activity are of course confounded by the various expenditures for each component of the study and their actual contribution to the per ha cost. The mapping and zoning will be an expensive component.

6. Global environmental benefits

The project will deliver global environment benefits by ensuring that future expansion of timber production in Bago Yoma does not compromise biodiversity and ecosystem functions, and that the NZWS protected area is well-managed and threatened and endangered biodiversity receives full protection. The global environmental benefits are primarily related to the improved conservation of globally significant wildlife in the Bago Region and the restoration of intact forest area and landscape connectivity, with its added globally significant additional carbon sink of an estimated >6 million tonnes of CO₂e. In particular, Myanmar sustains the last persistent wild populations of Asian elephant (*Elephas maximus*, IUCN Conservation Status – Endangered); if the conservation efforts fail, then the species is likely to go extinct in the wild. This project aims to increase available habitat, habitat connectivity to enable gene transfer among local populations, and reduce human-caused mortalities, all of which are essential for long-term species survival. Myanmar has a large number of globally endangered species that require urgent protection, and many of these exist in the Bago Yoma area. Hence the conservation efforts achieved through this project for these species will have a global impact.

Projects, such as this, play an important role in mainstreaming biodiversity by providing support and knowledge to local communities, reducing illegal activities, and introducing proper wildlife management. Land tenure and governance will be strengthened in this GEF project area, providing a stronger foundation for environmental stewardship, mainstreaming biodiversity concerns, and investment in sustainable natural resource use. Stronger government and civil service institutions will enable wider application of SFM and PA management, including ecosystem services provided for carbon sequestration, water retention and pollination services, among others. The Project may catalyze innovative approaches to rewarding ecosystem services in forest development, including better targeted investments in the sustainable use of biodiversity. With improved landscape connectivity will enhance the Asian elephant habitat, in turn, lowering threats to its population. At the same time, many other globally endangered species will also benefit from increased forest cover, including pangolins, cats (tiger, leopard, marbled cat, leopard cat), primates (gibbons, langurs), several large avian species (e.g., hornbills, cranes, adjutant), and possibly Eld's deer. These proposed efforts are fully consistent with the direction given by Decision CBD/COP/14/8 to deal with reduced habitat loss, loss of ecosystem services and declining biodiversity by improved broad-scale landscape-level planning and restoration.

Baseline Situation	Alternative practices to be facilitated by the project	Expected GEBs
Biodiversity		
<p>Limited citizen involvement in local resource management decisions; mistrust of government actions and motives; little to no possibility of protected area management; limited possibility of community forestry.</p> <p>-There is little practical knowledge at all levels of community forest establishment and governance, nor on the implementation of appropriate financial mechanisms</p> <p>-Deforestation and fragmentation will lead to further loss of biodiversity and ecosystem services and the extinction of elephants from the region, along with other important species including cats, pangolins, and primates</p> <p>- Most CFs are consequently very poorly resourced and small leading to an inability to effectively manage the threats to biodiversity in these protected areas</p>	<p>-Improved spatial and management plans that reduce habitat destruction of endangered species and increase the sustainable use of land/natural resources for community livelihoods.</p> <p>-Strengthened landscape management for biodiversity conservation, through enhanced capacities, provision of resources, and community forest user groups coordination.</p> <p>-Mainstreaming biodiversity into land use planning.</p> <p>-Improved management of a protected area as a policy model</p> <p>-Reduced HEC and poaching.</p> <p>- Trained government staff and community members are well-capable of managing a CF</p> <p>- Several large well-run CFs are in place using MIS to inform management.</p> <p>-Local management committees and CFs developed to improve landscape management and institute biodiversity objectives with SFM planning.</p> <p>-PA training provided at a national level</p>	<p>-Sustainable management of 50,000 ha of forests and other land resources under CF control</p> <p>- Improved conservation of globally endangered species (Asian elephant; Leopard, Gaur, Banteng, Dhole, Asiatic black bear, Malayan sun bear, Wild pig, Red muntjac, Sambar, Sumatran Pangolin, Phayre's Leaf-monkey) and several other threatened species.</p> <p>-Enhanced protection of threatened biodiversity, including elephants, primates, and other endangered species (list in Table b).</p> <p>-Sustaining one of the few remaining persistent Asian elephant populations.</p> <p>-Stabilizing populations of several other endangered species, including Eld's deer, pangolins and langurs</p> <p>-Improved management of key biodiversity areas in the Bago region and of the 98,000 ha of wildlife sanctuary.</p>
Land Degradation		
<p>Continuing land degradation and deforestation leading to loss of ecosystem services, as well as the loss of sustainable economic potential</p>	<p>-Local management committees and farmer capacity developed to improve land and sustain agricultural and livestock productivity.</p>	<p>- Estimated >6 million CO₂e, based on the FAO EXACT tool.</p> <p>-Improved landscape management</p>

<p>al. If these processes continue, the baseline scenario will be the further impoverishment of the poor local communities who are dependent of agriculture, grazing and other natural resources for their survival</p> <p>Insufficient institutional capacities, funding, human resources, and support from government and other non-governmental stakeholders in reduction of land degradation trends and impacts</p> <p>Loss of carbon as forests and agricultural land continues to degrade</p>	<p>- Improved land restoration, with carbon storage instead of loss.</p> <p>-Improved productivity, incomes and multiple benefits from previously degraded lands</p>	<p>ement and protection on 357,000 ha results in improved watershed and flood control, landslide prevention and improved ecological services. This extent includes the 50,000 ha as CFs identified under Biodiversity GEBs above.</p> <p>-At least 5,200 people with at least 30% women (to be further assessed during gender analysis at PPG stage) directly benefiting from improved natural resources and land management practices</p>
---	--	--

7. innovation, sustainability and potential for scaling up

Innovation: Aspects that are innovative for Myanmar include the application of cooperative landscape planning and management that include a dispute resolution mechanism and an MIS; while community forests are not new to Myanmar, the use of bottom-up cooperative planning as planned here is. The involvement of local communities in planning a large area has not previously been done. Focusing landscape-level restoration on intact forests and landscape-level biodiversity is also a new and innovative concept in the country; in the past, individual projects have reforested small areas but with little regard to mainstreaming biodiversity objectives or landscape objectives. Use of multi-pronged approach to controlling illegal activities, including using and marrying a combination of advanced technologies, hotspot identification, enforcement training, and economic development has also not been attempted in Myanmar and rarely elsewhere. Similarly, managing to solve and reduce HECs has not been done before in the country or the local region (other than by killing the offending animals – elephants, tigers, etc.). Applying landscape management that mainstreams biodiversity objectives to derive OECMs over a broad area has also not been accomplished previously in Myanmar and to our knowledge elsewhere in SE Asia. There is no training centre for protected areas staff in Myanmar. The project will initiate a Myanmar policy with guidelines for OECM establishment.

Sustainability: Key to sustainability of the landscape management aspects will result from capacity building and fostering of trust between communities and government. Institutionalization of participatory and inclusive land-use planning and processes for FPIC will be sustainable because the project will involve communities and IPs in all aspects of the project. Further, the newly-established REDD+ National Coordination Committee (RNCC) has the power to require FPIC for all future projects involving forest resources that may have implications for GHG emissions. The project will work alongside other projects (e.g., UN-REDD/UNDP's Governance for Sustainability and Resilience Project) to encourage the RNCC to support the issuance of such regulations by the Minister of MONREC.

The model developed here replaces the old top-down model with a participatory model involving local people in decision making about their environment. For example, the livelihood development initiatives will be based on community consultations and include marketing studies and industry partnerships to ensure that markets exist for products and with sufficient capital and organizational training to result in a high probability of success. Similarly, by targeting villages where most of the illegal logging and poaching is occurring with livelihoods options enhances the likelihood that, coupled with the enforcement aspects, that there will be lasting outcomes favourable to biodiversity. Use and application of advanced technologies that are easily applied will help also to provide sustainable results over the long-term, especially as technologies improve.

At the national scale, project success for this first integrated approach to landscape management and biodiversity mainstreaming in the country, will result in broader application of the tools built and lessons learned to other landscapes across Myanmar over time, and resulting in a high value long-term impact as a 'new way for doing business' in the country affecting both national policies and local outcomes. The training centre at North Zamari is designed to enhance management practices at protected areas throughout Myanmar through the application of best management practices and practical learning experience. The training provided to PA technicians and managers from other PAs will have a national-level sustainable effect by institutionalizing the learning provided across all PAs in the country. At the end of the project, costs will be a combination of mainly operational expenses (salaries paid by Forest Department) and running costs of the training centre facilities will be shared between Forest Department and other partners, e.g., WWF and other non-GEF donors. A sustainability assessment will be completed prior to project end to ascertain options for financially sustaining the Training Center beyond the life of the project, and might include government, private sector and NGO collaboration, revenue generation through offer of national, regional and international training, ecotourism etc.

Potential for scaling up: The mechanism to support scaling-up consists of establishing capacities to apply the approaches developed under the project at a national scale. There are two clear policy areas where this applies. A) Ecosystem-based District Forest Management Plans. The methodology developed by FAO at the request of the FD, as noted above was piloted in three Districts in different parts of the country (Chin – mountains; Magwe – dry zone; and Ayeyarwady – coastal). However, this project represents the first attempt to develop such landscape-level plans in every District in a State/Region. It thus represents already a major scaling-up, but the FD's own internal training and knowledge management system will ensure that the approach is subsequently applied at a national level. B) Inclusive District Land-Use plans. Another FAO project is developing an approach to develop such plans which are explicitly identified in the National Land-Use Policy (NLUP 2016). Again, through this project it will be the first time that such plans have been developed in all Districts in a State/Region. The National Land Use Council (established 2018) has a number of working groups addressing various aspects of the NLUP. The project will work very closely with the relevant working groups to ensure that their initial ideas are incorporated into the project approach and lessons learned through the project feed into policy refinement which is the mandate of these working groups.

The project will represent the first effort to implement the measures identified in the Myanmar National Land Use Policy (2016) including replication/scaling up and informing future land use policy review. As such it represents an excellent opportunity to demonstrate and change the way in which land-use planning is undertaken throughout Myanmar. Similarly, Myanmar is experiencing a dramatic change in approaches to natural resources management. The government has established targets for community forests (which it is currently far from achieving) and is promoting "Community Forest Enterprises" as one approach to diversifying and increasing local incomes. The concept of OECM's, including ICCAs, was introduced into the new Conservation of Biodiversity and Protected Areas Law (2018). Both models of community management will be promoted through the project and the prospects for further uptake are therefore high.

Proximity to both Yangon (largest city) and Naypyitaw (capital) makes the project ideally located to readily demonstrate successes to national managers and policy-makers but also to visiting international resource managers as well as to tourists. The main highway between Yangon and Mandalay passes directly along the eastern border of the study area making it an ideal location for visiting, and the training centre and rehabilitation facility will act as attractions.

Successful delivery of a project of this magnitude over the majority area of an administrative Region will provide a clear demonstration to policy makers and senior managers of the successful combination of community involvement, landscape planning, protection of biodiversity, sustainable forest management, climate change adaptation, and a well-managed protected area. This Bago Yoma Project is designed as a national level project for an alternative to past top-down management regimes, that envisions government and civil society working together to support sustainability, with careful attention to national planning priorities as articulated in the “Myanmar Sustainable Development Plan”[1], which seeks to enable and support peace and economic growth under a sustainable management regime. Under the knowledge dissemination plan, policy-makers and managers will be shown how an integrated landscape can be managed for sustainable resource production, conservation, and economic development. Once fully implemented, this proposed project has an opportunity to play a transformative role in Myanmar’s development through the innovative participation of communities and capacity building at a regional scale, that will be drawn upon as a model for other States and Regions of Myanmar to emulate.

This project intends to develop the NZWS, with its associated ranger training centre, as a national protected area management and demonstration area for proper PA management. The project aims to provide training at the NZWS Training Centre for protected areas managers from across Myanmar, with a view to substantially enhancing capacity to manage all protected areas in the country. Lessons learned on management techniques, including enforcement will be reinforced through active participation in management activities the NZWS, and then taken back to all protected areas in the country for application. These lessons will include documents and plans that can be shared at each of the protected areas. The NZWS will become a protected areas demonstration site that will improve the management of PAs across the country.

The project is designed to provide demonstration models for up-scaling in Myanmar. In particular, the capacity building and support for district forest management planning, district land use planning, landscape planning, and OECMs including ICCA approaches, the latter based on the New Conservation of Biodiversity and Protected Area law (2018) will likely help support opportunities for national scaling up. Ensuring that activities, impacts and lessons learnt from the demonstration landscape and NZWS sites are disseminated widely helps generate a bottom-up demand for similar activities throughout the country. The Project’s investment component will seek to develop synergies among sub-national, district and rural development actors, community institutions and programs with an objective of raising additional support to expand models of conservation, resource use and alternative livelihood activities within and outside of the targeted biological landscape. The replication and scaling up strategy to be developed (Output 4.3) will assess sustainable financial and institutional arrangements for scaling up, support identification of new biological landscapes, develop a best practice manual and conduct dissemination events to encourage uptake of such concepts as discussed above to other sites in the country. In particular activities to be undertaken as part of the effort of scaling up include the following:

- Development of a **replication strategy** based on lessons learned at the field level that will ensure that the integrated landscape management and PA planning approach and models developed and pilot tested are scaled up to include other biological landscapes and PAs in the country. Output 4.3 would support the analysis, documentation and dissemination of best practices and lessons learned that deliver tangible improvements in biodiversity and natural resources status to provide examples for replication. It would also entail participation in regional and international workshops, GWP events, conferences and field visits for national and sub-national staff to improve learning and exchange of experiences in mainstreaming biodiversity considerations, and integrated landscape management planning and practices. Based on these best practices and lessons, the replication strategy will provide a basis for actions at other key biological landscapes and PAs, identify required institutional and coordination arrangements resources and partnership commitments (including with NGOs), select interventions and potential landscapes for replication by the fifth year of the project.
- Providing **technical support and training** to staff for other districts to support integrated approaches in other areas in the country;
- Publishing of **best practice manuals**/handbooks/compendiums of integrated landscape and PA management planning approaches; and

The KM component (Component 4) is aimed at ensuring the activities, impacts and lessons learnt from the demonstration landscape and NZWS sites are disseminated widely and help generate a bottom-up demand for similar activities throughout the country. Participation of project staff in regional workshops, conferences and field visits of staff from other sites will help improve learning and exchange of experiences in integrated landscape management planning and practices, forest management, land use planning, mainstreaming of biodiversity in district and sector planning, CFUGs, etc. that would facilitate demand for scaling up. .

The preparation of a replication and scaling strategy and Manual and Lessons learned guiding document (developed under Output 4.3) and annual and end-of-project national seminar is intended to develop support for enhancing institutional and coordination arrangements, financial and human resources and partnership commitments necessary for ensuring replication across the country. This strategy will form the basis for consultation with government (national and provincial), private sector and NGOs to develop a roadmap for national scaling up.

[1] Gov. Myanmar. 2018. Myanmar sustainable development plan, 2018-2030.

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

>Location of project sites: The project will focus mainly on actions in Bago Yoma in Bago Region, but the strategic mapping will work towards full Regional coverage – *see map in Annex A.*

>Current KBAs and protected areas in the Bago Region: There are three KBA's partially or completely located within the project site: "Central Bago Yoma", "Phokyar Elephant Camp", and the North Zamari Wildlife Sanctuary and its buffer zone within the project site – *see map in Annex A.*

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations

Private Sector Entities

If none of the above, please explain why: Yes

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

At the PIF stage – WWF and UNDP were beginning collaborations on consultations with indigenous peoples and local communities, as well as with civil society groups. COVID-19 and associated within-country travel restrictions have interrupted that process and has made this requirement impossible so far in 2020. Both WWF and UNDP are well aware of, and fully committed to, having meaningful, timely, accessible and understandable consultations with indigenous people and local communities, as well as establishing FPIC with all indigenous people, including Kayin people and other indigenous groups (Pao, Chin), when it is safe to do so. These consultations will be undertaken at the PPG stage (pending COVID-19 situation) as articulated in the pre-screening of social and environmental risks (pre-SESP). In the past year or two, WWF has had substantial discussions with the Forest Department regarding joint priorities for improved management at NZWS and for establishing a national ranger training centre at the NZWS. During PIF development, WWF has had preliminary and positive discussions on the project proposal with the past and present wardens at NZWS and with the local Kayin Forest Department, as well as with a local teak products manufacturer. UNDP is a member of the national ICCA Working Group (with a next meeting September 23, 2020) that will oversee development of a National FPIC Guidelines and policy. This working group includes members from many ethnic groups, as well as a large number of CSOs and NGOs. To this end, UNDP has instituted an FPIC pilot project in Mon State, which will lead directly to these national guidelines.

With a focus on expanding community management of land and natural resources, a keystone outcome of the project will contribute to improved trust and cooperation among government, local communities, and civil society organisations. Capacities for inclusive and participatory land-use planning, as envisaged in the National Land Use Policy (2016) and the Myanmar Ethnic Rights Protection Law (2015), will empower local citizens to participate fully in the decision-making process regarding land-use. Furthermore, IP communities that might be impacted by project activities will be given the means to provide or withhold their free, prior and informed consent. This represents a major change from the current top-down decision-making model especially as employed by governments of the past.

For project preparation, discussions on how best to present information and receive information from local communities will be discussed through a series of local forums at 20 of the larger communities in the project area, where the concept for improved participatory landscape management and biodiversity mainstreaming will be presented for input. The meetings will involve government, NGO partner(s), civic leaders and community members to enable preparation of a tentative mapping with alternative scenarios. As the project proceeds, the plan alternatives, which will be open for discussion, will enable regular input from local people through established local committees via collaborative mapping and data collecting exercises that will identify zones for

activities (agriculture, plantation, re-wilding, improved forest, access to remove and access to maintain, forest area intactness, etc.) based on inputs from citizens to base maps pre-prepared by government. The mapping exercise can allow alternative models relative to the long-term project objectives to ultimately increase forest cover, enable improved agriculture on appropriately zoned lands, and increase conservation of remaining key habitats through improvements. Individual meetings will be held with private sector forest enterprises to provide an understanding of the project and to enable mitigation of any possible effects, while providing information on the benefits and introducing biodiversity concerns.

An indicative list of these stakeholders – and the roles that they will play in project design – is provided in the table below. The stakeholders and their respective contributions and roles in the project will be confirmed during the project development phase. The project will also ensure that representatives of relevant initiatives and projects are regularly consulted with to enhance effective and informed collaboration during the project development and implementation phases. A Stakeholder Engagement Plan will be prepared during project development including use of virtual and other decentralized measures as needed given COVID-19 context.

Stakeholder	Mandate (or activities)	Relevant potential role in the project	Means of engagement
MONREC: FD and NWCD	Biodiversity conservation and management; management of protected areas	FD and NWCD provided detailed comments on the concepts and PIF document for this project. FD will be the primary government agency responsible for project implementation. They will need to coordinate among Forest Department staff, regional staff and the participating NGOs and donor agencies, by establishing a project planning committee and an implementation committee. This leadership will require development of the enabling legislative, regulatory and policy frameworks to be enacted under components 1 to 3.	FD and NWCD are the implementing partners and are overall responsible for this component
	Forest planning and management; community forestry; REDD+	FD will take the lead on CF development, forest improvement, and training, this too will require enabling legislative, regulatory and policy frameworks. FD will conduct the major mapping exercise to assist with zonation.	FD (and NWCD) are the implementing partner and are overall responsible for this component
Regional government	Local representation of community	Planning decisions in Myanmar	Will sit on Regional and di

Regional government: Bago Regional Government	Local representation of central government; regional landscape planning	Planning decisions in Myanmar, while top-down are implemented regionally. An emphasis in this project is to make this planning more consultative. Regional government will play a large role in representing government at the meeting with local communities and with assisting through implementing new national policy and regulations.	Work on regional and district planning committees and work approve plans for CFs, ICCAs and OECMs
NGO: civil society	Organize and assist with local community meetings	Local CSOs (such as Friends of Wildlife) will be consulted during development of the project proposal. There are NGOs in Myanmar that have provided extremely useful services in earlier contracts to assist in dealing with local communities. On this project their role will be to organize and facilitate local meetings.	Assist with training of local communities and help to mobilize monitoring.
UNDP	Full partner on the project as an implementing agency	As a GEF Agency, UNDP will be accountable to the GEF for implementation of activities within the Bago region, outside of the NZWS. This includes oversight of project execution of related activities to ensure these are carried out in accordance with agreed standards and provisions. UNDP and WWF will be collectively responsible for the Project Assurance role of the Project Board/Steering Committee.	Regular monitoring and supervision, reporting to the GEF of project progress in relation to activities outside the NZWS, provision of timely advice and guidance on use of GEF resources. Coordination with WWF in provision of oversight and reporting to GEF.
WWF	Full partner and GEF implementing agency	As a GEF Agency, WWF will be accountable to the GEF for implementation of activities within the NZWS. This includes oversight of project execution to ensure the activities within the NZWS are carried out in accordance with agreed standards and provisions. UNDP and WWF will be collectively responsible for the Project Assurance role of the Project Board/Steering Committee.	Regular monitoring and supervision, reporting to the GEF of project progress in activities within NZWS, provision of timely advice and guidance on use of GEF resources. Coordination with UNDP in provision of oversight and reporting to GEF.
Local communities (LCs)	Local planning and management	The local communities are directly responsible for input to the establishment and management of the CFs via user groups. By implication they are the primary project partners and the main beneficiaries of the project. LCs will be extensively consulted as	Landowners and community members will have representation on the Management Committees for CFs, other OECMs and the NZWS.

		one of the most important stakeholders in the establishment of the new management and planning systems	
Indigenous Peoples	Full partner and beneficiaries	Indigenous peoples (Kayin, Chin, Pao) representatives from the region will share their concerns regarding the project design, in particular for OECM, CPA and CF activities, as well as livelihood activities.	IPs will directly participate in project design and be fully involved under implementation as members of committees.
Private sector	Livelihood options partners	The actual industries involved will be selected only during community consultations, and depending on livelihoods options as needed by communities. Preliminary contacts were made with wood product industries by WWF.	The private sector will assist with value chain assessment and improvement, partnering with local cooperatives to provide markets and also to provide advice on feasible business development.

3. Gender Equality and Women's Empowerment

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

Myanmar has a 2018 Gender Inequality Index value of 0.458 (ranking 106 out of 189 countries: <http://hdr.undp.org/en/content/table-5-gender-inequality-index-gii>). The Myanmar government is a signatory to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), the Beijing Platform for Action, the International Conference on Population and Development and the Millennium Declaration. The 2018 National Sustainable Development Plan (NSDP) has mainstreamed gender into the three pillars and aligned its goals with SDG indicators. The National Committee for Women's Affairs has developed a National Strategic Plan for the Advancement of Women 2013-2022 (https://myanmar.unfpa.org/sites/default/files/pub-pdf/NSPAW2013-2022_0.pdf). It provides a framework for the advancement of women, gender equality, and the realization of women's rights. One of the 12 priority areas is to "ensure women's meaningful participation in managing and safeguarding natural resources, the environment, and adapting to climate change." An analysis of sustainable resource use by women and gender differences in the use of natural resources is not provided in the plan, however, it recognizes the need to "strengthen systems, structures and practices to ensure meaningful participation by women in the management and safeguarding of natural resources and in adapting to climate change", and the need to raise women's awareness to natural resources management issues.

At the landscape level, the project area has a sex ratio slightly skewed to women, but women are typically not involved in decision making, in part owing to family and home responsibilities following their daily work life. Currently, the role of women in forests includes fuelwood gathering, gardening on forest plots, and active involvement in the CF initiatives.

The project development and implementation will adhere to the WWF Gender Policy, UNDP Gender Policy and the GEF Policy on Gender Equality (which the UNDP and WWF policies align with). The project development stage will include conducting a gender analysis and developing a Gender Action Plan. UNDP and WWF will ensure from the project development stage that all stakeholder consultations are gender-responsive. Project activities will be designed take into account that women are often the primary collectors and users of natural resources for households and as such must be included in interventions concerning natural resource management, land-use planning and decision-making; sustainable land use and conservation incentives differ for men and women, and as such the project development needs to assess and account for these differences; and any gendered division of labour needs to be understood prior to the introduction of any livelihood interventions. Project outputs will include women's involvement, for example, there is a clear opportunity for proactive inclusion of women's participation in CF training programmes and development of livelihood projects. This project will aim to ensure that women are appointed to management boards and receive proper training on management and forestry, while being encouraged to participate in national bodies such as the Community Forest Women's Platform. The project development process and implementation phase will remain attentive to identifying and mitigating gender biases, for example in respect to wage parity, joining advocacy groups, travelling to meetings, opportunity to be vocal in meetings, and constraints related to traditional family roles meaning women may have little time available to travel or attend meetings. Gender sensitive indicators will be developed in project development identified through the gender analysis and relevant to the project objectives, such as numbers of women providing input to plans as it develops through the community level meetings. In addition, there will be a quantification of beneficiaries with gender segregation as an indicator of gender equality in

the project. Under the monitoring and evaluation components, women's groups will be one of the key parties for consultation during project monitoring and also evaluation at the end of the project. Specific involvement of national level women's groups, such as the National Community Forest Women's Platform, will be requested.

Although, 30% women's participation is defined at PIF stage (Table F and Annex B), the intent is to identify key activities currently being undertaken by women and facilitate their further development and develop women's specific investments options at PPG stage with the intent to increase benefits to women beyond the 30%. This figure will be accordingly adjusted at PPG stage.

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

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

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

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

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

There is currently no legal forest harvesting in the Bago area and so no forest enterprises will be involved. As the livelihoods projects begin to develop, however, partnerships with local industries may develop, but this can only be determined as opportunities and value chains are developed and preliminary contacts have been achieved with teak product industries. Many of the rubber plantations are privately operated and these owners will be involved to improve their understanding of ecosystem services and be involved in improving landscape connectivity to improve conservation outcomes. The project will engage private sector entities to assist in undertaking assessments to identify potential value chains and products through a supply and demand analysis. They will provide technical assistance and training for value chain development and help identify markets and provide potential financing.

At the PPG stage, any partnership with private sector will comply with UNDP's policy on due diligence and partnerships with the private sector, and accordingly, due diligence will be undertaken for all identified private partners before conforming engagement with them.

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

Specific sections on COVID-19 and climate change are included below, to address these two important individual risks.

Risk	Level	Management Strategy
Climate change	Moderate	See CC analysis directly below
Disinterest among local communities and difficulties in forming CFUGs.	Moderate	There is already good experience in the country on establishment of CFUGs and a deep and extensive experience community engagement in CFs and thus these learning can be effectively used to encourage community interests. This risk will be further reduced by holding well-advertised meetings at appropriate times, through engaging community leadership during the project development stage, and by providing early feedback illustrating how local ideas have been taken into account in plan development. The risk will be further reduced through engagement of a local Myanmar NGO with extensive experience in organizing community discussions on resource issues and assisting in CF formulation.
CFUG involvement in enforcement activities could become a risk for the individuals.	Moderate	Deployment of technologies by CFUG members to stop illegal actions could cause potential community backlash. The project will work with the communities to ensure that all members of the community are in favor of the CFs. For actual enforcement action, the CFUGs will only pass on information to government staff and not be involved themselves in direct confrontations. Further, knowledge that there is increased enforcement in the area with hidden technologies will act directly as a deterrent, reducing the need for actual enforcement action.
Vested interests block change in forest governance and undermine sustainability.	Moderate	The risk will be reduced by designing measures to ensure transparency at all stages of implementation, demonstration of long-term socio-economic benefits through sustainable legal practices, and the disclosure of losses from illicit actions to LCs.

		There is also political will at the highest levels of government to work to change the past systems.
Limited capacity to carry out or sustain improvements	High	This risk is common in project areas once funding is depleted. We will address the risk through policy changes, planning regime changes, more open governance, and through targeted capacity-building and effective training of personnel. Training will be provided to CFUGs as well as Forest Departments on managing CFs and SFM techniques. Financial capacity at project end has been considered and a sustainability plan will be developed as part of the project
Delays in preparing and enacting the enabling legislative, regulatory, policy and planning by regional government.	Moderate	Government has targets and policy in place to increase forest cover through active regeneration, to policy to increase CFS area and elephant action plan. Hence, this project will serve as a catalyst in the Bago area to implement these policies. This project will also seek to build the capacities of CEP A to facilitate the technical and consultative process of developing and improving the planning, regulatory and policy framework
Lack of local commitment to take effective biodiversity conservation actions on account of apathy on conservation issues and lack of leadership	Moderate	During PPG stage, an assessment will be made of the commitment of local stakeholders and communities to identify potential incentives to encourage commitment that would be then built into the project.
Insufficient commitment and capacity to fight poaching or implement actions	Moderate	During PPG stage, an institutional assessment will be undertaken to assess existing capacity, equipment and track record in terms of control of poaching to identify weaknesses and barriers to improve control measures. The project will include specific capacity building, equipment, surveillance, monitoring, reporting and enforcement measures to strengthen this function
Local communities including vulnerable groups and women might not be involved in project design, and therefore do not fully benefit from project activities.	High	<p>Detailed consultations with local communities during PPG will be initiated. Targeted assessment of project activities in demonstration landscape and potential impacts and developing an understanding of the benefits for local communities.</p> <p>A Gender Specialist will be assigned during the PPG stage to undertake a Gender Analysis of the proposed project interventions and develop a Gender Mainstreaming Action Plan to identify measures to ensure that the project contributes to gender equality and creates equitable opportunities for women and men at all levels of engagement.</p>

Poorly-informed or executed project activities could affect non-target critical habitats and change landscape suitability for certain threatened species, and further exacerbate conflicts to project-affected communities.	Moderate	During PPG stage, an ESMF/ESMP (and as relevant an ESIA) will be done following consultation with wildlife NGOs, local communities and FD staff to assess the impacts of the project and design of the components will be done so as to avoid, mitigate and manage any potential impacts. When impacts are too high, these activities will be excluded from project support
Project activities and outcomes will be vulnerable to the potential impacts of climate change	Moderate	See separate climate section below
The project landscape has resource use conflicts within CFs, the broader production landscape, IP resource use that could be exacerbated if project activities are not well planned and implemented, taking into consideration the perceptions and needs of stakeholders.	Medium	<p>As the project is categorized as High, an ESMF has been prepared during the PPG. Per that ESMF, an ESIA will be undertaken and based on it an ESM P will be prepared during the first year of project implementation – covering this and all other risks listed in the table and include the following: Comprehensive Stakeholder Engagement Plan; IP plan, GRM that will ensure mitigation measures to manage the risks.</p> <p>Additionally, other measures to be likely have to be applied that will be defined during the PPG stage, could include: procedures for identification and its planning and decision-making on resource use (to ensure that community concerns are addressed in a timely and efficient manner; use of the screening checklist to ensure that they comply with sound social principles and is sustainable; and recruitment of community engagement specialist at landscape level to ensure the application of effective participatory processes, inclusive decision-making and application of the GRM process.</p>
Indigenous peoples within and adjacent to the project area, may be directly or indirectly affected by the project if they are not adequately involved through defined FPIC procedures in project design and therefore not engaged in, supportive of, or benefitting from	High	During the PPG stage, the project will have consultations with Indigenous Peoples (IP) experts and affected groups to better understand their relationships with natural resources and prepare an Indigenous Peoples Plan (IPP) or Indigenous Peoples Planning Framework (IPPF) during the PPG stage.

m project activities.		to address any potential impacts on affected IP groups and ensure that adequate FPIC procedures are in place to continue dialogue with IPs during PPG and project implementation
There is a risk that the Project could exacerbate tensions between the Government and local communities	Medium	The project-level GRM will be developed at the PPG stage that will be applied during the project implementation to provide a mechanism for communities, IPs and other stakeholders to have their grievances heard and resolved. The grievance mechanism will be applied to all parts of the project.
There is potential for conflict given the land tenure context as well as potential for economic displacement on account of forest restoration and re-wilding activities	Moderate	Project support will include assistance to resolve conflict and may support the National Land Use Council (established in 2018) in their process to identify and protect land tenure rights in the landscape, under the National Land Use Policy (2016) by designing and testing land use planning methodologies. In addition efforts will be made to improve capacity of the CFUGs and land use planning committees to promote active and transparent mechanisms for consultation in decision-making; development of ecosystem-based district forest management plans through a participatory process, establishment of new CFs, Community PAs (ICCAs) and OECMs based on FPIC participation of affected communities and establishment of community forest enterprises and commercial opportunities to improve livelihoods based on community consultation. The participatory forest and management planning and sustainable forest management, OECM planning and ICCA planning will facilitate ensuring that community traditional rights related to shifting cultivation, market gardens and fuel wood collection are recognized. In the event of economic displacement, a livelihood action plan would be developed to adequately compensate for any potential economic displacement
The Project envisions supporting livelihood	Moderate	During the PPG phase an ESMF may be required to

s that may fail to comply with national and international labour standards. Outputs related to creating eco-tourism and restoration could raise labour standard issues.	e	o ensure proper implementation of labour standards as they relate to the Livelihoods Outputs, and an SIA or an ESIA and ESMP may be required during the project inception phase.
Participatory land use planning between the Government and Stakeholders may cause social disharmony (even though its intention is to build trust). The Output assumes trust, or at least a willingness to work together, between the Stakeholders and Government.	Moderate	<ul style="list-style-type: none"> • The GRM will be developed at PPG that will be applied to address community concerns and help resolve conflicts. • A Comprehensive Stakeholder Engagement Plan will also be developed. • An ESMF may be required to create a framework for resolving internal disagreements amongst Stakeholders. • An ESIA and ESMP will likely be required to articulate the risks and management measures during the inception phase. • FPIC will be mandatory for all Outputs that involve land use or natural resources that have potential impacts on IPs. • If an agreement cannot be reached regarding participatory land use planning alternative measure will be considered.
The Project's livelihood activities (e.g. eco-tourism) could potentially result in the release of pollutants into the environment due to increased travel to the region. It could also result in an increase of waste and an increased use of raw materials due to tourism.	Moderate	<ul style="list-style-type: none"> • The ESMF will include specific criteria and procedures that will be used to assess potential environmental impacts related to pollution, resource use, and the generation of waste. • The Project will manage this issue through revising the Livelihoods Outputs after consultations with wildlife NGOs, local communities, and NWCD government personnel to ensure avoiding or minimizing pollution and resource use, and managing waste. • Where risk and management measures that are identified will be set forth in the ESIA and ESMP during the inception phase.

Risk imposed by COVID-19 pandemic or zoonotic disease outbreak, could pose serious health risks and socio-economic implications on vulnerable populations including delay in project start-up.	High	See below
--	------	-----------

Summary analysis and project implications/opportunities for COVID-19

Covid-19 implications have been built into the proposal and addressed in several sections throughout this document. We deal with Covid from three perspectives: opportunity, risk, and ecology. The tables below summarize the risks and opportunities. The ecological perspective is described above, but to summarize: the intention of the project is to recover an intact, well-managed production landscape, where wildlife harvest is done in an ecologically sound manner, healthy wildlife populations are protected, and as the more intact landscape develops over time, that the possibility of zoonoses is substantially reduced.

Currently UNDP has a long-term programme ongoing focus on green business in Myanmar and also an emphasis on country recovery following Covid to “build it back better”, in a more sustainable way. Both of these programmes will, in part, shift to Bago to ensure long-term sustainability of livelihoods options, including CFs, to be developed under this GEF proposal. Tourism opportunities will be one of the many possible options available for economic development in Bago. Specifically, for the tourism sector, the UNWTO guidelines will be followed but more importantly application will be made to their technical assistance package for tourism recovery. Other livelihoods business development will necessarily follow government safety protocols under Covid (see Risks/opportunities from COVID below in the Risks section).

-

Risk category	Potential Risk	Mitigations and Plans
Availability of technical expertise and capacity	Continued or renewed efforts in COVID-19 containment	The project development work plan and team will be built with this in mind, for example, maximizing experts in control of COVID-19 containment efforts

city and changes in timelines	ment are likely over the course of project development and possibly into implementation. (H)	untry. However, if the COVID-19 continues or is not effectively contained, project start-up and implementation could be delayed. The availability of co-financing could be affected by shifts in government fiscal priorities and exchange rates. Methods for biosecure implementation will be needed, such as increased use of remote communication, use of PPE, etc.
	Limited capacity for remote work and interactions in Myanmar (M)	The rural areas of Myanmar are not well equipped for remote work, in terms of wifi availability. Cell coverage in Bago is however, very good. Covid does not change how work will be carried out in terms of pre-fieldwork preparations, holding consultations in halls where wifi is available, and taking advantage of the cell network for connectivity, other than by observing government safety protocols.
		<p>Availability of international personnel on-site will depend greatly on working in a post-pandemic scenario. However, if the pandemic persists, experience in Myanmar to date with other projects indicates that remote video training modules can be developed and that planning work can be accommodated in this manner at halls and offices where wifi is available. More time is required, however, as live-attendance will be limited by restrictions on attendance at any one session.</p> <p>At PPG stage and initial assessment will be undertaken of the social and economic impacts of ongoing Covid-19 on vulnerable populations as part of the ESMF preparation, mapping of hotspots and developing potential investment plans for responding to and ensuring income recovery for affected vulnerable populations.</p>
	Only some minimal consultation on the project design was undertaken during PIF development, due to COVID-19 related restrictions. (H)	Local level consultation will only be undertaken if it complies to national to local government guidelines and UNDP-CO and WWF national office guidelines. For example, it is likely that the consulting team will be small (1-2 people), national staff, and may have to be across design, gender, social and environmental issues, and they will likely consult with small group sizes (under 10 people or per lo

	<p>Ongoing, it is going to be difficult to do community-level consultations for the project in development phase. (H)</p>	<p>consult with small group sizes (under 10 people or per local guidelines) and will have PPE for themselves and for people they talk to in person. Additionally, COVID protocols will be developed and followed, such as testing, and supply of sanitizer and masks. In any case where either party is not comfortable to engage in discussions; it will not proceed. As much as possible, remote connections will be sought, for example via local government offices visiting communities.</p> <p>In all cases, continued attention will be given to ensuring the voices of IP, women, youth, and any underrepresented community members.</p> <p>Development of the Stakeholder Engagement Plan for implementation will also address such restrictions and mitigations.</p>
Changes to baseline	<p>The COVID19 outbreak could accelerate resource exploitation due to economic disruptions (M)</p>	<p>At PPG stage and initial assessment will be undertaken of the social and economic impacts of ongoing Covid-19 on vulnerable populations as part of the ESMF preparation, mapping of hotspots and developing potential investment plans for responding to and ensuring income recovery for affected vulnerable populations.</p>
Stakeholder engagement process	<p>Government is too occupied with COVID issues to deal with regular business. (M)</p>	<p>At the national level, Government has its protocols in place for staff, and is requiring a full normal workload. Meetings are being conducted in small groups and via video. Nevertheless, response times are normal, MONREC is fully engaged on this proposal, and is expecting UNDP and WWF to move forward with the work. At the Regional level, there is little disease in the communities and the communities and government itself are functioning as normal, but with precautions in place. The key Ministry involved, MONREC, is continuing its work as 'normal' given requirements under Covid protocols; staff are not called to work on other issues.</p>
Enabling environment	<p>Impacts on co-financing could result (M)</p>	<p>The availability of co-financing could be affected by changes in government fiscal priorities and exchange rates. Methods for safe implementation will be needed, such as increased use of remote communication. use of PPE. li</p>

		limited meetings. Government is, however, fully supportive of the project.
Travel by tourists	Lack of tourists as a result of covid reduces livelihood options (H)	At PPG stage, an assessment will be made in relation to the potential for recovery of the tourism market and to identify specific disease risk mitigation/prevention measures for a post-Covid19 recovery of the tourism industry.
Future zoonoses	Potential for adverse impacts that might contribute to future pandemics, for example, there will be no focus on increasing the human-wildlife interface or any actions that cause degradation. (M)	This will be closely reviewed in the ESSF screening (when sites are selected) and in safeguards analysis and documentation. The project will proactively work to reduce risky human-wildlife interface, such as mixed wildlife wet markets, towards reducing the risk of future pandemics, while over the long-term promoting an intact forest landscape with healthy wildlife populations.
Future risk of similar crises	There is only a very low possibility of people from cities relocated to rural areas. (L)	In Myanmar, few if any people reverse migrate because of employment opportunity in cities and lack of opportunity in rural areas. Further, the lack of available wifi in many areas makes rural life unattractive to the urban population.

COVID-19 Opportunity Analysis

Opportunity Category	Potential	Project Plans
Can the project do more to protect and restore natural systems and their ecological functionality?	The proposed project will contribute to restoring ecosystems and function.	This project is entirely built to assist the Government of Myanmar to recover landscape intactness and connectivity (green recovery), and to enhance wildlife habitats, through strategic application of landscape planning, im

		<p>ategic application of landscape planning, improve protection of an important protected area, improve forest condition and habitats, and recover wildlife populations. This will reduce the risk of zoonoses.</p>
Can GWP/BD projects regulate consumption of wildlife and markets?	Strong potential	<p>While regulation of consumption of wildlife and IWT markets are of regional dimension, this would require coordination with other countries in the region. Opportunities for coordination will be identified through discussions with the GWP Steering Committee (on which UNDP and WWF sit) and may be funded through Component 4. Additionally, the project will strengthen enforcement and improve livelihoods to deter wildlife poaching in the project area.</p>
Can the project include a focus on production landscapes and land use practices within them to decrease the risk of human/nature conflicts?	Very high	<p>The majority of this project focusses on the production landscape across Bago Yoma. The objective is to mainstream biodiversity and ecosystem service considerations into all aspects of landscape planning, including reducing human-elephant conflicts. Among the proposed several alternative livelihoods will be solutions based on agroecology, whereby agro-forestry, with multi-structured canopies, is promoted for high value crop species, including e.g., coffee grown under natural shade and inter-cropping on rubber and tea plantations.</p>
Can the project promote circular solutions to reduce unsustainable resource extraction and environmental degradation?	Very high	<p>The project will aim to ensure sustainable procurement, careful waste management (e.g., of PPE) and avoidance of contribution to POPs and GHG emissions. Planning on the production landscapes, with zonation will be achieved, and strategic planning and forest recovery will enhance landscape connectivity over time.</p>

Short-term opportunity to support Covid economic recovery	Very High	The alternative livelihoods will all be based on assisting green growth and a circular economy by focusing on business models that incorporate climate, biodiversity and sustainability.
Can the project innovate in climate change mitigation and engaging with the private sector?	High	Green business practices, and a circular economy will be a cornerstone of all alternative livelihoods projects and through the UNDP's green business programme, local businesses will be assisted with green value chain analysis and mechanisms to reduce footprint. Part of the project involves working with local communities to mainstream climate mitigation and biodiversity into long-term planning. Under the agro-forest aspects, increased carbon sequestration in agro-forests on what would be otherwise cleared lands, will increase climate mitigation aspects. Further, MONREC will be reforesting and rewilding to increase forest intactness and sequester carbon at a much higher rate than residual degraded forest (approx. 80 vs 20 T/ha, representing a 300% gain).

Summary analysis and project implications for climate change considerations

Effects of climate change in Myanmar and Bago Region

Myanmar is at high risk to climate change and so as climate changes it will be extremely vulnerable to the impacts of severe weather events, such as heavy rains, storm surges, more frequent droughts, floods, cyclones and landslides, all of which have increased in intensity and frequency over the last 60 years.^[1] In 2016, the country ranked second in the Global Climate Risk Index, with natural disasters causing an average loss of US\$2 billion per year (3 percent of the GDP). Temperature change for the Bago Region by 2050 is expected to be between +0.8 and +1.5 C with an increase in precipitation of between 3 and 16%^[2]. Observed climate-related events in Bago have included landslides and droughts. More than 70 per cent of the population depend directly or indirectly on forest resources, which contribute 1 per cent to GDP and timber makes up about 10 per cent of Myanmar's exports. The all-important ecosystem service of

water quality and quantity through groundwater and run-off associated with forest cover will become even more important as climate conditions change. Therefore, the importance of reducing forest degradation, increasing forest cover, and reducing soil loss is important to both ecosystem service provision and industrial applications. Ground-water protection will become an even more important ecosystem service in future, especially in drought years. The expected increase in demand for water resources, combined with lower replenishment rates in reservoirs, rivers and groundwater sources due to a changing climate, will probably lead to freshwater shortages in some years, especially under current conditions of increased forest loss and degradation. Under expected irregular drought conditions, fires could also become a new problem in some years.

The Government has recognized these challenges and committed to a series of policy reforms to ensure that economic growth in Myanmar is more inclusive, resilient and sustainable. This has led to some recent, progressive environment related policies and strategies, e.g., the Myanmar Sustainable Development Plan (MSDP, 2018 – 2030), National Environmental Policy (NEP, 2019), Myanmar Climate Change Policy and Climate Change Strategy and Master Plan (MCCSMP, 2017-2030) and Myanmar Action Plan for Disaster Risk Reduction (MAPDRR, 2017), Environmental Master Plan (EMP, currently being finalized), and Green Economy Policy Framework (2020). These plans recognize the need in inland areas to increase resilience in forests, develop land covers that reduce landslides and foster a move to climate-smart agriculture (e.g., adjusting cropping systems, using stress-resistant plant varieties, and maximising water use and efficiency). This project will follow guidance from all of these documents to integrate into the overall climate agenda for Myanmar.

The Forest Policy emphasizes the protection of soils, water catchment and watersheds, functioning ecosystems, biodiversity, and genetic resources. Myanmar recognizes that fostering sustainable forest management and recovering forests in watersheds will lead to tangible and intangible benefits for the present and future generations. The policy aims for 30 per cent of the total land area to be “reserved forest” and another 10 per cent to be in protected area systems. The National Water Policy is the first integrated policy for watersheds, rivers, lakes, reservoirs, groundwater aquifers and coastal and marine waters. Its vision is to become a water-efficient nation with forested protection of its watersheds to enhance and moderate peak water flows.

The Myanmar reforestation plan is an important aspect of the country’s approach to climate change adaptation. Projects, such as this proposed work, are essential to Myanmar adapting to climate change through fostering sustainability. Reforestation, increasing forest intactness, and properly managing protected areas are recognized in Government policy as important aspects of their national response to climate change and disaster risk reduction.

Climate Risk Analysis

Risk	Potential risk	Project Plans
Are the project’s outcomes at risk because of climate change?	Moderate to high, with increased possibility of fire in dry season, severe storms (cyclones), and drought years.	The goal of the Myanmar Climate Change Strategy, 2018-2030 is: “By 2030, Myanmar has achieved climate-resilience and pursued a low-carbon growth pathway to support inclusive and sustainable development”. And the Disaster Risk Reduction Plan (MAPDRR) requires that project

		<p>s Integrate disaster and climate risk considerations into national, regional/state and local development planning. The project will work under that strategy to ensure long-term climate resilience by working to increasing the resilience of forests through increasing intactness and recovery of native species mixes, ensuring the livelihood projects consider climate mitigation.</p> <p>Further assessment will be undertaken during PPG to consider potential climate change impacts on project activities in short-term and longer-term and to ensure that measures are reflected in project design to support climate-proofing and resilience of project activities and impacts as much as possible. It will also assess institutional capacity and information needs to enhance resilience to potential climate change impacts. During the PPG phase, the proposed project activities will be screened using the climate screening tool developed by the World Bank. Any identified climate change adaptation and mitigation needs for the proposed project activities will be incorporated in the project ESMF. It will identify specific management measures in design of the project to ensure that activities are environmentally sustainable and supporting best practices managed for their climate risks and improving protection and management of critical watersheds and ecosystems to help to increase the overall resilience of the natural systems to climate risks in the areas compared to business as usual.</p>
How has climate sensitivity been addressed?	Yes – reduce risk to medium	<p>The project recognizes that changes have occurred and are occurring and will plan to assist the local population to protect water supplies, zone appropriate areas for various types of agriculture and agroforests, and increase forest resilience through appropriate species mixtures. In addition, and as a part of Myanmar's action planning for climate change and disaster risk reduction, CFUGs and government staff will be trained in climate adaptive planning and processes.</p>

Have resilience practices and measures to address projected climate risks and impacts been considered?	Yes – aim to reduce risk to low	The area is classified as moist tropical forest and normally receives monsoon rains each year. During dry season and drought years, however, vulnerability to fire is a risk. Easily accessible, open and degraded forest are far more likely to burn than the fire resistant, multistory, intact forests planned under this project. An objective for this project is increased area of intact forest, which is much less vulnerable to the effects of climate and fire than fragmented landscapes[3].
What technical and institutional capacity, and information, will be needed to address climate risks and resilience enhancement measures?	Low risk	The main technical capacity to be developed is related to capacity training on climate effects, adaptation and mitigation actions under climate change for Regional MONREC staff and community forest user groups. These include climate-smart agriculture, watershed protection, and forest management to preserve forest cover. These aspects are fully considered in this proposal and will be designed into CFUG and government capacity-building training.

[1] MONREC. 2018. Myanmar Climate Change Policy.

[2] MONREC. 2016. Myanmar Climate Change Strategy and Action Plan, 2016–2030.

[3] Thompson, I., Mackey, B., McNulty, S. and Mosseler, A., 2009. Forest resilience, biodiversity, and climate change. Secretariat of the Convention on Biological Diversity, Montreal. Technical Series no. 43.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The project will be executed by Forest Department of MONREC, through collaboration with regional staff at Bago Region and with the participation of a local communities. Local NGOs known for their capacity to assist with capacity-building within local communities and ethnic groups will be engaged on specific capacity-building components and assistance on livelihood consultations and will be identified at the PPG stage. MONREC staff will be provided with the required training to develop the necessary mapping, to assist with local-level awareness training on biodiversity and ecosystem services, and for establishing, and initially also implementing, the monitoring of wildlife component and for all activities within the NZWS.

The GEF Agency co-implementation nature of this proposal is essential because of the strong relationship between WWF and the Forest Department with respect to oversight on protected areas, and the similarly strong relationship between UNDP and MONREC with respect to forest management and landscape issues. Specific division for implementation oversight between the two agencies would be as follows: WWF will be fully responsible for the GEF Agency oversight for NZWS and all associated components (component 3), while UNDP will be fully responsible for the delivery of all components outside of the sanctuary, including fostering through MONREC all aspects pertaining to sustainable forest management, landscape planning, landscape intactness, etc. The Coordination arrangements between WWF and UNDP is presented below:

Coordination Arrangements between UNDP and WWF: Comparative advantages and strengths of UNDP and WWF will come together to ensure an integrated project that is managed towards achieving the overall project objective. As the lead GEF Agency, UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP and WWF are responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board. UNDP will specially be responsible oversight of Component 1 and 2 in the Bago Yoma landscape. WWF will be specifically responsible for oversight of Component 3. UNDP and WWF will ensure close collaboration and integration of oversight on the enforcement of output Component 4 (KM, M&E) and PMC, including joint supervision support to the Project Management Unit. UNDP, WWF and FD will collaborate for ensuring close collaboration with WWF and FD to ensure complementarity and coordination between the agencies so as to ensure the full integration of activities within the NZWS and the surrounding landscape to achieve the desired outcomes of the project. This will entail overseeing joint annual planning meetings, joint supervision missions, sharing of progress reports and lessons learned, annual evaluation meetings, conduct of policy related workshops and coordinated training programs. UNDP will be responsible for consolidating of monitoring results and implementation progress from WWF and UNDP and reporting of monitoring outcomes and project implementation progress to GEF on the total project.

Project Management Unit: A project specific management unit will support the Executing Agency/implementing partner (Forest Department) and ensure smooth implementation of all project activities. PMU will be staffed as follows to be cost shared by both the IAs: Chief Technical Adviser; Project Manager/Coordinator; Safeguards Officer; Project Assistant and Finance Officer. The PMU will oversee, coordinate and support the activities funded by the two IAs, ensure complementarity of activities between the NZWS and surrounding landscape, and its attendant activities such as CFs, ICCAs, livelihood and sustainable natural resources management, and ensure a collaborative and coordinated effort to meet project outcomes. Through the coordination support provided through the PMU, this will ensure that project funds are utilized in the most cost effective manner through coordination of planning, monitoring and evaluation activities, ensuring complementarity of technical assistance support, training and skills development programs and awareness generation and knowledge management

Safeguards: UNDP and WWF now have experience in coordinating safeguards for the two agencies in one project, through the UNDP/WWF GEF India Small Wild Cats project under GWP, which will serve as guidance for coordinating safeguards for this Myanmar project. During PPG stage a safeguard specialist will be hired to undertake the safeguard assessment for the project and ensure complementarity between the UNDP and WWF safeguard processes and that the overall risks are fully captured. A common safeguard approach (including the GRM) will be defined for the project to manage and monitor project risks. There will be a more detailed safeguards screening by each agency, with each agency's screen focused on the activities financed by the agency. This will inform a categorization by each agency. One TOR will be developed to procure an environmental and social safeguards specialist to conduct the assessments and mitigation plans required under each agency and to develop one GRM process recommendation for the whole project. This will all be summarized in one joint Project Document and CEO Endorsement Request Document, and the mitigation plans from both Agencies will be uploaded at submission. In project implementation, there will be one PMU and one safeguard specialist will be positioned in the PMU to ensure implementation of the safeguards mitigation plans developed under the policies of each Agency.

Project Assurance: UNDP and WWF perform the quality assurance role and support the Project Board and Project Management Unit by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed and conflict of interest issues are monitored and addressed. UNDP and WWF provide a three – tier oversight services involving the UNDP and WWF Country Offices and UNDP at regional and headquarters levels. And WWF at the GEF Agency Management unit in WWF US. Project assurance is totally independent of project execution.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

- National Biodiversity Strategy and Action Plan (NBSAP)
- CBD National Report
- Cartagena Protocol National Report
- National REDD+ Strategy
- National Land Use Policy (2016)
- UNFCCC National Communications (NC)
- UNFCCC Biennial Update Report (BUR)
- UNFCCC National Determined Contribution
- UNFCCC Technology Needs Assessment
- UNCCD _ National Action Plan to Combat Desertification
- Myanmar Sustainable Development Plan 2018-2030

The project is fully consistent with several important international and national policy and planning documents and efforts in Myanmar. Under the NBSAP, the project will assist the country in meeting its targets for raising awareness of biodiversity (Target 1), community forests and forest restoration (Target 15), sustainable forest management and reducing deforestation (Target 5), improving management of protected areas (Target 11), and protection of endangered species (Target 12). Under the country's 6th National Report to the CBD (2018), it noted the failure to curb deforestation and its somewhat weak response to awareness-raising of biodiversity, so this project assists specifically in improvements in those areas to try to meet the 2020 Target. Forest planning and management actions in Myanmar are expected to be consistent with SDG 15. In particular, this project aligns entirely with SDG 15, especially 15.2: to promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially reforestation globally; 15.3 to ensure the conservation of mountain ecosystems, including their biodiversity, in order to enhance their capacity to provide benefits that are essential for sustainable development; and 15.7 to Take urgent action to end poaching and trafficking of protected species of flora and fauna and address both demand and supply of illegal wildlife products.

Myanmar is a signatory to the International Tropical Timber Agreement that calls for sustainable forest management, which is a key aspect of the project. As a signatory to CITES, Myanmar has an obligation to control the illegal trade in listed species, including elephants, pangolins, several turtles, several primates and cat species, all of which require increased protection and habitat, as a result of mostly illegal hunting, to be addressed through the project. It is well known that many endangered animal and tree species are illegally harvested and traded from Myanmar to neighbouring countries (e.g., Smiley-Evans et al. 2020). The project has a major anti-illegal activities component.

The country's National Action Programme (NAP) for UNCCD (2005) identifies the main causes of land degradation as – demographic pressure, expansion of agricultural land, over-grazing, illicit logging and excessive use of fuelwood, and installation of industrial plants and mining^[1]. Thus, it includes a number of actions related to sustainable forest management and integrated land use planning. The project will contribute directly to addressing the following issues through the action programme: (1) Key Issue 6.2 calling for establishing an information management system to provide quantitative and qualitative facts and figures relating to forest resources, together with socioeconomic situation in order to facilitate the identification of policy options, integrated planning and decision making; (2) Key Issue 6.3 Institutional Framework, which includes institutional capacity development planning and development of training curricula for forestry including specialised fields of forest economy, ecological, social, and wildlife and biological management to enhance capacity; (3) Key Issue 6.8 Livelihood Strategies of Local People, to improve the soil fertility of the degraded land by means of agroforestry and proper agricultural methods in order to increase the production of crops and consequently seasonal income; (4) and upgrade the capabilities of forestry personnel in extension, social forestry and participatory forestry.

At the national level, the project is fully consistent with the revised Land Use Policy (2016), which calls for PIC in any land planning developments. Further, the project addresses and will work under the Myanmar Reforestation and Rehabilitation Programme (MRRP) launched in 2017, with its ambitious goal of reforesting more than 60 million ha of the country, and also to improving economic and environmental conditions of local communities. The reforestation programme itself is consistent with the country's climate change adaptation agenda. The reforestation programme will be the vehicle by which trees are planted for this project. It is also consistent with the Myanmar Sustainable Development Plan 2018-2030, that calls for healthy and functioning ecosystems, and improving land governance and sustainable management of resource-based industries ensuring benefits for all people. This project is nested within the Myanmar Reforestation and Rehabilitation Programme and is intended to contribute to its long-term success through additional lands recovered through training and innovation within the CFs.

The project is consistent with the country's elephant conservation plan (Myanmar Elephant Conservation Action Plan (MECAP). In 2018, the government launched a focused elephant conservation strategy for the next 10 years (2018–2027), referred to as MECAP, with the overall aim of securing viable and ecologically functional elephant populations in Myanmar. The plan intends on the protection of Myanmar's wild elephants and their habitat and has 4 main themes: habitat protection, mitigation of human–elephant conflict, combatting the illegal trade, and the management of captive elephants.

The Forest Policy (1995) identified six imperatives, for which the proposed project is fully consistent: (a) Protection of soils, water, wildlife, biodiversity and environment; (b) Sustainability of forest resources; (c) Basic needs of the people for fuel, shelter, food and recreation; (d) Efficiency to harness the full economic potential of the forest resource; (e) Participation of the people in the conservation and utilization of the forests; and Public awareness about the

vital role of the forests.

The Forest Policy identified ten important objectives of which the following four are particularly relevant to the proposed project:

Protection and Management

To decide development of unclassified and protected public forest areas strategically located in the country to extend existing areas under forest reserves and the protected areas system in order to ensure sustainable forest management with the object of minimizing social and environmental benefits for the country and its population; restoration of ecological balance and biodiversity conservation;

Forestry Planning

To initiate the development planning for the forestry sector to achieve sustainable development in resource production, processing and marketing, biodiversity conservation and restoration of ecological balance;

Institutional Strengthening

To ensure that the basic goals of forestry, environmental protection and increased economic benefits to be achieved from forests and forestry are reflected in the institutional structure; and

People's Participation and Public Awareness

To enlist people's participation in forest sector development activities in order to provide "people-based-development" as also to create public awareness and mass motivation for protection and conservation of forests.

With respect to livelihoods opportunities to be developed, these are fully consistent with the Myanmar Sustainable Development Plan, which calls for sustainable industrial development, gender equality, and increased economic prosperity in under-developed regions of the country.

[1] <https://knowledge.unccd.int/sites/default/files/naps/myanmar-eng2005.pdf>

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

Knowledge management is essentially about getting the best knowledge to the right people at the right time. The commitment to continuous learning will be embedded throughout the project cycle by developing feedback mechanisms where stakeholders have the opportunity to reflect, share experience, and assess progress against targets. The idea is to have mechanisms in place that link the knowledge/experience of the stakeholders to actions in the field. The monitoring and evaluation system under Component 4 will track achievements against targets, produce and disseminate best practices and lessons learned, and assess the effectiveness of the whole approach. The project's communications and partnership outreach is an integral element of the project's knowledge management strategy. The inclusion of, and collaboration with, a broad range of stakeholders and institutions is of key importance. The knowledge management component will take an early learning approach to receiving information on community needs, local ecology, animal movements, plantation quality, site conditions, and other information to begin to build a mapped planning approach to improving the forests throughout the Bago Region. These community sessions will also serve as fora to discuss the project plan, receive feedback, and to adapt the plan as required. Consultants will be hired as appropriate for various aspects of early training, for example, for community forests, biodiversity management, and for aspects of landscape planning. A key aspect of knowledge management in a project such as this is learning and adapting through information-sharing and ensuring that all project members (government staff, community groups, NGOs, consultants, UNDP staff, etc.) have the same information as it develops. Electronic communications are only a small part of the solution to knowledge management in a rural society, while updated websites will work for organizations and some citizens, electronic means are lacking in many rural areas. As a result, regular meetings with citizens groups and paper transfer will be heavily used to manage knowledge. These meetings will also be the fora where the alternative plans for land use will be developed and where knowledge can be managed on a regular basis. Ultimately, mapping will provide a key tool used to drive the project plan, and maps then will be a main component of the project knowledge management plan.

Given the focus of the project on combating illegal logging and anti-poaching, the project will seek to engage in the Global Wildlife Program (GWP) knowledge exchange platform - to participate in webinars, join relevant regional exchanges and share lessons on issues such as enforcement, anti-poaching with GWP projects in Asia.

Experiences from earlier projects in developing countries will be a key aspect of the learning process. Past successes and failures can help to create new knowledge through meta-analysis. Currently in Myanmar, there are 211,397 ha under community forest management as of 2018; much can be learned from the successful and not-so-successful examples, and transferred to that component of this project.

Ongoing monitoring and updating project management is a key tool that will be regularly used during this project to obtain the best possible results, and to adapt the planning as new information becomes available. The role of the monitoring program to enable the adaptive management component.

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
High or Substantial			

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

The initial risk assessment by UNDP (pre-SESP) has identified 19 social and environmental risks and the overall risk for the project is classified as “High Risk”. The identified risks will be revised based on further assessment and information during the project formulation. To meet the SES requirements, at the PPG stage, the following will be prepared under UNDP policy: (i) ESMF with FPIC procedure; (ii) comprehensive Stakeholder Engagement Plan (iii) Gender Analysis and Gender Action Plan; (iv) An IPP/Ethnic Groups Plan; and (v) project level GRM.

The project has preliminarily been screened by WWF as a special consideration (high risk) project by the pre-screen. WWF has two types of High Risk projects: Special Considerations and Category A. They are not equivalent; Special Considerations is project that takes place in a high-risk context (countries on the World Bank FY21 List of Fragile and Conflict Affected Situation list), where Category A is high risk in terms of scope and scale of activities/impacts. The safeguards risk categorization is based on current available information on the project design and the project location. A more detailed safeguards screening and updated categorization will be undertaken during project development once activities have been explicitly defined and specific locations determined. The safeguards categorization memo will be issued based on the screening, detailing any required management plans. Any safeguards management plans or measures to address the identified risks will be developed during the project development phase.

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classification/ratings of any identified environmental and social risks and potential impacts associated with the project (considering the GEF ESS minimum standards) and describe measures to address these risks during the project design

At the PPG stage, stakeholder consultations will be initiated for the FPIC process with IP communities. An Indigenous People's Planning Framework (IPPF), livelihood restoration plan or Process Framework, gender action plan, and stakeholder engagement plan will be developed, following UNDP and WWF policies. During PPG, the team will undertake due diligence (DD) for the confirmed private sector partnership in accordance with UNDP's policy on DD.

Supporting Documents

Upload available ESS supporting documents.

Title	Submitted
PIMS 6507_UNDP pre-SESP_Bago Yoma_16 Oct 2020	
Myanmar Bago PIF_WWF ESSF pre-screen_final_10	

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

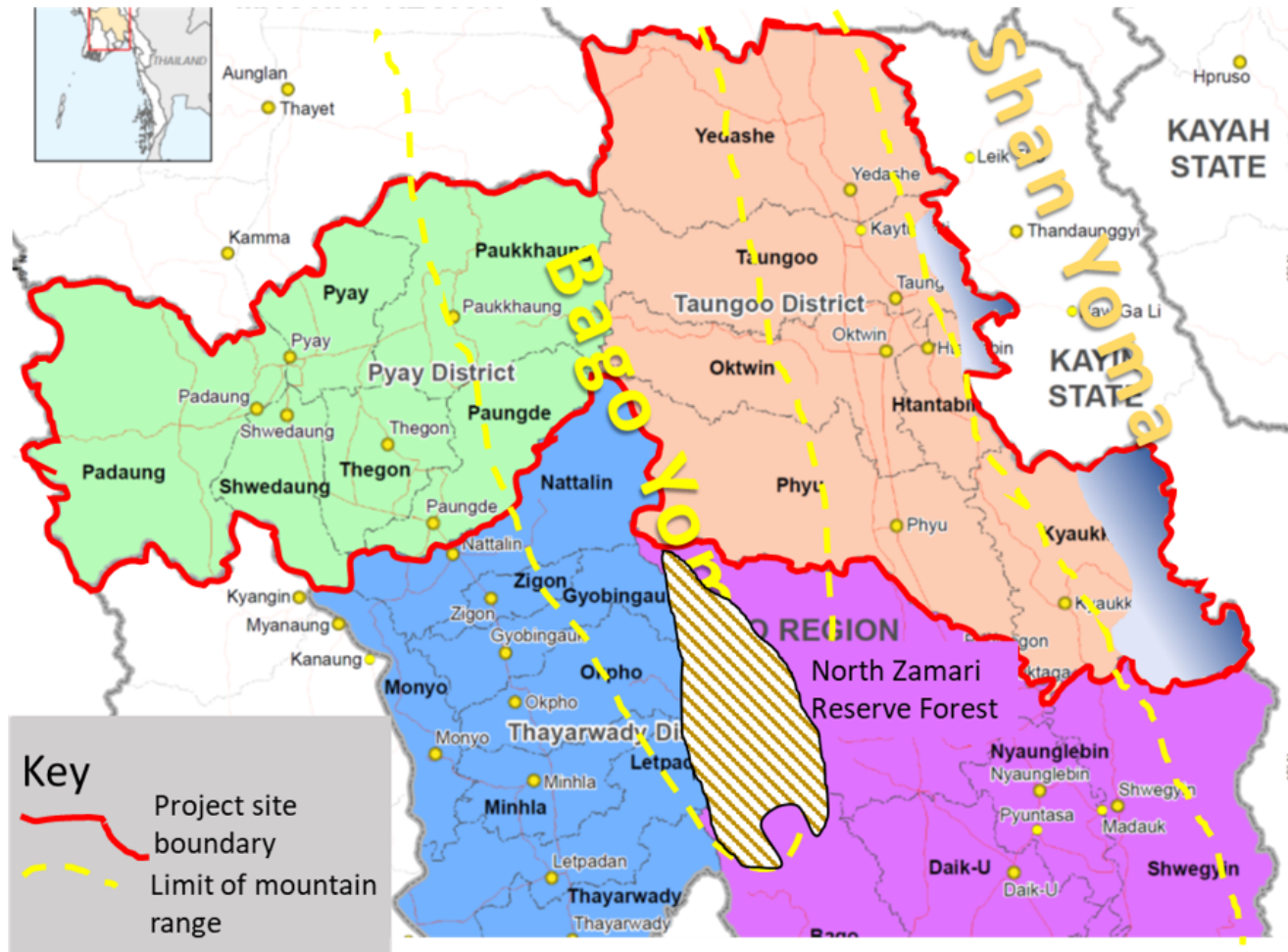
Name	Position	Ministry	Date
Mr. Hla Maung Thein	Director General, Environmental Conservation Department	Ministry of Natural Resources and Environmental Conservation (MONREC)	9/18/2020

ANNEX A: Project Map and Geographic Coordinates

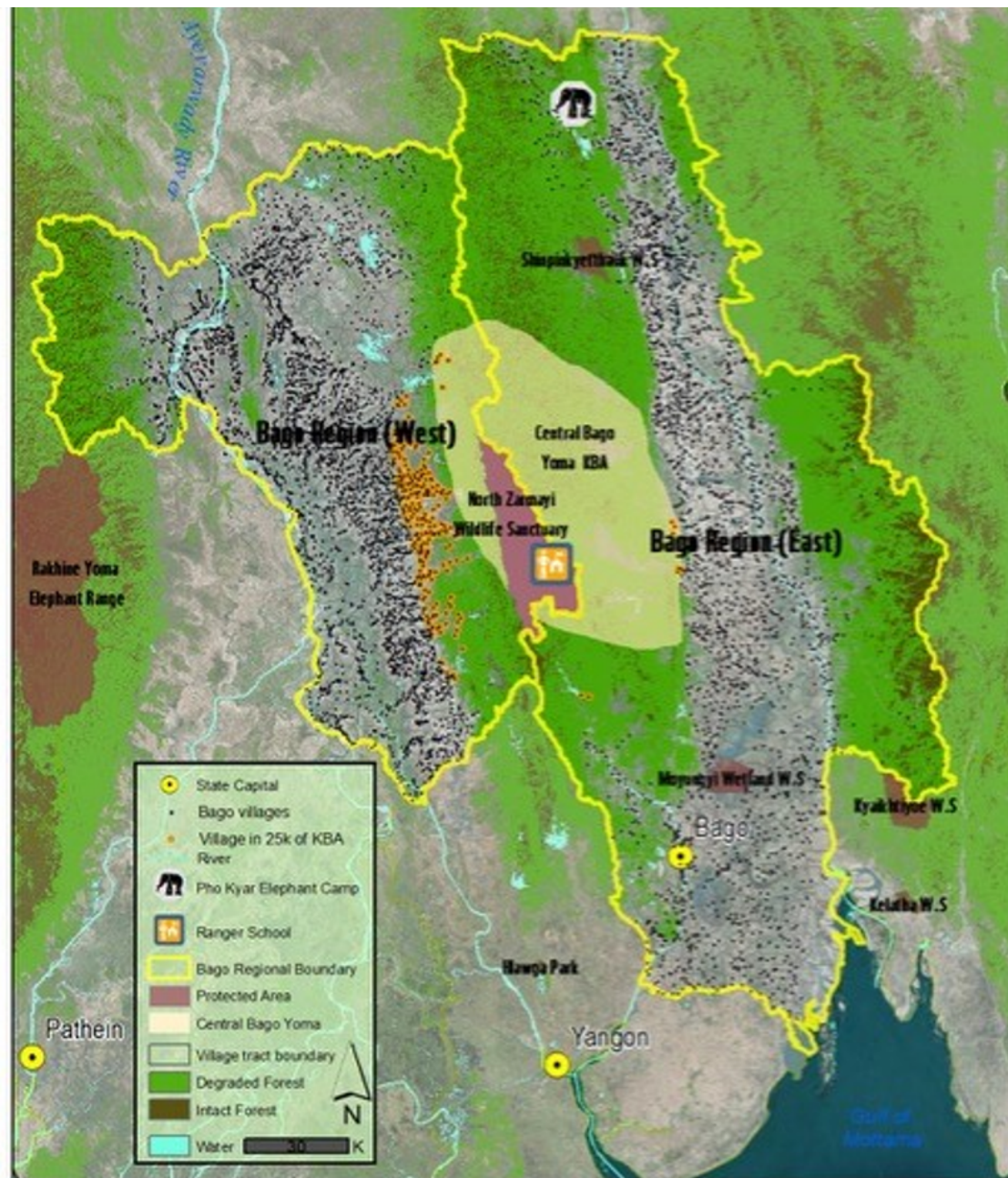
Please provide geo-referenced information and map where the project intervention takes place

PROGRAM/PROJECT MAP AND GEOGRAPHIC COORDINATES

Bago Region



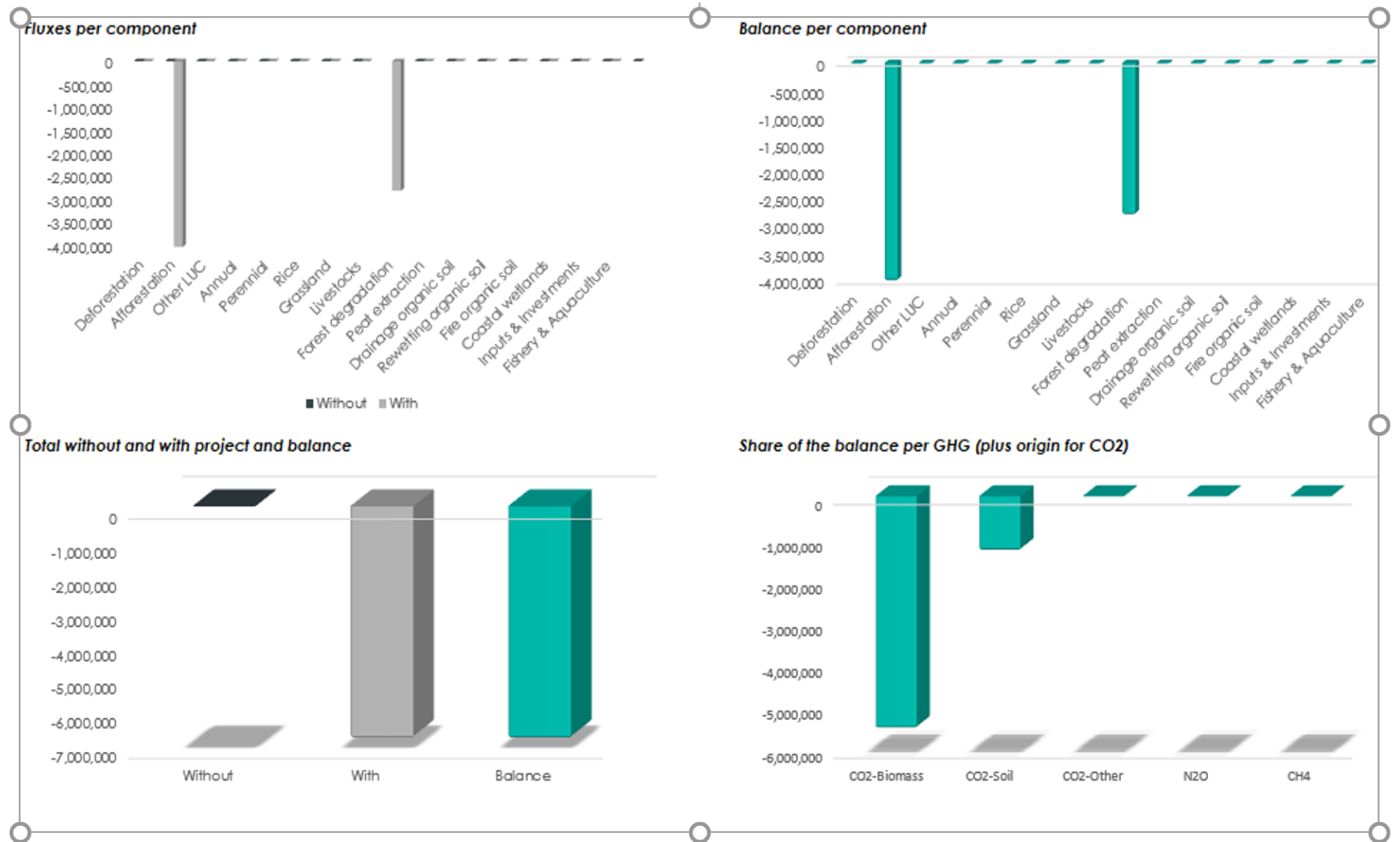
Overview of the project site and illustrating Bago Yoma



North Zamari Wildlife Sanctuary in Bago Region, with local villages shown

(Map disclaimer: The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the

Screen shot of the FAO Ex-Ante Carbon-balance Tool (EX-ACT) results page



Key Assumptions in tCO₂eq Estimates

- Estimates are made for a 20-Year (5 years implementation plus 15 years of capitalization) period.
- A total of 158,000 ha of the project is planned for the various activities: protected areas improved management (98,000 ha), degraded land restoration (10,000 ha) and Sustainable Forest Management – outside protected areas (50,000 ha). tCO₂eq benefits are expected only from degraded land restoration (10,000 ha) and crop production improved practices (50,000 ha). In addition, it assumed that the project would reduce the rate of degradation by 50% to 1%/year (based on Khalil *et al*/study of illegal logging rate) = 4650 ha/yr = 18,600 over 4 years (Year 1 preparatory activities only). Only 18,600 ha (out of total of 50,000 ha brought under Sustainable Forest Management) will yield full carbon equivalent benefit.
- No negative impacts from natural or anthropogenic disasters, except for forest fire, are discounted in the estimates.
- The anticipated start year for the GHG benefit accounting is year 2022.
- All estimates are subject to the assumptions made during the development of EX-ANTE: EX-ACT